

THE IMPACT OF CORPORATE FORESIGHT
ON STRATEGIC DECISIONS –
A CASE OF A EUROPEAN BANK

By

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Abstract

In increasingly competitive, complex and volatile environments, the urge to fully understand the future and to thereby deduce insights for strategic processes has - over the past decades - always been of great interest to academics and practitioners. Corporate foresight related research has, however, provided only limited insight to date.

The following thesis is based upon a trichotomous analytical framework which scrutinises corporate foresight and its impact on strategic decisions in order to investigate how managers, organisations and the environment influence the phenomenon and its manifestations. The intermediary concept of judgement thereby intends to explain how corporate foresight results can possibly be integrated into strategic decision-making processes. The research data is collected via formal and informal interviews, document analyses and observations within a European bank consisting of multiple business units and segments.

The findings reveal that corporate foresight manifests itself in numerous forms and locations. Moreover, it was ascertained that manifold influences from both the internal and external environment affect corporate foresight and its impact on strategic decisions. Further findings additionally illustrate that future perceptions occur in a more quantitative fashion in a banking context. This study finally suggests that the integration of corporate foresight into strategic decisions is not only specified by the phenomenon's manifestation, but also by strategic decision-makers' judgements regarding corporate foresight itself.

Dedication

This thesis would be incomplete if I were to forget mentioning the endless support given to me by my parents and Jocelyne, all of whom I dedicate this thesis to. They offered me unconditional love and support throughout the course of my thesis. There is no doubt in my mind that this thesis would ever have been completed without their uplifting words whenever it appeared to be interminable.

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Table of Contents

ABSTRACT	I
DEDICATION	II
ACKNOWLEDGEMENTS	III
TABLE OF CONTENTS	VI
LIST OF FIGURES	XII
LIST OF TABLES	XV
APPENDIX	XVII
CHAPTER 1 - INTRODUCTION.....	1
1. Research questions	5
1.1 What is the influence of managers on foresight processes?	6
1.2 How are corporate foresight processes currently manifested?	6
1.3 To what extent does the outer environment impact corporate foresight?.....	7
1.4 What impact do corporate foresight results have on strategic decisions?	7
2. Research aims, process and structure.....	9
2.1 Research aims	9
2.2 Research process and structure	10
3. The research context	13
3.1 Characteristics of the European Banking Sector.....	13
3.2 Changes and Trends in the European Banking Sector	26
3.3 Operative and strategic view on trends of the European banking sector	27

CHAPTER 2 - LITERATURE REVIEW	32
1. Strategic management research.....	32
1.1 Definition of strategy in strategic management research	32
1.2 Perspectives on strategy and strategic management research.....	34
1.3 Location of corporate foresight research within strategic process research.....	38
2. Corporate foresight	44
2.1 Conceptualisation and development of futures studies	44
2.2 Individual and managerial foresight.....	49
2.3 Corporate foresight – the phenomenon under investigation.....	59
2.4 Functional and processual perspectives on corporate foresight.....	82
2.5 Manifestations of foresight activities in corporations	97
2.6 Corporate foresight tools and methods.....	105
3. Corporate foresight and the environment – a contextual perspective.....	114
3.1 Definition and conceptualisation of the environment	114
3.2 Environmental influences on organisational reality.....	117
3.3 Contextual level of foresight.....	122
4. Strategic decision-making	127
4.1 Definition of judgement.....	127
4.2 Definition and delineation of decision and decision-making	131
4.3 Definition and delineation of strategic decision-making.....	134
4.4 Theoretical perspectives on strategic decision-making	135
4.5 Information perspective on uncertainty and strategic decision-making.....	142
5. Theoretical considerations and conceptual framework	157
5.1 Conceptualisation of the literature and derivation of areas of investigation	157
5.2 Managerial perspective on corporate foresight.....	159
5.3 Organisational perspective on corporate foresight.....	161
5.4 Environmental perspective on corporate foresight.....	163

5.5 Corporate foresight and its impact on judgement and decision-making	164
5.6 Conceptual framework to study the impact of corporate foresight on strategic decisions	168
CHAPTER 3 - METHODOLOGY.....	169
1. Epistemological position and approach of the research.....	170
2. Purpose of the research	174
3. Research design and strategy.....	176
3.1 Sampling considerations and the choice of a research site.....	176
3.2 The identification of the unit of analysis and informants.....	187
3.3 Collection of data	189
3.4 Processing data.....	194
3.5 Analysing the data.....	199
3.6 Credibility of research findings in qualitative research.....	208
3.7 Final comments regarding empirical data collection and analysis.....	215
4. The research site.....	220
4.1 Overview of the case and ethical considerations	220
4.2 Context of the organisation.....	222
4.3 The organisation's structure.....	223
4.4 Key financial figures	224
CHAPTER 4 - RESULTS, ANALYSIS AND DISCUSSION.....	225
1. Part 1: Managerial perspective on corporate foresight	226
1.1 Bankers' familiarity with corporate foresight.....	226

1.2	Popularity of corporate foresight and its perceived usefulness – perspective from a functional level.....	230
1.3	Bankers’ openness and reservation towards corporate foresight – a functional perspective	249
1.4	Findings – Areas of investigation, Part 1: Managerial perspective on corporate foresight	258
2.	Part 2: Organisational perspective on corporate foresight.....	260
2.1	Corporate foresight and its formal and informal manifestations at the bank – a departmental perspective	260
2.2	Corporate foresight and its formal and informal manifestation at the bank – an inter-departmental perspective	272
2.3	Findings – Areas of investigation, Part 2: Organisational perspective on corporate foresight	295
3.	Part 3: Environmental perspective on corporate foresight.....	297
3.1	External environmental characteristics and their impact on the manifestation of corporate foresight.....	297
3.2	Environmental layers’ impact on corporate foresight according to perceptive evaluations	308
3.3	Findings – Areas of investigation, Part 3: Environmental perspective on corporate foresight	327
4.	Part 4: Corporate foresight, judgement and the impact on strategic decisions	330
4.1	The impact of managerial, organisational and environmental conditions on judgement: An evaluative perspective on corporate foresight information, Part 4 (i)	330
4.2	Findings - areas of investigation, Part 4 (i): An evaluative judgemental perspective on corporate foresight information.....	343
4.3	The impact of managerial, organisational and environmental conditions on judgement: A predictive perspective on corporate foresight information, Part 4 (ii)	345
4.4	Findings – areas of investigation, Part 4 (ii): A predictive judgement perspective on corporate foresight information.....	364

4.5	Corporate foresight and strategic decisions: Examples of corporate foresight and its impact on strategic decisions	367
4.6	Findings – Areas of investigation, Part 4: Corporate foresight, judgement and the impact on strategic decisions	379
CHAPTER 5 - CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS...		382
1.	Theoretical views	384
1.1	Corporate foresight’s nature and its strategic embeddedness.....	384
1.2	A trichotomous approach to analysing corporate foresight	387
1.3	Integration of judgement as an intermediate filter between corporate foresight and strategic decisions	389
2.	Objective conclusions	391
2.1	Contributions related to the managerial perspective on studying corporate foresight with reference to areas of investigation, Part 1.....	391
2.2	Contributions related to the organisational perspective on studying corporate foresight with reference to areas of investigation, Part 2.....	396
2.3	Contributions related to the environmental perspective on studying corporate foresight with reference to areas of investigation, Part 3.....	402
2.4	Contributions related to the impact of corporate foresight on strategic decision with reference to areas of investigation, Part 4.....	406
3.	Implications and researcher’s views.....	420
3.1	Implications – Researcher’s reflections.....	420
3.2	Managerial implications	422
4.	Research limitations and suggestions for future research	425

CHAPTER 6 - APPENDIX.....	429
1. Coding schemes	429
2. Variables	431
3. Interview guide	434
4. Case study protocol	440
5. Identified relationships – Visual display.....	441
6. Taxonomy of quotations.....	453
7. Purpose of areas of investigations.....	455
8. Assignment of codes to areas of investigation	459
9. References	461

List of figures

Figure 1: Research structure and process.....	12
Figure 2: Types of banks in the European banking sector in 2009 by number.....	16
Figure 3: Number of banks in the European banking sector, EU 15.....	19
Figure 4: Total assets of credit institutions, 2008 (in euro billions).....	20
Figure 5: Number of employees of credit institutions in 2006	21
Figure 6: Largest banks in Europe in 2007	22
Figure 7: Impact of financial crisis 2007-2009+ on investment decisions	24
Figure 8: Strategic projects 2009.....	25
Figure 9: Expectations in the Banking Market until 2015	29
Figure 10: Types of strategies.	36
Figure 11 : Factors influencing strategic decision-making processes.	41
Figure 12: Three dimensions of the future.....	55
Figure 13: General attitudes of managers towards foresight.....	58
Figure 14: Classification of different concepts in futures studies	71
Figure 15: Continuum of foresight concepts based on their research scope.....	76
Figure 16: The foresight process	94
Figure 17: Relationship between degree of predictability, methods and distance into the future	106
Figure 18: Typification and classification of foresight results.....	107
Figure 19: The organisation within distinct environments: The task and general layers.	116
Figure 20: Elements in analysing foresight information for strategic decision-making.....	149
Figure 21: Conceptual framework for the examination of the impact of corporate foresight on strategic decisions.	168
Figure 22: The research ‘onion’	169
Figure 23: Research process from a methodological point of view	176
Figure 24: Single- and multiple-case study designs with single or multiple units of analysis	180
Figure 25: The six sources of evidence.....	190

Figure 26: Coding process and categorisation.....	204
Figure 27: Calculation of inter-coder reliability.....	215
Figure 28: Qualitative research process of the study.....	219
Figure 29: Organisational structure of Apollo bank.....	223
Figure 30: Apollo bankers' familiarity with and general understanding of corporate foresight.	230
Figure 31: Individual experience with corporate foresight according to functional level.	237
Figure 32: Perceived usefulness assigned to corporate foresight results according to functional level.....	248
Figure 33: Reservations and openness of bankers in Apollo bank towards corporate foresight from an external and internal perspective.	257
Figure 34: Awareness of foresight activities within line departments (formal and informal)..	267
Figure 35: Awareness of foresight activities within staff departments (formal and informal).	268
Figure 36: Inter-departmental analysis of corporate foresight at Apollo bank.	274
Figure 37: Structure of business development departments and group management department within Apollo bank.	279
Figure 38: Identified reasons for implementing corporate foresight in either the SBDD or GMD.	283
Figure 39: Influence of external environmental characteristics on corporate foresight.	306
Figure 40: Feedback-loop: Corporate foresight's subject of analysis (external environment) affects the phenomenon's characteristics.....	307
Figure 41: The fit between decision-makers' expectations and corporate foresight information in terms of content and format.....	357
Figure 42: Apollo bankers' propensity to support or dismiss corporate foresight in evaluative and predictive judgements.....	366
Figure 43: Converging corporate foresight processes between the board of management (preferable futures) and operative segments (possible futures) resulting in a common understanding of the future (probable futures).....	372
Figure 44: Main elements of the "New marketing and sales approach".....	376

Figure 45: The influence of multiple corporate foresight processes on strategic decisions via intermediary and judgemental filtering.....	380
Figure 46: Research contributions of this investigation.....	382
Figure 47: Levels of impact and respective types of strategic decision.....	417
Figure 48: Proposal for establishing corporate foresight in a hierarchical fashion at Apollo bank.....	423

List of tables

Table 1: Number of banks in the European banking sector, in 1985, 1995, 2004, May 2009.....	18
Table 2: Selected perspectives on strategy and strategy-making	37
Table 3: Dimensions of individual foresight according to selected publications.....	51
Table 4: A priori definition of corporate foresight	76
Table 5: Definitions of foresight terms	78
Table 6: Core competences and foresight characteristics.	90
Table 7: Summary of foresight processes and phases from selected publications.	96
Table 8: Organisational anchorage of corporate foresight.....	100
Table 9: Results and scope of selected foresight studies (1/2).....	102
Table 10: Results and scope of selected foresight studies (2/2).....	103
Table 11: Conceptualisations of the environment.	118
Table 12: Areas of investigation – Part 1) Managerial perspective on corporate foresight...	160
Table 13: Areas of investigation – Part 2) Organisational perspective on corporate foresight.	162
Table 14: Areas of investigation – Part 3) Environmental perspective on corporate foresight.	163
Table 15: Selected publications, level of impact of corporate foresight on strategic decisions	165
Table 16: Areas of investigation – Part 4) Corporate foresight, judgement and strategic decision-making.....	167
Table 17: Relevant situations for different research strategies.	178
Table 18: Previous research in the area of foresight: Instruments and measured dimensions from selected publications.....	183
Table 19: Interviewees’ positions at Apollo bank.	189
Table 20: Ways for increasing validity in qualitative research and critical appraisal in this thesis.....	212
Table 21: Adjusted key financial figures – Apollo bank	224

Table 22: Selected identified corporate foresight processes and projects at Apollo bank (1/2).	270
Table 23: Selected identified corporate foresight processes and projects at Apollo bank (2/2).	271
Table 24: Interviewees' statements regarding internal corporate foresight responsibility within Apollo bank	284
Table 25: Primary departmental contact for corporate foresight enquiries.....	289
Table 26: Overview of environmental layers and sectors: Impact on Apollo bank's corporate foresight.....	326
Table 27: Bankers' attitudes towards corporate foresight and their level of interest in corporate foresight information.	334
Table 28: Three levels of approaches in evaluating managerial and corporate foresight information for predictive judgements.....	351
Table 29: Main processes of the TYFP: Link between corporate foresight, judgement and strategic decision.....	370
Table 30: A priori and a posteriori definition of corporate foresight	386
Table 31: Managerial perspective on corporate foresight: Answers to research question 1 and key issues identified.	394
Table 32: Organisational perspective on corporate foresight: Answers to research question 2 and key issues identified.	400
Table 33: Environmental perspective on corporate foresight: Answers to research question 3 and key issues identified	405
Table 34: The impact of corporate foresight on strategic decisions: Answers to research question 4 and key issues identified.....	418

Appendix

Appendix 1: Coding scheme – a priori	429
Appendix 2: Coding scheme – a posteriori	430
Appendix 3: Change in codes between first and second data collection phase (1/3).....	431
Appendix 4: Change in codes between first and second data collection phase (2/3)	432
Appendix 5: Change in codes between first and second data collection phase (3/3).....	433
Appendix 6: Interview guide – First block of questions.....	434
Appendix 7: Interview guide – Second block of questions.....	435
Appendix 8: Interview guide – Third block of questions (1/3)	436
Appendix 9: Interview guide – Third block of questions (2/3)	437
Appendix 10: Interview guide – Third block of questions (3/3)	438
Appendix 11: Interview guide – Fourth block of questions.....	439
Appendix 12: Case study protocol – Field notes.....	440
Appendix 13: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 1).....	441
Appendix 14: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 2).....	442
Appendix 15: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 3).....	443
Appendix 16: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 4).....	444
Appendix 17: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 5).....	445
Appendix 18: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 6).....	446

Appendix 19: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 1).....	447
Appendix 20: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 2).....	448
Appendix 21: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 3).....	449
Appendix 22: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 4).....	450
Appendix 23: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 5).....	451
Appendix 24: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 6).....	452
Appendix 25: Assignment of interviewees’ positions and perceptions (1/2).....	453
Appendix 26: Assignment of interviewees’ positions and perceptions (2/2).....	454
Appendix 27: Purpose of areas of investigation, Part 1.....	455
Appendix 28: Purpose of areas of investigation, Part 2.....	456
Appendix 29: Purpose of areas of investigation, Part 3.....	457
Appendix 30: Purpose of areas of investigation, Part 4.....	458
Appendix 31: Assignment of codes to respective areas of investigation (1/2).....	459
Appendix 32: Assignment of codes to respective areas of investigation (2/2).....	460

Chapter 1 - Introduction

“Business these last ten or twenty years has accepted the need to work systematically on making the future. [...] The purpose of the work on making the future is not to decide what should be done tomorrow, but what should be done today to have a tomorrow.” (Drucker, 1999, p. 162). The quotation of Peter F. Drucker, one of the most prolific management gurus of the 20th century shows that analysis, understanding and anticipation of future events have been the subject of strategic management science for over three decades. Strategy is concerned with the long-term direction of an organisation, gaining competitive advantages in changing environments, building on resources and competences and considering the values and expectations of stakeholders. Moreover, strategy explicitly deals with decisions which are made in an integrated way – both inside and outside the organisation – and with uncertain situations (Johnson, Scholes and Whittington, 2008, pp. 2-6; Mintzberg, 1989, p. 52).

In order to successfully cope with challenging situations, Hamel and Prahalad (1994, pp. 24-25) argue that organisations have to develop an independent view of the future to allow opportunities to emerge. The authors further emphasise that today’s strategic management has to ‘break paths’ instead of benchmarking with the competition. In their conclusion, Hamel and Prahalad stress the importance of management’s need to unlearn the past in order to successfully deal with future opportunities.

Strategic management literature has provided rich insights into the way strategy is created in organisations (cf. Ansoff, 1965; Bourgeois and Eisenhardt, 1988; Chandler, 1962; Hart and Banbury, 1994; Papadakis, Lioukas and Chambers, 1998; Whittington, 2000). Research has, in particular, focussed on the analysis of strategic decision-making, which is increasingly considered to be one of the main elements of strategy (Johnson *et al.*, 2008,

pp. 5-6). Amongst the several views on strategy and strategic decision-making, the most influential are the rational normative (cf. Ansoff, 1965; Hofer and Schendel, 1978; Schwenk, 1988), external control (cf. Duncan, 1972; Lawrence and Lorsch, 1967) and strategic choice perspectives (cf. Child, 1972; Hambrick, 1987; Hambrick and Mason, 1984; Hitt and Tyler, 1991).

Although theoretical concepts and frameworks have provided thorough explanations of strategy as a phenomenon, strategic management as a reality is, however, faced with a range of different influences and concerns. These include, amongst other things, increased competitive pressure, rapid changes and growing uncertainty all of which leading to unpredictable business risks (Courtney, 2001, pp. 1-2). The spectacular liquidations of large corporations, such as Lehman Brothers in 2008 (New York Times, 2010), show that strategic management has become more important and challenging in more volatile external environments than in the past. The necessity to understand the organisation's environment, the driving forces behind environmental changes and developments in the future builds the conceptual anchor of futures studies within strategic management (cf. Alsan, 2008; Becker, 2003; MacKay and McKiernan, 2004a; Pina e Cunha, Palma and Guimaraes da Costa, 2006; Wack, 1985b).

The history of futures studies can be traced back to 1000 BC when human aspirations to predict the future were first recorded (Wood, 1993). In the journey of mankind, different approaches to understanding the future have been taken – via oracles such as those in Hellas between the 7th and 4th century BC (Bremmer, 1993; Wood, 1993), apocalyptic predictions in the Middle Ages (Barnett, 1997, p. 101; Bremmer, 1993; Halpern, 2000, pp. 48-50; Polak and Boulding, 1973, p. 87) and scientific research after the Reformation and industrialisation

(Cuhls, 2003b; McHale, 1978, pp. 6-8; Polak and Boulding, 1973, pp. 197-98). These approaches more or less aimed at decreasing the uncertainty of events in the future by trying to create pictures of how the future was likely to be.

In more recent times, it has been acknowledged that environmental complexity has significantly enhanced the development of concepts such as scenario planning. It has also been acknowledged that any attempt to try to predict a specific point in the future and derive it from the past becomes obsolete and highly inaccurate. Because of this, the consideration of alternative futures rather than single-point forecasts began to be established in scientific management – particularly after the oil crisis in the early 1970s and the success of the global oil and gas company Shell, which applied scenario approaches that led to the market success and financial success of the company (Cuhls, 2003b; Schwartz, 1991, pp. 4-9; van der Heijden, 2004a).

Corporate foresight – futures studies in companies, is part of strategic management. Corporate foresight aims to create a long-term view of the future, to identify opportunities and risky developments as well as to enable strategic decision-makers to consequently adapt to these challenges (Coates, 1985; Becker, 2003; Gruber and Venter, 2006). According to Hamel and Prahalad (1994, p. 79) organisations' commitment to foresight can be extended to an industrial perspective, in which competitors battle for the best possible future assumptions which in turn helps shape the evolution of whole industries.

Although the importance of corporate foresight in effective strategic management has been highlighted in numerous past publications (cf. Ansoff, 1965; Blackman and Henderson, 2004; Burmeister, Neef, Albert and Glockner, 2002; Chermack, 2004; MacKay and McKiernan, 2004a; Makridakis, 1996; Martin, 1995; Schwartz, 1991), the extent to which

futures studies are eventually implemented and manifested in today's management reality remains unclear. Recent publications, such as those of Gruber and Venter (2006), Schwarz, (2008) and Voros (2003) show an increased awareness of the characteristics and emergence of the foresight phenomenon. This is not only due to the significance of strategic decision-makers and strategic management in scientific research, but also due to the fact that scholarly investigations have generally resulted in limited insight into how corporate foresight occurs and affects strategic decision-making.

In this respect, the current investigation is concerned with the manifestation of corporate foresight and its impact on strategic management. The researcher's motivation is based upon the use of scientific inquiry in order to understand and grasp the corporate foresight phenomenon, to explore influential factors and to identify the impact of the phenomenon's results within a strategic decision-making context. The researcher further expects the results to contribute to existing knowledge in the area of foresight and strategic management and hopes that the findings will encourage decision-makers to identify relevant managerial policy implications for improving internal and external business performance.

1. Research questions

Scientific investigation of corporate foresight has thus far provided limited insight into the phenomenon's manifestation within strategic management. In the past decade, an increasing number of publications (cf. Becker, 2003; Blackman and Henderson, 2004; Chermack and Nimon, 2008; Costanzo, 2004; Gruber and Venter, 2006; Reger, 2001; Rohrbeck and Gemünden, 2008; Rollwagen, Hofmann and Schneider, 2008; Wright, van der Heijden, Burt, Bradfield and Cairns, 2008) address this issue by empirically researching current foresight processes in organisations (cf. Alsan, 2008; Costanzo, 2004; Rohrbeck and Gemünden, 2008) or by conceptual derivation (cf. Cheah and Garvin, 2004; Horton, 1999; Voros, 2003). Based upon these research findings, our understanding of the manifestations of foresight is becoming far better. Moreover, strategic management research has advanced in terms of recognising the importance of futures studies and foresight processes in organisations. Scientific research, however, has not succeeded in thoroughly grasping the manifestation of corporate foresight in its elemental forms, or in addressing the main concerns regarding how corporate foresight emerges, the factors influencing its appearance and its impact on strategic decision-making processes (Gruber and Venter, 2006; Hines, 2002). Against this background, the following four research questions have been posed with the aim of contributing to scientific knowledge in this area:

1. What is the influence of managers on foresight processes?
2. How are corporate foresight processes currently manifested?
3. To what extent does the outer environment impact on corporate foresight?
4. What impact do corporate foresight results have on strategic decisions?

These questions as well as the research objectives are expounded upon in the following sections.

1.1 What is the influence of managers on foresight processes?

Future considerations are based upon human perceptions and beliefs (Bernstein, 1996, pp. 6-7; Reading, 2004, p. 17; Rescher, 1998, pp. 4-7). The fact that the future belongs to the time horizon to come leads to the acknowledgement that human beings can only imagine the future because of the lack of truthful data and facts. With regards to corporate foresight, the role of managers involved within the phenomenon deserves particular attention. How managers relate to corporate foresight and how they influence foresight in the organisation will specifically be analysed.

1.2 How are corporate foresight processes currently manifested?

This research question specifically focuses on the identification and understanding of corporate foresight from a process perspective. The inquiry thereby tackles the question as to where and how corporate foresight comes into existence. Moreover, in considering the complexity of organisation systems, the researcher expects corporate foresight to occur in a multitude of corporate foresight processes. The investigation of these various processes will also be subject to this research question.

1.3 To what extent does the outer environment impact corporate foresight?

An important stream in strategic management research during the past few decades has focussed on environmental characteristics to explain how decision-making occurs in organisations (cf. Bourgeois, 1984; Daft and Weick, 1984; Dess and Beard, 1984; Eisenhardt, 1989; Hitt and Tyler, 1991; Hofer, 1975; Sharfman and Dean, 1991). Findings show that organisations have a relationship with the environment which is mutually affecting. This leads to the conclusion that strategic management needs to consider elements outside organisational boundaries. To the best of this researcher's knowledge, corporate foresight processes have not as yet been analysed from this angle. Consequently, the third research question aims at analysing the environmental perspectives related to corporate foresight.

Moreover, this thesis views the European banking sector as the research context. With regards to recent significant developments in the financial markets (European Central Bank, 2009), the researcher hopes to gain additional insight into the manifestation of strategic perspectives in this sector, especially since the financial sector itself does not appear to have been researched fully in this respect in the past.

1.4 What impact do corporate foresight results have on strategic decisions?

Corporate foresight generally follows an information processing perspective (cf. Horton, 1999; McCardle, 2005; Voros, 2003). Based upon this perspective, past research has specifically accentuated the phenomenon's relevance for strategy and strategic decision-making. While some publications focus on the impact of foresight methods on strategic decision-making (cf. Chermack and Nimon, 2008), others describe the impact of these methods on organisational strategy and overall performance (Alsan, 2008; Ringland, 2002;

Rohrbeck and Gemünden, 2008; Schwartz, 1991). Research to date, however, lacks a theoretical background that can provide explanations on how corporate foresight impacts on strategic decision-making – or more specifically, under which conditions corporate foresight impacts on strategic decision-making.

2. Research aims, process and structure

The following section will define and clarify the research aims and process of the research at hand.

2.1 Research aims

The four research questions outlined above serve to guide the literature review, the design of the methodological research approach and the formulation of the analysis (Bryman and Bell, 2007, p. 37). Apart from answering the research questions, the researcher hopes to achieve the following research aims which are viewed as essential contributions to knowledge in the field of strategic management and corporate foresight in particular:

- To identify a holistic manifestation of corporate foresight processes at the research site, across different departments and strategic responsibilities.
- To evaluate the role of managers within the corporate foresight process, including their attitudes towards and judgements on the phenomenon.
- To examine corporate foresight requirements in order to integrate them successfully in later strategic decision-making processes.
- To explore the influence of the organisation's environment on corporate foresight with a particular reference to the related perceived uncertainty of strategic decision-makers.
- To create a scientific research framework displaying the identified influences on corporate foresight and its impact on strategic decisions.

2.2 *Research process and structure*

Based upon the aforementioned research motivation, questions and aims, this investigation is presented in the following order:

Chapter 2 will conduct an in-depth literature review to critically evaluate publications in the area of strategic and foresight management, examining the different perspectives on strategic management research and placing the corporate foresight phenomenon in the context of strategic management research. A critical review and evaluation of the literature on foresight is crucial for building the foundation for subsequent analysis. The critical evaluation of the literature on foresight will derive from the main issues which have been scientifically asserted in previous works. Moreover, corporate foresight, as well as its manifestations and configurations, will be defined displayed and analysed. Subsequently, an analysis of the contextual and environmental factors affecting the organisation as well as a thorough discussion about research in the area of strategic decision-making will conclude the literature review. The section to follow will build upon the theoretical discussions of the literature review and design a conceptual model will be presented upon which the research will be based. With regards to the complexity of the topics involved as well as the lack of previous profound theoretical background, this chapter will contain an analysis of corporate foresight that includes an in-depth discussion of the relevant factors.

Chapter 3 will focus on the principal methodological concerns. Starting with a general discussion of business and management research, the chapter will evaluate different research designs and strategies to identify a suitable framework for the research inquiry. In particular, the research site will be discussed.

Chapter 4 will be a holistic and in-depth analysis of the data collected. The portrayed conceptual frameworks will serve as the basis of the research, leading to other emerging themes and issues related to the topic.

Chapter 5 will draw conclusions concerning the findings and discuss these in the light of previous outcomes in the scientific field, thereby identifying and strengthening the contribution of this thesis to knowledge in the area of strategic management and corporate foresight in particular. In addition, suggestions will be made regarding future research and the implications associated with the findings. An overview of the thesis structure can be seen in Figure 1.

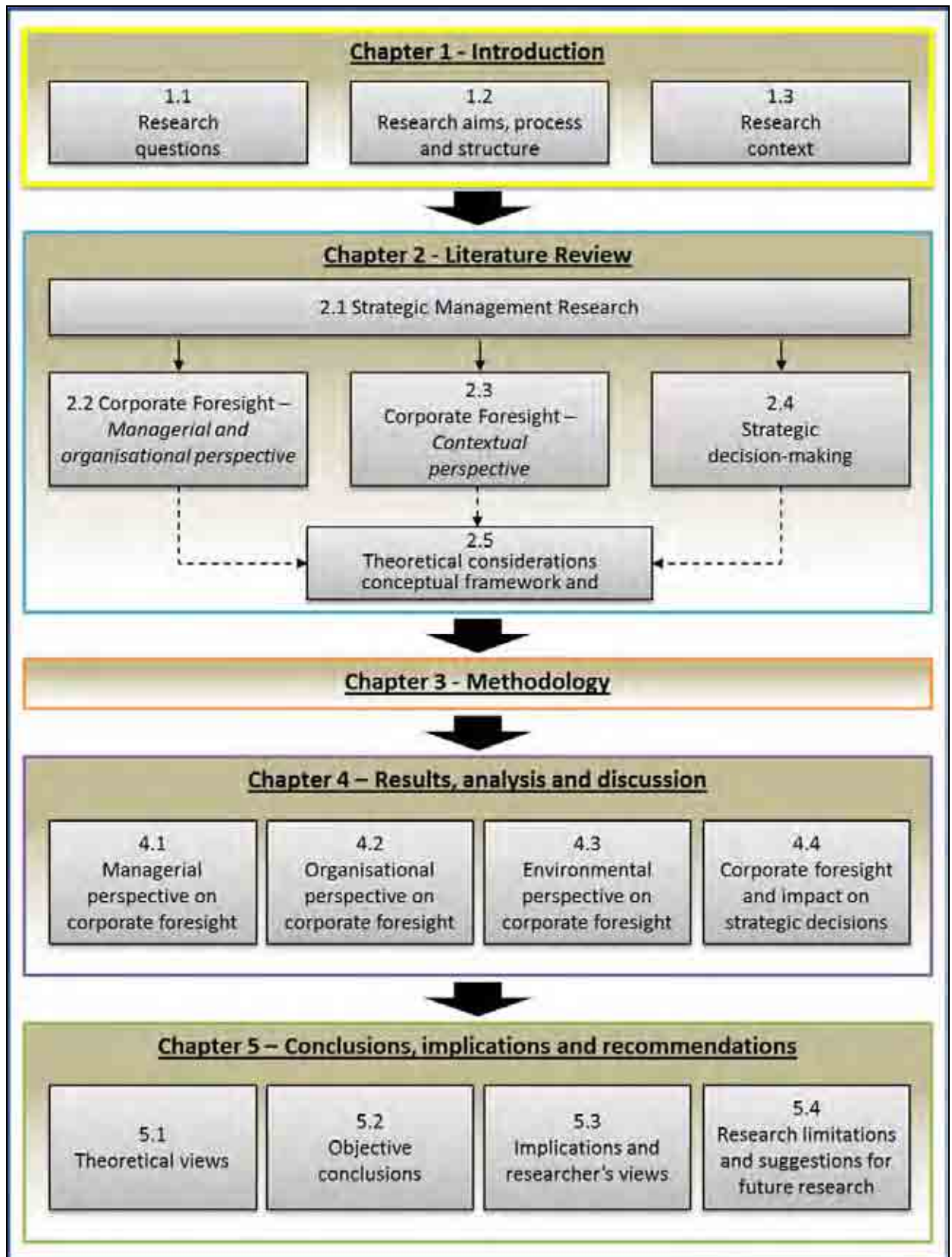


Figure 1: Research structure and process

3. The research context

Considering all the significant developments in the financial sector in recent years, the analysis of the study's context deserves special attention at the beginning of this thesis. By describing and elaborating on the banking sector's specific structures as well as on the main actors' perceptions in the given context helps academics and practitioners alike to understand the general setting of this study and hence corporate foresight right at the outset.

3.1 *Characteristics of the European Banking Sector*

The banking sector is the most crucial element for the development of any economy in the world. This is because the predominant actors in the field – namely banks or credit institutions¹, serve as financial intermediaries by enabling the allocation of savings, reduction of risk through diversification, extension of credit and the management of the economy's payment system. The banking sector's structure is shaped by several factors such as the degree of governance, the ownership of the bank and the concentration of economic power (Barth, Caprio and Nolle, 2004).

Banks can be differentiated into specialised and universal banks. Specialised banks focus on special segments in the banking sector such as retail, investment or corporate banking. The main advantage of specialised banks is the possibility to achieve economies of scale. Universal banks are usually more diversified and include more than one business unit in

¹ In context, credit institutions are considered to be interchangeable with banks. According to the European Central Bank, a credit institution is: “Any institution covered by the definition contained in Article 4(1) of Directive 2006/48/EC (recast). Accordingly, a credit institution is (i) an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credits for its own account; or (ii) an electronic money institution within the meaning of Directive 2000/46/EC. The most common types of credit institutions are banks and savings banks.”

the organisational structure. More precisely, universal banks tend to be managed as one single organisation due to the large amount of similarities between a few business units, like private and retail banking (Canals, 1999).

In the European banking sector, banks tend to be organised as universal banks. Some publications predict that the banking landscape in the European banking sector will soon experience an increase in specialised banks because of increasing competition in the various segments, resource misallocations and the possibility of achieving economies of scale (Canals, 1999). However, a study conducted on the Hong Kong financial banking sector shows that in the long run this assumption may be questionable: Banks applying a multi-strategic approach tend to outperform those with a uni-strategic approach (Chan and Wong, 1999), which generally favours the universal model as the organisational structure of a bank.

When the idea for this research was first identified, the financial crisis of 2007–2009+² had greatly influenced the whole European banking sector (EU15)³. Taking the general nature of European banks into account, this crisis has seemingly affected the general tendency of European banks to organise themselves as universal banks. Canals (1999) argues that a trend towards more specialised banks can be observed. Recent surveys, however, reveal that just over a third (37%) of the banks in the European banking sector believe that the trend of bank

² The financial crisis 2007-2009+ historically began on 2nd April 2007 with the insolvency of New Century Financial Corporation due to the subprime crisis in the United States (USA). A crucial downturn during the crisis was experienced on the 15th of September 2008 with the collapse of Lehman Brothers, which eventually led to substantial uncertainty and volatility in the banking sector worldwide (Hedrich *et al.*, 2009).

³ Included countries: Austria (AT), Belgium (BE), Denmark (DK), Finland (FI), France (FR), Germany (DE), Greece (GR), Ireland (IE), Italy (IT), Luxembourg (LU), The Netherlands (NL), Portugal (PT), Spain (ES), Sweden (SE) and the United Kingdom (UK). The analysis of the EU15 countries as the context of the European banking sector is generally accepted across a variety of publications (e.g., Eurostat, 2001).

specialisation will not continue to grow as it did before the financial crisis occurred (Spath, Engstler, Praeg, Syrbe and Vocke, 2009, cf. Figure 9).

Another interesting aspect of the European banking sector is the type of ownership. The European banking sector is one of only few sectors in which private, public, mutual and co-operative firms compete against one another (Goddard, Molyneux, Wilson and Tavakoli, 2007). The various goals that the banks' owners pursue can differ significantly and this may therefore lead to different strategic approaches. For instance, public, mutual and co-operative banks tend to aim at achieving social and economic development of specific regions. In contrast, privately owned banks are subject to capital market discipline which consequently leads to performance superiority (Goddard *et al.*, 2007).

3.1.1 Structure and trends of the European banking sector

In 2009, the European banking sector (EU15, active banks; headquarters in EU15 country (Eurostat, 2001)) consisted of 2,621 co-operative, 1,786 commercial, 1,026 savings and 162 investment banks. These figures reveal that co-operative banks form the largest banking group across the European banking sector. In contrast, investment banks are only few in number (Bureau van Dijk and Fitch IBCA, 2002, see Figure 2).

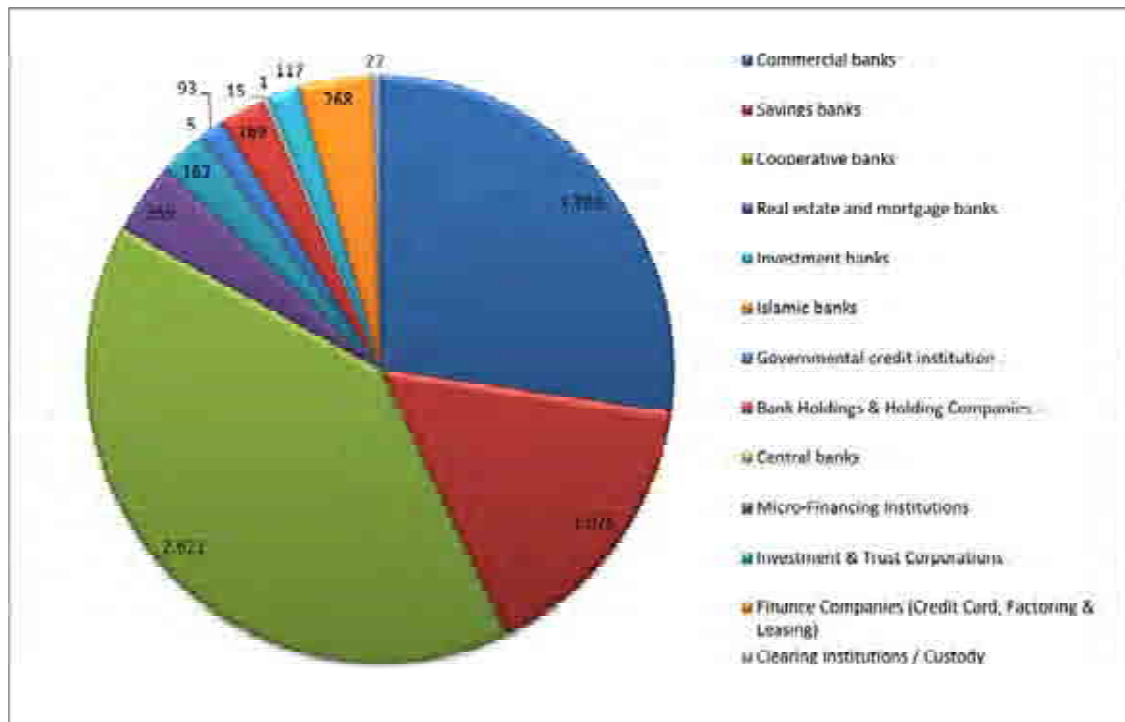


Figure 2: Types of banks in the European banking sector in 2009 by number (Bureau van Dijk and Fitch IBCA, 2002).

Over the past two decades, the number of banks has drastically decreased from 12,473 in 1985 to 7,047 in 2009, which corresponds to a percentage drop of nearly 44%. The three countries in the EU15 holding the largest amount of assets in banks in 2008 were (in euros) Germany (8,934 billion), followed by the United Kingdom (7,392 billion) and France (6,874 billion). When looking at the number of employees in the European banking sector in 2006, a slight change in order can be observed. Again, Germany records the largest number with 692,500 employees, followed this time by France (474,566) and then the United Kingdom (453,045). In total, 2,784,986 people were registered as bank employees in the EU15 countries in 2006. Overviews regarding these key figures including those for the other 12 EU15 countries are illustrated in Table 1 and Figure 3 - Figure 6 (Bank of Finland, 2009;

Bureau van Dijk and Fitch IBCA, 2002; European Central Bank, 2008; European Central Bank, 2005).

In sum, the discussion of the European banking structure is important for this research as it provides the key insights regarding the investigation's context. More specifically, this analysis contributes to the research for two reasons. First, because the contextual embeddedness implicitly includes temporal effects on the phenomenon, the provision of current data and key figures address this issue. Second, the researcher wants to provide an understanding for all readers of this thesis – disregarded their sectoral expertise. Therefore, an introduction into the structure of the European banking sector ensures that all readers have a common understanding of the research context before the data analysis will be addressed.

	<u>Number of banks</u>			
	1985	1995	2004	05/2009
Austria	1,406	1,041	796	797
Belgium	120	143	104	104
Denmark	259	202	202	171
Finland	498	381	363	354
France	1,952	1,469	897	718
Germany	4,739	3,785	2,148	1,980
Greece	41	53	62	66
Ireland	42	56	80	501
Italy	1,101	970	787	809
Luxembourg	177	220	162	149
The Netherlands	178	102	461	294
Portugal	226	233	197	169
Spain	364	506	346	357
Sweden	598	249	212	182
UK	772	564	413	396
<i>EU 15 (average)</i>	832	665	482	470
EU15 (Total)	12,473	9,974	7,230	7,047

Table 1: Number of banks in the European banking sector, in 1985, 1995, 2004, May 2009 (adapted from Bank of Finland, 2009; Bureau van Dijk and Fitch IBCA, 2002; European Central Bank, 2005; Goddard et al., 2007).

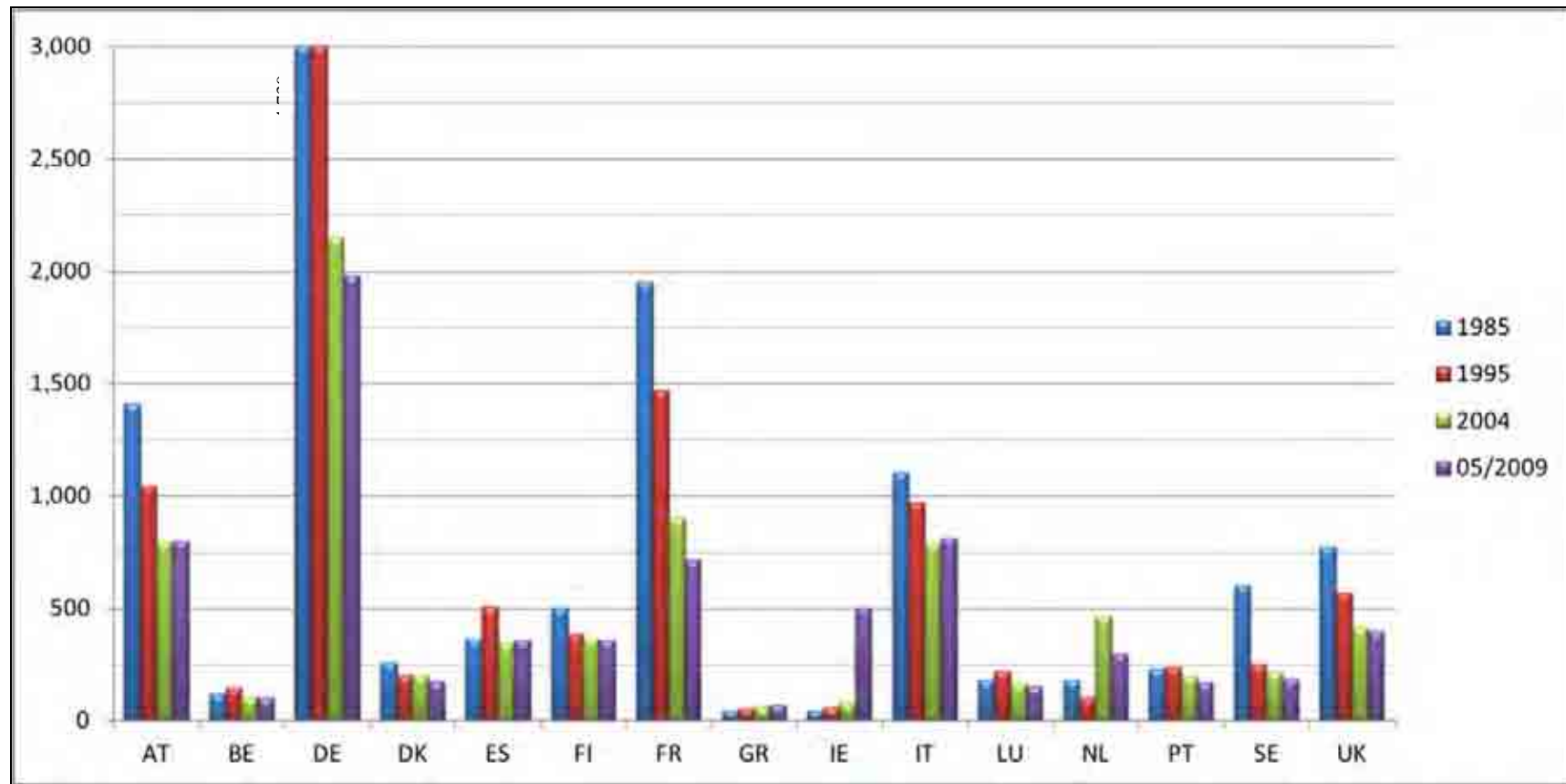


Figure 3: Number of banks in the European banking sector, EU 15
 (Bank of Finland, 2009; Bureau van Dijk and Fitch IBCA, 2002; European Central Bank, 2005; Goddard et al., 2007).

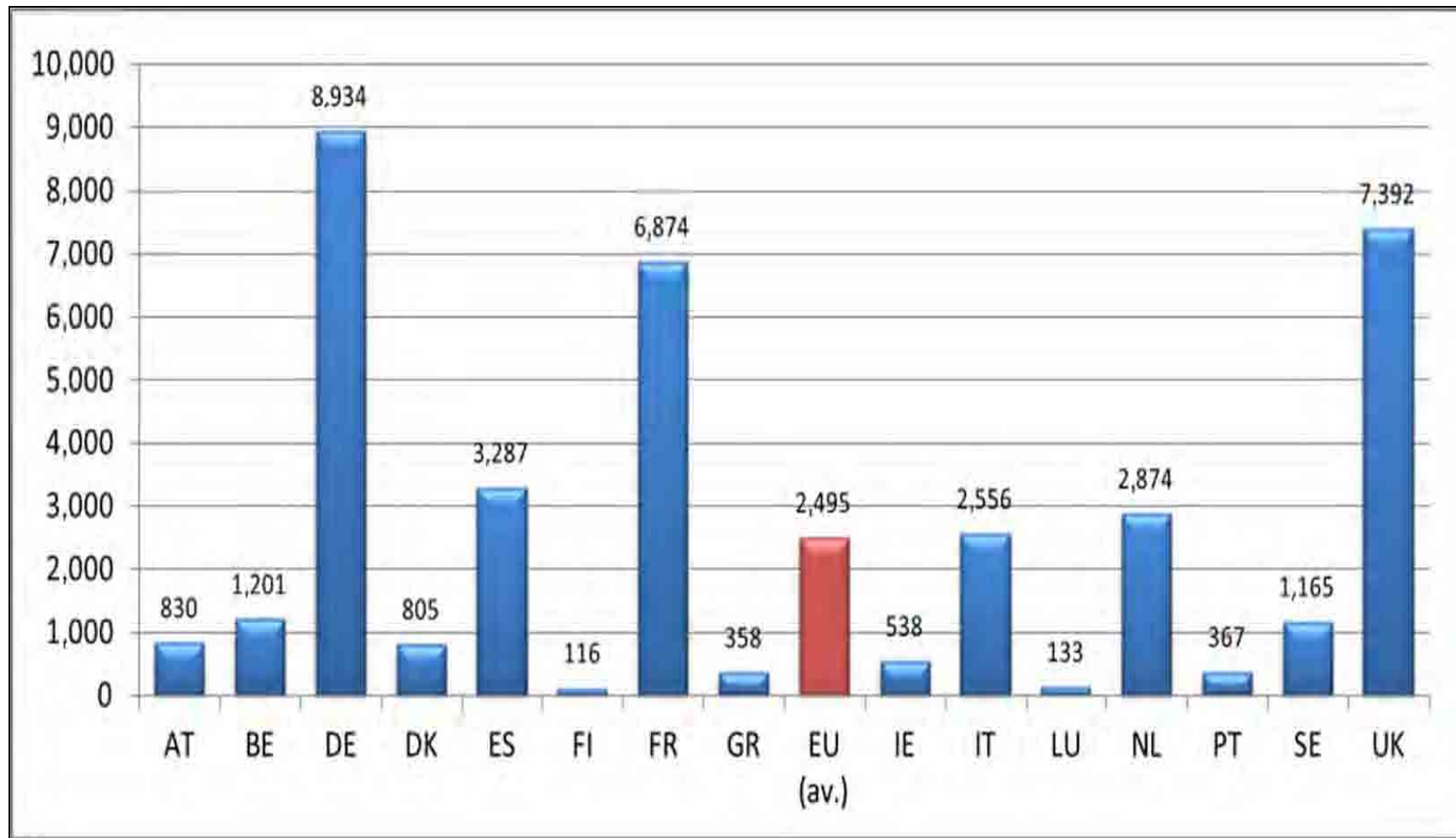


Figure 4: Total assets of credit institutions, 2008 (in euro billions) (European Central Bank, 2009a).

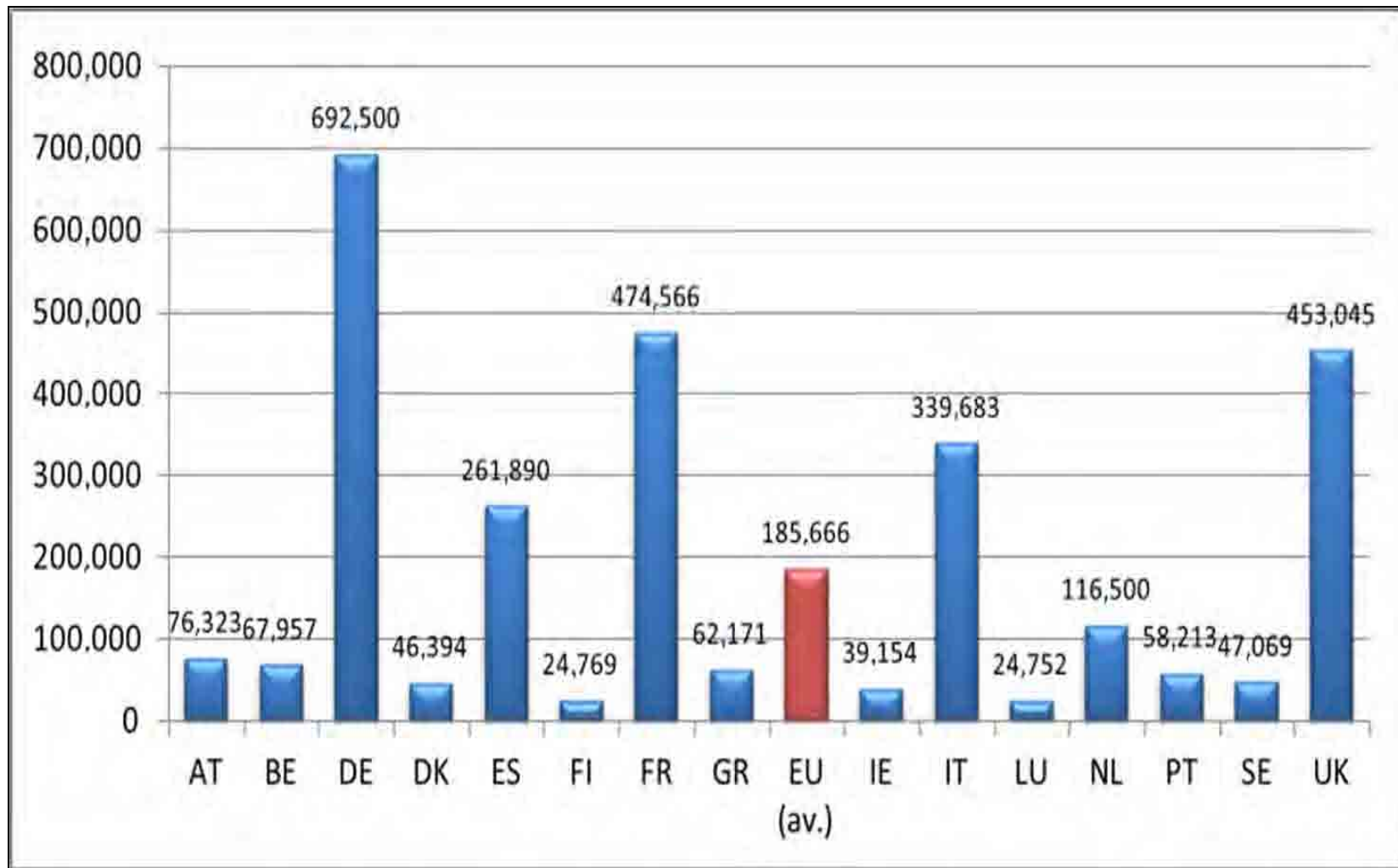


Figure 5: Number of employees of credit institutions in 2006 (European Central Bank, 2008).

UBS is the largest bank in Europe followed by Barclays and BNP Paribas

Rank	Bank	Country	Total Assets	Rank	Bank	Country	Total Assets
1	UBS	Switzerland	1 486 575	26	Credit Mutuel	France	339 025
2	Barclays PLC	United Kingdom	1 478 327	27	KBC Bank	Belgium	325 400
3	BNP Paribas	France	1 438 826	28	Banca Intesa	Italy	291 781
4	HSBC	United Kingdom	1 408 318	29	San Paolo IMI Group	Italy	288 551
5	Royal Bank of Scotland	United Kingdom	1 293 174	30	SEB Bank	Sweden	214 257
6	Credit Agricole	France	1 260 252	31	Sv. Handelsbanken	Sweden	198 345
7	ING Group	Netherlands	1 226 000	32	Erste Bank	Austria	181 703
8	Deutsche Bank	Germany	1 122 587	33	DNB Nor Bank	Norway	160 799
9	ABN AMRO Bank	Netherlands	987 100	34	Bank Austria Creditanstalt	Austria	153 355
10	Societe Generale	France	956 201	35	Swedbank	Sweden	149 942
11	HBOS Group	United Kingdom	877 223	36	Capitalia	Italy	137 132
12	Banco Santander	Spain	833 873	37	Caja Madrid	Spain	136 952
13	UniCredit Group	Italy	823 284	38	Caixa Geral de Depositos	Portugal	96 246
14	Credit Suisse	Switzerland	776 977	39	Banco Popular Spain	Spain	91 650
15	Fortis Bank	Belgium	773 235	40	SNS Bank	Netherlands	79 742
16	Commerzbank	Germany	603 293	41	Banco Comercial Portuges	Portugal	78 707
17	Dexia Bank	Belgium	566 700	42	UBI Banca	Italy	73 873
18	Rabobank	Netherlands	556 455	43	Banco Sabadell	Spain	72 069
19	Lloyds TSB	United Kingdom	509 978	44	Raiffeisenbanken Switzerland	Switzerland	70 865
20	HVB Group	Germany	508 000	45	Zürcher Kantonalbank	Switzerland	59 182
21	Dresdner Bank	Germany	497 287	46	Raiffeisenbanken International	Austria	55 867
22	Banco Bilbao Vizcaya Argentaria	Spain	411 316	47	Sampo Group	Finland	46 946
23	Danske Bank	Denmark	367 423	48	Kaupthing Bank	Iceland	43 200
24	Nordea Bank	Sweden	346 828	49	OP Bank Group	Finland	24 192
25	Credit Mutuel	France	339 025	50	Glitnir Bank	Iceland	23 960
				51	Jyske Bank	Denmark	21 470

Source: Annual reports, Arthur D. Little analysis

Figure 6: Largest banks in Europe in 2007 (Arthur D. Little Central Europe, 2007).

3.1.2 Impact of the financial crisis 2007–2009+ on the European banking sector

Recent research analysing trends and strategic developments in the European banking sector have often been overshadowed and driven by the financial crisis 2007–2009+ (Hedrich *et al.*, 2009). The reasons, development and the structure of this major crisis are not the subject of this thesis; however, these aspects may serve as subjects for future research as it is important to scrutinise the extent to which this sudden event shaped the perception of European bankers. A first impression of this shift in perceptions can be gained from the change in investment decisions due to the financial crisis, as shown in Figure 7. A large group of banks (58%) aim to carry out their investments as planned and their decisions remain unaffected by the financial crisis 2007–2009+. The picture, however, is different for 37% of banks which are in favour of altering their investment decisions as a result of the crisis (Spath *et al.*, 2009). In short, research shows that banks' investment decisions are not uniform. It remains unclear as to why there is an almost 60:40 split in the approaches taken by the banks, but one possible and reasonable explanation could be that, at the time of this research, banks were still uncertain in assessing or evaluating the future structure and conditions for the development of the European banking sector.

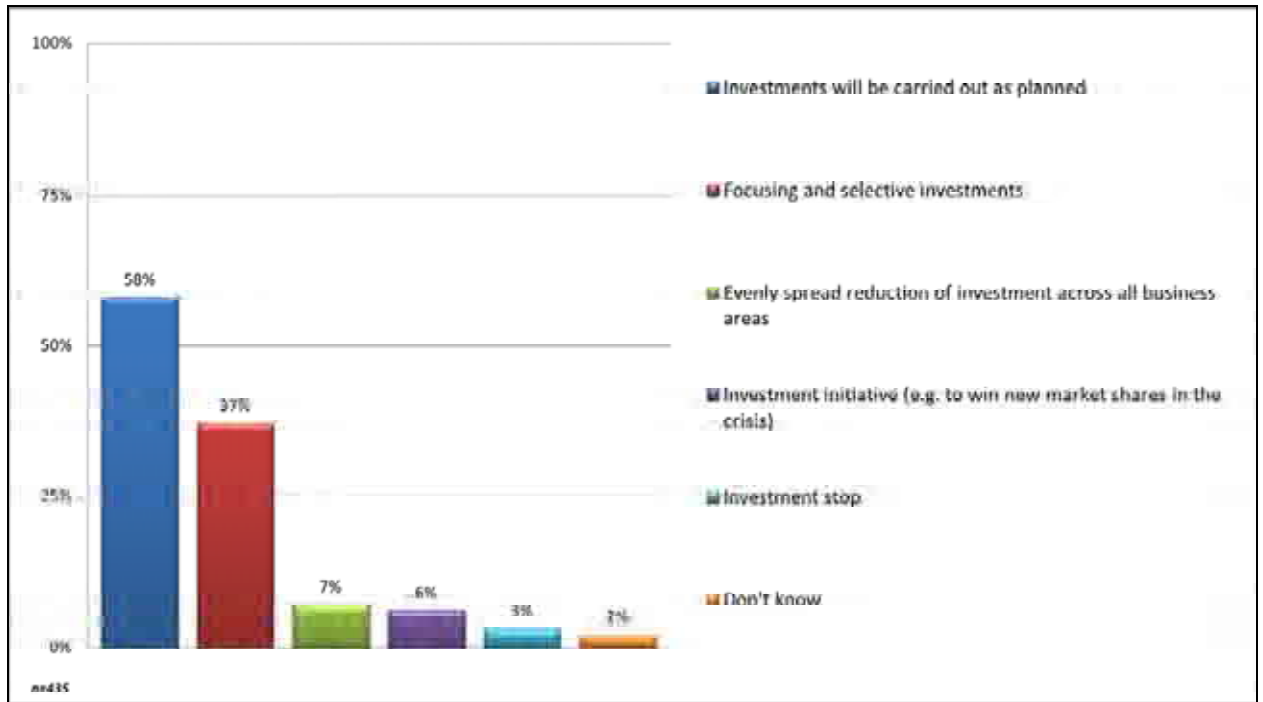


Figure 7: Impact of financial crisis 2007-2009+ on investment decisions (adapted from Spath *et al.*, 2009, p. 7)

The study provided by Spath *et al* (2009) about the influence the financial crisis 2007–2009+ had on the investment decisions of European banks clearly states that there was very little change in European banks’ investment decisions. That same study, however, also goes on to illustrate the current perception of banks within the sample when asked about their major strategic projects in 2009. It is precisely this point that clearly shows that the financial crisis has indeed had an impact on banks’ strategic approaches. While the study states that 58% of the banks in the sample aim at reducing costs, it can equally be noted that this strategic aim may not have been directly affected by the financial crisis in any way. More interestingly, almost half of the banks (49%) state that they aim to identify a strategic process by which they can position themselves in the market. This in turn could either suggest a lack of current strategic processes or that banks have not understood the need to alter their strategic approaches in the past. Equally striking is the statement that 22% of banks wish to regain the

public's confidence in banks after they suffered quite a setback during the financial crisis of 2007–2009+ (Spath *et al.*, 2009). An overview of the major strategic projects of European banks in 2009 is displayed in Figure 8.

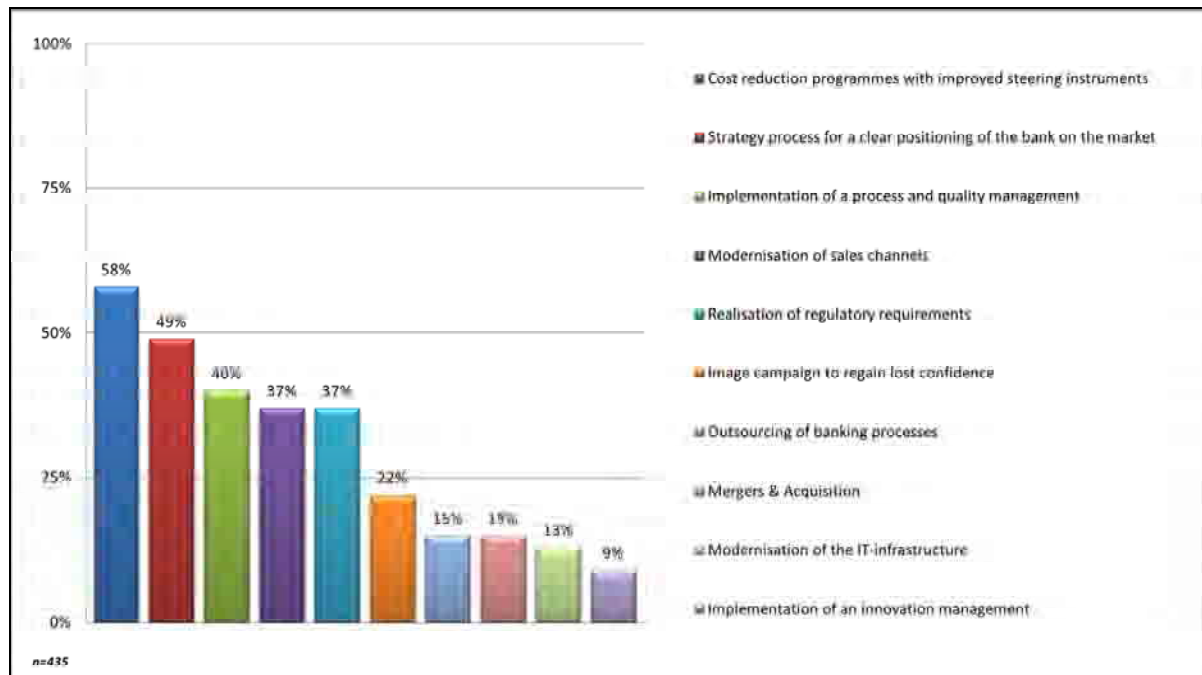


Figure 8: Strategic projects 2009 (adapted from Spath *et al.*, 2009, p. 6)

An enquiry about which strategic challenges banks faced in 2009 was made in the same study. It was found that the principal concern (77%) was that of price competition for standardised products. Opening the banking sector up to more institutions over the past two decades has undeniably increased the competitive pressure. The vast majority of banks (72%) consider this strategic challenge to have been decisive in 2009. The third ranked concern in the survey (58%), which is an interesting one, refers to increased complexity due to tightened regulatory requirements (Spath *et al.*, 2009). At first glance, this point appears to contradict the characteristics that have been typical for the European banking structure's development in the

course of the past two decades as described by previous studies (e.g., Apte, Sankar, Thakur and Turner, 1990; Eppendorfer, Beckmann and Neimke, 2002). Thereby, it has been argued that deregulation in the European banking sector was considered to be one of the major sectoral features (Apte, Sankar, Thakur and Turner, 1990; Eppendorfer, Beckmann and Neimke, 2002).

3.2 *Changes and Trends in the European Banking Sector*

The major developments in the banking sector during the past two decades have mainly been dominated by changes in government regulation and supervision, demographic factors, technology and consumer preferences (Eppendorfer *et al.*, 2002; Goddard *et al.*, 2007; Groeneveld and Wagemakers, 2004). A significant impact on the whole sector was the common trend of deregulation, leading to liberalisation of the banking sector and the reduction of geographic restrictions, which eventually led to increased international competition between financial service providers – including non-banks such as insurance companies (Apte *et al.*, 1990; European Central Bank, 2008; Eppendorfer *et al.*, 2002). The competitive threat posed by non-banks also offering banking products to customers, has also been pinpointed as a challenge in a recent survey which reveal that 36% of European banks in the sample expressed their concerns regarding this precise issue (Spath *et al.*, 2009)

This competitive threat increased with the introduction of the euro currency in participating countries of the European Union in 1999 in an initial non-physical form, as well as later in 2002 in its physical form. The introduction of the euro is one of the significant milestones in a series of events aimed at creating a single banking market in Europe (Moerman, Mahieu and Koedijk, 2004). With regards to the competitive perspective, in the

European banking sector, the introduction of the new currency posed additional threats to banks due to the expansion of natural market size and the lapse of former exchange rates (Canals, 1999). At first glance, it would appear that the idea of a single banking market in Europe would have been successfully implemented by changing the regulatory environment, harmonising national laws and by opening the markets up to other banks from the European Union. However, to date, the reality is different: Many banks are still domestically orientated (Moerman *et al.*, 2004) and as a result keep their business activities within national boundaries. This paradox can be explained by strategic barriers such as language, psychic distance or other reasons such as fiscal matters faced by banks (Gual, 2004).

3.3 Operative and strategic view on trends of the European banking sector

From an operative point of view, the described influences on the banking sector led to technological progress and amplified diversification of savings and assets within the industry (Eppendorfer *et al.*, 2002). From a strategic perspective, however, these developments put large banks under pressure into consolidating with other financial institutions (Eppendorfer *et al.*, 2002; Moerman *et al.*, 2004). However, the growing consolidation and integration of European banks – although a common trend in the European banking sector for the past two decades – is generally unequally distributed across the EU15 countries. Whilst some countries such as Germany, France and the United Kingdom have experienced a continuation of consolidation in the past few years, other countries such as Belgium, Spain and Italy have witnessed an increase in the number of banks (European Central Bank, 2008).

3.3.1 The European banking sector in 2015 – bank expectations

The study carried out by Spath *et al.* (2009) asked participating banks how they thought the European banking structure was likely to change by the year 2015. A vast majority of banks (74%) expect mergers and acquisitions to be the leading development of the future. Hence, the number of banks is expected to drop continuously, thereby confirming the on-going trend of the past two decades in the banking sector (see Figure 9). Further strategic expectations concern the banking structure in 2015. By then, banks expect another on-going trend involving tighter regulations and limited strategic options (40%), followed by the expectation that the universal bank model will still be differentiated from the specialised bank model (37%). Whether these expectations originate from negative experiences during the financial crisis of 2007–2009+ remains unclear; however, they merit closer examination. Certainly, these expectations fit the strategic challenges in 2011 in which banks seek to find a suitable strategic position in the market.

In short, it can be stated that the financial crisis is a critical event that has had a significant impact on the development of the European banking sector. One can only presume to what extent current changes, such as increased regulation, will become a trend in the European banking sector. Figure 9 provides an overview of these and other expectations banks have for the year 2015.

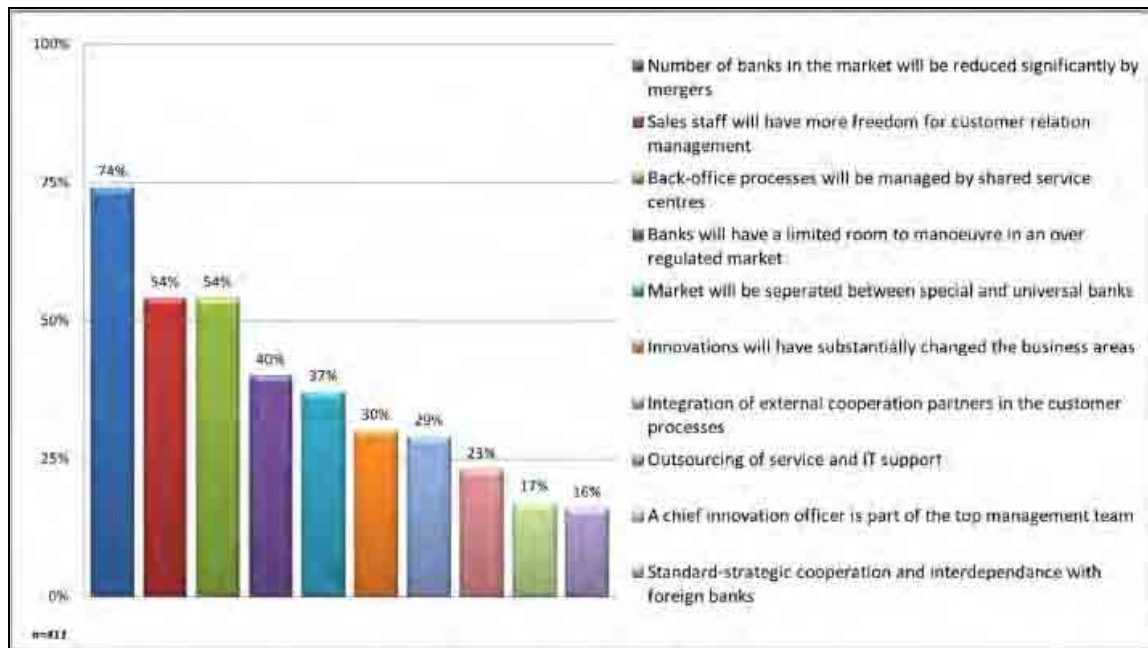


Figure 9: Expectations in the Banking Market until 2015 (adapted from Spath et al., 2009, p. 37).

3.3.2 Strategic Perspective on the European Banking Sector

Research in the area of strategy and strategic decision-making in the context of the European banking sector is still limited and lacks a research history. By identifying specifics in the environment of interest and by drawing analogies with similarly designed research studies, the approach used in this thesis will be able to describe how strategic decisions are actually made in the banking sector. Therefore, the two characteristics of the European banking sector, namely, the high-velocity and high-regulatory nature of the environment which have been the subject of previous research (cf. Costanzo, 2004; Slattery and Nellis, 2009) will inform the analyses of this research (cf. section 2.3.2 *et seq.*).

The first characteristic that links the banking sector to a strategic framework is known as the high-velocity environment (Bourgeois and Eisenhardt, 1988; Costanzo, 2004). In this

context, the velocity of an environment not only refers to the pace of change, but also to its predictability of occurring within the given environment (cf. section 2.3.2).

Another characteristic that is typical for the European banking sector is its highly regulated environment. According to Slattery and Nellis (2009), the banking sector is perceived as being a highly-regulated environment. It is important to be aware that during the past two decades the European banking sector had experienced a continuous deregulation trend. However, as a result of the financial crisis, the sector is now perceived as being far more regulated (cf. Slattery and Nellis, 2009; Spath *et al.*, 2009). Regarding the banks' own perception on just how influential the regulatory environment is, it is worth mentioning that banks in the European banking sector generally do not assign high risk potential to the subject of regulation. In the past, banks have repeatedly expressed their concerns regarding the implementation of new regulatory requirements (cf. Spath *et al.*, 2009), whereas other studies show that banks now complain about what they perceive as an all too frequent change of regulatory frameworks (cf. European Central Bank, 2008).

To date, research scrutinising strategic perspectives in highly-regulated (or centrally administered) environments is limited. Consequently, little is known about how managers decide in these regulatory conditions (cf. Ramaswamy, Thomas and Litschert, 1994; Slattery and Nellis, 2009). One of the few publications that attempts to cover the issue of banking regulation and strategic choice found that deregulation caused an increase in rivalry and entry, which consequently led to a decrease in Return on Assets (RoA). Financial institutions now tend to accept higher levels of risk as a result of this development (Reger, Duhaime and Stimpert, 1992). Further research studies have found that deregulation has also led to new developments across the whole banking sector on a macro-level (cf. Hunter, Bernhardt,

Hughes and Skuratowicz, 2001; Spath *et al.*, 2009; Goddard *et al.*, 2007). First, deregulation of the banking sector leads to a consolidation in the form of mergers between banks. Strategically speaking, this development eases the achievement of economies of scale. Second, price competition among the banks increases when financial services start to resemble commodity products more and more. Third, deregulation leads to the entry of other financial institutions, such as insurance companies, which offer similar financial products as banks to their customers. This effectively adds to competition in the sector. Furthermore, deregulation has led to an increase in the banks' range of products on offer, e.g., investment and insurance products. This strategic move follows the idea of product diversification (Hunter, Bernhardt, Hughes and Skuratowicz, 2001; Spath *et al.*, 2009; Goddard *et al.*, 2007). One of the banks' biggest concerns is to find a clear market position for themselves and to then improve their currently employed strategic control systems accordingly (Spath *et al.*, 2009).

Chapter 2 - Literature Review

1. Strategic management research

This research aims at understanding the corporate foresight phenomenon and its impact on strategic decisions in the context of the European banking sector. As corporate foresight is predominantly concerned with the future-oriented direction of an organisation, the study is embedded in a sub-domain of strategic management. More specifically, corporate foresight refers to the organisation's commitment to providing a view on the future for future business areas (Gruber and Venter, 2006). With regards to the research approach underlying the investigation, the following section will provide an overview of different perspectives on strategic management research and position corporate foresight within strategic process research.

1.1 Definition of strategy in strategic management research

From a historical point of view, the concept of strategy can be traced back to semantic uses in the Old Testament. Later, the term was used in military and political contexts by authors such as Clausewitz, Machiavelli and Bismarck until it was finally integrated in management research. The term 'strategy' has its origin in the ancient Greek word *strategos*, which means 'general', and is further rooted in the terms for 'army' and 'to lead'. The derived verb *stratego* reflects the plan to destroy enemies by effectively employing resources (Bracker, 1980; Grant, 1998, pp. 18-21).

In the early stages of strategy and management research, Alfred D. Chandler (1918–2007) made a major contribution to the scientific development of these concepts. In his

studies at corporations such as General Motors, DuPont, Exxon and Sears, he concluded that strategy refers to the organisation's determination of long-term goals and objectives by allocating resources to achieve these and setting courses of action. In line with his argument, decisions are an integral part of strategy as they reflect the application of activities to expand the volume of activities (Chandler, 1997, pp. 47-48; cf. section 2.4).

Particularly the years after the mid-20th century, the concept of strategy became the subject of extensive discussion and research in academia (cf. Ansoff, 1965; Chandler, 1962; Ezer and Demetis, 2007; MacKay and McKiernan, 2004a; Mintzberg, 1994; Pettigrew, 1992) – when a clear understanding and delineation of ‘what strategy is’ still called for profound investigation. An answer to this problem is even more of a dilemma because the concept is widely used, but only limitedly grasped, and is interchangeably used in academia with other terms such as ‘strategic planning’, ‘strategic management’ and ‘scenario planning’ (Godet, 2000). Against this background, Mintzberg, one of the most prolific researchers in the area of strategic management, describes strategy in the following manner:

One of the more important things managers do is make strategy for their organisations, or at least oversee the process by which they and others make strategies. In a narrow sense, strategy-making deals with the positioning of an organization in market niches, in other words, deciding on what products will be produced and for whom. But in a broader sense strategy-making refers to how the collective system called organization establishes, and when necessary changes its basic orientation. Strategy-making also takes up the complex issue of collective intention – how an organization composed of many people makes up its mind, so to speak (Mintzberg, 1989, p. 25).

Based upon Mintzberg's description of strategy, three main points can be identified: (i) strategy is something made by managers. This stresses that strategy is highly dependent on the human element (cf. Johnson *et al.*, 2008, p. 11); (ii) strategy refers to the positioning of the organisation in market niches – with particular reference to the organisation's products and customers; and (iii) strategy is a dynamic concept involving organisational change and collective minds.

Across different definitions in the literature, a generally accepted conceptualisation of strategy considers the impact on the organisation's scope and direction over the long term; the achievement of a competitive advantage and performance in an ever-changing environment by the management of resources and competences; the consideration of stakeholders' expectations; and the development of an independent view about future opportunities and risks (cf. Argyres and McGahan, 2002; Bourgeois, 1984; Drucker, 1999, p. 190; Goldman, 2007; Hamel and Prahalad, 1994, pp. 25-25; Johnson *et al.*, 2008, pp. 2-4).

Strategic decision-making, which is an integral part of strategy, will be discussed in detail in section 2.4. The following section will shed light onto different perspectives of strategy and strategy research.

1.2 Perspectives on strategy and strategic management research

Despite the long history of strategic management research, it has not been able to find a consensus between diverging perspectives, but instead has generated a “[...] *bewildering array of competing or overlapping conceptual models*” (Hart, 1992, p. 327). Two differing approaches can generally be identified in strategy research: (i) the normative (prescriptive, deliberate) and (ii) emergent (descriptive, positive) approach. While the former refers to what

the firm's strategy should be, the latter is concerned with the firm's actual strategy (cf. Burgelman, Maidique and Wheelright, 1996, p. 3; Mintzberg, 1989, p. 34).

The normative approach in strategy research has mainly been established by the seminal works of Chandler (1962), Ansoff (1965), Andrews (1971) and Porter (1980). In more recent publications, the normative approach has also been termed as 'rational' (Hart, 1992) or 'classical' (Whittington, 2000). In essence, the normative approach considers profitability as the highest goal of business, thereby assuming that managers are ready and confident when employing profit-maximisation strategies through rational long-term planning (Mintzberg, 1989, pp. 29-32; Whittington, 2000, pp. 11-16).

In contrast, the emergent approach to strategy criticises the normative approach by emphasising the organisation's heterogenic nature and the general instability of business environments. Due to these conditions, strategies cannot be programmed *a priori*, but rather evolve or emerge over time (Mintzberg and Waters, 1985). The emergent approach to strategy has mainly been introduced by the McGill research group led by Mintzberg and his colleagues (Mintzberg, 1989, p. 32; Mintzberg, 1994; Mintzberg and Waters, 1985), who assert that strategy is dynamic in nature and thereby plans should adapt according to results and changes in the internal and external environment of the organisation (Gibbons and O'Connor, 2005; Mintzberg, 1978).

Based upon the different perspectives on strategy and the way in which strategy comes into existence, a widely used model of strategy-making has been established in strategic management research which stresses the process by which strategy is first and intentionally formulated and subsequently is partially put into realisation. The realised strategy mirrors the convergence of deliberate (intended) and emergent strategy (Mintzberg, 1989, pp. 26-32; cf.

Brews and Hunt, 1999; Hitt and Tyler, 1991; Mintzberg and Waters, 1985; Whittington, 2000, pp. 21-26). A model of these types of strategy – from a process perspective – is displayed in Figure 10.

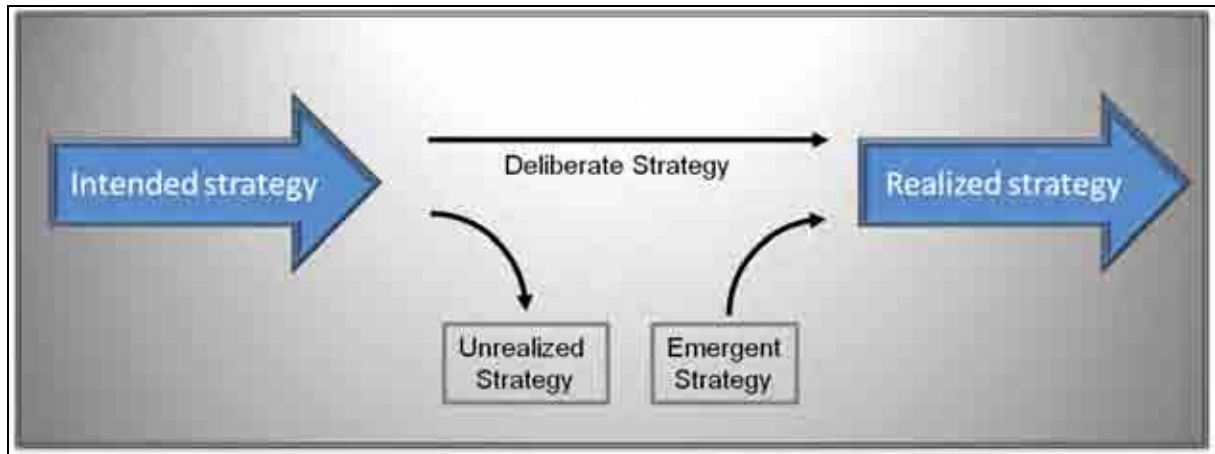


Figure 10: Types of strategies (adapted from Mintzberg and Waters, 1985).

Apart from Mintzberg's conceptualisation of strategy, several other different perspectives on strategy and strategy-making have arisen in management research. Although Mintzberg's model is predominantly represented in strategy research (cf. Brews and Hunt, 1999; Davies and Walters, 2004; Hitt and Tyler, 1991), further investigations and strategic models in this area, such as a planning perspective (cf. Mintzberg, 1973; Nonaka, 1988) and an evolutionary perspective (cf. Alavi and Henderson, 1981; Whittington, 2000) have contributed to knowledge in this area. An overview of various perspectives on strategy from selected investigations are given in Table 2.

Perspectives on strategy-making			
Allison (1971) <ul style="list-style-type: none"> • Rational • Organizational • Bureaucratic 	Mintzberg (1973) <ul style="list-style-type: none"> • Entrepreneurial • Planning • Adaptive 	Bourgeois and Brodwin (1984) <ul style="list-style-type: none"> • Commander • Change • Cultural • Collaborative • Crescive 	Mintzberg and Waters (1985) <ul style="list-style-type: none"> • Entrepreneurial • Planned • Ideological • Umbrella • Process • Consensus • Unconnected • Imposed
Mintzberg (1987) <ul style="list-style-type: none"> • Plan • Position • Ploy • Perspective • Pattern 	Nonaka (1988) <ul style="list-style-type: none"> • Deductive • Compressive • Inductive 	Hart (1992) <ul style="list-style-type: none"> • Command • Symbolic • Rational • Transactive • Generative 	Whittington (2000) <ul style="list-style-type: none"> • Classical • Evolutionary • Processual • Systemic

Table 2: Selected perspectives on strategy and strategy-making (adapted from Hart and Banbury, 1994; Johnson *et al.*, 2008; Whittington, 2000; cf. Hart, 1992).

Apart from these various perspectives on strategy, management studies generally distinguish between the content and process perspectives of strategy research (cf. Elbanna and Child, 2007; Hodgkinson and Sparrow, 2002, pp. 6-7; Leong, Snyder and Ward, 1990; Montgomery, Wernerfelt and Balakrishnan, 1989; Pettigrew, 1992):

- i) The content perspective usually refers to the conditions and type of strategy employed. The content can therefore include decisions regarding portfolio management, diversification, internationalisation and the alignment of firm strategies with environmental characteristics (Elbanna, 2006; Fahey and Christensen, 1986; Johnson *et al.*, 2008, p. 16);
- ii) Process research, in contrast, arises from the assumption that people and the world are too complex and too imperfect for rigorous economic research. Thus, against the background of unsystematic conditions within organisations, process research

recognises and includes the imperfections and complexities arising from conditions such as organisational culture in the analysis. Process research specifically focuses on the way by which managers change the firm's strategic position through the strategic decision-making process (Elbanna, 2006; Johnson *et al.*, 2008, p. 17). The scientific areas from which strategy processes gain important contributions include psychology, political science and ethics.

Since this research aims to understand how corporate foresight is manifested and occurs in organisations (process), rather than to evaluate the different pictures of the future designed at the subject organisation under investigation (content), the research will analyse the phenomenon from a process – as opposed to a content – perspective. The following section will describe how both strategy processes and corporate foresight are conceptually connected and suggest a further approach for studying the concept.

1.3 Location of corporate foresight research within strategic process research

This research considers strategy – and specifically strategic decision-making – as the conceptual basis to use for analysing the corporate foresight phenomenon. Both, strategy and corporate foresight share two main elements that link them together, namely, the long-term consideration of the future by creating an independent view and understanding what is still to come (cf. Becker, 2003; Bourgeois, 1984; Chermack, 2004; Fahey and Randall, 1997; McMaster, 1996; Schwarz, 2008a; Voros, 2003). More specifically, the main concern of corporate foresight, which understands the future for the benefit of the organisation, categorises the phenomenon as part of strategic management (Gruber and Venter, 2006).

In more recent strategy research, scholars have attempted to design integrated frameworks that acknowledge the different streams in strategy literature. Papadakis, Lioukas and Chambers (1998) propose that four main elements are related to strategic decision-making which reflect its process in the organisation.

- i) Top management: In the literature, the top management perspective on strategy and strategic choice traditionally refers to management characteristics influencing corporate strategy (Hambrick, 1987; Hambrick and Mason, 1984; Miller and Toulouse, 1986). The main argument of this perspective criticises the traditional, deterministic perspective, which states that the outer environment is the predominant factor in shaping the organisation's strategy. Instead, it is argued that top managers make choices based on corporate strategy, hence reflecting an internal behavioural aspect of strategy-making (Hambrick, 1987; Child, 1972; Geletkanycz and Hambrick, 1997; Hambrick and Mason, 1984; Miller and Toulouse, 1986).
- ii) Nature of decision-making: In the literature, it has been argued that managers classify decisions before the actual decision-making process – and in turn change the process according to this classification (Dutton, Fahey and Narayanan, 1983; Fredrickson, 1984; Mintzberg, Raisinghani and Théorêt, 1976; Sharfman and Dean, 1991). More recent research in the area agrees with this view by emphasising that strategic decision characteristics (generic attributes and objective categorization) significantly shape the decision process (Papadakis *et al.*, 1998).
- iii) Decision-process characteristics: Decision processes have traditionally been investigated by analysing process dimensions such as comprehensiveness and

rationality (Dean and Sharfman, 1993), political and problem-solving (Lyles, 1987) and the actual phases of decision processes (Mintzberg *et al.*, 1976).

- iv) Broader context: The broader context consists of the internal context and the external environment. The former refers to specific organisational criteria such as performance and size (cf. Bourgeois, 1981; Child, 1972; Fredrickson and Iaquinto, 1989; Papadakis *et al.*, 1998), whereas the latter focuses on environmental characteristics such as dynamism and hostility (cf. Eisenhardt, 1989; Fredrickson and Iaquinto, 1989; Hitt and Tyler, 1991; Hofer, 1975; Papadakis *et al.*, 1998). The consideration of the broader context implies that organisational strategy and decision-making are significantly impacted by external factors and not just internal factors such as managers' characteristics and personalities.

An overview of the integrated framework of Papadakis, Lioukas and Chambers (1998) integrated framework is displayed in Figure 11.

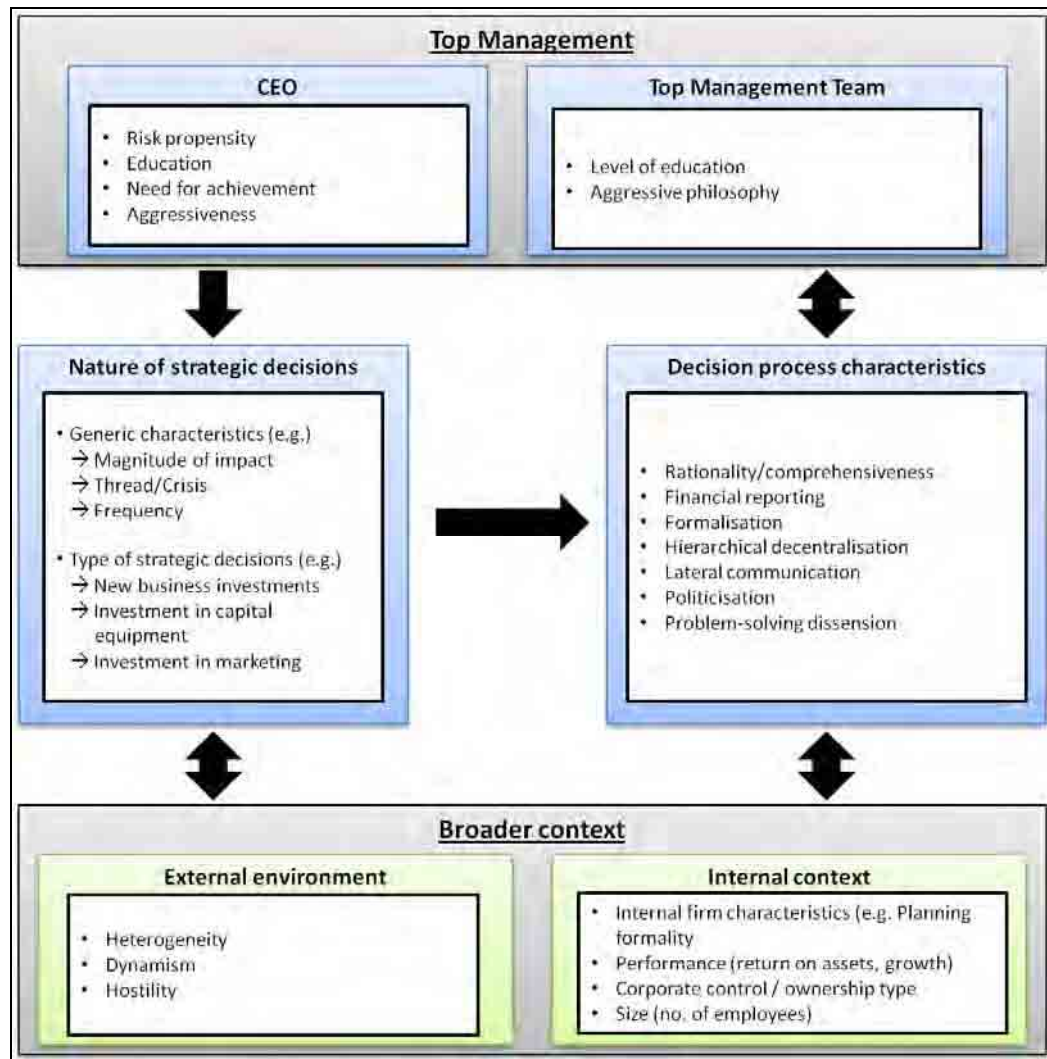


Figure 11 : Factors influencing strategic decision-making processes (adapted from Papadakis et al., 1998).

The framework of Papadakis *et al.* (1998) is helpful in understanding corporate foresight because it is a holistic approach that integrates different perspectives and dimensions in strategy research. Although they are specifically focussed on strategic decisions⁴ rather than on strategy and strategy-making, it can be argued that the elements mentioned in the framework address the most important factors in understanding organisational reality.

⁴ See also section 2.4 for further discussion on strategic decision making.

Based on this framework, the following conceptual links will be drawn between strategy, strategic decision-making and the corporate foresight phenomenon:

- i) From an internal and behavioural perspective, *managers* play a crucial part in the organisation's strategy-making due to their role in making strategic choices (cf. Child, 1972; Hambrick and Mason, 1984; Montanari, 2007). This implies that the organisation's long-term orientation is contingent upon the human element of strategy (Johnson *et al.*, 2008, p. 11). Considering that corporate foresight mainly deals with the future, which in turn is related to managers' beliefs, hopes, emotions and expectations regarding the future (cf. Reading, 2004, pp. 1-17), a managerial perspective is highly appropriate to be included in as well as shared by both concepts.
- ii) The *organisation* reflects the internal dimension of the strategy's context. Although the management makes choices regarding the organisation's structures, processes and resources, it constricts the top managers' decisions at the same time (Papadakis *et al.*, 1998; Romanelli and Tushman, 1986). As previous research has suggested, corporate foresight too appears to be the subject of similar influences in terms of its responsiveness to organisational characteristics (Becker, 2003; Gruber and Venter, 2006; Rollwagen, Hofmann and Schneider, 2006). As a result, an internal organisational perspective will be introduced in order to analyse corporate foresight and thereby gain an improved understanding of the phenomenon in a specific context.
- iii) Finally, early investigations in strategy research emphasise the impact of the external *environment* on the organisation's strategy and strategic decision-making

(Eisenhardt, 1989; Fredrickson and Mitchell, 1984; Hofer, 1975). Apart from a few publications on foresight within a given environmental context (cf. Costanzo, 2004; Rollwagen *et al.*, 2008; van der Duin, van Oirschot, Kotey and Vreeling, 2009), the mutual relationship between corporate foresight and the environment has not as yet been comprehensively investigated in academic research. This study on corporate foresight therefore includes the external environmental dimension.

In line with these arguments and previous strategic management research (cf. Papadakis *et al.*, 1998; Schneider and De Meyer, 1991), the trichotomous approach, namely, managerial, organisational and environmental, will be adopted in analysing corporate foresight.

The following sections will shed light onto the conceptualisation of corporate foresight as part of futures studies, then discuss managerial foresight, which is one of the main elements in this research study. This will then be followed by a discussion of the organisational and environmental perspectives of corporate foresight. Adding to the previous investigation of strategy and strategy-making, section 2.4 will depict strategic decision-making, enabling the critical evaluation of corporate foresight and its impact on strategic decisions.

2. Corporate foresight

The previous sections highlighted the different aspects of strategic management research. Regarding the particular focus of this research study, corporate foresight is suggested to consider managerial, organisational and environmental issues as significant for its manifestation. In line with this argument, the following section will first analyse the development of futures studies and then discuss the managerial and organisational perspectives on corporate foresight. It will then further investigate how the literature has conceptualised the environment as a significant element in organisation studies.

2.1 Conceptualisation and development of futures studies

The first conceptualisation of scientific futures studies can be traced back to the beginning of the 20th century. Back then, the first attempts at long-range social and economic planning were the Soviet Union's Five-year and Ten-year Plans of the 1920s and 1930s. These plans implied that direct control over the people's future is based upon a certain sense of a 'planable' future (McHale, 1978, p. 8). The general perception of comparatively simple environmental circumstances provided great accuracy in forecasting and planning which subsequently established the trust in forecast systems and plans (Whitehead, 1942, p. 108).

After World War II, French futurists engaged in studying the scientific and political aspects of futures studies. With the creation of a centre for 'prospective studies' by Gaston Berger in the latter half of the 1950s, the term 'prospective' was coined and used in Europe and referred to making decisions not only on immediate needs, but also for long-term reasons (Masini, 2006). Bertrand de Jouvenel (1903–1987) and his publication 'The Art of

Conjecture’⁵ in 1967 contributed to the development of a new paradigm in futures studies. Whereas it was hitherto assumed that only *one* future existed representing something that was still to come (Cuhls, 2003), de Jouvenel introduced the concept of several futures, which he called ‘*futuribles*’. The concept of *futuribles* aims at characterising the (un-)certainty which lies in the future, by distinguishing between possible states of affairs and those which are not possible. According to De Jouvenel (1967, pp. 18-19), plausible and imaginable future events which are simply projections from the present state are obsolete based on the fact that improvements in technology tend to be ignored – these improvements would allow futures to realise what seems impossible from the present point of view. With new concepts and understandings of the future, research further elaborated on the nature of futures studies, both in science and in practice. Its development is the subject of the discussion in the next section.

2.1.1 From forecasting to foresight

After World War II, the military circumstances of the Cold War and military long-term planning efforts enhanced the creation of different technological forecasting methods. It was then that the cooperation between military and industrial equipment producers was established, such as trend extrapolation, relevance trees, scenarios and needs analysis (Leigh, 2003; Linstone, 2002).

The concept of alternative and hence multiple futures was a milestone in the area of futures studies. In the early 1970s, the environment was still perceived as predictable, thus scientists engaged in filtering out the one single, probable or even wishful future

⁵ The term ‘conjecture’ originated from Jacques Bernoulli’s distinction between the certain and indubitable things that can be *known* or *understood* and conjecture which means *opining* (De Jouvenel, 1967, p. 17).

environmental state. It was at this time that the oil crisis and the success of scenario planning led to the 'multiple futures' concept in organisations (Cuhls, 2003b).

Scenario approaches (cf. section 2.2.6) were initially developed by military institutions at the end of the 1960s. The successful application of scenario analyses in companies was experienced in the 1970s by the global oil and gas company Shell, when Pierre Wack - a former manager and highly regarded expert in scenario approaches - challenged the dominant image of the future in the context of the oil market that underlay a stable growth of 6% per year. By introducing a 'crisis scenario', Shell was well prepared for the actual oil crisis in 1973 and could noticeably improve its competitive position (Schwartz, 1991, pp. 4-9; van der Heijden, 2004b, pp. 3-6).

A further historically important milestone in futures studies and in the perception of the future was in 1972, after the publication of 'The limits to Growth' by Meadows, Meadows, Randers and Behrens (1972). Their study was initiated by the Club of Rome and conducted by an international research team from the Massachusetts Institute of Technology (MIT). The project aimed at describing a holistic and global future by computing a set of different variables – mainly quantitative in nature, including feedback loops and advanced computer modelling and simulation (Bell, 2001). 'The limits of Growth' itself was not specifically supposed to be a contribution to futures studies (Meadows *et al.*, 1972, p. 185), but unintentionally influenced the perception on humanity's future in the years to come.

Since the 1980s and 1990s, foresight activities and tools have increased their influence in academic, public and private institutions. Not only have the success stories of foresight (e.g., Shell, the oil shock and the application of scenario approaches) convinced a large audience of the phenomenon as such, but they have also changed the general assumption that

there is merely a single and continuous future ahead. In addition, the increase in environmental complexity, and hence uncertainty, have added several further streams to the literature on foresight.

2.1.2 Foresight and futures studies

Based upon the emergence of futures studies, scientific research has generally agreed on using the term 'foresight' to emphasise the concept of multiple futures in an applied context, i.e., private and public organisations. Against the background of the similarities and differences between both terms, the following discussion will delineate one concept from another.

Finding a clear and yet commonly shared definition of futures studies has proven to be a rather difficult task (Schwarz, 2008a). One of the most prolific writers in the field of futures studies, Wendell Bell, has, however, managed to propose a general and widely accepted definition for futures studies:

Futures studies is not a 'value-free' science. Rather, it is concerned with both the true and the good. It is an action and human science whose purposes include not only the description and explanation of what was, what is, and what will be but also include the investigation and achievement of what ought to be, the preferable. Just as people and organizations cannot make intelligent decisions to act without knowing the future consequences of their actions (a prediction problem), they also cannot do so without having some valid way of deciding how desirable or undesirable those consequences will be (a value judgmental problem)" (Bell, 2004, p. 319).

This rather general definition does not provide any evaluation on what is meant by ‘value- free’ science, whether it be academic or professional. Some authors criticise the attempt to characterise futures studies as a disciplinary field. Marien (2002a) repudiates the labelling of ‘futures studies’ as a scientific field, arguing that if one wishes to define futures studies, it should rather be seen as a multidisciplinary field. The difficulty of categorising futures studies as a science is also related to the fact that this subject does not create knowledge, which according to Plato’s classical definition means the same as justified true belief (Niiniluoto, 2001). The discussion as to whether futures studies is a science or an art should not disprove the existence of the concept, but demonstrate that it is an active and widely discussed area of research.⁶

When looking at the relationship between futures studies and foresight, the literature suggests several conceptual approaches. The predominant concept is a hierarchical one. Thereby, futures studies are generally seen on a philosophical level and are therefore super-ordinated to the concept of foresight. In contrast to that perspective, foresight has also been distinguished from a functional perspective including thinking and action processes (Pina e Cunha *et al.*, 2006), an organisational approach (Uotila and Melkas, 2007), a learning view (Rollwagen *et al.*, 2006) and a participation perspective (Uotila and Melkas, 2007).

In line with this argument, a further distinction has been drawn between the concepts of forecast and foresight. Both perspectives belong to futures studies, and they conceptually also share certain characteristics: In order to shape the future, forecasting begins from a single point into the future (accurate and precise predictions) thereby building the basis for scenario

⁶ Many universities offer several graduation programmes in futures studies (e.g., the Turku School of Economics and Business Administration (Finland) and Swinburne University of Technology (Australia)). This does not support the scientific existence of futures studies, but rather demonstrates academic and scientific interest in the topic.

planning (alternative futures) as well as for foresight (institutional capacity building) and allowing the creation of a future-oriented learning and knowledge organization (Cuhls, 2003b; Inayatullah, 2002; Voros, 2003).

2.2 Individual and managerial foresight

Previous foresight publications have repeatedly stressed the importance of considering the individual within foresight reality (cf. Blackman and Henderson, 2004; Chermack and Nimon, 2008; Costanzo, 2004; Hines, 2003). Although these publications focussed on different aspects of foresight, such as attitudes, types or individual foresight processes, the interrelationship between the individual and the organisation has remained unexplored and reflects a lack in scientific knowledge. The following section will critically evaluate research findings in order to provide insights into this issue. Individual foresight will therefore be discussed, followed by an analysis of managerial foresight.

2.2.1 The phenomenon of individual foresight

It is generally accepted that human beings possess some kind of foresight (cf. Ahuja, Coff and Lee, 2005; Blackman and Henderson, 2004; Reading, 2004, pp. 15-16; Rescher, 1998, pp. 13-17; Simon, 1997, p. 78; Slaughter, 1995, p. 48). However, the nature of individual foresight is still much discussed in academia and is not clearly identified. One stream of literature categorises foresight as being a part of human behaviour which is constantly employed in the form of necessary considerations when making personal and professional decisions. In his publications, Amsteus (2007, 2008) discusses foresight perspectives as being covert or overt

behaviour. He argues that the classification of foresight as being a competence, trait or skill has to be refuted because these concepts only reflect what the individual can do, not necessarily what the individual does (cf. Boyatzis, 1982; Skinner, 1974).

McMaster (1996) disagrees with Amsteus. He refers to foresight as interpretation rather than information, thus associating it with cause and effect analysis emerging from the past and the individual's subsequent interpretation. Thus, his approach is in line with Whitehead's (1942, 1967) general assertion that foresight is an understanding. Slaughter (1995, p. 1) and Chia (2004, p. 21) also add that foresight in its individual aspect is a human attribute and capacity which can help to evaluate alternatives and hence it can be applied to decision-making. Consequently, foresight is seen as conscious and purposeful.

Other researchers (cf. Hideg, 2002) define foresight as a phenomenon consisting of both cognitive interpretation and emotional attitudes. Basically, foresight originates from man's natural mechanisms and it is employed to protect from harm and for sense-making in the uncertain nature of biological existence. In contrast to the formerly stated nature of foresight as being an interpretive attribute, Hideg (2002) follows instead a biological approach in categorising individual foresight. This biological classification is also shared by other authors such as Calvin (1991, pp. 22-23; 187-189; cf. Schwartz, 1991, pp. 29-30) who has identified that individual foresight emerges from the parts of the brain that control speech and also found that it is even used for ballistic calculations. This ability was important for early humans to hit animals with stones and therefore for survival. In relation to foresight, Calvin's study provides insight from the neurobiological point of view, and it can be concluded therefrom that foresight and planning are natural human processes caused by hormones. The ability

to foresee the future, such as the perceived outcome of a spoken word or the throw of a stone, is therefore not an artificial phenomenon but one already existing in human beings.

Regarding the question as to whether foresight is ‘thinking’ or ‘acting’, Pina e Cunha *et al.* (2006) answer this aspect from a temporal perspective. As microscopic actions have an impact on the future of the organisation, the authors conclude that thinking and practice, macro- and micro-processing, foresight and improvisation are complementary processes and therefore closely related, but distinguishable. In line with this argument, Ingvar’s (1985) widely respected concept of ‘memories of the future’ summarises that previous experiences of the past have a significant impact on the way individuals conceptualise the future. The author does not specifically state whether foresight is cognition or behaviour, but rather considers both as being part of the individual’s way of perceiving the future.

An overview of the different publications and scientific approaches into classifying individual foresight is displayed in Table 3.

	Main aspects	Selected publications
Human behaviour	Covert or overt behaviour - reflecting the implication that foresight includes what individuals can do and what is actually done	e.g. Amsteus (2007), Amsteus (2008)
Human attribute in interpreting and understanding	Foresight can be learned and taught. It is an attribute by which human beings interpret the future to eventually gain insight and understanding	e.g. Blackman (2004), Chua (2004), McMaster (1996), Slaughter (1995), Whitehead (1942), Whitehead (1967)
Neurobiological processes	Foresight is based upon a biological rationale caused by hormones and neurobiological processes	e.g. Calvin (1989), Schwartz (1991), Hideg (2002)
Thinking and acting	Cognition (thinking) and acting (behaviour) are complementary processes in individuals’ future perceptions. Although both concepts are distinguishable, they are part of the same foresight reality	e.g. Pina e Cunha (2006), Ingvar (1985)

Table 3: Dimensions of individual foresight according to selected publications.

Ingvar's (1985) approach to explain individual foresight by relating it to human experiences in the past is generally accepted in the literature (cf. Fahey and Randall, 1997; Mietzner and Reger, 2005; Schacter, Addis and Buckner, 2007). One of the most supported approaches to understanding decision-making, following Ingvar's argument, is the concept of 'representativeness'. This concept reflects the individual's process of transferring past experiences onto an imaginary future. In other words, this heuristic or 'rule of thumb' explains that people predict by assigning the evidence given to a representative and similar occurrence in the past. This means that people are able to categorise and interpret new events by comparing them to similar past experiences. However, representativeness also underlines the idea that people tend to disregard statistical implications which are set *a priori*. In other words, by making predictions, people have the propensity to assign new evidence and its probability according to past events and not according to statistical rationale (Kahneman and Tversky, 1973; McDermott, 2001).

Fischhoff (1975) sheds further light on how confident people are while making predictions. He found that people are more confident in making predictions when they are able to compare an outcome with a similar outcome from the past. A potential weakness of this approach lies in 'hindsight bias', which describes the tendency to overestimate the past event's occurrence when predicting an outcome (Arkes, Guilmette, Faust and Hart, 1988; Fischhoff, 1975; MacKay and McKiernan, 2004b). In sum, the aforementioned findings show that individuals receive information and then interpret and categorise them accordingly.

Some publications in the area of foresight only partly agree with the argument that the individual's past determines their foresight abilities. Rather, some authors argue that desires, goals and intentions are more influential than experiences made in the past (Hideg, 2004). In

line with this position, the foresight literature not only aims at understanding what foresight is, but also what other factors are required to successfully exercise individual foresight – in terms of future imagination's accuracy (cf. Courtney, 2001, p. 2). According to Brownlie (1998), uncertainty is directly linked with the future and effective foresight can only be achieved by approaching the future through means of understanding. Other authors have emphasised the requirement of creativity (cf. Alsan, 2008; Pina e Cunha *et al.*, 2006; Ratcliffe, 2006), intuition (Voros, 2003), learning and development of accurate mental models (Blackman and Henderson, 2004) and cognitive capabilities (Tonn, 2003).

2.2.2 Human perception of the future

The concept of the future is generally a component of the tripartite concept of time: the past, the present and the future (Ingvar, 1985). In a physical sense, the future is the time which follows the present and the past. Foresight, in turn, generally aims at understanding patterns and implications of the future to draw insight into the present. In an ethno-chronographic sense, most people view the present moment to last from 1 to 20 seconds. Therefore, the future is perceived as the time after this moment (Kaivo-oja, Katko and Seppälä, 2004).

In the early stages of foresight literature, Roy Amara (1981) suggested the consideration of three basic dimensions characterising the future: possible, probable and preferable futures. For almost three decades, these three dimensions were largely accepted in scientific research for analysing the foresight phenomenon (cf. Bell, 2004, p. 319; Hancock and Bezold, 1994; Hogan, 2003; Marien, 2002b; Niiniluoto, 2001; Voros, 2003). In more detail, these different dimensions include the following characteristics:

- *Possible futures*: The whole range of futures which human beings can possibly imagine belongs to this category. This includes technologies and knowledge which are not yet available to mankind but are imaginable and are part of this type of future. The question grasping all possible events in the future would be formulated as: “What might happen in the future?” (Voros, 2003);
- *Probable futures*: All kinds of occurrences in the future which are in the range of probabilities to occur belong to this category. Thereby, the dimension mainly considers a continuation of past and current developments into the future – hence, expecting little change in the future. To identify events in the probable future, one might ask the question: “What is likely to happen?” (Voros, 2003);
- *Preferable futures*: This future dimension refers to the individual’s preferences and beliefs in what the individual wishes to happen in the future. The imagination of preferable futures may differ to a large extent due to its strong relation with emotions, rather than cognition. The question would be “What do we want to happen?” (Voros, 2003).

A graphical illustration of these dimensions can be seen in Figure 12. In recent years, some authors have suggested an extension of these dimensions, such as *potential* and *plausible* (Voros, 2003) or *present* and *panoramic* (Marien, 2002b) futures. They are all, however, built upon the concept suggested by Roy Amara (1981).

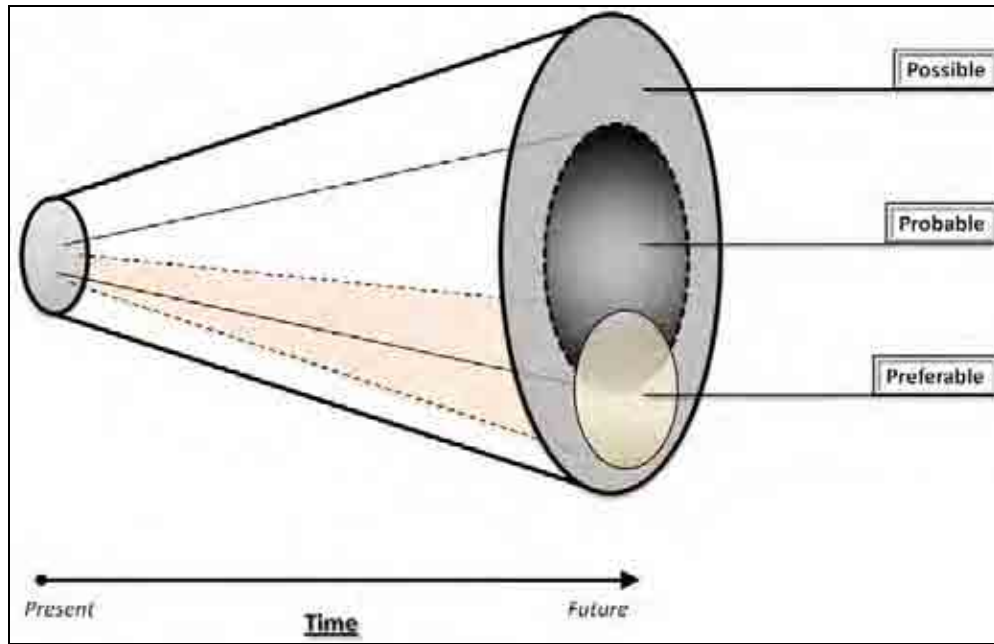


Figure 12: Three dimensions of the future (adapted from Hancock and Bezold, 1994; Voros, 2003).

Building upon the previous discussion on what individual foresight is and how futures dimensions are perceived in the foresight literature, the next section will critically investigate how foresight – hence, the imagination of the future, occurs in individuals’ minds.

2.2.3 Managerial foresight in research

Previous analysis discussed individual foresight, its nature and characteristics in general. With regards to corporate foresight, further evaluation of the managerial perspective on foresight is required.

Research in the area of managerial foresight is still limited and lacks profound theoretical background. On the basis of one of the few publications, it has been argued that managers possess some kind of foresight which is employed within organisational routines (Ahuja *et al.*, 2005). The rationale behind this argument is based upon logical negation:

without foresight, every managerial activity would rely on luck and destiny. Moreover, managerial foresight enables managers to acquire and employ information for personal and organisational benefits (Ahuja *et al.*, 2005). By doing so, managers commit themselves to the analysis of present contingencies. They define desired future states in consideration of the contingencies under control and the course of actions and decision required to achieve the desired future (cf. Ahuja *et al.*, 2005; Horton, 1999; Amsteus, 2008; Voros, 2003). Apart from the general identification of managerial foresight, research has also investigated different types of managers and their attitudes and approaches to futures studies. For instance, Hines (2003) identifies four categories to which managers can generally be assigned. More specifically, these categories not only reflect managers' attitudes towards foresight, but also how one can generally assess their openness towards the phenomenon as well as their propensity to support or to hinder its manifestation within the organisation. The four ideal types can in turn be assigned to two axes: ideologues versus pragmatists; the former describes people who tend to derive their actions on basis of ideologies and policies before acting; the latter delineates people who predominantly approach organisational activities from a pragmatic point of view. The second dichotomous difference is between people who tend to be open and receptive towards new ideas and activities ('Get it') and people who need a substantive amount of persuasion before they accept changes in organisational routines ('Don't get it'). These categories generally allow characterisation of members of the organisation when they are confronted with futures studies. The previously mentioned four ideal types can further be defined as follows (Hines, 2003):

- *Fence-Sitters*: Rather indistinctive attitude towards foresight. Behave opportunistically and judge upon a case-by-case evaluation whether or not the

foresight message is appealing and hence commit to act on the basis of that judgement;

- *Bridge-Builders*: Rather open attitude towards foresight. Translate and implement the foresight messages into organisational routines while showing the propensity to compromise and drift away from what has been identified;
- *Laggards*: Dismissive attitude towards foresight. Strong reluctance to integrate and to follow up foresight activities. Tendency to ignore foresight message for the sake of keeping organisational routines unchanged;
- *True Believers*: Open and receptive attitude towards foresight. Believe strongly in foresight and commit to implement the message across the organisation.

In further analysis, this categorisation helps comprehend the managerial foresight perspective within corporate foresight (cf. section 2.2.4.1.3; section 2.5.2). An overview of the four categories can be seen in Figure 13.

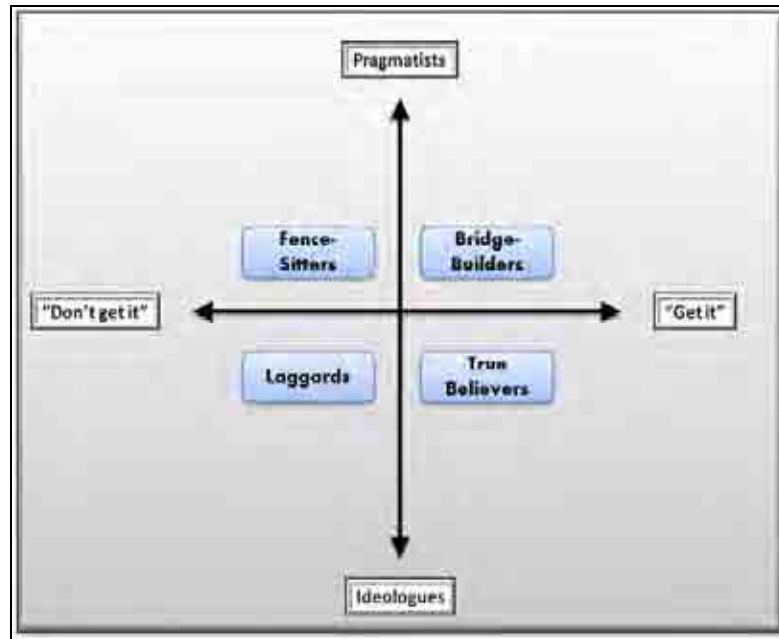


Figure 13: General attitudes of managers towards foresight (adapted from Hines, 2003).

Finally, recent research findings have shown that these attitudes are not exclusive and static. It has rather been argued that the attitude and general managerial style is dynamic and may change over time. In particular, it appears that management thinking and even decision-making style are subject to participation in scenario workshops (cf. Chermack and Nimon, 2008; Wright, 2005; Wright and Goodwin, 1999) and other foresight activities.

Based on the above argument, it can be concluded that managerial foresight is a phenomenon which is relevant for all managers in a corporation. Three aspects have particularly been discussed: (i) managers possess certain 'foresight abilities'; (ii) managers' attitudes towards foresight might vary to a large extent and (iii) managers' participation in and experience of foresight activities (cf. section 2.2.4.1.3) have an effect on the way in which they approach and employ foresight in their organisational activities.

2.3 *Corporate foresight – the phenomenon under investigation*

The study of foresight in corporations must initially discuss what an organisation and corporation is, before the phenomenon itself is analysed. Thus the aim of the following section is to identify the nature of organisations and corporations and then to analyse corporate foresight.

Chester Irving Barnard (1886–1961) defines an organisation as a “*system of consciously coordinated personal activities or forces...[...] a system of interrelated activities*” (Barnard, 1938, p. 72). In addition, Merriam-Webster defines an organisation as “*an administrative and functional structure (as a business or a political party)*” (Merriam-Webster, 2009c). The Oxford English Dictionary further defines the organisation as “*an organized body of people with a particular purpose, as a business, government department, charity, etc.*” (OED, 1989c). These definitions underlie the structural and functional perspectives as well as the people and the purpose which are all substantial to the nature of the organisation (Scott, 1991, p. 10). However, some scientists criticise the above mentioned assignment of goal-seeking attributes to organisations because of the difficulty in identifying a shared goal-consensus between members (cf. Silverman, 1970, p. 9).

A corporation, in contrast to an organisation, is defined as “*a body formed and authorized by law to act as a single person although constituted by one or more persons and legally endowed with various rights and duties including the capacity of succession*” (Merriam-Webster, 2009b) and “*a body corporate legally authorized to act as a single individual; an artificial person created by royal charter, prescription, or act of the legislature, and having authority to preserve certain rights in perpetual succession*” (OED, 1989a). At first sight, the additional typology of ‘single person’ and ‘single individual’ of

corporations is of particular interest as it semantically distinguishes the ‘corporation’ from the ‘organisation’. As previously mentioned, the concept of “organisation” has been criticised on numerous occasions due to the difficulty of finding shared goals between organisational members (internal perspective). The definition of ‘corporation’ reasonably addresses this issue by directing the reader’s perspective to the rights and duties of a corporation in acting legally and having authority to use those rights (external perspective).

In order to avoid any confusion or dilemma in further discussion, the term ‘corporation’ is used instead of ‘organisation’ for two reasons. First, the term ‘organisation’ metaphorically implies that the organisation acts similarly to a human body. This in turn means that the organisation is generally considered as a single body rather than a collection of social actors (McAuley, Duberley and Johnson, 2007, p. 15). As previously argued, definitions of the organisations rather tend to grasp the concept from an internal perspective (what an organisation is made of), whereas definitions of corporations deal with the rights and duties that the concept obtains in order to interact. Second, definitions concerning the concept of ‘corporation’ are far more specific in terms of their juridical aspect. This aspect enhances the discussion regarding the rationale of corporate foresight in providing benefits to the process owner (cf. section 2.2.4.1.3). It must, however, be noted that organisations and corporations are not mutually exclusive, but rather different approaches to investigating the matter.

In this study, and taking into consideration both terms, corporate foresight will be analysed as being an internal phenomenon within a corporation. Apart from the conceptual distinction used to approach the phenomenon (cf. section 2.3.3), the choice to focus on corporations rather than on organisations eases the foresight analysis to one within a body

which already has structures to be a market player by definition. It must be added, however, that the literature uses both terms interchangeably and – more often than not – the research on corporations and organisations alike leads to similar outcomes. Considering the embeddedness of corporations within the organisational concept, this study considers the interchangeable use of both terms to be appropriate and helpful to fully analyse the phenomenon's characteristics.

2.3.1 Organisation studies

Organisation studies can generally be divided into two disciplines: organisational theory and organisational behaviour. The former generally refers to the research of the organisation as a whole. Moreover, different scientific areas like sociology and economics are employed to investigate organisational structures in organisation theory. Constructs attributed to organisational theory include organisational structures, organisational environments, formalisation, technology, groups and departments (Tosi, 2008, p. 3). The latter discipline, namely organisational behaviour, addresses individual and group behaviour within an organisation. Concepts in the analysis of organisational behaviour are predominantly from the area of psychology and include aspects such as attitudes, personality, motivation and the psychological aspects of decision-making (Greenberg and Baron, 2007, p. 5; Miner, 1982, p. 343-344; Tosi, 2008, p. 3). However, some previous studies took a rather integrated view on organisation studies by combining both disciplines, the argument being that the organisation should be understood from an inter-disciplinary perspective, rather than investigated in terms of being a separate entity of units of analysis – particularly with regards to the integration of a process perspective in organisational behaviour (cf. Greenberg and Baron, 2007, pp. 5-7).

Following this argument, this thesis also adopts an integrated and inter-disciplinary approach to understanding corporate foresight so as to attempt to fully grasp the phenomenon's complexity.

According to Daft (1994, pp. 16-19), frameworks analysing organisations generally consider two main dimensions, namely, the structural (internal characteristics) and contextual (whole organisation, internal and external) dimensions. The following discussion will first focus on the structural dimension. This discussion is important to consider for scientists analysing corporate foresight because the phenomenon takes place in organisations and is potentially affected by organisational structures:

Structural:

- i) *Formalisation:* With an increase in organisational size, certain guidelines are required to enable the organisation's efficiency. In line with this argument, the concept of formalisation particularly addresses the description of activities and behaviour of the organisation's members. A high degree of formalisation – such as that found in universities for example – leads to standardisation, which consequently establishes stable and interactive patterns for new members of the organisation. A lower degree of formalisation is usually found in small and medium enterprises (Blau and Scott, 1963, p. 6-8; Daft, 1994, p. 16; Scott, 1991, p. 23).
- ii) *Specialisation:* Specialisation, also termed 'division of labour', refers to the degree to which organisational tasks are subdivided into separate jobs. Further, a satisfactory level of specialisation can be achieved when the activities involved are distinguishable from other activities in the organisation. Indirect effects are

absent and the opportunity to establish communication lines enhancing the unit's responsibilities is provided (Daft, 1994, p. 16; Simon, 1997, pp. 30-31; pp. 292-293; Tosi, 2008, p. 6).

- iii) *Standardisation*: The characteristics of standardisation refer to the extent to which similar activities are grouped in an equal fashion. Increasing degrees of standardisation are an indicator of a higher level of institutionalisation, meaning that actions become harmonized towards a common set of normative standards and patterns (Daft, 1994, p. 16; Donaldson, 2001, pp. 63-67; Scott, 1995, p. 12; p. 76).
- iv) *Hierarchy of authority*: Hierarchy of authority refers to the relationships between members of the organisation in terms of reporting standards as well as the members' span of control. In that sense, hierarchy of authority is closely related to other concepts such as standardisation and decision-making in the organisation (Blau and Scott, 1963, p. 183; Daft, 1994, p. 16; Simon, 1997, pp. 7-9).
- v) *Complexity*: An organisation can also be characterised by its degree of complexity. Three sub-dimensions can be identified: vertical complexity (number of hierarchical levels), horizontal complexity (number of job titles or departments) and spatial complexity (number of geographical locations) (Daft, 1994, p. 16).
- vi) *Centralization*: Centralisation refers to the level in the hierarchy within which decisions are made. When decisions are made in lower organisational levels, then the organisation is characterised as a decentrally-structured organisation. Conversely, when decisions are made at the top level, this denotes a centralised

organisation (Daft, 1994, pp. 16-17; Davis, 2009, pp. 42-43; pp. 50-51; Simon, 1997, pp. 317-319).

- vii) *Professionalism*: In organisation theory, professionalism concerns the level of formal education and training of employees. A common approach in measuring professionalism includes the consideration of the employees' average number of years of education (Daft, 1994, p. 17).
- viii) *Personal ratios*: This concept refers to the employment of people according to various functions and departments. Measuring personal ratios is usually calculated by dividing the number of employees in a classification by the total number of organisational employees (Daft, 1994, p. 17).

In terms of organisational structure and design, Davis (2009) and Zahrlly (2009), who particularly refer to Mintzberg's study in 1979, further enhance the understanding of organisations using a classic approach. Organisational forms are generally defined according to the division between line and staff. W.R. Scott (1991, p. 36) defines the division as follows: "*Also proposed is the line-staff principle, by which all activities directly concerned with achieving organisational goals are designated as line functions, to be distinguished from staff activities, which consist primarily of advice, service or support. Staff units are to be segregated from the scalar organization of power and made responsible and subordinate to appropriate line units.*"

The 'line' can be termed as primary due to its significance in the organisation. Line departments result from functional differentiation and are concerned with managerial and operative responsibilities. Moreover, line groups are subject to the creation and distribution of values and goods – hence, organisational income. Line functions usually cover activities such

as products, processes, equipment, physical factors and physical dispersion of business activities. The ‘staff’, in contrast, exists to assist the ‘line’ by carrying out organic managerial functions. Furthermore, the ‘staff’ exists on a higher level of operative performance and is determined and limited by delegation. The staff’s functional responsibilities generally cover creative planning, organisation, and control of the organisational members (Davis, 2009, pp. 41-45; cf. Scott, 1991; Simon, 1997). In sum, the discussion of organisational structures helps contribute to an understanding of the main internal factors that shape organisational activities such as decision-making. In a broader context, the consideration of internal organisational dimensions provides a helpful framework on which the later research and data analysis in an organisation will be guided (cf. section 2.5.3).

Apart from structural criteria, organisational theory also considers the contextual dimensions of the whole organisation and these reflect the settings that influence the structural dimensions of the organisation. Contextual dimensions include the following:

Contextual:

- i) *Size*: Size represents a contingency to the organisation. In general, organisational size is measured by the number of organisational members who have to be organised. This in turn means that the organisational structure has to be framed according to the organisational size. Other variables, such as assets or sales, are also used as indicators for size. However, they are less operational than employees as previous research results have shown (Blau, 1970; Daft, 1994, p. 17; Donaldson, 2001, p. 21; Scott, 1995, p. 121; Zahrlly, 2009).
- ii) *Organisational technology*: Organisational technology refers to the production subsystem and includes actions and techniques to change organisational inputs

into outputs. It has been argued that technology affects both the organisational environment and the organisational complexity in this respect. Further, there has been a discussion about the factors that affect the organisational structure the most – size or technology. There now is a general consensus in the literature which stresses that both factors are important contingencies for organisational structure (Child, 1972; Daft, 1994, p. 17; Donaldson, 2001, pp. 126-131).

- iii) *Environment*: The organisational environment refers to all elements and phenomena beyond the organisation's boundaries. The environment thereby reflects a contingency to the organisation given the fact that organisational structures need to fit the environmental characteristics in which they operate (Daft, 1994, p. 17; Donaldson, 2001, pp. 17-18). A further discussion on the environmental dimension will be conducted in section 2.3 of this thesis.
- iv) *Goals and strategy*: Goals and strategy refer to the contingency of organisational structure which defines the scope of operations as well as the relationship between employees, customers and competitors. This means that goals and strategies are different for each organisation. Two types of contingent strategies have been the subject of discussion: an undiversified strategy implies a functional structure and a diversified strategy implies a divisional structure. The use of the term 'strategy' as contingency has, however, been criticised regarding its impact on the organisational structure. The main argument states that the scope of strategy tends to be too broad to specifically grasp the structural characteristics of the organisation (Daft, 1994, p. 17; Donaldson, 2001, p. 3; pp. 153-155).

- v) *Culture*: The concept of culture in the context of an organisation's structure refers to the set of key values, beliefs, understanding and norms shared by organisational members. Organisational culture is not apparent as such, but can be observed by means of manifestations such as stories, slogans and rituals. Considering culture as a contingent factor helps us to comprehend organisational occurrences, particularly where the interpretation of organisational behaviour is involved (Daft, 1994, p. 19; Scott, 1995, p. 53).

Alongside structural dimensions, contextual dimensions are also important aspects to consider when researching corporate foresight. In the light of the limited theoretical background in this area, the inclusion of the above mentioned dimensions formulate boundaries which can lead this investigation. A more specific application of these dimensions in relation to the research study can be found at chapter 2.5.

This section has discussed what an organisation is as well as the key dimensions that characterise organisations. The following section will attempt to explain why and how foresight becomes manifested in organisations.

2.3.2 Organisations and foresight

The previous discussion shed light on the field of organisation studies by providing some frameworks and dimensions which have resulted from research studies that have investigated how organisations are structured and what the most important contingencies are. With regards to corporate foresight, the results of previous research have been limited in respect of identifying a logical derivation and link between the concepts of futures studies and

organisation studies. Therefore, the main objective of the following argument is to determine why and under what circumstances organisations conduct futures studies. The logical derivation of the foresight rationale in organisations will be based upon the following three arguments:

- i) Organisation theorists argue that organisations set goals, process information and perceive the environment through the individuals within the organisation (Daft and Weick, 1984; cf. section 2.4). With regards to the organisation as a whole, this claim implies that individuals consequently shape the nature and characteristics of the organisations – an argument which generally follows an organisation behavioural perspective. It is, however, important to bear in mind that although individuals are the core of organisational activities, organisations continue to exist even when individuals leave (Daft and Weick, 1984). Overall, this logic stresses that the triadic functions of setting goals, processing information and perception of the environment occurs through individuals rather than through organisational structures.
- ii) The organisation's main guiding principles, particularly in relation to decision-making processes, are set by the top management team. Nevertheless, it is important to note that all members of the organisation – regardless of their hierarchical ranking – are considered part of the organisation and its activities. These include scanning, data processing, and communication with the external environment as well as making strategic decisions (Daft and Weick, 1984; Feldman and March, 1981; Hambrick and Mason, 1984; Mintzberg and Waters, 1990; Tushman and Katz, 1980). According to this claim, all members within an

organisation, not only the top management, contribute to the organisation's efforts to understand the environment for later decision-making.

- iii) The third point concerns the ability of a corporation to foresee the future. Under the assumption that managerial foresight exists (cf. section 2.2.2.3), that the individual's role within organisations is significant and that the individual's impact shapes the organisation's activities, the condition for the existence of foresight in organisations is logically derived and reasoned. Regarding the link between foresight and organisations, Feldman and March (1981) stress that organisations seek and use information related to future considerations. This insight conceptually strengthens the argument that organisations are continuously seeking foresight information through their members (cf. Blackman and Henderson, 2004; Schwarz, 2008b). The organisation's rationale and its propensity to 'foresee' is reasoned by environmental uncertainty resulting in a need for managers' who are expected to achieve a higher level of certainty by gathering information (cf. Daft and Weick, 1984; Galbraith and Lawler, 1993; Hambrick, 1982; Pfeffer and Salancik, 1978).

Having provided the logical argument on the organisation's ability to employ foresight, the following section will conceptualise corporate foresight in greater detail, thereby shedding light onto previously conducted research.

2.3.3 Definition of corporate foresight and related terms

The concept of corporate foresight can be traced back to the early 1930s when Alfred North Whitehead in his widely respected publication series ‘Adventures of Ideas’ (cf. Whitehead, 1942; Whitehead, 1967) critically evaluated foresight and its relation to business:

Foresight depends upon understanding. In practical affairs it is a habit. But the habit of foreseeing is elicited by the habit of understanding. [...] Thus the training of Foresight is by the medium of Understanding. Foresight is the product of Insight. [p. 110]. [...] A system will be the product of intelligence. But when the adequate routine is established, intelligence vanishes, and the system is maintained by a co-ordination of conditioned reflexes. [...] No one, from the president to miner, need understand the system as a whole. There will be no foresight, but there will be complete success in the maintenance of the routine. [...] But there are limits to routine, and it is of the discernment of these limits, and for the provision of the consequent action, that foresight is required. [p. 111] (Whitehead, 1942).

According to Whitehead, foresight is related to corporations by means of providing understanding, insight and intelligence. Organisational routines threaten the way in which these aspects can be achieved, which is why the author emphasises the requirement of foresight for business reasons. However, finding a general definition of corporate foresight is apparently not that simple. Different terms – such as ‘strategic’, ‘organisation’ and ‘corporate foresight’ – have emerged and been used in the past in an interchangeable fashion.

A classification to help distinguish the concepts has been proposed by Rohrbeck, Arnold and Heuer (2007). The authors assign the different foresight terms from a conceptual perspective according to institutional/geographical and future approaches (see Figure 14).

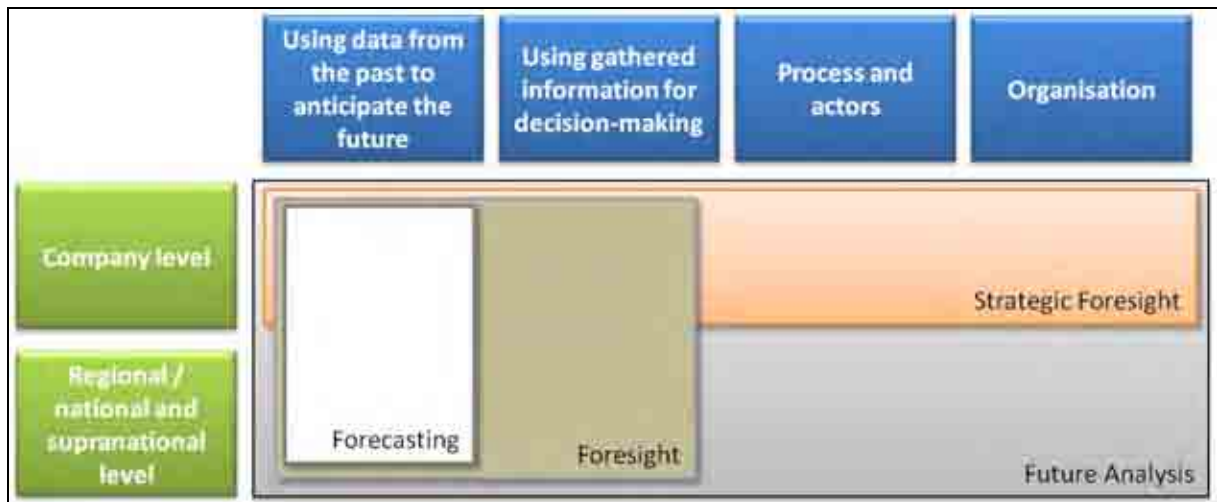


Figure 14: Classification of different concepts in futures studies (adapted from Rohrbeck *et al.*, 2007).

According to Rohrbeck, Arnold and Heuer's classification (Rohrbeck *et al.*, 2007), corporate foresight and strategic foresight could be used interchangeably, due to the fact that they both cover the same conceptual categories. Other authors, however, particularly emphasise the specific objective of strategic foresight, namely its sole integration into strategic processes within an organisation, whereas corporate foresight primarily focuses on futures studies within an organisational reality in a dispersed fashion. Moreover, a third foresight concept - namely 'organisational foresight'- generally considers foresight to be an organisational ability, rather than a specific foresight process within organisational boundaries (cf. Alsan, 2008; Becker, 2003; Daheim and Uerz, 2006; Karp, 2004; Müller, 2008; Ruff, 2006).

In order to provide an improved delineation and understanding of the various foresight terms, a selection of definitions, taken from recent publications follows:

Strategic Foresight:

- “[...] *strategic foresight is a learning process, which takes place within a broad vision, and enacts the future by a mechanism of probing it through cheap multiple devices.*” (Costanzo, 2004, p. 219).
- “*Strategic foresight thus differs from competitive intelligence [...]. The goal of strategic foresight is to make better, more-informed decisions in the present. Forecasting lays out a range of potential futures to consider so that the organization can act effectively now. [...] Strategic foresight can become a fundamental part of a learning organization, which is essential to the success in today’s fast-changing environment.*” (Hines, 2006, p. 20).
- “[...] *strategic foresight - developing policy based on long-run scenario planning. [...] reflecting the fact that governments should both anticipate future challenges, and identify possible strategies.*” (Leigh, 2003, p. 3).
- “[...] *strategic foresight may be an ongoing process of staying in tune with the market, rather than an episodic activity. [...] Strategy and strategic foresight are changing to incorporate both the microscopic inputs of “people on the spot” and to develop a real-time sensitivity to the market.*” (Pina e Cunha *et al.*, 2006, p. 951).

Corporate Foresight:

- “*corporate foresight—future studies in business—is gaining importance globally.*” (Alsan, 2008, p. 1).

- “[...] Two aspects of (corporate) foresight should be stressed: One is that (corporate) foresight should be a process, not just a set of techniques. [...]. Secondly, the starting point of foresight is the belief that there are many different futures. [...]. Most corporate foresight activities are grounded in two motives – either they are a consequence of a company’s business operation which inherently demand such a long-term orientation (as in industries with long product cycles), or they are undertaken as a proactive step to better cope with uncertainties in the business environment in general.” (Becker, 2003, p. 4, p. 7).
- “[...], corporate foresight can be defined as a process of communication to build a mid- to long-term vision on future markets, customer needs and societal challenges. [...] The toolbox of (corporate) foresight contains a variety of quantitative and qualitative methods and instruments that are also used in other contexts as technology assessment.” (Will, 2007, p. 236).
- “Futures research (corporate foresight) in the enterprise supports the early identification and evaluation of opportunities and risks and thus contributes to innovation management, business and investment strategy. [...] A corporate foresight unit delivers continuously updated knowledge about future customers need adapted to the needs of the internal clients.” (Ruff, 2006, p. 282).
- “CF (corporate foresight, sic!) is regarded by a growing number of corporations as the tool of choice for preparing business for the future, whether in terms of producing a long-term strategic vision, ideas for product innovations or a scenario for communication purposes.” (Daheim and Uerz, 2008, p. 322).

Organisational foresight

- *“Foresightfulness, however, is a broader notion: it is the ability to cope with the future—the institutionalised capacity of unobtrusively responding to an organization’s circumstances so that the organization may get around in the world.” (Tsoukas and Shepherd, 2004, p. 138).*
- *“Traditionally, organizational foresight has been thought of as referring to anticipation. It dealt with the analysis of the broad structure of an organization’s environment by its top managers. To scan their environments, managers were expected to use the formal apparatus of strategic planning, leading to complex strategic plans [...] Organizational foresight has typically been presented as a fundamental knowledge tool for competent managers. [...] New approaches to organizational foresight recognize the need to know while acknowledging the fear of knowing. Because what people know may rapidly become outdated. Adaptive organizations face the fear of knowing but accept that what they know will soon become inadequate.” (Pina e Cunha et al., 2006, p. 944, p. 952).*

The wide range of different definitions and overlapping perspectives show just how difficult it is to find a clear delineation between corporate foresight and its conceptual cousins, namely strategic and organisational foresight. Whilst an interchangeable use of terms can be observed in the literature, a synthesis of the provided definitions will shed more light on this confusion:

- i) Strategic foresight explicitly considers a long-term strategic perspective in an entrepreneurial sense. Foresight commitments, measures and tools are designed to pass into further organisational processes, such as strategic planning or decision-

making. Apart from the aim of strategic foresight being one of anticipating future challenges and identifying possible strategies in the environment, it also considers an organisational learning and knowledge creation perspective. Adjectives such as *applied*, *intended* and *specific* further define the concept.

- ii) In contrast, corporate foresight is built upon strategic foresight whilst maintaining a holistic and dispersed view of organisational reality. This means that corporate foresight includes all activities within the organisation and the task of corporate foresight is to understand the future in the long run. Although a large overlap between corporate and strategic foresight appears to be evident at first glance, the actual difference between the two lies in corporate foresight's definition to accept all organisation's future processes as important for an overall strategy. Adjectives that further define this concept include the following: *holistic*, *processual* and *contextual*.
- iii) Finally, organisational foresight includes and considers both of the previous terms as part of its concept. In addition, organisational foresight also investigates the general nature and philosophy of futures studies within organisations. Moreover, organisational foresight can be applied to all kinds of institutions that undertake futures studies. Terms that further define this concept include *organisational ability*, *philosophy* and *future organisational knowledge and learning*.

Based on the aforementioned arguments, the following argumentation will presume that the relationship between the three concepts is a continuous one in which the boundaries are overlapping and not clear-cut. This implies that strategic foresight deals with the implementation of foresight procedures within organisations, while organisational foresight

addresses the general philosophy, characteristics and ability of organisations to foresee. In other words, the former concept concerns foresight in a narrower sense, while the latter concerns foresight in a broader and more open way. The researcher therefore defines corporate foresight as a concept situated between the strategic and the organisational foresight concepts (cf. Figure 15).

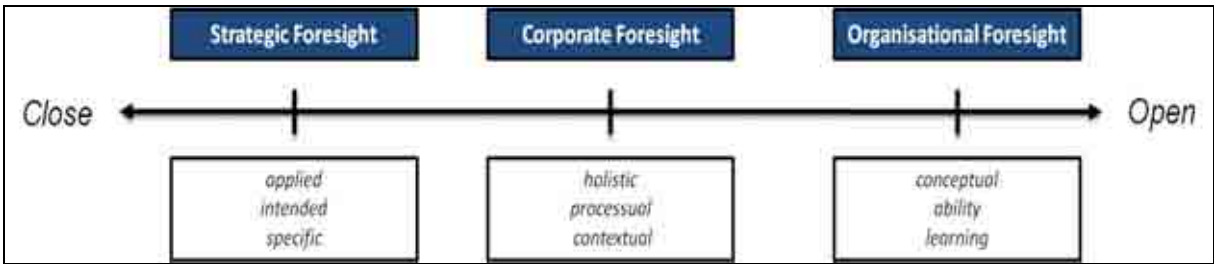


Figure 15: Continuum of foresight concepts based on their research scope.

As a result of the previous discussion, the following *a priori* definition of corporate foresight is suggested (see Table 4).

<i>A priori</i> definition of corporate foresight
Corporate foresight could be defined as the corporation's ambition to understand the multitude of different futures for the long-term benefit of the corporation. It conceptually reflects an information-processing logic and occurs in a holistic fashion within organisational boundaries. The objective of corporate foresight is the identification and analysis of relevant drivers which are expected to shape the future of the corporation and to thereby provide an enhanced understanding of long-term future to managers. In order to achieve this objective, corporate foresight considers different foresight tools and methods.

Table 4: *A priori* definition of corporate foresight

In addition to the above definition of corporate foresight which lays the foundation for further discussion, this research also employs other relevant terms. In order to ensure a clear understanding of each term, definitions will be considered in subsequent sections (see Table 5).

Term	Definition	Further discussion
Foresight activities/ Corporate foresight manifestation	Foresight activities incorporate all endeavours in a corporation in which a team of employees aims at identifying future relevant drivers in the environment in order to achieve a holistic understanding of the future. In contrast to corporate foresight, foresight activities are independent of subsequent organisational processes and reflect single, hence unrelated occurrences. Another employed term of similar meaning is ‘corporate foresight manifestation’	Section 2.2.3.2; 2.2.3.4; 2.2.4; 2.2.5
Foresight tools and methods	Foresight tools and methods are specifically exercised and pre-defined processes by which foresight activities can be structured and organised. Foresight tools and methods are usually named according to their technical terminology, such as ‘scenario workshops’ or the ‘Delphi method’.	Section 2.2.6 <i>et seq.</i>
Futures research	The scientific area of researching and investigating the future falls under the umbrella term of ‘futures research’. Corporate foresight is a category of this because it specifically refers to futures research in corporations.	Section 2.2 <i>et seq.</i>
Foresight information	Foresight information is the predominant result of any foresight activity. While the participation in foresight activities evokes other intangible results – such as a change in mental models – foresight information is tangible for both participants and non-participants. Foresight information usually contains a message about future drivers and developments	Section 2.4.5.3 <i>et seq.</i>

Table 5: Definitions of foresight terms

2.3.4 Other related concepts of futures studies

Research in the area of strategic management has focussed on concepts with similar rationale such as strategic issue management and environmental scanning. Both concepts are most widely used and recognised in literature. They too tackle the analysis of occurrences in the organisation’s surrounding environment. Moreover, these concepts have related frameworks

and systems to identify and implement future opportunities or to avoid risk for the organisation. The following sections will analyse strategic issue management and environmental scanning and then differentiate them from corporate foresight.

2.3.4.1 Strategic Issue Management

Strategic issue management has mainly been established by Harry Igor Ansoff's (1980) paper, 'Strategic issue management' which was published by the Strategic Management Journal in 1980. According to Ansoff, a strategic issue *"is a forthcoming development, either inside or outside of the organization, which is likely to have an important impact on the ability of the enterprise to meet its objectives. An issue may be a welcome issue, an opportunity to be grasped in the environment, [...]. Or it can be an unwelcome external threat"* (Ansoff, 1980, p. 133). Further, Ansoff defines strategic issue management system as *"...a systematic procedure for early identification and first response to important trends and events both inside and outside an enterprise"* (Ansoff, 1980, p. 134). The purpose of strategic issue management is to prevent strategic surprises and to enable decision-makers to react to environmental threats and opportunities adequately (Ansoff, 1980). Later works scrutinised Ansoff's idea and claimed that organisations differ according to whether they perceive a particular issue to be either a threat or an opportunity. As a consequence, research findings in later years proved that organisations operating in the same industry often differed in the way they employed strategic issue management systems and that this was mainly a result of managers' cognitive perceptions rather than due to organisational contingencies (Dutton and Jackson, 1987; Dutton and Ottensmeyer, 1987).

2.3.4.2 Environmental scanning

Environmental scanning goes back to the early works of Aguilar (1967) and refers to the approach by which managers perceive the environment, particularly trends and events (Perrottet, 1997, p. 136). The scanning behaviour mainly results from environmental uncertainty and the need for managers to understand selected environmental sectors (Culnan, 1983; Hambrick, 1982). Albright (2004) further defines environmental scanning as “...*the internal communication of external information about issues that may potentially influence an organization’s decision-making process. Environmental scanning focuses on the identification of emerging issues, situations, and potential pitfalls that may affect an organization’s future*” (Albright, 2004, p. 40). The concept of environmental scanning particularly emphasises the relationship between managerial information processing and information scanning, which is generally caused by environmental uncertainties, and cognitive and time limitations (Aguilar, 1967, pp. 13-16; Daft, Sormunen and Parks, 1988).

Closely related to environmental scanning is the concept of peripheral vision and scanning. In this concept, organisations tend to only scan specific and concentrated parts of the environment. According to Day and Schoemaker (2005), organisations need to learn scanning at the periphery, i.e., “...*the blurry zone at the edge of an organization's vision*” (Day and Schoemaker, 2005, p. 135). By doing so, trends and weak signals from the environment can be identified, further developed into opportunities and hence ensure the organisation’s survival in terms of competitiveness. The authors, however, stress that in stable and simple environments, the need for peripheral vision and scanning is minor and even a waste of resources (p. 136). Finally, while Hambrick (1982) has emphasised that scanning is a necessity, he also asserts that it is not a sufficient condition on its own for decision-making.

2.3.4.3 The difference between strategic issue management, environmental scanning and corporate foresight

Strategic issue management and environmental scanning both share similarities with corporate foresight. From an informational point of view, all three concepts aim at decreasing managerial uncertainties by collecting and using relevant information. More specifically, the concepts collectively claim that the environment is the main source of complexity and developments that cause uncertainties for managers. The application of strategic issue management, environmental scanning and corporate foresight provide different approaches to tackle these uncertainties. From a strategic point of view, the three concepts are designed in such a way that managers can identify threats and opportunities in the environment. Each concept and the previous related research findings (e.g. Aguilar, 1967; Ansoff, 1980; Day and Schoemaker, 2005; Hambrick, 1982) have provided guidelines which managers can follow to transform these threats and opportunities into an advantage for the firm. All three concepts provide insight into the way managers set up systems of processes by which information can be filtered and managed successfully.

However, corporate foresight differs from the above mentioned concepts in three significant respects. First, the main anchor of corporate foresight is the discussion of the future – meaning that the nature, implications and perceptions of the future has a crucial position within the corporate foresight concept, whereas the two other concepts primarily consider the environment as their main focus of analysis with the future merely ranked in second place. Second, corporate foresight not only discusses internal organisational occurrences, but also tries to understand how managers perceive the future and what impact the future may have on their cognition. Moreover, corporate foresight primarily focuses on the

phenomenon occurring within an organisation, rather than on conceptualising how external events and trends can be integrated into internal information systems. This means that corporate foresight takes an internal perspective, whereas the other two concepts tend to employ an external perspective. Third, and most importantly, corporate foresight tries to understand both the environment and the future of the organisation without specifically trying to identify specific signals such as opportunities and threats. Corporate foresight uses a more of a holistic approach to recognise environmental patterns in order to derive implications for internal use such as decision-making.

Following on from the above outline of the corporate foresight concept, the next section aims at portraying further characteristics of corporate foresight. These characteristics will prove to be important for the design of the conceptual framework of this thesis.

2.4 Functional and processual perspectives on corporate foresight

The existence and application of foresight manifestations is well documented in the literature, particularly in relation to how corporations differ from or resemble one another in their approach to corporate foresight (cf. Becker, 2003; Gruber and Venter, 2006; Schwarz, 2008a). In order to understand the motivation of corporations to engage in corporate foresight activities, first, the rationale of the phenomenon has to be discussed. Discussing functional perspectives will help us to comprehend the strategic and operative position attributed to corporate foresight. The following section is structured according to the findings of Becker (2003), who identified internal and external drivers – or in a broader context ‘perspectives’ – for firms committing to corporate foresight.

2.4.1 Internal perspective on corporate foresight

The following sections will discuss internal perspectives on corporate foresight. More specifically, innovation and information provision will be discussed as well as indeterminate effects of corporate foresight participation.

2.4.1.1 Corporate foresight for innovation purposes

Studies analysing the innovative attributes related to corporate foresight particularly discuss contextual and product-oriented perspectives in this regard. Research publications in the area of foresight have tried to understand how foresight can improve the innovative abilities of companies operating in certain contexts. Costanzo (2004) presented a study in which the importance of developing (strategic) foresight goes hand in hand with continuous innovation, especially in high-speed environments. It has further been argued that strategic foresight reflects an umbrella term within which the concept of innovation is embedded. Further research supports the assumption that firms committing to foresight processes are more likely to produce more creative products which potentially lead to superior performance (McCardle, 2005, p. 103-104). According to further publications in this area, it has been found that companies establishing corporate foresight processes for innovation purposes express that innovation particularly requires a long-term outlook into the future to commercialise the invented products successfully. A common argument is that innovation essentially requires a previous imagination of the future depicting what the market in which the product will be offered might look like. This view is predominantly identified amongst companies operating in industrial sectors (Becker, 2003; Gruber and Venter, 2006).

2.4.1.2 Corporate foresight as provider of foresight information

A study analysing the impact of foresight conducted as part of a project by the University of York in 2001 combined the phenomenon's purpose of innovativeness with its attribute of providing foresight information (Brown, Rappert, Webster, Cabello, Sanz-Menendez, Merckx and van der Meulen, 2001). More specifically, “[f]oresight is typically seen as an information tool to align innovation strategies of different organisations in innovation systems, to improve the capability of actors dealing with innovations and, as a consequence, to improve the competitive position of the system and its actors” (Brown *et al.*, 2001, p. 24).

Despite the fact that the study predominantly focuses on national foresight programmes (cf. section 2.3.3.1; 2.3.3.2), the quotation shows that the main nature of foresight is the provision of information for innovation purposes. By employing foresight, as the authors state, organisations can achieve competitive advantages (cf. section 2.2.3.2.1).

In line with this argument, the main function of corporate foresight is conceptualised in the form of information. Research on corporate foresight, from a processual perspective, shows that the phenomenon generally precedes decision-making and action (Einhorn and Hogarth, 1981; Rollwagen *et al.*, 2008; Voros, 2003, cf. section 2.4 *et seq.*). This leads to the general conclusion that corporate foresight – in the form of information – represents an input for strategic decisions.

In order to fully value the information gained although corporate foresight, it must first be clarified what exactly foresight information is. It is important to note that the literature uses the terms data, information and knowledge in an interchangeable manner. A clear and precise definition of the terms is provided by Tuomi (1999), who reflects on the relationship between data, information and knowledge as follows:

Data have commonly been seen as simple facts that can be structured to become information. Information, in turn, becomes knowledge when it is interpreted or put into context, or when meaning is added to it. There are several variations of this widely adopted theme. The common idea is that data are something less than information and that information is less than knowledge. Moreover, it is assumed that we first need to have data before information can be created, and that it is only when we have information that knowledge can emerge (p. 105).

This rather classic definition is commonly accepted in the literature, reinforcing the view that data are raw material from which information and knowledge can be derived (Slaughter, 1995, p. 151; Tuomi, 1999; Uotila and Melkas, 2007). Further publications highlight quality as a factor in each stage of the hierarchy which helps to further distinguish data, information and knowledge from one another (English, 1999, pp. 15-31). Based upon this approach, foresight information is information which has been interpreted by individuals and which exhibits interrelated data predominantly dealing with future assumptions.

With regards to corporate foresight, Major and Codey-Hayes (2000a; 2000b) present a process by which data becomes foresight information and eventually leads to action. Building upon the authors' argument, a 'knowledge transformation' process illustrates a mechanism by which sub-steps of codification, translation and contextualisation enable strategic relevant data to become information, which in turn impacts actions for decision-making. The study assumes that foresight is a process by which information experiences an upgrade in value. This argument is generally supported by previous publications (cf. Horton, 1999; Voros, 2003).

Finally, McCardle's study (2005) conceptualises foresight as a capability of organisations to collect information by way of active scanning, market experimentation and lead user collaboration. This subsequently results in advantageous organisational resource configurations. As a result, these benefits enhance the development of new products and improve customer services, which in turn increase the financial performance of new products. Bearing in mind the study's scope, it can once more be argued that corporate foresight reflects a process by which information is collected by organisations, interpreted within organisational boundaries and integrated into further internal processes. Although McCardle explicitly refers to foresight as being a capability rather than an information tool, it implicitly underlies that the purpose of corporate foresight is to collect, transform and disseminate foresight information.

2.4.1.3 Indeterminate influence of corporate foresight on managers

Although there is a general consensus in the literature that corporate foresight functions as a provider of foresight information, various other publications have suggested other important attributes of foresight processes. These attributes particularly refer to the impact that corporate foresight has on managers involved in foresight activities. This means that by participating in foresight processes, a change in managers' decision-making behaviour as well as in their perceptions can be observed (cf. Chermack and Nimon, 2008; Slaughter, 1995; Voros, 2003).

These intangible outcomes of foresight processes – in contrast to tangible outcomes such as the generation of decision alternatives – have been defined as follows: *“Intangible outputs would include the changes in thinking engendered by the whole process, especially the insights generated in the interpretation step and by the creation of forward views in the*

prospection step” (Voros, 2003, p. 15). Although a discussion regarding the process perspective on corporate foresight follows in section 2.2.4.3, this quotation unveils the idea that corporate foresight not only provides substantial outcomes, it also produces subtle outcomes.

McMaster (1996) also agrees with this view, but goes one step further, stating that the main attribute of foresight is as an interpretation support system. He derives his position by negation, stating that foresight tools which are only designed to provide information would be stunted into simple “extended hindsight” (p. 151) processes. Hence, foresight can achieve a higher level of quality provided the phenomenon is acknowledged for interpretation purposes, rather than for information production purposes alone. Finally, another study conducted by Blackman and Henderson (2004) suggests that foresight induces a ‘doubting process’ which leads to the creation of more accurate mental models when assessing the future. This study again emphasises the internal perspective of corporate foresight, which highlights the effect of the phenomenon on managers who participate in foresight activities.

Some of the few studies on corporate foresight, such as Becker (2003), point out that companies appreciate the contribution of corporate foresight to organisations’ innovation purposes. Furthermore, there is a variety of studies that discuss other internal aspects attributed to corporate foresight, such as its ability to decrease and manage uncertainty (cf. Neuhaus, 2006, pp. 537-553), to provide input for later strategy and strategic decision-making processes (cf. Burmeister *et al.*, 2002; Daheim, 2004; De Smedt, 2006; Voros, 2003), to reduce complexity (cf. Edmunds, 1982) and its potential to identify weak signals (cf. Becker, 2003; Fahey and Randall, 1997; Horton, 1999). All these attributes are, however, subordinate features of the second function, namely, the production of foresight information. This in turn

assumes that all corporate foresight manifestations are able to produce a certain quality of future-related information for later processes (cf. section 2.4.5.3 *et seq.*).

2.4.2 External perspective on corporate foresight

The following sections will display external perspectives on corporate foresight which are the firm's competitiveness and the enhanced understanding of the organisation's competitiveness.

2.4.2.1 Corporate foresight and the firm's competitiveness

A range of publications has discussed foresight by focussing on its attribute of understanding the organisation's environment (cf. Alsan, 2008; Becker, 2003; Coates, Farooque, Klavans, Lapid, Linstone, Pistorius and Porter, 2001; Irvine and Martin, 1984; Leigh, 2003; McCardle, 2005; McMaster, 1996; Rollwagen *et al.*, 2008; van der Meulen, de Wilt and Rutten, 2003) – even suggesting that foresight is of crucial importance for the survival of a firm. This can essentially be reasoned from a negational point of view by arguing that a lack of foresight subsequently leads to a decrease in the organisation's competitiveness. Other authors claim that lack of foresight signifies a firm's exclusive trust in luck where its future competitiveness is concerned (cf. Ahuja *et al.*, 2005).

Based upon this argument, the provision of foresight information resulting from corporate foresight (cf. section 2.4.5.3 *et seq.*) reveals means by which can ensure the firm's competitive position in the long run. However, there is a dispute among various authors over the extent to which a firm's competitiveness is dependent on available foresight information. Some authors argue that this notion is obsolete and in no way contingent because information

can easily be obtained by anyone else working and acting in the same business environment (Barney, 1991; Hamel and Prahalad, 1994). Thus, Barney (1991), who follows the resource-based view of the firm, suggests that external market or industry-specific information cannot be taken as a unique resource as every actor acting in the same context is able to access the same resource, i.e., information. Consequently, Barney further argues that the decisive characteristic of foresight lies in its interpretation of information rather than in the information itself. Organisations would need to develop suitable corporate foresight processes in order to produce foresight information through interpretations, which in turn can be defined as a firm's internal resource (cf. section 2.2.4.1.2; section 2.4.5.3 *et seq.*).

Major, Asch, and Cordey-Hayes (2001) provide yet another view of corporate foresight in relation to competitiveness. The authors define foresight as an organisation's core competence. On the basis of the work of Prahalad and Hamel (1990), three dimensions of the concept have been elaborated, which are also found in Major *et al.*'s (2001) work:

- i) Core competencies open the opportunity enable the form to access a variety of new markets and new products;
- ii) Core competencies are embodied in customer value, permitting a firm-specific benefit for the customer;
- iii) In competition, core competencies are unique and related to a single firm. Core competencies can therefore neither be imitated by nor transferred to another firm. A competitor may be able to buy the technology that comprises some of the core competencies. The competitor will, however, encounter difficulties when trying to acquire the necessary patterns and knowledge in this area.

Major *et al.* (2001) compare core competencies with foresight concepts. In their findings, the authors point out that the firm's experience with foresight reflects the core competencies of the firm. Table 6 illustrates their comparison of both concepts.

<u>Core competencies</u>	<u>Foresight</u>
Integration of skills and technologies	Resides in individuals and teams
Knowledge based	Depends on tacit knowledge
Customer value	Extends to future benefits
Competitively unique	Enables the building of competitive advantage
Difficult to imitate	Based on systems and tacit knowledge
Gateway to new markets	Helps to identify new opportunities

Table 6: Core competences and foresight characteristics (adapted from Major *et al.*, 2001).

In sum, some publications emphasise that foresight eventually leads to an organisation attaining a 'competitive edge'. Hence, corporate foresight has been argued to be a means by which corporations functionally benefit in competitive terms.

2.4.2.2 Corporate foresight as a means to understand the organisation's environment

Apart from the competitive view on corporate foresight, a majority of publications highlight its significant external function in providing an extended understanding of the future environment. According to Becker (2003), corporate foresight is mainly employed by companies because of its potential to identify weak signals in the environment and hence,

decrease the likelihood of being surprised by unexpected events. Moreover, Becker (2003) points out that corporate foresight enhances the firm's broader understanding of its socio-cultural environment and reveals methods with which a company can communicate with the outside world.

Having considered the nature of corporate foresight, one could claim that understanding the environment – particularly its future developments – is the main characteristic of the concept itself (cf. section 2.2.4.1 *et seq.*; section 2.4.5.3 *et seq.*). Moreover, one could argue that the predictive and anticipatory element of corporate foresight is of secondary value in functional terms. Instead, the provision of an orientation and understanding of environmental patterns is of primary importance (cf. Alsan, 2008; Blackman and Henderson, 2004; MacKay and McKiernan, 2006; Pina e Cunha *et al.*, 2006; Rollwagen *et al.*, 2006; Schwartz, 1991). The attributes of corporate foresight, namely of understanding and gaining insights, reflect the very ethos of foresight as proclaimed by Whitehead's early statements regarding the nature of foresight (Whitehead, 1942). Blackman and Henderson (2004) further stated that foresight is a process in which environmental perceptions are being reviewed and refined. Thereby, information, which needs to be gathered from the environment, must ultimately be internally integrated into the existing foresight routines.

It can be concluded that the provision of environmental understanding is basically an extended function of the information-producing attribute of corporate foresight (cf. section 2.2.4.1.2; section 2.4.5.3 *et seq.*). This means that an understanding of the environment generally begins with the collection of information from the environment, followed by the corporate foresight process, which in turn leads to tangible and intangible outputs, i.e., information. The approach of relating forward-viewing activities – such as corporate foresight

– with integrative aspects and internal processes is common in the literature (cf. Ansoff, 1980; Blackman and Henderson, 2004; Daft and Weick, 1984; Edmunds, 1982; MacKay and McKiernan, 2004a; van der Heijden, 2004b).

2.4.3 Processual perspective on corporate foresight

In the literature, corporate foresight has predominantly been viewed from a procedural rather than a content perspective (cf. section 2.1.2; section 2.2.4 *et seq.*). Averil Horton's publication (1999) is one of the main investigations examining foresight from its procedural perspective. In her study, she conceptually links the procedural perspective of foresight with its decision-making perspective in order to attain a better picture of the nature of foresight. She defines foresight as follows: "*Foresight is the process of developing a range of views of possible ways in which the future could develop, and understanding these sufficiently well to be able to decide what decisions can be taken today to create the best possible tomorrow*" (Horton, 1999, p. 5).

Horton further draws attention to the main attribute of foresight, which is the ability to identify future developments for processes to follow. More precisely, she distinguishes three phases that foresight abides by:

- i) In the first phase, foresight is primarily concerned with the collection, collation and summarisation of available information. Sources of information can range from experts, to business and personal networks. This information is then structured and formed, usually with the help of methodologies such as scenario building or cross-impact analysis. As proposed in Horton, personal judgements play a decisive role in the first phase as it can lead to the disregard or neglect of information which was subjectively thought to be irrelevant.

- ii) The second phase includes a translation and interpretation element by which an understanding of and implications for the future are created. Whilst the translation is more concerned with linguistics, the interpretational element deals with the organisation's dedication to putting the information into context by asking questions such as "What does all this mean for the organisation?" and "What are the implications?". Based upon this process, a variety of actions and strategies are produced for facilitating subsequent processes within the organisation. In short, the second phase is concerned with the identification of actions that need to be taken in the present which are relevant for the future – overall, this phase can be seen as the main part of the foresight process.
- iii) Finally, the third phase comprises the evaluation and assimilation of the second phase's output thereby producing specific commitments to actions. According to Horton, phase two produces intangible outputs which can only be assimilated by managers who have participated in the previous foresight phases. Moreover, commitment to action is a crucial part of foresight. Horton stresses that any foresight process is obsolete unless actions based upon the foresight results are undertaken. Figure 16 illustrates an overview of all three phases as proposed in Horton (1999):

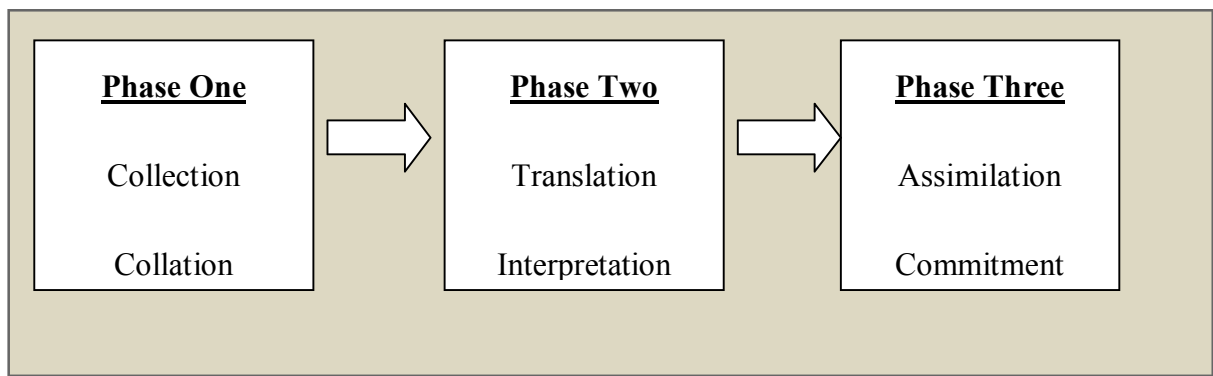


Figure 16: The foresight process (adapted from Horton, 1999).

A majority of authors generally share Horton's views on the foresight process, apart from a few changes (cf. Major *et al.*, 2001; Schwarz, 2008b; Uotila and Melkas, 2007; Voros, 2003). The following discussion will shed light on foresight approaches carefully selected from other publications, which will clearly display the academic debate on how foresight processes are conceptualised before drawing a synthesis based on these approaches.

Blackman and Henderson (2001; 2004) describe a foresight process consisting of four phases. The process starts with the acquisition of inputs, particularly data, information and experience. Based upon these inputs, new knowledge is created via various individuals' interpretations through the employment of mental models – a crucial step within the foresight process. In the event that this information overcomes the individual's selection processes organisational mental models subsequently influence the extent to which foresight information affects decisions and actions. In order to explain the selection process of both the individual and the organisation, the authors use the concept of open and closed structures to show why certain signals or information are used or disregarded.

Another view on foresight is presented by Popper (2008), who considers the phenomenon to follow a five-phased process. The first phase is concerned with pre-foresight

issues such as the overall aspirations that the organisation aims to achieve. Following this phase, key people – especially stakeholders – have to be involved in the process. Further, the so-called generation phase is considered to be the main phase in which future information, knowledge and visions are built as a result of analysing and synthesising codified and tacit knowledge. The fourth phase, the action phase concentrates on the achievement of commitments by key people, and this is followed by the renewal phase which deals with the codification of newly gained knowledge.

Last but not least, the following foresight process was designed by Voros (2003), who explicitly built his study upon Horton's (1999) foresight approach. Voros' process also consists of four phases: the first phase (inputs) considers the collection of strategic information. The second phase (foresight) comprises three sub-elements: analysis, interpretation and prospection. In this phase, the structuration of information as well as the development and examination of alternative futures is conducted. The third phase consists of the outputs of the whole foresight process. These outputs can be tangible – such as the range of options generated – and intangible outcomes – such as changes in participants' thinking. The last phase (strategy) is a phase in which corporate foresight itself can be seen as input. The author, however, neither explicitly nor implicitly explains whether or not the fourth step is part of the foresight process. On the one hand, he explicitly states that "*foresight has done its real job*" (Voros, 2003, p. 16) after phase three, which consequently excludes phase four as being the main pillar of foresight. On the other hand, strategy (phase four) is displayed as an item within this generic foresight framework. Overall, it appears that Voros perceives the second phase as being the main foresight content, while illustrating that the four phases as a whole reflect the generic foresight process.

An overview of the above foresight processes and their individual steps are illustrated in order of discussion in Table 7:

	Phase one	Phase two	Phase three	Phase four	Phase five
Horton (1999)	Collection, Collation, Summarization	Translation, Interpretation	Assimilation, Commitment		
Blackman and Henderson (2001, 2004)	Open process of acquisition	Process of interpretation	Process of transmission	(Knowledge feedback)	
Popper (2008)	Pre-Foresight	Recruitment	Generation	Action	Renewal
Voros (2003)	Inputs (Strategic intelligence)	Foresight (Analysis, Interpretation, Prospection)	Outputs (Expanded perceptions of strategic options)	Strategy making (Strategy development & planning)	

Table 7: Summary of foresight processes and phases from selected publications.

Having presented these four process perspectives on foresight, it is clear that all share the idea that foresight begins with an input (data or information) which is of decontextualised nature. The foresight process subsequently enables managers to give structure, meaning, and more importantly, future-relevance to these inputs. As a result, the output conveys a message, expectation or statement about the future. In other words, the input data or information becomes contextualised as the manager gives meaning and quality to the information. This contextualisation adds the integration of structural (e.g., adaption of organisational contingencies) and contextual (e.g., sectoral specifics) perspectives to the output information. The four process perspectives described above also share the assumption that the output of foresight has nearly no rationale to exist unless it is implemented in following processes, e.g., in strategy or decision-making. Finally, all four perspectives agree that the phase in the middle of the process is the main and crucial part of foresight, which in turn means that the

'qualitative upgrade of data and information' during foresight is far more important than the quality of inputs.

However, only a few of the above works (e.g., Blackman and Henderson, 2001, 2004; Horton 1999; cf. Bell, 2004) mention that the foresight process is contingent upon the individual's judgements and selection process – which means that they argue that foresight is highly subjective, rather than objective. In the same fashion, only a few publications mention that participants' behavioural changes or even their change of mind can be traced back to foresight (cf. Chermack 2004; Chermack and Nimon, 2008). Moreover, the processes following the foresight process, such as decision-making, remain unclear in terms of their explicit relationship to the phenomenon. Horton (1999) and Popper (2008) consider any ensuing actions as part of foresight; others leave it up to the reader to decide whether foresight is concerned with consecutive organisational processes (cf. Voros, 2003). Finally, all abovementioned processual foresight perspectives present foresight as a normative and descriptive process, rather than an exploratory or explanatory one. It therefore remains unclear whether the foresight processes presented in the above mentioned studies are artificially created or whether these processes occur naturally within organisational boundaries.

2.5 Manifestations of foresight activities in corporations

Previous sections pinpointed the characteristics of corporate foresight that were derived from a thorough literature review. Further studies reviewed were found to describe a range of corporate foresight characteristics in different industrial contexts. Four of these studies will be further discussed in this section. They provide three major contributions to the field of

corporate foresight research. First, by revealing corporate foresight activities in an organisation, they present evidence regarding the phenomenon's existence in management. Hence, the existence of corporate foresight has not only been established by theoretical derivation (cf. section 2.2.3 *et seq.*), but also by several studies displaying the phenomenon's manifestation in detail. Second, although these studies differ in their scope, methodology and context, they are all helpful in categorising corporations in terms of their commitment to corporate foresight, both in financial and non-financial aspects. Third, the studies lay the foundations for identifying variables which impact on the use and quality of corporate foresight outcomes in general and which will be discussed further in chapter 2.5.

2.5.1 Research characteristics and findings of selected studies regarding corporate foresight activities

Becker (2003) provides a general overview of the manifestations of corporate foresight in a European context. His study is based upon 18 personal interviews in corporations which supposedly practice 'good' foresight. Becker's cross-country and cross-industrial study focuses on selected enterprises, mostly from the high-technology (automotive, electrical engineering, ICT, chemical/pharmaceutical) sector, consumer goods and services sectors (utilities, transportation, banking/insurance). The main finding of the study is that corporate foresight is non-uniformly designed in organisations. Becker's study contributes to the creation of three different categorisations of organisations committing to corporate foresight, namely, the 'collecting post', the 'observatory' and the 'think tank'. All three forms differ significantly in their approach, experience, staff employed and commitment in terms of

resources. Furthermore, Becker concludes that corporate foresight still heavily concentrates on the technological aspects, but it does also analyse future social and market developments.

The second study selected for further discussion is that of Gruber and Venter (2006). The main aim of their research was to view corporate foresight in a holistic fashion as this had never been done before. The research itself was therefore never intended to analyse foresight tools nor its strengths or weaknesses. The authors soon ascertained that not only corporate foresight, but also the foresight tools employed in German multinational corporations (MNCs) resembled one another to a large extent. Moreover, they conclude that the design, and the extent to which corporate foresight is implemented, varied significantly among the investigated firms. The applied research design for the study included expert interviews, document analysis and group discussion in a sample of eight MNCs.

The third study of interest is provided by Schwarz (2008a). He analysed the magnitude and significance of corporate foresight within German corporations. The study was based upon a Delphi survey with an overall participation of 84 experts. These experts represented selected sectors from strategic management (corporate managers), consultancies (futurist) and scientists. According to the author, German corporations have a long history and experience in the area of managerial foresight activities.

The study of Rohrbeck and Gemünden (2008) is the fourth selected for further mention. Also conducted in a German context, the study applied interview and document analysis methodologies in 15 companies. Based upon 84 interviews, the study created a total of 15 variables within five groups, thereby establishing a framework which permitted the comparison of foresight activities across organisations.

Of eminent interest – particularly where organisational implementations of corporate foresight are concerned – is how the phenomenon is established and anchored in departmental terms. Based on the findings of Becker (2002) and Gruber and Venter (2006) who specifically analysed the location where foresight is established in corporations, Table 8 shows an overview of the investigations’ results.

	Majority of studied organisations - <i>corporate foresight's anchorage</i>	Medium sample size of studied organisations - <i>corporate foresight's anchorage</i>	Minority of studied organisations - <i>corporate foresight's anchorage</i>
Becker (2002)	Central R&D department; staff of the corporate development department	Departments within operative segments; technology centres; business units	Temporary task forces
Gruber and Venter (2006)	Sub-department of central R&D	Staff department to the central R&D	Staff department to executive board; Segmental department

Table 8: Organisational anchorage of corporate foresight

In accordance with Becker’s (2003) and Gruber and Venter’s (2006) studies, Table 8 shows that the majority of organisations in the sample predominantly establish corporate foresight in the research and development department (R&D), and this followed by anchorage in operative units and staff departments. Although the literature on corporate foresight does not provide more insights on how corporate foresight is implemented in organisations, these two selected investigations shed some light on this matter.

On the one hand, both studies imply that corporate foresight is mainly anchored in and related to organisations’ research and development activities. This is argued by the fact that products with long development cycles benefit from a long-term understanding of the future. Moreover, both studies emphasise that organisations differ to a large extent in terms of the specifics of where corporate foresight is manifested.

On the other hand, both studies give the impression that corporate foresight takes place at a single location within the organisation, rather than occurring across different departments. Moreover, neither study explicitly provides a breakdown of the nature of organisational implementation according to sectoral criteria. In consideration of the fact that services sectors, such as the banking or assurance sectors, do not generally establish R&D departments, it remains unclear how corporate foresight is manifested across sectoral boundaries.

Apart from the above mentioned organisational considerations, the four descriptive studies of Becker (2003), Gruber and Venter (2006), Schwarz (2008a) and Rohrbeck (2008) also address other important issues related to corporate foresight such as the foresight methods employed, the time horizon considered and the personal dimensions. These are presented in more detail in Table 9 and Table 10 which particularly illustrate the scopes of these studies' and their main findings.

Categories	Becker (2002)	Gruber and Venter (2006)	Schwarz (2008a)	Rohrbeck (2008)
A) <u>Information sources for corporate foresight</u>				
• Networks & informants	√			√
• Data and information	√			√
B) <u>Use of corporate foresight outcomes</u>				
• Internal drivers	√	√		√
• External drivers	√			√
• Objectives and functions of corporate foresight	√			√
C) <u>Time horizon</u>				
• Time span involved for single foresight activity		√		√
• Applied methods and tools				

Table 9: Results and scope of selected foresight studies (1/2)

Categories	Becker (2002)	Gruber and Venter (2006)	Schwarz (2008a)	Rohrbeck (2008)
D) <u>Organisational perspective of foresight</u>				
• Approaches to organisational implementation	✓			✓
• Design of the corporate foresight process	✓			✓
• Level of implementation	✓	✓	✓	
E) <u>Personal configurations in corporations</u>				
• Characteristics of people executing foresight				✓
F) <u>Tools and methods applied</u>				
• Time span involved for single foresight activity	✓		✓	✓
• Applied methods and tools	✓		✓	✓
Main findings	Corporate foresight as requirement to cope with business uncertainties or achievement of long-term orientation. Three overarching ideal types of corporate foresight's scope. Information sources range from external to internal sources.	Corporate foresight's scope considers factors such as content, organisation, processes and persons. Limited use of corporate foresight in corporations' strategies. Organisational implementation of corporate foresight depends on industrial context.	Results of a Delphi study provide evidence that futures studies in management gain increasing importance for German companies. Major concern is an improved implementation of foresight results, rather than the invention of new foresight methods.	Lack of knowledge regarding strategic foresight leads to a limited success of foresight activities. Companies in the sample aim at establishing an improved foresight practice. The research framework considers five dimensions and 19 key characteristics.

Table 10: Results and scope of selected foresight studies (2/2)

2.5.2 Implications of the studies for corporate foresight research

The presented studies shed light on the different approaches of corporate foresight in the context of MNCs across industrial boundaries. Although differing in their research objectives, all four studies share the same views on a fair amount of issues.

To begin with, corporate foresight has mainly been studied in large organisations such as MNCs by these four studies. This implies that corporate foresight is either dependent on the resources, which MNCs are more likely to be able provide than smaller sized organisations, or that corporate foresight is more likely to be found in MNCs rather than in SMEs because MNCs have a greater need to look into the future. Nevertheless, few previous publications have analysed corporate foresight in the context of SMEs and therefore the latter argument has not been investigated (cf. Major, 1999).

Secondly, the studies emphasise the importance of individuals and groups within and beyond the organisation in the form of networks. Acknowledging the human element in relation to corporate foresight stresses the necessity to consider this element when studying the phenomenon.

Finally, the studies generally agree that corporate foresight itself differs significantly across organisations – even within the same sector. The differences include dimensions such as foresight tools, time horizon and timely investment. There is, nevertheless, not much insight on the reasons for these differences. An argument has been put forward for this lack by Gruber and Venter (2006), who state that confidentiality and ethical considerations are the main reasons for organisations not sharing their experiences with and approaches to corporate foresight. Thereby, harmonisation process in terms of corporate foresight manifestations across organisations is restraint.

However, the four studies also disagree on some points: First, as already stated, corporate foresight and foresight activities in general have a significant innovation scope which applies mostly to technology-driven corporations. Some studies are of the view that corporate foresight as an input for corporate strategic decisions, is a tool for the top management (cf. Becker, 2003; Schwarz, 2008a), whereas other studies state that the major contribution of corporate foresight results is for technological decision-making (cf. Gruber and Venter, 2006; Rohrbeck and Gemünden, 2008). Second, the studies slightly differ in their argument regarding personal commitment in the corporate foresight process. Some studies (cf. Becker, 2002) have analysed this aspect by considering the number of employees involved in the corporate foresight process, others have approached this aspect of the analysis by investigating employees' competences and responsibilities.

In sum, all four studies have helped to improve understanding on how corporate foresight is currently designed and used in MNCs as well as to categorise MNCs in terms of their involvement in and commitment to corporate foresight. Thus, these studies have made it possible for this dissertation to recognise the perceived importance and hence, the impact of corporate foresight on strategic decisions.

2.6 Corporate foresight tools and methods

Generally, any method that aims at identifying future developments and that eases the understanding of future factors can be referred to as being a foresight tool or method. However, some foresight methods are more common and generally more accepted than others in organisations. According to previous publications, scenarios and scenario planning are by

far the most popular foresight tools used in MNCs (Gruber and Venter, 2006; Schwarz, 2008a).

Van der Heijden (2004b, pp. 97-98) provides a framework illustrating not only the allocation but also the implementation of specific foresight methods according to the given time circumstances of the future. The author argues that forecasting methods are appropriate and necessary in order to understand the near future, scenario-planning and simulations are capable of grasping the more distant future, whilst vision building is required to explore the long-term future which implicitly induces a considerably higher degree of uncertainty.

Figure 17 shows the relationship between predictability, methods, uncertainty and distance into the future.

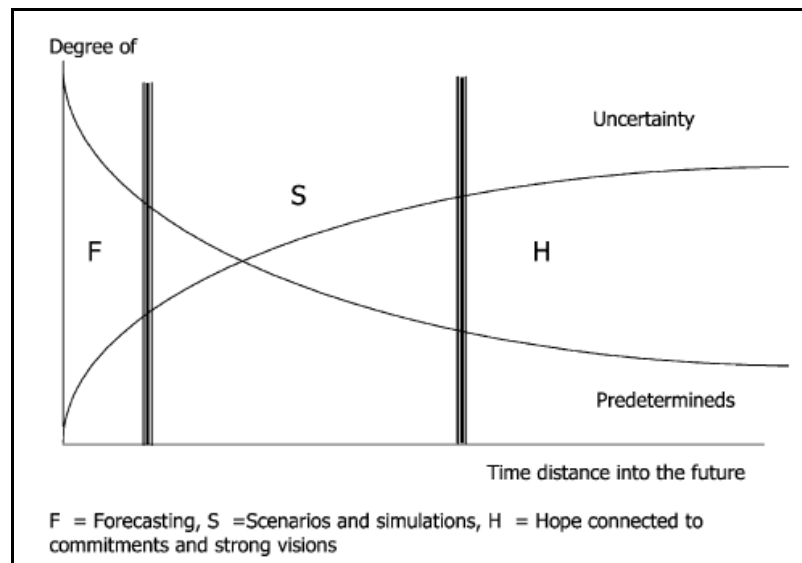


Figure 17: Relationship between degree of predictability, methods and distance into the future (van der Heijden, 2004b, p. 98).

A generic overview of the tools and methods relating to foresight in corporations is provided by Reger (2001). Although primarily focussed on technological foresight, this useful overview (see Figure 18) helps classify the tools according to their characteristics.

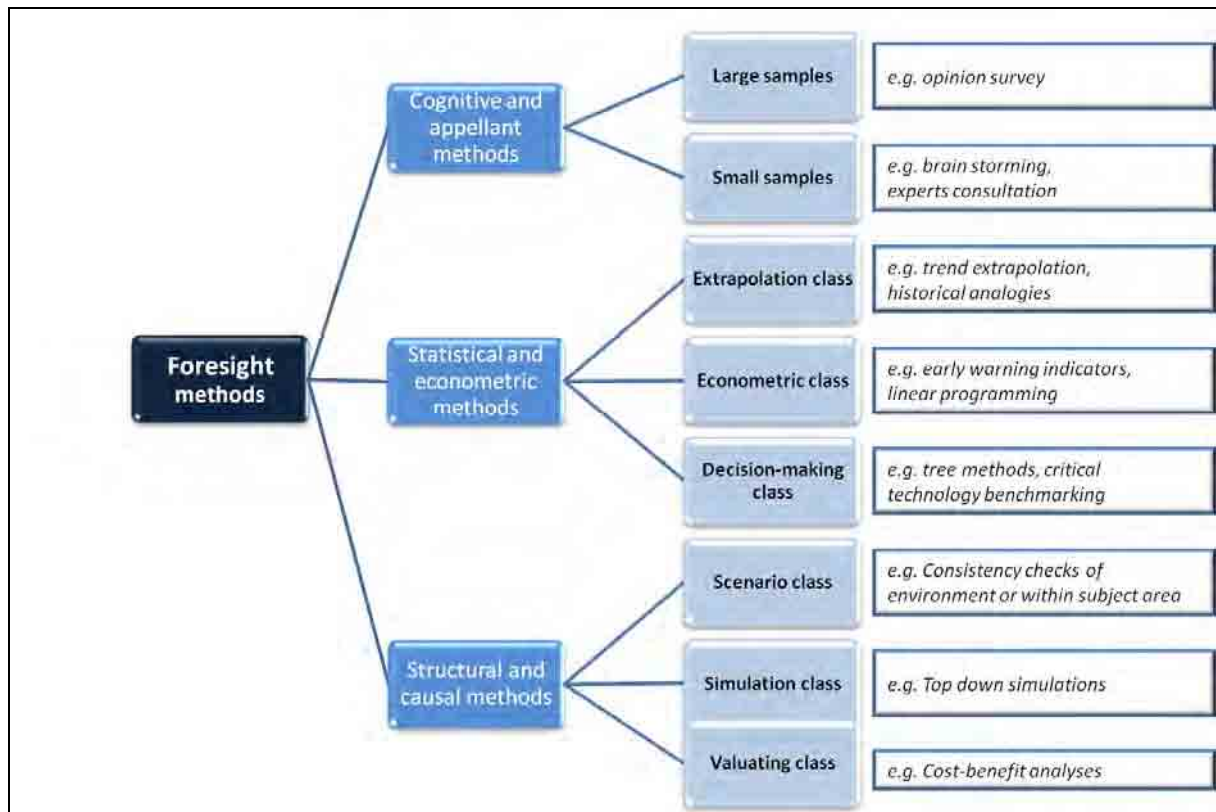


Figure 18: Typification and classification of foresight results (adapted from Reger, 2001).

The following section will provide a general overview of the different methods by which corporate foresight can be executed in companies. This study will comply with the classification provided by Masini (1993), who distinguishes between subjective and objective methods. If a tool is labelled as ‘subjective’, the emphasis lies in the creativity required as well as the increased influence of participant’s skills and capabilities within the process. In contrasts, if a tool is ‘objective’, this means there is strong reliance on facts and numbers during the foresight process.

2.6.1 Subjective methods

2.6.1.1 Brainstorming

Introduced in the 1930s, the brainstorm technique allowed the generation of new ideas by means of creative problem-solving procedures. The principle of building associations in a group of people enhances the creativity process in contrast to the limited creative capacity of only one person. Companies are particularly interested in brainstorming for the purpose of improving processes, the relation between the company, customers and suppliers as well as for its contribution to technical innovation (Balackova, 2003). Other authors emphasise the positive effect of brainstorming in the retrieval of relevant information from the person's long-term memory (e.g., Brown and Paulus, 2002).

2.6.1.2 Scenario approaches

According to Burt and van der Heijden (2003), scenario planning is a basic premise to improve the quality of strategic conversations within the company. This method is further defined as “...*a philosophy of thinking about the future*” (Burt and van der Heijden, 2003, p. 1020). On the one hand, this aspect addresses the holistic potential of scenarios to explore and interpret the future from an abstract point of view. On the other hand, the authors define scenario planning as a field of practice consisting of many different methods. Roubelat (2006) further distinguishes between the analytical and ideological functions of scenarios. Whereby the study at hand will focus on the former, the latter is still to be discussed in academia with regards to the conceptual and theoretical nature of futures studies (cf. Bell, 2002; Chermack, 2007; Inayatullah, 2002; Niiniluoto, 2001).

Scenarios generally depict different images of the future, thereby elucidating the contextual environment and the subsequent consequences for both the subject and the organisation. Scenarios also support the derivation of strategic decisions related to the identified consequences (Fichter and Kiehne, 2006).

Regarding personal involvement in scenario workshops, some publications state that scenarios appear to be more popular among middle management (Wack, 1985a, 1985b). More specifically, Pierre Wack believes that scenarios should also involve top management where eventually all decisions for the organisation are made. However, top managers are often averse to accepting scenarios mainly due to their perception that scenarios aim at providing accurate pictures of the future and, in turn, top managers feel pressured to choose between the presented 'stories' and various options. Clearly, top management's perception is not the underlying notion behind scenario planning which aims at challenging the understanding of the environment and the related elements of uncertainty (Wack, 1985b; 1985a).

Chermack (2007) further distinguishes between scenario building and scenario planning: While the former describes an overarching process designed to identify plausible alternative future environments and their potential implementation into the strategy of the organisation, scenario planning is part of this process and creates the narratives that are a component of the larger process. In short, both terms are related in a hierarchical fashion.

Marchais-Roubelat and Roubelat (2008) further discuss the actions resulting from scenario processes. By conducting two case studies and applying action research methods, they found that scenario activities resulted in a 'shift of rules' within the organisation. The study concludes that the applied scenarios should not be seen on a project level, but as a general challenge of the organisation's strategies.

2.6.2 Objective methods

2.6.2.1 Delphi studies

In the 1950s, the Delphi method was created at the RAND Corporation in Santa Monica, California (Blind, Cuhls and Grupp, 2001). Delphi studies are multi-round surveys which usually address experts regarding certain topics. What makes Delphi surveys so remarkable when compared to traditional expert surveys is the delivery of the first round's results to the participants, so that they may adjust their previous answers if wished. Usually the survey is conducted anonymously and in large sample sizes. In terms of foresight, Delphi surveys are generally adopted for long-range forecastings (20–30 years), because experts' opinions are perceived to be the main information source for this time frame (Blind, Cuhls and Grupp, 2001). Whilst Delphi studies are predominantly acknowledged as a quantitative means to explore the future, other authors have added a qualitative aspect concerning the intuitive character of the experts' answers (Cuhls, 2003a).

The key to success for every Delphi survey lies in the selection of the panel members as well as in the design and formulation of the questionnaire. The level of success of the Delphi technique is based on finding consensus amongst experts. The shortcomings of this method are mainly rooted in the rejection of extreme positions and the tendency towards pessimistic long-term forecasts by experts (Burgelman *et al.*, 1996, pp. 148-49).

2.6.2.2 Forecasting

According to the Merriam-Webster Dictionary (Merriam-Webster, 2009a), a 'forecast' is defined as “...a prophecy, estimate, or prediction of a future happening or condition; 1 a: to

calculate or predict (some future event or condition) usually as a result of study and analysis of available pertinent data; b: to indicate as likely to occur.” The definition indicates that forecasts and forecasting are concerned with the prediction of one single future.

In their well-received publication, Makridakis, Andersen, Carbone, Fildes, Hibon, Lewandowski, Newton, Parzen and Winkler (1982) define forecasting as:

...an essential activity both at the personal and organizational level. Forecasts can be obtained by: a) purely judgemental approaches; b) casual or explanatory (e.g. econometric or regression) methods; c) extrapolative (time series) methods; and d) any combination of the above. [...] In forecasting, accuracy is a major, although not the only factor [...] that has been dealt within the forecasting literature by empirical or experimental studies (p. 111-112).

More recent publications (cf. Kristóf, 2006; MacKay and McKiernan, 2006)) assert that forecasting is a suitable method to use when analysing less complex phenomena in a short-term horizon. Forecasting can additionally support the comprehension and recognition of influential factors within a foresight activity. However, mechanical, deterministic and mathematic-statistical methods are inadequate in chaotic, uncertain, unstable and complex environments. In particular, the shortcomings of forecasting methods lie in their potential to miss weak signals and the subsequent risk for the organisation's strategy (Kristóf, 2006; MacKay and McKiernan, 2006).

2.6.2.3 Simulation Modelling

A model is a simplified version of reality which eases the decipherment of the world and cause-effect relationships. McLean (1978, p. 330) defines simulation modelling as “... *a simulation model imitates and represents the system under study in the form of a set of mathematical variables and a number of explicit relationships between them. These relationships are sufficient to determine the change in the model variables over time [...], this process usually being performed with the help of a computer.*”

According to McLean’s definition, a simulation is strongly dependent on computation which supports the mastery of relationships and mechanisms. Simulation modelling can be adapted in a variety of ways, which increases its applicability across different scientific areas. Referring to the publication ‘The Limits to Growth’ (Meadows *et al.*, 1972) – one of the most famous publications in the area of computerised simulation – the limitations of such modelling are based on the sole outcome of the calculation, which gives the impression that this result is the supposed truth about the future. At the same time, this future is rarely adequate regarding actual reality – especially when conducted in times of unstable and uncertain environments (McLean, 1978, p. 340).

2.6.2.4 Trend extrapolation

Trend extrapolations were widely used in the energy industry in the early 1970s when rapidly increasing energy consumption was causing economic difficulties. Forecasting technologies at that time and since have aimed at deriving policy recommendations to deal with these challenges (Quist and Vergragt, 2006).

Generally, a trend displays a tendency in a time series. Certain definitions concerning trends describe an 'extension' of current developments, which implies a connection between the present and the future (Fichter and Kiehne, 2006). A necessary requirement to analyse trends is historical data which project a time-plot excluding seasonal and cyclical factors or irregular shocks, which would elsewhere blur the extrapolation's outcomes in terms of accuracy. Generally, mathematical calculation, such as moving averages, linear regressions, curvilinear regression and envelope curves are employed for illustrating the developments of trends (Hill, 1978, pp. 249-72).

Comparing the discussed objective methods, it can be argued that Delphi studies generally reflect expert opinions, whereas forecasting represents calculations into the future based upon present numbers and an expected percentage of growth or decrease (e.g., GDP will grow 3% next year). Simulation modelling refers to far more complex calculations dealing with a variety of set parameters as defined by the initiator. Trend extrapolation requires data from the past to project a trend into the future.

3. Corporate foresight and the environment – a contextual perspective

Having identified the nature and characteristics of corporate foresight on the basis of a thorough literature review, this section will discuss the concept of the organisational environment, as well as its influence on organisational occurrences according to which foresight activities are manifested.

3.1 Definition and conceptualisation of the environment

Andrew M. Pettigrew's investigation on strategic change provides an understanding of the concept of the environment (Pettigrew, 1987). In his study, he makes a clear distinction between a so-called inner and outer context: the former context refers to structure, corporate culture and politics within an organisation; the latter is concerned with the social, economic and competitive environment. Given this general definition, it can be inferred that the outer environment predominantly refers to the area beyond the boundaries of the organisation. This specific area outside the organisation has, in turn, been defined by Duncan (1972) who is of the opinion that 'environment' refers to all outlying factors of an organisation which are considered during organisational decision-making. Duncan (1972) and Daft *et al.* (1988) explicate the two different layers according to which the environment can be differentiated in more detail (see Figure 19):

- i) The first– or inner – layer is closest to the organisation and is termed the 'task environment'. It has been argued that the task environment tackles day-to-day operations and has an impact on the organisation's goal achievement. The task environment also includes environmental elements and subjects with which the

organisation is directly in contact such as to competitors, suppliers and customers (Bourgeois, 1980; Daft *et al.*, 1988);

- ii) The second – or outer layer – is the ‘general environment’ and refers to sectors that affect organisations indirectly such as economic, political and social sectors. (Due to significant differences between companies and their specific business models, the degree to which these sectors are directly or indirectly related to the organisation depends on the self-assessments made by managers (Bourgeois, 1980; Daft *et al.*, 1988).

With regards to the contextual embedding of this research– namely the European banking sector, the literature suggests that regulatory bodies belong to the task environment rather than to the general environment due to frequent transactions between both actors, namely, the banks and the regulatory bodies (cf. Daft *et al.*, 1988). The delineation between inner and outer layers will be refined by the current research. Following the logic of Duncan (1972), Bourgeois (1980) and Daft *et al.* (1988), this thesis will argue that governmental agencies belong to the task environment due to the high frequency of financial transactions between both subjects, while regulation as an element will be defined as part of the general environment due to its indirect influence on the bank.



Figure 19: The organisation within distinct environments: The task and general layers.

According to previous research, the two environmental layers have been identified as having a different impact on decision-making and organisational actions (Brown and Utterback, 1985; Hambrick, 1981). Previous research studies have claimed that the environment not only functions as the main source of managerial uncertainty (cf. section 2.4.5.1 *et seq.*), but also as a source of opportunities and threats. This is important to bear in mind when contemplating the relationship between the organisation and the environment in general. Identifying these sources relies on managerial perceptions and interpretations regarding the relevant environment (cf. Elenkov, 1997; Schneider and De Meyer, 1991). With reference to the factors affecting managerial interpretations and perceptions, research has additionally discovered that managerial characteristics and environmental contexts are – amongst others – the most influential elements for environmental uncertainty (Hambrick and Mason, 1984; Miller, 1993). A significant contribution to the argument on the relationship between perceived environmental uncertainty and volatility was attempted by L.J. Bourgeois (1985).

He ascertained that a match between managerial perceptions of environmental uncertainty and actual volatility increases firm performance. Thus, the gap between information available and required information is reflected in perceived environmental uncertainty (Daft and Weick, 1984; Duncan, 1972; Tushman and Nadler, 1978). A further discussion on information requirements for decision-making is provided in section 2.4.5 *et seq.*).

3.2 *Environmental influences on organisational reality*

Previous research has generally focused on two conceptions of the environment (Freel, 2005; Jogaratnama and Won, 2009): (i) the concept of environmental uncertainty and information as perceived by decision-makers (Doty, Bhattacharya, Wheatley and Sutcliffe, 2006; Duncan, 1972; Sharfman and Dean, 1991) and (ii) other views such as resource availability and their critical availability, disregarding the concept of information and its apprehension by decision-makers (cf. Dess and Beard, 1984; Jogaratnama and Won, 2009; March and Simon, 1958).

With regards to environmental characteristics and dimensions, scholars usually study the industrial task environment of the organisation which is the “...*set of all organizations with which members of a given industry (including the focal organization) had transactions in the input and output of resources, [...].* These studies “*did not, however, include organizations outside the industry of the focal organization that might otherwise have competed with it for input resources*” (Dess and Beard, 1984, p. 54). With reference to environmental dimensions, previous research has generally considered three main categories: (i) complexity, which refers to the level of complex knowledge required to understand the future; (ii) dynamism, which considers the rate of unpredictable change in the environment; and (iii) resource availability which reflects the level of resources available to organisations

from the environment (Dess and Beard, 1984; Duncan, 1972; Harrington and Kendall, 2005; Sharfman and Dean, 1991). However, it has also been argued that there is still no unifying agreement regarding the terms or concepts employed (Sharfman and Dean, 1991). Despite these discrepancies of terms and concepts (cf. Castrogiovanni, 1991), scholars argue that these three categories are probably the best means to describe and conceptualise the fundamental properties of organisational environments (Bluedorn, 1993). Sharfman and Dean (1991) summarise the different aspects and concepts used in the literature by referring to the three mentioned dimensions which are displayed in Table 11.

Conceptualisations of the environment			
Major works on environments	Complexity	Dynamism and stability	Resource Availability
Thompson (1967)	Heterogeneity	Dynamism	
Child (1972)	Complexity	Variability	Illiberality
Mintzberg (1979)	Complexity / Diversity	Stability	Hostility
Aldrich (1979)	Concentration / Heterogeneity	Stability / Turbulence	Capacity / Consensus
Dess and Beard (1984)	Complexity	Dynamism	Munificence
Harrington and Kendall (2005)	Complexity	Dynamism	
Jogarathnam and Wong (2009)	Complexity	Dynamism	Hostility

Table 11: Conceptualisations of the environment (adapted from Sharfman and Dean, 1991).

Some studies emphasise the importance of volatility (i.e., dynamism and stability, cf. Boyd and Gove, 2006) as the most influential dimension on managerial uncertainty and perception (cf. Barry, Kemerer and Slaughter, 2006; Bourgeois, 1980; Bourgeois, 1985;

Duncan, 1972). Furthermore, some studies explicitly focus on environmental volatility as unit of analysis above other environmental dimensions due to its predominant impact on risk, strategy-making and performance (cf. Bourgeois, 1985; Child, 1972; Snyder and Glueck, 1982), which in turn requires further and a more detailed discussion. Therefore, the next section will first define and scrutinise environmental volatility and then build a conceptual link between this dimension and corporate foresight.

3.2.1 Environmental volatility as the main influential factor on organisational reality

The discussion of environmental volatility and its influence on organisational structure and processes can be traced back to the 1960s when Lawrence and Lorsch (1967) were amongst the first scholars to investigate the impact of environmental volatility on organisations. According to their research, managers' level of perceived uncertainty increases according to the level of environmental volatility. Subsequent studies (c.f. Bourgeois, 1980, 1985; Duncan, 1972) emphasise that environmental volatility is one of the most important causes of managers' perceived uncertainty – indeed it is seen as more important than other environmental characteristics such as complexity. Highly volatile environments have also been characterised as being similar to high velocity (Bourgeois and Eisenhardt, 1988) or dynamic environments (Dess and Beard, 1984). In general, these attributes consider changes which are so rapid and discontinuous that quantitative and qualitative information is often unavailable, outdated or fallacious (Bourgeois and Eisenhardt, 1988; Dess and Beard, 1984; Miles, Snow and Pfeffer, 1974) – which in turn tend to have an impact on internal organisational processes.

The environmental characteristic of volatility is closely related to the organisation's tasks and hence, previous research has applied measurements of volatility at the industrial level (Bourgeois, 1985; Tosi, Aldag and Storey, 1973). In terms of measuring environmental volatility, studies generally distinguish between product-market and technology change (Bourgeois, 1985; Burns and Stalker, 1961), both of which consider factors such as the change in industry figures (e.g., in industry sales, variability of profit before taxes and average expenditures of R&D) and the ratio of these measures (cf. Bourgeois, 1985; Tosi *et al.*, 1973). These factors are, however, objective in nature. The differences in terms of objective and subjective approaches in understanding environmental dimensions, such as environmental volatility, have been the subject of various studies (cf. Cameron, Kim und Whetten, 1987; Sharfman and Dean, 1991; Snyder and Glueck, 1982; Tosi *et al.*, 1973). However, these studies did not sufficiently clarify to what extent objective and subjective perceptions differ. In terms of perceived environmental uncertainty and volatility, some authors have found that there appears to be a negative correlation between the two concepts. This finding has been reasoned as being a result of methodological shortcomings (Tosi *et al.*, 1973).

In terms of corporate foresight it is important to consider the role and influence of both perceived environmental uncertainty and environmental dimensions, particularly the dimension of volatility for three reasons. First, with regards to the concept of perceived environmental uncertainty, corporate foresight provides information about the future which helps managers to decrease the level of uncertainty (cf. Chermack, 2004, 2008; Coates, 1985; Costanzo, 2004; Hideg, 2002; Kristóf, 2006). In this particular case, the uncertainty refers to the uncertainty of the environment in the future. Second, corporate foresight provides an understanding about environmental patterns and hence, a certain guideline according to which managers can assess how the environment is likely to develop in the future. On that basis, the

rationale of considering environmental volatility is provided due to the fact that corporate foresight aims at producing information about developments and changes in the environment (cf. Pina e Cunha *et al.*, 2006; MacKay and McKiernan, 2004b). Third, it has been argued that the environment is a phenomenon which has a significant effect on organisational reality. Therefore, the influence of the environment on corporate foresight has to be analysed further, particularly because, to the best of the author's knowledge, this phenomenon has not yet been fully researched.

3.2.2 Contextual adaptation of corporate foresight processes – contingency theory

Scientific discussions on how the environment influences organisational structures and processes date back to the early 1960s. These discussions and theoretical contributions – also labelled as contingency theories – mainly criticise the classic management approaches that prescribe how organisations should be managed according to a 'one-best-way'. Instead, contingency approaches defend the position that there is not 'one-best way' to manage organisations, but rather a 'situational–best-way' according to which an organisation should be structured (cf. Burns and Stalker, 1961; Donaldson, 2001; Hofer, 1975; Lawrence and Lorsch, 1967; Mintzberg, 1989).

With regards to the nature of contingencies, Donaldson (2001) defines a contingency as follows: “*a contingency is any variable that moderates the effect of an organisational characteristic on organisational performance*” (p. 7). In theory, an organisation is faced with a variety of factors which are contingent on the organisational structures. These factors include the environment (cf. Burns and Stalker, 1961), organisational size (cf. Child, 1972;

Hart and Banbury, 1994; Pugh, Hickson, Hinings, Macdonald, Turner and Lupton, 1963) and organisational strategy (cf. Chandler, 1962; Bourgeois, 1984).

In order to further understand the essence of contingency theory, Richard W. Scott (1991) provides a comprehensive definition:

Contingency theory is guided by the general orienting hypothesis that organizations whose internal features best match the demands of their environments will achieve best adaption. The challenge facing those who embrace this orientation is to be clear about what is meant by “the organization’s internal features,” “the demands of their environments,” “best adaption,” and, most difficult of all, “best match” (p. 89).

In essence, Scott and other scholars such as Ginsberg (1988) raise the question as to whether or not managers are actually able to identify the main elements underlying contingency theory and whether or not they are subsequently able to apply a suitable strategy for adaption.

Overall, the contingency theory helps us to comprehend the relationship between organisations and environments from a structural and performance perspective. In spite of having been criticised on various occasions (cf. Mintzberg, 1979b; Scott, 1991), the contingency theory is still being taken into consideration in recent investigations (cf. Papadakis *et al.*, 1998).

3.3 Contextual level of foresight

The literature regarding the contextual implementation of foresight has mainly been focussed on national foresight programmes (cf. Brown *et al.*, 2001; Cuhls and Georghiou, 2004;

UNIDO, 2003; van der Meulen *et al.*, 2003) or on specific sectors and certain technological advantages that organisations may have achieved by applying foresight methods (cf. Barre and Keenan, 2006; Bright, 1968; Coates *et al.*, 2001; Coates, Mahaffie and Hines, 1994; da Silva and Balaguer, 2006; Garud and Nayyar, 1997; Kaplan, Skogstad and Girshick, 1950). It is, however, important to distinguish different levels of foresight according to the contextual level in which the phenomenon is investigated. Following this line, a contextual classification of foresight within differing types of contexts is provided by Major (1999, p. 18). He distinguishes three types of foresight in an organisational and sectoral context:

- i) National foresight: This level is concerned with the coordination of foresight between networks such as academia, government and industry. In further discussion, the term ‘public foresight’⁷ will be used;
- ii) Sectoral foresight: This comprises the analysis of science and technology in foresight terms;
- iii) Company foresight: This is a concept referring to foresight activities manifested by corporations. With reference to this thesis, , the term ‘corporate foresight’ will be used (Alsan, 2008; Becker, 2003; Gruber and Venter, 2006; Daheim, 2004; Daheim and Uerz, 2006; Neef and Daheim, 2005; Ratcliffe, 2006; Ruff, 2006).

Major’s (1999) classification will be consulted for further discussions regarding the particularities of each contextual foresight level. Although this research study specifically focuses on corporate foresight, the analysis of the levels is of importance as they provide different lenses through which organisational foresight can be perceived.

⁷ In this context, the term ‘public foresight’ is defined as being foresight activities exercised by public institutions. Other concepts such as ‘regional foresight’, ‘national foresight’ and ‘governmental foresight’ will hereinafter be regarded as equivalent; distinctions between them may not be made.

3.3.1 Public foresight

The changes in political and economic conditions at the beginning of the 1990s – especially with regards to the collapse of the Soviet Union – resulted in an increase in uncertainty and in the need for organisations to identify new technologies, emerging economies and strategies to survive in markets with increased competition. Public entities therefore committed to foresight activities in order to secure social and economic competitiveness. In terms of public foresight programmes in Europe, countries such as Germany, The Netherlands, Austria, Hungary, France, Spain, Italy and the United Kingdom (UK) became frontrunners in exploring the potential of foresight activities (cf. Blind, Cuhls and Grupp, 1999; Heraud and Cuhls, 1999; Leigh, 2003).

To understand foresight from a public sectoral perspective, a definition is provided by one of the most often quoted scholars in foresight literature, Joseph F. Coates (1985):

Foresight is the overall process of creating an understanding and appreciation of information generated by looking ahead. Foresight includes qualitative and quantitative means for monitoring clues and indicators of evolving trends and developments and is best and most useful when directly linked to the analysis of policy implications. Foresight prepares us to meet the needs and opportunities of the future. Foresight in government cannot define policy, but it can help condition policies to be more appropriate, more flexible, and more robust in their implementation, as times and circumstances change. Foresight is, therefore, closely tied to planning. It is not planning—merely a step in planning (p. 30).

Coates' definition provides an elucidation of foresight from a procedural and organisational perspective, particularly with regards to the potential contribution of foresight

to governmental policy-making. Despite the definition's more traditional nature, it remains an oft-quoted one (cf. Blind *et al.*, 1999; Cuhls, 2003; Reger, 2001). Coates' definition clearly illustrates the strong relevance of foresight for the public sector in general.

Until now, the literature on the organisational application of foresight has concentrated on public and regional contexts (Uotila and Melkas, 2007; van der Meulen *et al.*, 2003). It could be argued that this is because policy makers understood the benefit of applying foresight activities for national science and technology programmes. Thus, public foresight aims at identifying and formulating scientific and technological challenges on a national level. In turn, by having employed foresight, policy makers hope to increase the country's competitive position (Brown *et al.*, 2001, p. 22). Finally, public foresight primarily seeks to gain the greatest economic and social benefits for the country as a whole (the macro-perspective) (Martin, 1995), whereas foresight activities in privately owned organisations are usually implemented for self-interest/self-benefit – such as an improved decision-making efficiency (the micro-perspective).

3.3.2 Sectoral foresight

Although closely related to public foresight programmes in general, sectoral foresight programmes have to be differentiated. The distinguishing factor is not the outcome of the programme, but rather the ownership of the foresight process. The foresight outcome may be similar for public and sectoral foresight, but the latter may also be initiated by associations or representative bodies of privately owned companies (cf. Barre and Keenan, 2006; da Silva and Balaguer, 2006; Georghiou, 1996).

In the context of science and technology foresight (STF), the use of sectoral foresight manifestations and their tools can be traced back to the early 1980s. For instance, Irvine and Martin (1984, pp. 2-10; pp. 137-140) analysed numerous STF activities in science-based companies and technical consultancies in relation to foresight research activities. Their international study included four countries – France, West Germany, the United States of America (USA) and Japan – and had two aims: to ascertain the extent to which foresight can be related to strategic research in terms of governmental policies and to determine the role of the government in providing infrastructural support for the industry. The study concludes that foresight⁸ activities generally require organisational commitments and that externally purchased foresight information will be difficult to integrate into an organisation. Although the study analysed foresight from a governmental (public) perspective, it still provides a good insight in terms of comparing different sectoral activities.

3.3.3 Corporate Foresight

Corporate foresight is the third contextual level in which foresight can generally be investigated. As previous sections have already discussed, corporate foresight epitomises the concept of futures studies in corporations. For further details on corporate foresight, please refer to section 2.2.3 *et sequentes*.

⁸ According to the study of Irvine and Martin (1984, p. 139), forecast techniques are defined as means for foresight activities. This implies a strong focus on quantitative methods which is reflected throughout the scope of their study.

4. Strategic decision-making

This section analyses strategic decision-making from an initially general and eventually from a more specific perspective. First, the concept of ‘judgement’ will be briefly introduced with particular regards to conceptual similarities and differences between ‘judgement’ and ‘decision’. Next, the concepts of ‘decisions’ and ‘strategic decisions’ will be outlined. Finally, related concepts such as ‘uncertainty’ and ‘information’ will be assessed critically so as to provide the foundations for the later conceptual argument and integration of corporate foresight into strategic decision-making.

4.1 Definition of judgement

Before discussing strategic decision-making in detail, the concept of ‘judgement’ must first be delineated and distinguished from the closely related concept of ‘decision’. In the Merriam-Webster online dictionary (2010d), judgement is defined as follows:

- 1a: *a formal utterance of an authoritative opinion* b: *an opinion so pronounced [...]*
- 4a: *the process of forming an opinion or evaluation by discerning and comparing* b: *an opinion or estimate so formed*
- 5a: *the capacity for judging : discernment* b : *the exercise of this capacity*
- 6: *a proposition stating something believed or asserted.*

With reference to the nature of judgements, this definition puts forward certain characteristics such as opinion forming, evaluation, belief and assertion. In management literature, the delineation of what judgements exactly are is a matter of some controversy.

Most publications note judgement's close association with intuition. It has been claimed that judgements are – to some extent – different or detached from rationality and analysis. Moreover, judgements involve effects and emotions which, metaphorically speaking, associate rationality with the 'head' and intuition or judgement with the 'heart' (cf. Blattberg and Hoch, 1990; Dane and Pratt, 2007; Nutt, 1998; Nutt, 2002). Some publications also stress that judgements can be accessed and understood by conscious thoughts; however, the way in which judgements occur remains unclear (Dane and Pratt, 2007). Finally, it has been argued that judgements are perceived as being a tool for evaluating and opining uncertainty (Hinsz, Tindale and Vollrath, 1997; Tversky and Kahneman, 1974).

Due to the lack of profound research to date, an exact differentiation between judgements and decisions has not yet been made (Mintzberg, 1989, p. 52; Simon, 1987). However, two streams of thought in the literature can be identified which both aim at distinguishing the concepts of judgement and decision. The first stream specifically perceives judgement as part of a decision, whereas the other stream views judgement as a phenomenon preceding a decision.

Regarding the first stream, Herbert A. Simon (1997) emphasises that decisions include the selection of a goal and its related behaviour. The goal selection part of decision-making is labelled as a 'value judgement', while the implementation of this goal is termed a 'factual judgement' (Simon, 1997, p. 4). This implies that judgements are sub-divisions of two separate decision-processes. Regarding the first part of this decision process – namely goal selection, Mintzberg (1989, p. 52) even subdivides this element and assigns judgement to this aspect only. According to him, goal selection can take the mode of analysis, judgement or bargaining. Judgement in this context refers to a single decision-maker's cognitive process.

Mintzberg also claims that the judgement mode is employed most frequently when selecting goals. Paul C. Nutt supports the idea that judgement is a mode of decision-making. He views judgement as being a sort of decision approach whenever the objectives are known but the means to produce them are not (Nutt, 2002). Although he agrees with Simon (1997) and Mintzberg (1989) that judgements are a type of decision-making, his approach fundamentally disagrees with theirs on one specific point: Unlike the other two authors, Nutt claims that both goals and aims are known when decisions are about to be made. Mintzberg and Simon, however, are both of the opinion that the goal-finding procedure occurs by means of judgement.

In the light of the discussion as to whether or not judgements are decisions, this thesis argues that judgements can be separated into distinctive phases which all take place prior to a decision (cf. Hogarth, 1980, p. 76). The consideration of succinctly distinguishing and analysing both concepts is helpful in attempting to understand each of them individually and subsequently to relate them to each other from a process perspective. Therefore, this approach is in line with the second stream of literature that investigates the phenomenon. The alternative approach that views judgement as a phenomenon preceding a decision can be found in McDermott (2001) who defines judgements as follows:

Judgements are fundamentally different from decisions. First, judgements typically take place prior decisions. Second, judgements are assessments about external events while decisions are internal evaluations which often involve some kind of value trade-off. [...] Judgements often happen under conditions of uncertainty, which means that probabilities are not assumed to be known, unlike when one is assumed to know the probability of heads on the toss of a fair coin to be 50 per cent. [...] Decisions, on the

other hand, often happen under conditions of risk, where the probabilities associated with each outcome have been predetermined either objectively or through subjective judgement ratings (p. 7-8).

In essence, McDermott clearly distinguishes between judgements and decisions. Whereas judgements deal with uncertainty, decisions are employed whenever probabilities of underlying occurrences are known (McDermott, 2001; cf. Tversky and Kahneman, 1981; Tversky and Kahneman, 1983). Frank H. Knight (2002) further delineates the difference between uncertainty and risk. According to him, uncertainty reflects the lack of certainty, hence the existence of more than possibility. The actual outcome or result is not known. Risk in contrast is a state of uncertainty in which some of the possibilities involve a potential, measurable and particularly quantifiable loss (pp. 19-20). In other words and referring back to judgements, the question as to whether a decision or a judgement is employed depends on the facts and information available to the decision-maker in the respective situation.

Hogarth (1980) agrees with this argument, although he further defines the conceptualisation of judgement by dividing it into an evaluative and a predictive element. The first element, evaluative judgement deals with the decision-maker's preferences regarding the outcome of a decision. This, for example, would mean that the decision-maker can presumably express preferences for one car instead of another. The second element, predictive judgement, refers to what the decision-maker actually believes will occur in the future. Hogarth further argues that a fit between evaluative and predictive judgements decreases uncertainty (Hogarth, 1980, pp. 3; pp. 65-67; p. 157). In this regard, Hogarth (1980) explicitly establishes a relation between (predictive) judgement and the future. Hence, the foresight phenomenon shares common ground with this particular definition of judgement from a

temporal perspective. This approach of a two-tier integration of judgement into the investigation of foresight has previously been acknowledged in the literature (cf. Bell, 2004, p. 319), although not further detailed regarding its actual manifestations. On the basis of a thorough literature review, the evaluative and predictive judgemental model – as established by Hogarth (1980) – significantly helps to establish a conceptual link between corporate foresight, judgement and hence, strategic decision-making (cf. chapter 2.5) Therefore, this model will be implemented in this study (cf. section 2.5.6).

In sum, it can be stated that the first stream of literature investigating judgements perceives that they cannot occur without a direct or indirect related event of a decision, whereas the second stream argues that judgements can exist in their own right – even without any subsequent decision being made. Having discussed the nature of judgement and its relation to decision in general, the next section will shed light on the specific nature of a decision, particularly a strategic decision.

4.2 *Definition and delineation of decision and decision-making*

This section will conceptualise and discuss the terms ‘decision’ and ‘decision-making’. The Oxford English Dictionary (OED, 1989b) provides us with a definition of a ‘decision’ as follows:

- *1a. The action of deciding (a contest, controversy, question, etc.); settlement, determination.*
- *1b. (with a and pl.) The final and definite result of examining a question; a conclusion, judgement: esp. one formally pronounced in a court of law.*

- 2. *The making up of one's mind on any point or on a course of action; a resolution, determination.*
- 3. *As a quality: Determination, firmness, decidedness of character.*

In terms of decision-making which describes the process by which a decision is progressed and finally made, the literature generally distinguishes between normative and descriptive decision-making. The former relates to a rational subject and the implication of an action following a rational process of thoughts. The latter analyses decisions in reality, deriving the target of a decision through observable actions and - in other words – relates to empirical research in general (Bamberg and Coenenberg, 2002, pp. 3-7; Wöhe, 2002, p. 120).

Apart from scholarly discussions on approaches and delineations in decision-making, the investigation of its nature can be traced back to the beginning of the 20th century, when decision-making research was significantly enhanced by Chester Barnard's scientific analysis and later publication in 1938 (Barnard, 1938). In later years, Simon (1997, pp. 3-6) distinguished two different elements within the decision-making process: (i) the selection process of a decision which is relevant for selecting and achieving goals and (ii) the subsequent behaviour related to it (Simon, 1997, p. 4; cf. Tversky and Kahneman, 1981). The selected alternative will, however, never permit a perfect achievement of objectives, but rather represents the best perceived solution or decision available under the given circumstances (Simon, 1997, pp. 3-4).

With regards to the requirements for decisions, Mintzberg, Raisinghani and Theoret (1976) define a decision as a commitment to action. At first glance, the notion of action is in agreement with Simon's notion of behaviour. However, Mintzberg *et al.* (1976) add the commitment of resources in relation with the term of action, which further enhances the

understanding of decisions in an organisational context. By implication, it can be stated that an action is already a signal of a preceding decision about this action (Mintzberg and Waters, 1990), thereby demonstrating the relationship between action or behaviour on the one hand, and decisions on the other.

Referring to the use of connotations, Simon (1997, p. 3) explicitly states that the terms ‘choice’ and ‘decision’ can be used interchangeably in the light of their self-conscious, deliberate, rational selecting nature. This approach of using both terms interchangeably is also shared by other authors (cf. Hogarth, 1980, p. 65).

Regarding the connotation of a decision problem, which refers to the situation in which one has to select between alternatives, Tversky and Kahneman (1981) define it as follows: “*A decision problem is defined by the acts or options among which one must choose, the possible outcomes or consequences of these acts, and the contingencies or conditional probabilities that relate outcomes to acts*” (p. 453). In their study, Tversky and Kahneman (1981) also suggest the concept of a ‘decision frame’ which, according to the authors, reflects the combination of act, outcome and contingencies. In other words, the authors propose that a decision occurs within a decision frame involving a set of different cognitive and behavioural elements.

Having introduced the concept of decisions on the basis of a literature review, the following section will examine strategic decision-making in greater detail.

4.3 *Definition and delineation of strategic decision-making*

As previously stated, a decision generally explains behaviour based upon a previous selection of a preferred goal. The research study aims at analysing strategic decisions and strategic decision-making. It is therefore of utmost importance to first identify and define what is meant by 'strategic' in respect to a decision. Consequently, and in order to introduce the concept, it will prove helpful to distinguish between two opposing concepts in decision-making, namely 'strategic decisions' and 'tactical decisions'. Strategic decisions are, according to Chandler (1997, p. 45), of importance for the long-term health of an organisation, whereas tactical decisions are merely activities necessary for smooth business operations.

Another view on strategic decisions is provided by Mintzberg, Raisinghani and Theoret (1976), who simply define a strategic decision as a decision which is important to the organisation. The authors further refine the description by adding that the substantial commitment of resources and the precedents required in strategic decisions highlight the strategic character of a strategic decision (cf. section 2.1.1; section 2.1.2). A synthesis of the different perspectives in the literature does not, unfortunately, provide a uniform and exact explanation of what 'strategic' means, but the findings do show that strategic decisions have a major impact on the organisation's future (Dean and Sharfman, 1993).

Furthermore, strategic decisions particularly reflect the interaction between the environment and the organisation. Whenever managers are faced with threats or opportunities which arise from the external environment, they are required to react appropriately by deciding how to respond to the given circumstances. Strategic decisions are thus shaped by managers as well as by external environmental characteristics (cf. Child, 1972; Ginsberg,

1988; Hitt and Tyler, 1991). This means that strategic decision-makers are expected to analyse and take actions according to the interplay between the inner and outer contexts (Pettigrew, 1992).

4.4 Theoretical perspectives on strategic decision-making

Now that the nature of decisions – particularly that of strategic decisions – has been clarified, this section contains a brief overview over the main theoretical perspectives on strategic decision-making. The analyses will follow the categorisation of frameworks and theoretical approaches by Eisenhardt and Zbaracki (1992) as well as by Papadakis, Lioukas, and Chambers (1998). These authors split the strategic decision-making literature into the following three paradigms of decision-making: (i) rationality and bounded rationality, (ii) politics and power (iii) and garbage can. In addition, due to the growing interest in the literature of the last few years in the so-called ‘naturalistic decision-making’ model, this will also be discussed below.

4.4.1 Rationality and bounded rationality paradigm

The concept of rationality is based upon three main pillars derived from traditional decision-making perspectives: First, there is the assumption that all options of a choice are available and selectable; second, it is argued that all the consequences for each alternative are known beforehand; and third, the rationally thinking individual has a complete set of utilities for achieving all possible options (March and Simon, 1993, p. 159). By implication, these three conditions are not realisable for individuals for a variety of reasons. One of the arguments

against the concept of the 'rational man' is the implication that human beings generally lack all information required to satisfy the first and second condition – namely, having alternatives and information. Therefore, one should rather speak of 'subjective rationality' which, if anything, can be achieved by the individual (March and Simon, 1993, p. 159; Simon, 1997).

For these reasons, the concept of 'bounded rationality' was created by Herbert A. Simon to describe the idea that human beings are not able to be rational whatsoever. Simon (1997, p. 119) summarises that, in contrast to 'economic man', an individual aims to accomplish satisfactory outcomes of decisions, rather than aims to achieve optimal or supposedly maximizing results. Simon's bounded rationality still assumes that individuals would make a rational decision if they had sufficient or even all required information available. However, reality does generally not provide the conditions under which this rationality can be achieved (cf. Eisenhardt and Zbaracki, 1992). In line with this argument, Daniel Kahneman and Amos Tversky (1979) propose that human beings decide against a rational pattern, even if all required information is available. This insight was achieved by analysing how people decide in risky situations and by asking why people commit to lottery and insurance contracts. The authors found that under certain circumstances, rather than becoming risk averse, people become risk seekers, which fundamentally contradicts the economic and rational decision-making theory.

On an individual level, two main reasons have been identified to explain why the concept of bounded rationality grasps the nature of decision-making better than the classic rational decision-making theory (Bernstein, 1996, pp. 270-283; Buchanan and O'Connell, 2006; Kahneman and Tversky, 1979): First, decision-making theory disregards emotions as an influencing factor. It is argued that emotions tend to destroy self-control and thereby

significantly disturb rational decision-making and behaviour. Second, decision-makers themselves may not be able to appropriately assess the situation they are currently dealing with. Rational decision-making ignores the idea that human beings may have only a limited understanding of a situation (Bernstein, 1996, pp. 270-283; Buchanan and O'Connell, 2006; Kahneman and Tversky, 1979).

From a conceptual perspective there are four additional reasons why bounded rationality correctly rejects the concept of rational man making decisions:

- i) Individuals are unlikely to decide in a similar manner in the same situation – as proposed by rational decision-making approaches. This observation of individuals diverging in making decisions in the same situation has been found in previous studies (Hambrick, 1987);
- ii) The emphasis of individuality in making decisions is another key element in support of bounded rationality (Bourgeois and Eisenhardt, 1988). This argument shares the view that rationality can, if anything, only be aspired to in a subjective, rather than in an objective manner;
- iii) Although the decision-making process follows the basic phases of problem identification, development and selection, these phases can vary or even repeat in decision-making by following different paths (Eisenhardt and Zbaracki, 1992);
- iv) The problem's complexity as well as conflict amongst decision-makers can potentially shape the way in which decisions are made (Eisenhardt and Zbaracki, 1992).

A general acceptance of bounded rationality can be observed in strategic decision-making research. Indeed, scholars tend to focus on the conditions under which rational decision-making can be observed, rather than challenging the concept of bounded rationality (cf. Dean and Sharfman, 1993; Eisenhardt and Zbaracki, 1992; Fredrickson and Iaquinto, 1989; Mintzberg *et al.*, 1976).

4.4.2 Politics and power paradigm

The politics and power paradigm of decision-making is rooted in the political science literature of the 1950s. By referring to governmental bodies during legislative processes, scholars analysed the conflicting process of decision-making. The core paradigm of the political perspective in terms of decision-making relies on the assumption that decision-makers have different goals and preferences, which in turn leads to coalition-building between individuals. Conflicts arise due to divergent views held by individuals regarding the ownership of power and the achievement of goals (Eisenhardt and Zbaracki, 1992). Moreover, March (1962) describes organisations as “political conflict systems” (p. 665) and argues that business organisations should be viewed as political systems in which conflicts arise in any kind of organisational process. In contrast to the rational and bounded rational decision-making approaches – where the selection of alternatives is in the foreground (cf. Simon, 1997, pp. 3-4), the political perspective is a more complex perspective that considers the concept of conflict (Fahey, 1981).

In sum, the politics and power paradigm provides an understanding of strategic decision-making in a variety of ways. The paradigm focuses on the conflicting preferences of people within an organisation and also pays particular attention to the concept of power.

Further, the paradigm distinguishes between individual conflicts which occur in individual decision-making, organisational conflicts which reflect the relationship between individuals in the organisation, and inter-organisational conflicts which emphasise the conflict between organisations or groups (March and Simon, 1993, p. 132). Finally, the identification of political tactics such as the use of information to enhance power as well as the use of timing and opportunism are also discussed in the theory of 'politics and power' decision-making (Eisenhardt and Zbaracki, 1992).

4.4.3 Garbage can paradigm

The garbage can paradigm was introduced by Cohen, March and Olsen (1972). The model describes particular situations – also called "organised anarchies" (p. 1) – where each situation faces goal ambiguity and is characterised by three general properties:

- i) Problematic preferences: These refer to the fact that decision-makers often possess ill-defined and inconsistent preferences which make it difficult to adopt an adequate theory of choice. Thus, decision-makers are more likely to discover their goals by actions, rather than by understanding and exploration.
- ii) Unclear technology: This means that managers lack understanding of the organisation's processes and must therefore gain knowledge by trial-and-error learning.
- iii) The third and last property refers to the managers' fluid participation in decision-making processes. This means that managers' irregular participation in decision processes and their time-bound membership in the organisation have an impact on

organisational boundaries and hence, on those who are eventually affected by a particular decision.

The garbage can model further emphasises the accidental convergence of four elements, namely, choice opportunities, solutions, participants and problems. According to the garbage can model, the meeting of each of the four elements occurs randomly and significantly depends on chance (Cohen *et al.*, 1972; Eisenhardt, 1997; Eisenhardt and Zbaracki, 1992).

In sum, the garbage can model's strength is the separation of choice and decision problems in certain situations. However, this rather 'situational' perspective on decision-making still raises the question as to whether the description of the unexplained and messy logic of strategic decision-making – as suggested by the garbage can model – could be more accurately described as an extreme form of bounded rationality (Eisenhardt and Zbaracki, 1992; Langley, Mintzberg, Pitcher, Posada and Saint-Macary, 1995; Nutt, 2007).

4.4.4 Naturalistic decision-making approach

Another view on decision-making in research was first put forward by Gary Klein and his colleagues in 1989 and is termed 'naturalistic decision-making'. The concept of naturalistic decision-making emphasises the study of decision-makers in real-world settings with a particular focus on high-quality decisions in high-velocity and complex situations where the time for analytical considerations is limited (Lipshitz, Klein and Carroll, 2006). This perspective discusses the shortcomings of rational approaches in making decisions as well as the inclusion of non-comprehensive decision-making processes (Lipshitz, 1995).

Klein's on naturalistic decision-making is based upon observations in fire stations and military facilities in the mid-1980s (Klein, 1998, p. 1). The research team identified circumstances in which these organisations bound the ability to deliberate on ideal decision-making strategies or to even follow ideal decision-making processes. In a later work, Klein delineates ten features of naturalistic decision-making (Klein, 1998, pp. 1-6) as follows:

- i) Time pressure: Individuals are sometimes constrained to make decisions in a short timeframe;
- ii) High stakes: Decisions have to be constantly of high quality and can even have, in the context of fire fighting, implications for human lives;
- iii) Experienced decision-makers: In contrast to traditional decision-making theories, naturalistic decision-making approaches accept experience as being a significant enhancing factor in making decisions;
- iv) Inadequate information: Uncertainty cannot be reduced by information due to the lack of information sources and difficulties of transmission;
- v) Goals are unclear: In contrast to traditional decision-making models where goals are clear, the naturalistic decision-making approach underlines the ambiguity of goals in certain situations;
- vi) Poorly defined procedures: Decision-making and problem-solving converge into one structure which can be modified according to the subject's needs;
- vii) Cue learning: In situations with ambiguous stimuli, individuals perceive patterns and make distinctions;
- viii) Context: Larger contexts include higher-level goals and different tasks;

- ix) Dynamic conditions: Radical transformation of goals due to the influence of new information and the subsequent uselessness of old information;
- x) Teams: Teams are involved in decision-making processes; therefore team dynamics have to be included in decision-making theory.

Klein has also developed a Recognition-Primed Decision (RPD) model which combines two main processes: (i) the way decision-makers analyse the situation to recognise which course of action makes sense and (ii) the evaluation of the chosen course by imagination (Klein, 1998, p. 24). The particularity of naturalistic decision-making lies in the inclusion of the decision-makers' experience and their analyses of the situation within which the decision takes place (Klein, 1998, p. 24-28; Lipshitz, 1995; Shattuck and Miller, 2006).

In sum, the naturalistic decision-making approach is one of the more recent approaches by which to analyse decision-making in certain situations. The RPD model, which is based upon this approach, is helpful in gaining an understanding of how experience can explain decision-making. Finally, Klein emphasises the importance of intuition which, according to him, is related to experience (Klein, 1998, pp. 31-39).

4.5 Information perspective on uncertainty and strategic decision-making

Having identified the nature of strategic decisions and the main theoretical frameworks, this section will shed light on the concepts of information, uncertainty and strategic decision-making as well as their interrelationship. This discussion is important with regards to the conceptual link between corporate foresight and decision-making in section 2.5.1, section 2.5.5 and section 2.5.6.

4.5.1 Information perspective on uncertainty

Due to the complexity of research on information and uncertainty, the following discussion will analyse the relationship between information and uncertainty first on an individual level and then on an organisational level.

4.5.1.1 Information perspective of uncertainty on an individual level

Early information theorists define uncertainty as the counterpart of information, which reflects the exclusiveness of the concepts. This, in other words, means that uncertainty is the difference between information required and information available (Downey and Slocum, 1975). In line with this assertion, March and Simon (1993, pp. 133-37) point out that managers respond to uncertainty by seeking information. Other authors, such as Hodgkinson and Sparrow, emphasise that managers reduce uncertainty by creating suitable structures and processes which eventually lead to stability in the organisation (Hodgkinson and Sparrow, 2002, p. 5).

These studies create the impression that uncertainty is rather objective in nature. Some scholars (cf. Duncan, 1972; Zmud, 1979), however, point out that uncertainty has to be approached through a subjective lens, that is to say, they argue that uncertainty is perceived differently by different managers. One of the studies which contributes most to our understanding of this issue is that of Robert B. Duncan (1972). Duncan argues that uncertainty is subjective, particularly with regards to environmental characteristics surrounding the organisation. He further argues that managers perceive uncertainty in a different fashion according to the environmental dimensions such as dynamism and complexity, which implies that the concept of uncertainty is dependent on both managers and

environmental characteristics. Based upon Duncan's study, subsequent investigations by other scholars have identified the factors according to which managers seek information to decrease perceived uncertainty. An explanatory perspective on the different ways in which different individuals use information is provided by Zmud (1979), who found that there are three relevant variables determining how managers seek information: (i) the manager's cognitive style, (ii) the manager's personality and (iii) demographic variables such as age or experience. These variables help to derive to what extent managers tend to experience uncertainty – or in other words, how they tend to behave when seeking information.

A rather new approach to understanding uncertainty is the concept of residual uncertainty. Residual uncertainty is defined as the remaining uncertainty after the best possible analysis of the problem has been made. This means that residual uncertainty is not what the actor does not know, but what he cannot know (Courtney, 2001, p. 19). Moreover, it has been put forward that the information-seeking process for decreasing uncertainty does not occur at one time, but in an incremental fashion. The remaining residual uncertainty after the information collection process has ended subsequently reflects the basis on which a decision or judgement has to be made (Stinchcombe, 1990, p. 6).

4.5.1.2 Information perspective on uncertainty on an organisational level

In terms of organisations and their information-seeking behaviour, classic organisation theory suggests that organisations engage in gathering and interpreting information from the environment. This aspect can even be regarded from a dynamic perspective by acknowledging that the dynamism of the environment makes information gathering and interpretation inevitable (Daft and Weick, 1984; Hough and White, 2004). In terms of the amount of

information required, Tushman and Nadler (1978) propose that the degree of uncertainty generally determines the level of engagement of organisations in seeking information. This in turn means that the amount of uncertainty exactly determines the amount of information required or sought. Feldman and March (1981), however, contradict this point because they observe the phenomenon of organisation information-seeking that exceeds the actual information required. In other words, although the level of uncertainty may be low, managers tend to seek more information than they actually need.

A further approach linking information and uncertainty in organisational terms is provided by Daft and Weick (1984, pp. 285-86). The authors propose four assumptions regarding organisations and their engagement in information processing seeking:

- i) Environmental uncertainty constrains an organisation in seeking information in order to detect trends, events and market information;
- ii) An organisation is unable to interpret information in the same way as individuals do. It is, however, possible to create organisational knowledge, such as norms or mental maps, through communication processes within the organisation;
- iii) The interpretation of information at an organisational level is conducted by the organisation's top management. Although many participants play a role in processing the information, the interpretation is executed by a small sub-group within the organisation;
- iv) The way in which organisations interpret information is specific and related to the way in which individuals within the organisation perceive their environment.

Based upon the discussion to this point, it can be summarised that the individuals' and organisations' dilemma of uncertainty – particularly as caused by environmental factors, forces both subjects to seek information. While some publications state that the amount of uncertainty determines the information required, other research studies suggest that individuals and organisations generally suffer from a surplus of information rather than a lack of information.

4.5.2 Information and strategic decision-making

Having discussed the general nature of information and uncertainty, the focus of the literature review now turns to the relationship between information and decision-making. To start with, a processual perspective on how information relates to decision-making may help us to gain a better insight into this relationship. A study conducted by Feldman and March (1981) presents five main elements for a logical process according to which information finds appeal in decisions. The authors' line of argument is formulated as follows:

- i) Information is generally gathered before decision-making;
- ii) If the information is useful to the decision problem, it will be used;
- iii) If information is already available, it will preferably be used before seeking new information;
- iv) Requirements on information needs are identified before gathering information;
- v) Irrelevant information for a decision will not be gathered.

The presented characteristics mainly conceptualise three issues: First, and from a processual perspective, Feldman and March argue that information seeking occurs before any decision is made. Second, information is assessed according to its perceived usefulness; information which is not useful for decision-makers tends to be ignored. Third, managers tend to use available information first, rather than investing resources to search for new information. In addition to these points, Stinchcombe (1990, p. 5) adds that required information for decision-makers has to be available in a short timeframe, which further contributes to the temporal perspective on the relationship between information and decision-making.

However, information-seeking and information-gathering by decision-makers also raises a variety of questions and dilemmas. As previously stated (cf. section 2.4.4.1) decision-making literature in the early years proposed the idea of a perfect economic man who seeks information to achieve a maximum outcome. Simon (1997, p. 119) broke with this tradition by concluding that the achievement of a satisfactory level of information is sufficient for decision-makers. Although this argument supports the concept of bounded rationality, the managers' propensity to seek more information than required (cf. Feldman and March, 1981) is not explained and is even contradictory to Simon's conclusion. O'Reilly further adds that an information overload tends to decrease decision-making performance, but increases satisfaction of the decision-maker (O'Reilly, 1980).

Two reasons could explain the dilemma faced by managers in seeking to gain a satisfactory level of information for decision-making: Either managers differ in their perception of a satisfactory level, which could explain excessive information-gathering process at an individual level (Taylor, 1975) or the perception of uncertainty, which triggers

the information-gathering processes, differs across managers (Duncan, 1972). In addition to this dilemma, Wright, Hoskisson, Busenitz and Dial (2000) found that managers even ignore information in cases where it is not perceived as supportive for the formal decision-making process (Wright *et al.*, 2000). This rather radical finding implies that the inclusion of information for decision-making does not only depend on an individual's perception of uncertainty, but also on the desired decision-outcome.

Another dilemma discussed in the literature involves the link between information and strategic decisions, namely, a situation in which the required information is not available to decision-makers. Research findings suggest that a lack of information leads to the consideration of information substitutes such as intuition (cf. Agor, 1989, p. 159; Patton, 2003; Sinclair and Ashkanasy, 2005) or mental simulations (cf. Klein, 1998, pp. 45-74). This insight has implications for the importance of information for decision-making. It can be argued that information is generally required for decision-making, but information tends to be substituted if not available. Nevertheless, it cannot be argued that a lack of information for decision-making does not lead to any decision whatsoever.

4.5.3 Foresight information for decision-making

It has been put forward that corporate foresight can generally be divided into two aspects – a process perspective (cf. Cuhls, 2003b; Horton, 1999; Voros, 2003) and a foresight information perspective reflecting the content or outcomes of these processes (cf. Amanatidou and Guy, 2008; Harper and Georghiou, 2005; Rollwagen *et al.*, 2006; Uotila and Melkas, 2007; Voros, 2003). A more detailed overview of this distinction is provided in section 2.2.4 *et sequentes*.

With particular regards to the information perspective on corporate foresight and information requirements for strategic decision-making, the following section will discuss criteria according to which (foresight) information can be generally assessed from a decision-maker's point of view. In further discussions, it will be proposed that the relationship between foresight information and strategic decision-making has to consider the following elements: Source of foresight information (corporate foresight), foresight information, user of foresight information (strategic decision-maker) and the relationship between source and user of foresight information (see Figure 20).

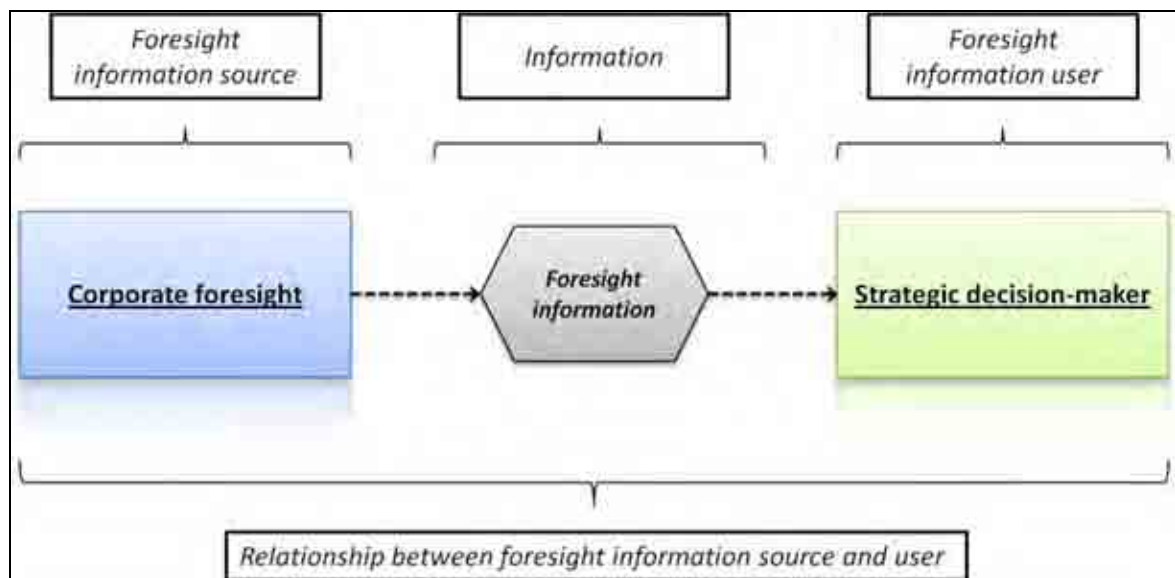


Figure 20: Elements in analysing foresight information for strategic decision-making.

In order to provide the basis for the design of the conceptual framework presented in this study, section 2.4.5.3.1 and section 2.4.5.3.2 will first discuss the criteria according to which foresight information is being assessed and then explore the evaluation criteria for foresight information sources as well as the relationship between corporate foresight and strategic decision-makers.

4.5.3.1 Evaluation of foresight information for decision-making

Research to date on the criteria according to which strategic decision-makers integrate foresight information has been limited and lacks a profound theoretical background. One of the few publications addressing this problem is that of Rollwagen, Hofmann and Schneider (2006). The authors argue that foresight information is most likely to be integrated into strategic decisions. More specifically, foresight information finds favour with decision-makers whenever the following criteria are considered:

- i) **Plausibility:** This point refers to a critical analysis of identified alternative futures by triangulating different means– such as qualitative and quantitative data – to assess the outcomes. According to the authors, foresight information containing extreme messages decreases the foresight information’s level of plausibility for decision-makers.
- ii) **Convenience/Usability of results:** Convenience and usability refers to a translation of the outcomes of foresight information into the cultural language of the organisation. This means that foresight information has to be adapted according to the terminologies usually used in the organisation.
- iii) **Inspiration:** Decision-makers expect foresight to provide new insights and ideas. In this respect, it is important that foresight information delivers a message which decision-makers did not consider beforehand.
- iv) **Appropriate temporal perspective:** Foresight information has to address the time horizon according to the time horizon of the audience’s task responsibilities. While some decision-makers might deal with shorter time horizons within the

scope of their decisions, others require long-term foresight information to improve decision-making.

Overall, the study by Rollwagen *et al.* (2006) provides a preliminary yet useful insight into the relationship between foresight information and decision-makers' expectations. In addition to the provided framework, other authors have highlighted this point of intersection by calling it 'the fit of foresight information'. Essentially this means that foresight information is more likely to be accepted and integrated whenever new information 'fits' the decision-makers' goals and expectations (cf. Feldman and March, 1981; Lawless, 1997; Reading, 2004, pp. 14-15; 27-29; 46-49)

A further distinction that needs to be made when evaluating foresight information is that between the concepts of the intrinsic assessment and the contextual assessment of information (Even, Shankaranarayanan and Watts, 2006). The intrinsic value of information reflects the objective and static value of data and information, independent from the relevant context. According to the literature (cf. English, 1999, pp. 142-143; Even *et al.*, 2006), elements in this category are completeness, validity, accuracy, precision, non-redundancy and non-duplication. In terms of the contextual assessment of information, it has been stated that the most important factors are decision task, usability, an individual's characteristics and accessibility. These factors reflect the subjective or dynamic value of information (cf. English, 1999, pp. 142-143; Even *et al.*, 2006; Feldman and March, 1981). While this distinction does not contradict the previously mentioned intrinsic categories, it extends our understanding of the basis upon which data and information are assessed in terms of their content from both a subjective and objective point of view.

In the next section, the thesis discusses the criteria on which the source of foresight information is being evaluated and assessed.

4.5.3.2 Evaluation of foresight information sources and the relationship between corporate foresight and strategic decision-makers

Considering that an organisation is a highly complex structure, it can be assumed that both the source and the user of foresight information are two distinct subjects. Moreover, it is of interest to investigate the relationship between the two subjects in order to grasp potential opportunities or threats for a later conceptual integration of corporate foresight into strategic decisions. Given the fact that research on the evaluation criteria of corporate foresight sources is still limited, the literature review shows that two factors are particularly important in relation to how strategic decision-makers assess the source of foresight information, namely, expertise and credibility.

Expertise is defined as an expert opinion or commentary as well as a skill of an expert. An expert in turn usually has or displays a special skill or knowledge derived from training or experience (Merriam-Webster, 2010b, 2010c). Moreover, expertise has been defined as follows:

The expertise of the source refers to the perceived correlation between the source's report and the outcomes of empirical verification. Expertise would be expected to depend upon such factors as training, experience, and ability. For example, a doctor whose diagnoses are often confirmed in the post mortem would be considered a more expert source of information about the state of a person's health than would an untrained student (Birnbaum and Stegner, 1979, p. 48).

With regards to expertise as a quality of the foresight source, research has found that expertise is one of the most important factors in decision-making (cf. Roberto, 2003, Patton, 2003). Roberto (2003) argues that the level of expertise in certain areas increases or decreases the likelihood that information from that source will be used in the decision-making process. However, it has also been stressed that expertise alone is not sufficient. Rather, the expertise of the information sources has to match the specific issue or problem underlying the strategic decision (Roberto, 2003). When asked why experts' opinions are generally appreciated and where their special skill comes from, the literature suggests that experts do not necessarily have an advantage over novices in scanning the environment, but their skills help them to recognise patterns more easily (Patton, 2003).

Foresight research has traditionally included expertise as a suitable criterion for corporate foresight and this is predominantly reflected in Delphi studies (cf. section 2.2.6.2.1) where experts and their expertise have been found to play a principal role in the success of the foresight project (Cuhls, 2003a; Steinmüller, 1997). However, other studies on foresight argue that expertise as a quality criterion for foresight processes has to be further investigated and defined. It has been suggested that expertise is indeed important for the success of foresight, but equally this expertise is not necessarily related to the problem or issue at hand (Chermack, 2007). In addition, research studies on strategic decision-making have also been to some extent critical about there being a too strong focus on information source expertise in relation to decision-making. Blattberg and Hoch (1990) found that experts' opinions are not better in providing input for decision-making than simple database models. Their main conclusion is that a combination of both experts and databases is better for decision-making than using either on their own.

The second criterion characterising information sources is their credibility. Credibility refers to the users' perception regarding the truthfulness of the information. With regards to the previous discussion of expertise, the literature argues that the information source increases in credibility whenever that source is an expert (cf. Kelman and Hovland, 1953; Rhine and Severance, 1970; Tormala and Petty, 2004). In other words, while expertise refers to the knowledge, experience and skills of a particular person, credibility refers to the belief in and inspiration provided by this source (cf. Birnbaum and Stegner, 1979; Merriam-Webster, 2010a). Credibility can therefore be positioned on a higher level than expertise⁹.

The foresight literature argues that the lack of credibility of a source potentially threatens the integration of the foresight information in strategic decision-making. The rationale behind this argument is based upon the observation that a lack of credibility reflects a lack of personal integrity of that foresight information source. As a result, decision-makers tend to question the foresight information source as a whole and as a consequence, the foresight information provided by that source (Tonn, 2003). With regards to the importance of the credibility of the foresight source, some researchers such as Lawless (1997) argue from a retrospective perspective: the author argues that whenever foresight information is unlikely to be integrated, for example, if there is no 'fit' for the information (cf. section 2.4.5.3.1), then decision-makers tend to deprive the information source of their hitherto perceived credibility.

In addition to research on the criteria of information sources, some studies have also investigated the source preferences of decision-makers. It has been found that four dimensions determine which information source is preferred: (i) contextual (work related), (ii) situational

⁹ Some publications have identified that expertise and trustworthiness together build the credibility of a source. Due to the limited discussion in the foresight literature regarding trustworthiness and its similarity to the other two concepts of expertise and credibility, this aspect will be excluded from the discussion at this point. For further reading, please refer to Tormala and Petty (2004) and Mills and Jellison (1967).

(organisational/environmental), (iii) personal and social-cultural and (iv) informational (de Alwis, Majid and Chaudhry, 2006). These dimensions can be added to the above mentioned criteria of credibility and expertise to help us to gain an understanding of why certain information sources are in greater demand than other sources.

It appears that the relationship between the source and the user of foresight information also has a significant impact on the information use in strategic decisions. Moorman, Zaltman and Deshpande (1992) studied the phenomenon of research utilisation, which is defined as the impact of research outcomes on a user's decision-making. One of the authors' main findings is that trust in the information source as well as the perceived quality of interaction between the source and the user of information has the highest impact on information use. Trust has been identified as having an indirect effect on information use in decision-making. Roberto (2003) supports this point and further adds the observation that the degree to which a source is integrated in the decision-making process largely depends on personal relationships. Finally, the perceived quality of interactions depends on trust between the subjects because decision-makers tend to express their needs more accurately to an information source, i.e. a researcher, who is subsequently able to provide more suitable information to the decision-maker (Bialaszewski and Giallourakis, 1985; Schurr and Ozanne, 1985; Zand, 1972).

In sum, it is suggested that credibility – and expertise in particular – are evaluated by decision-makers during the information-gathering and integration processes. Summarising previous discussion and research findings, it has been argued that expertise of the source tends to increase the likelihood of the integration or usage of the information. However, other

researchers have been critical in this respect, emphasising that other concepts such as trust between the user and the researcher are equally important.

5. Theoretical considerations and conceptual framework

This section will discuss the main elements affecting corporate foresight as derived by the literature review and formulate the argument according to which the phenomenon impacts strategic decisions. At the end of the chapter, a conceptual framework will be designed which builds then the basis for the empirical investigation.

5.1 Conceptualisation of the literature and derivation of areas of investigation

Before discussing each areas of investigation individually, it has to be clarified how corporate foresight is linked to strategic decisions in a logical fashion. This is of particular importance with regards to previous publications which state that corporate foresight is independent of following processes and therefore, these following processes do not require any further understanding (cf. Voros, 2003). Based upon the literature review, it will be considered that corporate foresight is integrated into strategic decisions by means of judgements. In this respect, the following chain of logical argument will be formulated linking both concepts together and building the foundation for the following investigations:

- i) Corporate foresight's main outcome is foresight information;
- ii) Foresight information reduces uncertainty;
- iii) Uncertainty is a major dilemma for managers;
- iv) Judgements deal with uncertainty, while strategic decisions deal with risks and probabilities;
- v) Judgements precede strategic decisions;
- vi) Every strategic decision implicitly contains some assumptions about the future.

This line of argument logically and conceptually links the phenomenon of corporate foresight with strategic decisions. It provides the basis for the design and construction of the conceptual framework as well as the formulation of the areas of investigation. Furthermore, the logical chain of arguments helps the researcher to remain focussed on the analysis of the relevant factors later in this investigation.

As stated in section 2.1.3, the investigation of corporate foresight within the given context will apply similar analytical lenses to those in previous research (cf. Papadakis *et al.*, 1998; Schneider and De Meyer, 1991), which have been focussed on managerial, organisational and environmental aspects. Accordingly, the structure of the conceptual model in this thesis will consider these three aspects in its exploration and elucidation of corporate foresight, and then it will discuss the analytical approach used to study the impact of the phenomenon of corporate foresight on strategic decisions.

In terms of approach, the following areas of investigation originate from the research questions (section 1.1), and have been derived from previous research findings in the literature. The areas of investigation consist of the specific concepts and fields which have been identified as potentially affecting the unit of analysis (corporate foresight). On the basis of the following data analysis in chapter 4 and the discussion in chapter 5 of this thesis, areas of investigations will be formulated in section 2.5 *et seq.* which are intended to strengthen or revise the proposed conceptual research framework in section 2.5.6. In other words, the contribution of this thesis to knowledge in the field is partially based upon the formulation of research propositions that will be derived as the result of the empirical investigation herein.

5.2 *Managerial perspective on corporate foresight*

Section 2.2.2 *et sequentes* has analysed the human factor in the corporate foresight process and has identified that managerial characteristics have an impact on how corporate foresight is manifested and cultivated in the organisation. Therefore, Part 1 will focus on three elements. First, a general investigation of corporate foresight from a managerial¹⁰ perspective will be conducted. This is important given the fact that the researcher expects that some managers will not be familiar with the phenomenon. From the identification of what corporate foresight means to bankers, a basis for further investigations will be built. This means that once the research has identified what corporate foresight is – in the context of the banking sector, it will enhance the researcher's understanding of the interviewees' statements.

Second, previous publications state that bankers tend to be reluctant to integrate corporate foresight into their culture and training (cf. Rollwagen *et al.*, 2006; Rollwagen *et al.*, 2008). In line with this statement, this study will assess to what extent the previous findings regarding openness or reservation apply to the context of this research, with particular attention being paid to job function of managers. Previous publications also indicate that addressing this issue is important when dealing with foresight activities and their perceived usefulness in organisations (Wack, 1985a, 1985b).

¹⁰ With regards to the research context, namely, the European banking sector, the terms 'managers' and 'bankers' will be used interchangeably. The underlying reason is the rationale that bankers are managers working in a bank.

Third, based upon the second element, a more detailed analysis will provide insight into the significance of corporate foresight from a banker's point of view. An overview of the areas to be investigated is presented in Table 12.

Part 1) Managerial perspective on corporate foresight		
	<u>Areas of investigation</u>	<u>Main elements</u>
a)	Bankers' familiarity with corporate foresight	- Reflection on bankers' general awareness of the phenomenon
b)	Corporate foresight's popularity and perceived usefulness – a functional level perspective	- Experience with corporate foresight - Functional perspective on perceived usefulness
c)	Bankers' openness and reservation towards corporate foresight – a functional perspective on Apollo bank	- Analysis of openness and reservation towards corporate foresight from bankers' perspectives

Table 12: Areas of investigation – Part 1) Managerial perspective on corporate foresight.

5.3 *Organisational perspective on corporate foresight*

Part 2 of this investigation deals with the organisational perspective on the manifestation of corporate foresight. It is expected that knowledge of departmental activities will provide a better insight into understanding how corporate foresight is currently established in organisations. More specifically, Part 2 of the investigation will focus on two elements. First, the nature of futures studies or corporate foresight will be investigated in depth. Underlying this approach is the need to identify the degree of formality that exists in the foresight processes (cf. section 2.3 *et seq.*). To clarify, a formal foresight process has previously been formulated and disseminated by formal guidelines such as in a project proposal (e.g., ‘the team will conduct a scenario workshop in week 32’) or in the company’s constitution (e.g., ‘the Strategy Department has to issue the organisation’s expectations of market developments on an annual basis’). In contrast, an informal foresight process is a process which occurs in a team without any written instructions or guidelines being provided by the organisation. This informal process might occur in daily meetings or outside the organisation where the team constructively try to create a picture of the future which is relevant for the organisation (cf. Brown *et al.*, 2001).

Moreover, previous research has studied specific and one-dimensional foresight processes (cf. Chermack, 2004; Costanzo, 2004; Leigh, 2003; Voros, 2003). The consequent research findings, although they contribute to knowledge in their own right, have disregarded the holistic and complex view of futures studies in organisations. This means that current foresight knowledge is based upon the impression that foresight activities occur in an intended fashion and in only one specific location or department in the organisation (cf. section 2.2.5 *et seq.*). This research will argue that corporate foresight is a phenomenon which

occurs and becomes reality in different parts of the organisation – whether formal, informal, intended or emergent. In this respect, the first element will tackle this question.

Secondly, previous research has shown that, in organisational terms, foresight activities can be analysed from a centralised or decentralised perspective (cf. van der Duin *et al.*, 2009) or according to departmental functions and tasks (cf. Becker, 2003; Gruber and Venter, 2006). In line with these research approaches to understanding the holistic and dispersed organisational anchorage of corporate foresight, the second dimension will study the phenomenon from an organisational and inter-departmental perspective as well as analyse bankers' perceptions regarding which department is acknowledged as being responsible for conducting foresight studies (see Table 13).

Part 2) Organisational perspective on corporate foresight		
	<u>Areas of investigation</u>	<u>Main elements</u>
a)	Corporate foresight and its formal and informal manifestation at the bank – a departmental perspective	<ul style="list-style-type: none"> - Current corporate foresight activities within the organisation - Analysis of different departmental activities
b)	Corporate Foresight and its formal and informal manifestation at the bank – an inter-departmental perspective	<ul style="list-style-type: none"> - Perceived manifestation of corporate foresight on an overall organisational level - Bankers' statement regarding internal responsibility for corporate foresight within the bank - Corporate foresight's manifestation in terms of departmental collaboration

Table 13: Areas of investigation – Part 2) Organisational perspective on corporate foresight.

5.4 *Environmental perspective on corporate foresight*

Part 3 deals with the environmental influences on corporate foresight. This aspect will be analysed on the grounds of section 2.3 *et sequentes* which described how previous research findings have indicated that environmental characteristics have a high impact on organisational processes and structures. Accordingly, we shall assume that environmental characteristics – particularly from a banker’s point of view – have a perceived effect on corporate foresight. First, bankers’ perceptions of the environment will be examined and further analysed to what extent it affects or is affected by corporate foresight. Second, the different environmental layers, as discussed in section 2.3.1, have not been thoroughly discussed regarding their role in relation to corporate foresight. Therefore, the second element of Part 3 of the analysis will scrutinise the potential impacts of environmental layers on corporate foresight (see Table 14).

Part 3) Environmental perspective on corporate foresight		
	<u>Areas of investigation</u>	<u>Main elements</u>
a)	External environmental characteristics and their impact on the manifestation of corporate foresight	- Perspectives on environmental characteristics
b)	Distinctive environmental layers have distinctive influence on corporate foresight according to perceptive evaluations	- Analysis of environmental layers and their influence on corporate foresight

Table 14: Areas of investigation – Part 3) Environmental perspective on corporate foresight.

5.5 *Corporate foresight and its impact on judgement and decision-making*

The last and fourth part of the investigation will focus on the point of intersection between corporate foresight and strategic decision-making. As previously mentioned in the chain of logical arguments (section 2.5.1), it will be proposed that judgement has an intermediary role to play and is situated between both concepts. This areas of investigation is mainly based upon the concepts of information and uncertainty as discussed in sections 2.4.5 *et sequentes*.

The literature suggests that all decisions are based upon some assumption or expectation of the future as far as the rationale of strategic decisions is concerned (cf. Simon, 1997, p. 78). Accordingly, it is established that strategic decisions have a conceptual link to foresight information. One of the few publications which deals with this issue is that of Burmeister, Neef, Albert and Glockner (2002, p. 101). They have differentiated the levels of integration of corporate foresight into strategic decisions, revealing five levels of increasing impact: (i) no integration, (ii) integration through personal relationships, (iii) integration by chance, (iv) differentiated integration and (v) intensive integration of foresight and futurists. In a similar vein, Gruber and Venter (2006) establish four distinct levels on which corporate foresight is integrated into organisational routines which start from simple presentations of trends and scenarios and move to the highest level of integration, which includes the implementation of the results of foresight into R&D projects. A summary of both studies' levels of integration can be seen in Table 15.

	Burmeister et al. (2002)	Gruber and Venter (2006)
Level 1	No integration	Presentation of trends and scenarios
Level 2	Personal relationships enhance an indirect impact of corporate foresight on strategic decisions	Recommendations for actions
Level 3	Foresight results are integrated by chance, without any structural integration	Regular integration into corporate strategy
Level 4	Corporate foresight is acknowledged and its results are integrated in differentiated processes	Implementation in R&D
Level 5	Foresight is integrated via intensive communication routines by active integration of futurists	---

Table 15: Selected publications, level of impact of corporate foresight on strategic decisions

Both studies help us to understand that the impact of corporate foresight on strategic decisions is not dichotomous (i.e., either ‘yes, corporate foresight is integrated’ or ‘no, corporate foresight is not integrated’), rather corporate foresight’s integration occurs in an incremental and continuous fashion. With regards to the research findings of Burmeister *et al.* (2002) as well as Gruber and Venter (2006), it remains unclear why certain integration levels refer to specific departments (e.g. R&D) or even to personal relationships or futurists. This rather unclear distinction between level of integration and departmental functions or personal relationships builds the foundation for further research. It is consequently the subject of Part 4 of the investigation to build upon these findings and provide an enhanced insight into this area.

In essence, Part 4 will base its analysis on the conceptualisation that judgements precede strategic decisions, as defined by Hogarth (1980) who separates evaluative and predictive judgements (cf. section 2.4.1; cf. Bell, 2004, p. 319). When analysing the link between corporate foresight and strategic decisions, these two lenses (i.e. evaluative and predictive judgements) help us to understand the impact of corporate foresight on strategic decisions from an evaluative point of view (static, preferences, present and objective) and they also throw light on how bankers judge in predictive terms (dynamic, beliefs, future and subjective). As the literature on this approach is limited, the researcher expects to obtain valuable insights through considering judgements as an intermediate concept situated between corporate foresight and strategic decisions. The following two specific aspects will be taken into account during the analysis:

- i) Evaluative judgements integrate personal attitudes (section 2.2.2 *et seq.*), informational aspects in terms of the information source for foresight (section 2.3 *et seq.*; section 2.4.5.3 *et seq.*) and contextual factors (section 2.3).
- ii) Predictive judgements can lead to potential conflicts between managerial and corporate foresight. The thesis will therefore investigate the issue of the confidence of managers in their own foresight abilities versus the content of corporate foresight information (cf. section 2.2.2 *et seq.*; cf. Feldman and March, 1981; Reading, 2004, pp. 14-17). Furthermore, the nature of foresight information and contextual factors will also be analysed.

Finally, the researcher furnishes two actual cases of strategic decision-making to illustrate the interplay between the three concepts – namely corporate foresight, judgements

and strategic decision-making – in order to understand the extent of the linkage and the strength of the proposed framework (see Table 16).

Part 4) Judgement and strategic decision-making		
	<u>Areas of investigation</u>	<u>Main elements</u>
a)	Evaluative judgemental perspective on corporate foresight information	<ul style="list-style-type: none"> - Attitude and openness as factors affecting evaluative judgements - Informational perspective on evaluative judgements - Environmental characteristics according to bankers' perceptions
b)	Predictive judgemental perspective on corporate foresight information	<ul style="list-style-type: none"> - Confidence in own managerial foresight as conflicting factor - Fitness of information - Environmental characteristics according to bankers' views
c)	The impact of corporate foresight on strategic decisions	<ul style="list-style-type: none"> - Analysis of selected examples

Table 16: Areas of investigation – Part 4) Corporate foresight, judgement and strategic decision-making

5.6 Conceptual framework to study the impact of corporate foresight on strategic decisions

Based on the discussion up to this point, the research approach will follow the conceptual framework displayed in Figure 21. As for the framework and the way in which the data analysis proceeds, the first research approach will be descriptive in nature in order to understand how the phenomenon of corporate foresight is manifested and implemented in the bank under investigation. The use of different perspectives, namely, managerial, organisational and environmental will assist the researcher to grasp the complexity of the phenomenon. The research study will finally analyse and discuss the impact of corporate foresight on strategic decisions via judgements expecting new insights and issues to emerge from the investigation.

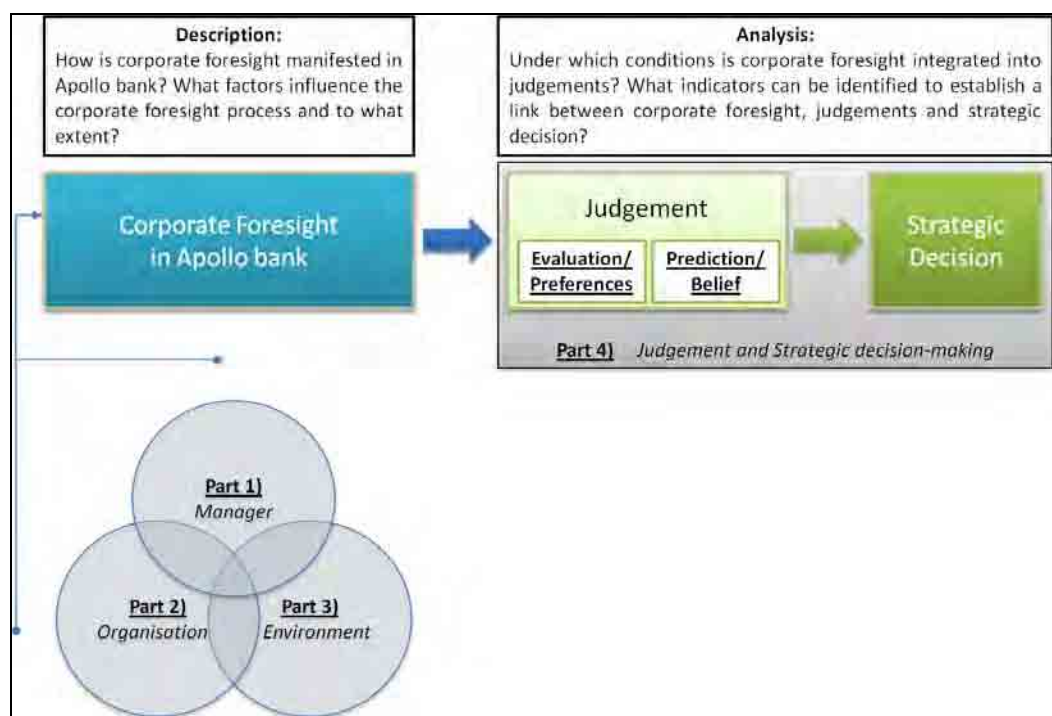


Figure 21: Conceptual framework for the examination of the impact of corporate foresight on strategic decisions.

Chapter 3 - Methodology

The aim of scientific research is the systematic collection and interpretation of data with the purpose of identifying new things and thereby contributing to knowledge (Saunders, Lewis and Thornhill, 2006, p. 5). Saunders *et al.* (2006) and Bryman and Bell (2007) provide frameworks and processes by which management research achieves highest standards of scientific rigour. The main elements are the research philosophy, approaches, strategies and techniques (see Figure 22). The purpose of the following discussions is to present the systematic and empirical approach used during the researcher's inquiry.

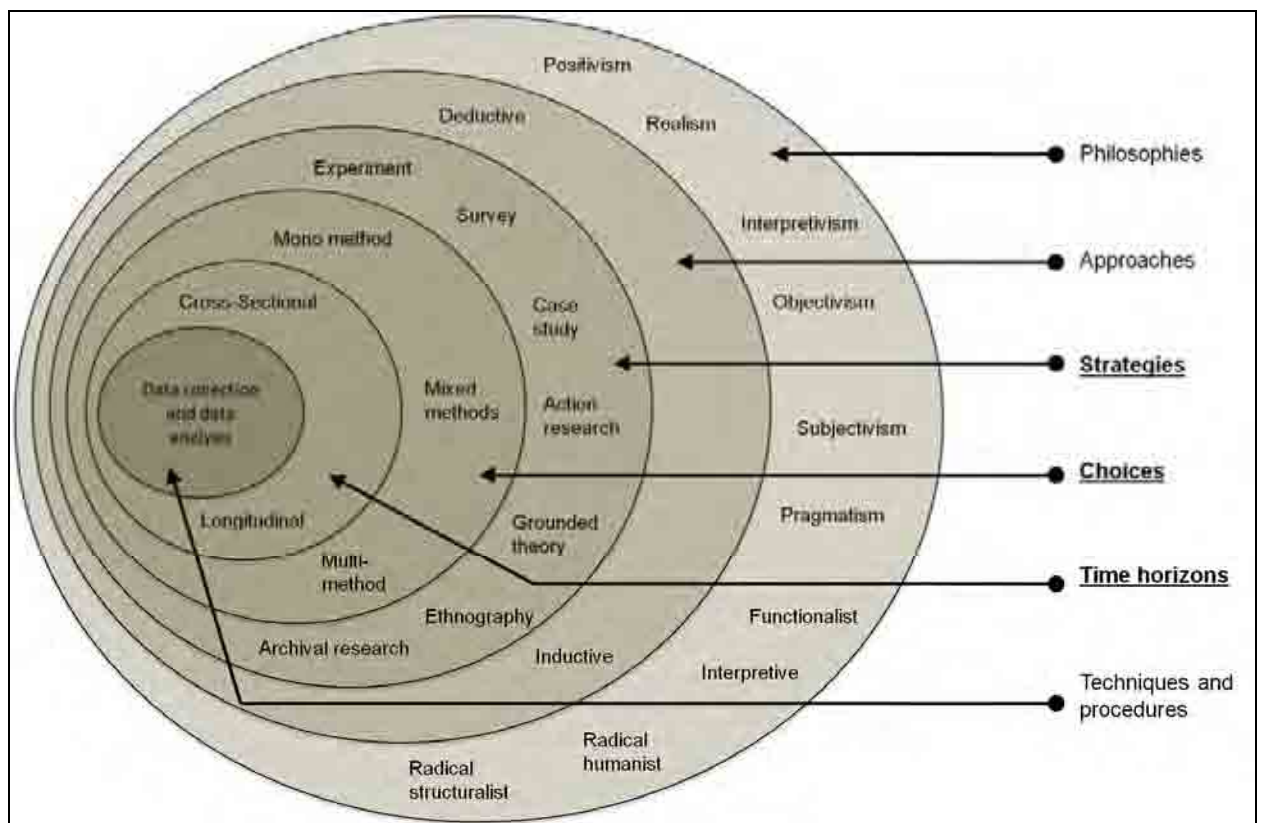


Figure 22: The research 'onion' (adapted from Saunders *et al.*, 2006, p. 132).

1. Epistemological position and approach of the research

The research philosophy reflects the researcher's perspective by which knowledge and scientific findings can be established. According to Bryman and Bell (2007, pp. 13-19), there are three main philosophical paradigms in management research: Positivism, realism and interpretivism. In more detail, these paradigms consider the following positions:

- i) The main spirit of positivism is rooted in the natural sciences. Positivism suggests that only phenomena that can directly be observed will lead to credible data. As such, it is assumed that research takes place in a 'value-free' fashion, that is to say, it is independent from the researcher (Saunders *et al.*, 2006, p. 103) or, as Bryman and Bell define it: "*Positivism is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond*" (2007, p. 14).
- ii) Realism stands for a position in which objects exist independent of the human mind. This research philosophy is similar to positivism because it also assumes that scientific approaches lead to the development of knowledge. A further distinction in realism can be made between direct and critical realism. The former states that individuals experience reality with their senses in an accurate fashion. This means that the direct realist perceives the world to be relatively unchanging and that the world operates in the business context at one specific level. The latter, critical realism, believes that individual's experiences are sensations, not the things themselves. Critical realists perceive that senses perceive the human mind (Saunders *et al.*, 2006, pp. 104-106). A further definition of critical realism is provided by the following quotation:

Critical realism implies two things: First, it implies that whereas positivists take the view that the scientist's conceptualisation of reality actually directly reflects that reality, realists argue that the scientist's conceptualisation is simply a way of knowing that reality. [...] Secondly, by implication, critical realists unlike positivists are perfectly content to admit to theoretical explanations that are not directly amendable to observation" (Bryman and Bell, 2007, p. 15).

Finally, critical realism suggests a two-step way of experiencing the world: (1) the thing under observation and the sensation it produces and (2) a human mental mechanism after the sensation is processed in the human mind. Direct realists, in contrast, claim that the first step is sufficient (Saunders *et al.*, 2006, pp. 104-106).

- iii) The third main research philosophy is interpretivism. Researchers following an interpretivist research philosophy criticise the application of scientific models to research the social world. In their view, the subject matter of social, and hence management research – people and their institutions – is assumed as being fundamentally different from natural science (Bryman and Bell, 2007, pp. 15-17). Moreover, interpretivism aims at viewing the world from the subjects' point of view by adopting an empathic stance. The literature suggests that interpretivism is highly appropriate in the case of business and management research – particularly when studying organisational behaviour. Regarding complexity and changing circumstances, the aim of achieving generalisability is only a minor aspect of the research according to an interpretivist perspective (Saunders *et al.*, 2006, pp. 106-107).

Lincoln and Guba (1985) refer to naturalistic inquiries when discussing research which predominantly scrutinises human beings and their interpretation of the world in a qualitative, subjective and apprehensive way (Denzin, 1978; pp. 78-79; Wolcott, 2009, p. 2; pp. 70-74). Other publications have synthesised this research approach as being a ‘qualitative inquiry’ which involves “[...] *an interpretative, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them*” Denzin and Lincoln (1998, p. 3). With regards to the interchangeable – and more often than not confusing and often criticised – employment of the term ‘qualitative’ in this respect (cf. Bryman and Bell, 2007, p. 280), this thesis employs the term ‘interpretivism’ as the underlying research philosophy which predominantly collects data by the use of qualitative methods (cf. Bryman and Bell, 2007, pp. 280-282; Saunders et. al., pp. 106-107; Silverman, 2009, p. 13, section 3.3 *et seq.*).

Regarding the epistemological foundations on which the contribution to knowledge of this thesis is conducted, foresight research has not established an epistemological tradition as yet. This is reflected by the variety of studies employing both quantitative and qualitative methods as means of inquiry. However, recent studies increasingly have considered interpretivist approaches for researching the phenomenon of interest (see Table 18). This can be explained by the increasing interest of both academia and practice in the potential of foresight in times of uncertainty and in dynamic environments (cf. Alsan, 2008; Pina e Cunha *et al.*, 2006; MacKay and McKiernan, 2006; Rollwagen *et al.*, 2006). Moreover, considering that the social actor takes a crucial role in corporate foresight, the interpretivist perspective

enables the most appropriate understanding of the phenomenon. Thus, this research is an interpretivist inquiry, is designed according to an inductive approach and uses qualitative methods for data collection (cf. section 3.3).

2. Purpose of the research

Generally, there are three purposes of research: exploratory, descriptive and explanatory. According to Saunders *et al.* (2006, pp. 132-35), exploratory studies are valuable for gaining an understanding of a phenomenon in an early stage of the research. The ability to change and enhance the flexibility of the study's approach during the research plays a major role in exploratory studies. Descriptive studies provide a picture of the phenomenon and serve as "*... a means to an end rather than an end in itself*" (Saunders *et al.*, 2006, p. 134). Explanatory studies, in contrast, aim at establishing causal relationships between variables and enhancing the researcher's understanding of the phenomenon in its context. This research considers all three research purposes for studying corporate foresight:

- i) Descriptive inquiry portrays the phenomenon and provides insight into the social actor's relationship with corporate foresight in the organisation. Moreover, descriptive research is suitable for gaining a general understanding and insight regarding the phenomenon's manifestation within the organisation for later analyses (Saunders 2007, p. 134; cf. section 2.5.3).
- ii) Exploratory fieldwork is appropriately related to the limited previous research of the phenomenon and the lack of extant theory and data (Strauss and Corbin, 1990). Further, it allows the researcher to understand the various meanings of individuals and to identify insights which could not be gained with quantitative data (Numagami, 1998; Mintzberg, 1979a). Furthermore, an exploratory field study allows the researcher to measure outcomes and consequences in a measurable manner, thereby linking events and outcomes (Bell and Olick, 1989; Miles and Huberman, 1994). Finally, exploratory fieldwork enables the

formulation of theoretical propositions for future research in general (Yin, 2003, pp. 5-6, 22-23).

- iii) Explanatory research relates the outcome to other variables and builds causal relationships emerging from the data collected. Although one of the main objectives of this research is to gain theoretical insights into corporate foresight – which includes the role of managers, the organisation and the environment – the explanatory contribution is of theoretical rather than statistical value. This means that the aim of this research is not to find relationships arising from the data that are generalisable, but rather to display the phenomenon's main issues and their interrelationships (cf. Saunders, 2006, pp. 134-135; Yin, 2003, pp. 3-4).

After having discussed the philosophy, approach and purpose of this research, the following section will thoroughly discuss and explain the underlying research design and strategy as well as the research context and research case.

3. Research design and strategy

There are five necessary, methodological steps that need to be conducted during the research process: (1) selecting a research site (or case), (2) selecting subjects, (3) collecting, (4) processing and (5) analysing the collected data (Bryman and Bell, 2007, p. 69; p. 330; Saunders *et al.*, 2006, p. 10). Each of these steps will be discussed further in the sections to follow.

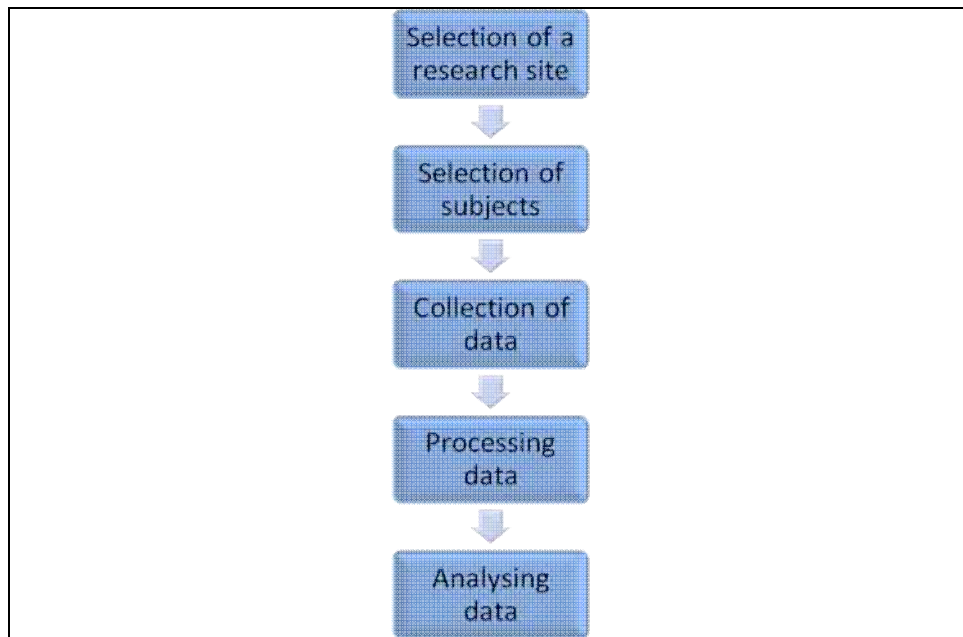


Figure 23: Research process from a methodological point of view (adapted from Bryman and Bell, 2007, p. 69, p. 330; Saunders *et al.*, 2006, p. 10).

3.1 Sampling considerations and the choice of a research site

In order to study corporate foresight efficiently, an inductive inquiry approach was chosen as a framework for answering the research questions. More specifically, the research is based

and built upon a single-case study including various embedded units of analysis. Further considerations and information on these as well as on the research design follow.

3.1.1 Case study research

According to Miles and Huberman (1994, p. 25), a case is defined as “...*a phenomenon of some sort occurring in a bounded context*”. Furthermore, Yin (2003, pp. 5-14) states that a case study approach is suitable whenever the following three conditions are met:

- i) Research questions focussing on ‘how’ and ‘why’ favour a case study approach as they are apt to elicit exploratory research inquiries. Deciding on the research strategy should not only depend on the interrogation form, but also on the substance of the phenomenon. Yin stresses that the research question is a strong indicator for the researcher’s choice of strategy;
- ii) Degree of focus on contemporary as opposed to historical events; and
- iii) The extent of control over behavioural events.

Yin (2003) further favours a case study strategy if the relevant phenomenon is contemporary and its dimensions cannot be manipulated. The contemporary aspect of the phenomenon means that case studies may compete with historical studies as a research approach to answer the research questions. Historical studies, however, should be favoured whenever there is no access or control over the units of analysis. Case studies also include historical documents when analysing contemporary phenomena. Therefore the boundaries between historical and case studies may overlap. The manipulation of the phenomenon’s dimensions refers to the researcher’s choice between case studies and experiments.

Undertaking experiments in organisations which require manipulation is unfeasible in most cases, therefore case studies prove to be a more suitable strategy (see Table 17).

Strategy	Form of research question	Requires control of behavioural events?	Focuses on contemporary events?
Experiment	How, why ?	Yes	Yes
Survey	Who, what, where, how many, how much?	No	Yes
Archival analysis	Who, what, where, how many, how much?	No	Yes/No
History	How, why?	No	No
Case study	How, why?	No	Yes

Table 17: Relevant situations for different research strategies(adapted from Yin, 2003, p. 5).

In view of the research's conditions, i.e., the research questions and the research context's contemporary character, that is, in relation to the turbulences on the financial markets in the years 2007–2009, a case study approach is in line with Yin's argument. Moreover, the assumption that corporate foresight is closely related to the context, although it is not quite clear to what extent (Saunders *et al.*, 2006, p. 139), further strengthens the choice of a case study approach.

3.1.2 The single case study

Yin (2003) distinguishes between four types of case study strategies: single vs. multiple and holistic vs. embedded case studies. When referring to single case studies, one differentiates whether a single case is analysed within its boundaries or within a certain context. In contrast, multiple case studies refer to either the study of various different cases after which

comparisons are drawn and analysed, or after which the replication of designs takes place (pp. 46-53).

The distinction between holistic and embedded case studies, in turn, concerns the availability of units of analysis within each case. Whenever sub-units can be identified within a case study, the embedded case study type should have priority over the holistic type. The main advantage of embedded structures is that they rely on the ability to measure and comprehend sub-units within a case. The researcher needs to consider that solely focussing on sub-units may lead to a failure in grasping the holistic picture and eventually drawing false conclusions therefrom (Yin, 2003, pp. 42-45; see Figure 24).

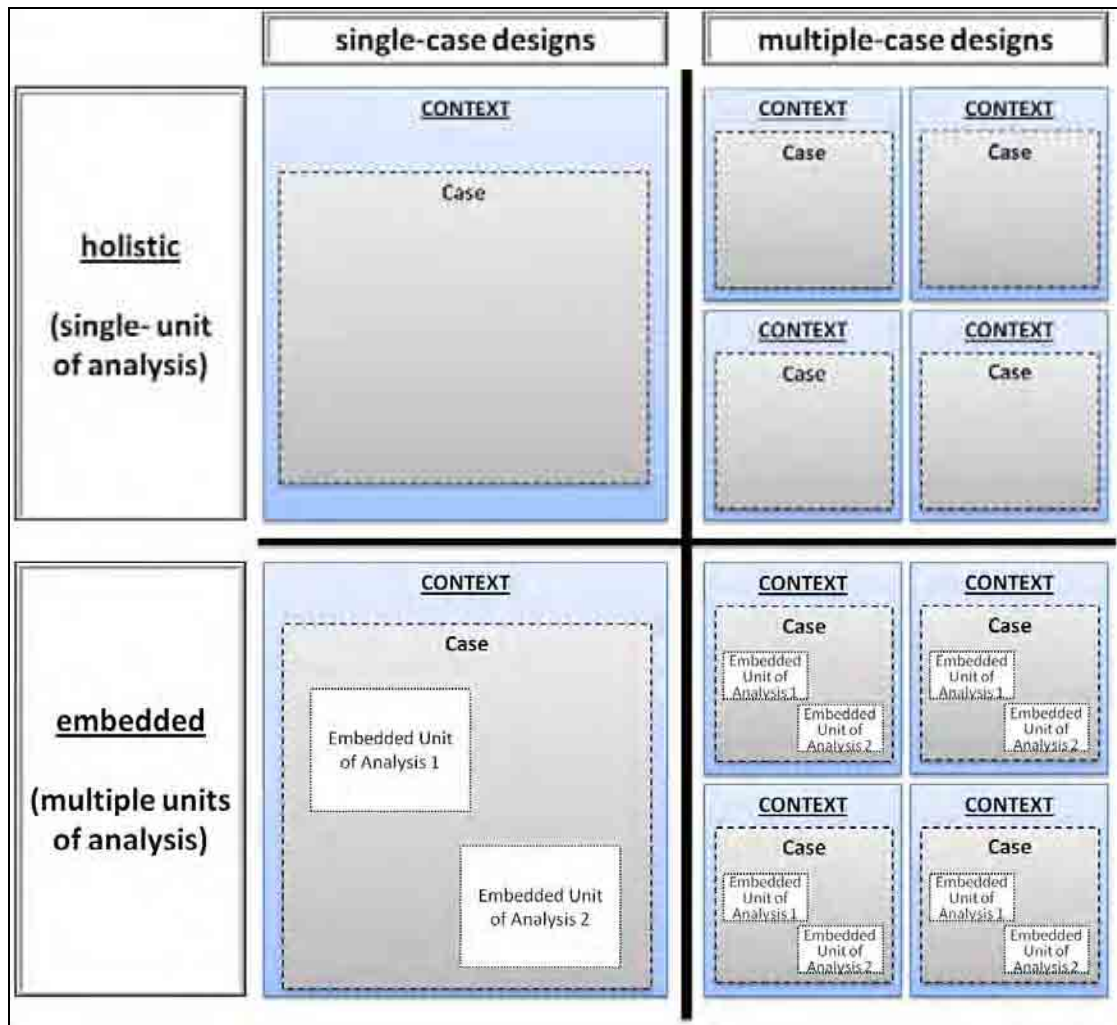


Figure 24: Single- and multiple-case study designs with single or multiple units of analysis
(adapted from Yin 2003, p. 40).

Previous research has shown that organisations set goals, process information and perceive the environment through individuals within the organisation. This consequently leads to implications concerning the organisation in general, because individuals shape the nature and characteristics of the organisation (Daft and Weick, 1984). Moreover, the organisation's main guiding principles, particularly when it concerns decision-making processes, are set by its own top management team (Daft and Weick, 1984; Hambrick and Mason, 1984). According to the literature, it is important to note that apart from the management's role in terms of

decision impact, all members of the organisation – regardless of their hierarchical ranking – are considered part of the organisation and its activities. This includes scanning, data processing, communicating with the external environment as well as making strategic decisions (Daft and Weick, 1984; Feldman and March, 1981; Hambrick and Mason, 1984; Mintzberg and Waters, 1990; Tushman and Katz, 1980).

This argument leads to the conclusion that research on strategy and information-related areas needs to consider and include all members of an organisation rather than concentrating on those in specific areas alone in order to fully understand the phenomenon. An embedded single-case study can therefore be understood as the foundation that makes it possible to follow this tradition of thought when researching corporate foresight in organisations. The underlying assumption, as formulated in the areas of investigation (cf. section 2.5.3) is that corporate foresight is a phenomenon which occurs independently of, but nevertheless is interrelated with other departments in an organisation. This assumption therefore also advocates the embedded single-case study approach.

Whenever a case – critical, representative, revelatory, longitudinal or extreme – is present, the choice of a single case study is justified (Yin, 2003, pp. 39-42). Due to lack of profound theoretical background and limited knowledge in the area of corporate foresight, a representative case can provide the basis for the identification of complex factors and their complicated interrelationships that affect corporate foresight. More specifically, the use of a single representative case study implies that the researcher should understand corporate foresight within an organisation before the study and then proceed to generalise theories in future studies (Eisenhardt and Graebner, 2007, Tashakkori and Teddlie, 1998, pp. 24-25). Previous case studies on foresight activities in banks have established that, on the one hand,

foresight activities are employed in banks, whilst on the other hand, organisations tend to express themselves as not being actively committed to corporate foresight (cf. Costanzo, 2004). In addition, previous research has shown that a single case study appears suitable given the fact that the search for knowledgeable people with the necessary topical expertise has proven to be rather arduous (Burmeister *et al.*, 2002, pp. 50-51). Thus, by gaining access to a single organisation this search for and identification of the ‘right’ people is eased and therefore preferred in foresight research. It is important to note that previous foresight research has predominantly followed the single case study approach, further supporting the researcher’s choice (e.g., Costanzo, 2004; Rohrbeck *et al.*, 2007; Rohrbeck and Gemünden, 2008; Rollwagen *et al.*, 2006; Ruff, 2006, see Table 18). Lastly, when conducting an investigation another reason for choosing a single case study often originates from the time and financial means at the researcher’s disposal.

Author	Date	Instrument	Measured dimensions
Alsan, A.	2008	Case study (Action research)	Implementation of corporate foresight in regional subsidiaries of MNCs Change of mental models; Controlled two-tier structure; Information sources; External participation; Knowledge sharing
Ahaja, G., Coff, R. and Lee, P.	2005	Patent analysis (Sample size: 1269 firms)	Managerial foresight and insider trading Exploration of information asymmetries; Patent analysis; Insider trading patterns; Rent generation
Becker, P.	2003	Personal interviews (Sample size: 18 firms)	Overview of corporate foresight activities in Europe Drivers for corporate foresight; Objectives of foresight; Organisational implementation; Processes and information sources
Blackman, D. and Henderson, S.	2004	Conceptual	Foresight and processes of doubting Foresight as a mental model; Foresight as organisational doubting: single and double loop doubting; accuracy of mental models
Blind, K., Cuhls, K. and Grupp, H.	2001	Delphi Survey (Sample size: 2030)	Personal attitudes in assessing the future Personal attitudes towards PESTEL-megatrends in the future; Perceptions of expert types
Chermack, T.	2007	Conceptual	Relationship between scenario construction and theory building Multiple approaches to building theories of scenario planning; Implications of scenario planning; Scenario planning as a preliminary stage to building theories
Costanzo, L.	2004	Case study	Strategic foresight in a high-speed environment Strategic foresight as a learning process; Monitoring fast-changing environment (UK banking sector); Innovation in a high-speed industry
Pina e Cunha, P. M., Palma, P. and Guimaraes da Costa, N.	2006	Conceptual	Organisational foresight Foresight as macro- and microscopic analysis; Four modes of organisational foresight: strategic planning, visioning, scenario thinking and planned emergence
Fischhoff, B.	1975	Experiment	Outcome knowledge on judgement under uncertainty Foresight of events; Hindsight bias and foresight; Hindsight projection on new events
Gruber, M. and Venter, C.	2006	Personal interviews (Sample size: 15 experts)	Study on corporate foresight in German MNCs Organisational and personal support of corporate foresight in companies; Use of foresight methods and tools; Challenges for corporate foresight
Major, E., Asch, D. and Cordey-Hayes, M.	2001	Personal interviews (Sample size: 49 managers)	Foresight as a core competence Relationship between strategy and foresight; Individual foresight as a contribution to the organisation's core competences
Roubelat, F.	2006	Case study	Strategic paradigms and scenario planning Scenario driving forces; Paradigm evolutions in the company/industry; Scenario planning as vision building
Schwarz, J.	2008	Delphi Survey (Sample size: 84/64)	Futures studies in German corporations Methods used for (corporate) foresight; Implementations of methods; State-of-the-art futures studies in corporations; Challenges of futures studies
Uotila, T. and Melkas, H.	2007	Delphi Survey (Sample size: 63/49)	Data, information and knowledge in foresight processes Practical utilisation of regional foresight outcomes; Foresight as means for innovation knowledge; Interpretation and implementation of foresight at regional level
Wright, G., van der Heijden, K., Burt, G., Bradfield, R. and Cairns, G.	2008	Case study	Scenario planning interventions in organisations Overcome strategic inertia; Reduce of risk through scenario planning; Relationship of decision behaviour and strategy risk of the organisation

Table 18: Previous research in the area of foresight: Instruments and measured dimensions from selected publications.

3.1.3 Sampling considerations

The selection of informants is also referred to as ‘sampling considerations’. Due to the fact that not every subject and unit can be studied, the researcher has to reasonably identify the subjects who are likely to provide suitable information to answer the research questions and provide an extended understanding of the phenomenon. In contrast to quantitative studies, where the sample and sample size are statistically driven, the identification of samples in qualitative studies is usually not pre-specified in detail (Yin, 2003, pp. 32-33). Rather, qualitative and inductive studies follow purposive and theoretical sampling approaches.

Miles and Huberman (1994, p. 27) assert that qualitative studies tend to follow purposive sampling because social processes underlie a certain logic which would be undermined by any random sampling. The authors therefore argue that the purposive choice of a research site reflects a rationale in qualitative studies. Moreover, purposive sampling is dependent on how interesting a case is and on the parameters set by the researcher. Overall and from a purposive sampling point of view, a case must not only fulfil practical but also representative conditions under which the research can be conducted.

Theoretical sampling refers to a conceptually driven, sequential approach, meaning the initial choice of informants develops during the data collection process (Davis, 2000, pp. 223-229; Miles and Huberman, 1994, p. 27). Eisenhardt and Graebner (2007, p. 27) distinguish theoretical sampling in contrast to statistical sampling as follows: *“A key response to this challenge is to clarify that the purpose of the research is to develop theory, not to test it, and so theoretical (not random or stratified) sampling is appropriate. Theoretical sampling simply means that cases are selected because they are particularly suitable for illuminating and extending relationships and logic among constructs.”* The authors further argue that case

studies are a suitable means for investigations as long as they provide the circumstances under which the phenomenon can be studied best. More specifically, it is important to bear in mind that factors affecting the phenomenon must be both identifiable and available to the researcher. The difference between purposive and theoretically driven sampling lies in the fact that purposive sampling is not theoretically driven (Silverman, 2009, pp. 141-143). Both approaches will be discussed in more detail in the next section, followed by the identification of the unit of analysis.

3.1.4 The case – Apollo bank

The choice of a European bank (labelled ‘Apollo bank’) as the case study for this research has been selected from a purposive point of view. The context, i.e., the European banking sector, is of particular interest with regards to current discussions related to the financial crisis (cf. section 1.3 *et seq.*). Moreover, research on highly volatile and regulated markets such as the banking sector is still limited and therefore of great interest to academia (Slattery and Nellis, 2009).

When compared to the top 50 largest banks in Europe, Apollo bank is a typical medium- to large-sized bank in terms of assets. While the average in total assets amongst the top 50 largest banks in Europe was EUR 487bn in 2007, Apollo bank’s total assets counted approximately EUR 500bn thereby illustrating that the organisation is comparatively medium- to large-sized (cf. Arthur D. Little Central Europe, 2007; section 3.4). The size of this research site is in line with approaches of other scholars who have traditionally considered rather large than smaller organisations to be suitable research sites for analysing the phenomenon (e.g., Gruber and Venter, 2006; Rohrbeck and Gemünden, 2008; Rollwagen *et*

al., 2006; Ruff, 2006). The reason why the foresight phenomenon is mainly researched in large organisations is mainly because they have the required financial resources, the expertise and organisational structures for corporate foresight processes (Becker, 2003; Gruber and Venter, 2006, cf. section 2.2.5).

According to Yin (2003, p. 26), a case should be chosen so that it is comparative or similar to previous research unless it is significantly innovative. Apollo bank meets this requirement as it represents a large organisation similar in size to the sites investigated by other research studies. Moreover, it is headquartered in Europe, which is a further precondition for the research site (cf. section 3.4 *et seq.*).

Investigating foresight is particularly difficult due to the confidential nature of the topic and the strategic enquiries related to the research. This problem has been identified by previous researchers who have found that organisations often tend to be reluctant to cooperate in foresight and strategic research (Gruber and Venter, 2006). However, access to the research site is crucial for effective and worthwhile research.

Some authors (cf. Bryman and Bell, 2007, pp. 317-319; Mintzberg, 1979a) argue that a particular research site is chosen on the merit of its circumstances that are of interest to science. Apollo bank was chosen in line with the above argument because the research site was made accessible to the researcher and provided him with sufficient descriptive, exploratory and explanatory conditions and representative features (cf. section 3.2).

3.2 *The identification of the unit of analysis and informants*

Once the case had been identified, the unit of analysis inevitably requires further attention. As Miles and Huberman (1994, p. 29) state: “...a qualitative ‘case’ may range widely in definition from individuals to roles, groups, organizations, programs and cultures. But even when the case is an individual, the qualitative researcher has many within-case sampling decisions: Which activities, processes, events, times, locations and role partners will I sample?” The authors point out that sampling considerations do not end with the identification of a case. The unit of analysis usually represents a smaller unit within the case. More specifically, the unit of analysis represents an entity in which the main study questions are addressed (Boyatzis, 1998, p. 62; Yin, 2003, p. 25).

Corporate foresight has been defined as the unit of analysis. Corporate foresight will be scrutinised – together with its influencing factors and manifestations – in great depth and from various perspectives. In addition, and in line with section 2.5. *et sequentes*’ argument, understanding the influence of organisational structures and that of the environment will further enhance comprehension of the phenomenon under investigation. It is for this reason that the researcher considers the appearance of corporate foresight, i.e. the unit of analysis to be distributed and typified within an organisation in a holistic fashion. This assumption requires the consultation of a heterogenic and wide range of information sources in order to collect all relevant data to formulate a theoretical contribution. In this regard, Bryman and Bell (2007, p. 329) argue that researchers “...have to ensure that they gain access to as wide a range of individuals relevant to the research question as possible, so that many different perspectives and ranges of activity are the focus of attention.” In short, researchers collect data from different informants according to the informants’ potential contribution to the

research, rather than following a statistical sampling logic as employed in quantitative research (Yin, 2003, pp. 48-49).

The interviews (cf. section 3.3.3; section 3.3.4) were conducted across different departments to enable an in-depth understanding of corporate foresight within the organisation. The researcher was able to encourage managers from operational, administrative and strategic departments to participate in the research, endowing the researcher with an ameliorated and holistic picture of the phenomenon. Respecting ethical and conceptual concerns, the completed interviews will be grouped according to the department to which each interviewee belonged. The researcher follows a classical approach by clustering organisational structures. This clustering has certain advantages: It not only provides a picture of the phenomenon from an organisation's theoretical point of view, but it also eliminates departmental bias to a certain extent. In addition, this clustering approach helps discern how foresight information results from corporate foresight activities across departmental boundaries. These considerations and approaches follow the rationale of theoretical sampling (cf. section 3.3.1).

According to Davis (2009), there are only two basic forms of organisation structure: line and staff functions (cf. section 2.2.3.1). In order to understand and to categorise the managers' perceptions according to their position within the organisation as well as to identify patterns between different groups, the researcher created a matrix which displays the different groups of informants. These groups will serve as the basis for further analyses according to the underlying areas of investigation (cf. section 2.5. *et sequentes*). The number and organisational position of each informant is illustrated in Table 19.

<u>Functional Level</u>	<u>Line function</u>	<u>Staff function</u>	<u>Σ</u>
1	1	5	6
2	7	4	11
3	1	5	6
4	3	-	3
n/a	4	-	4
<u>Total(Σ)</u>	<u>16</u>	<u>14</u>	<u>$\Sigma 30$</u>

Table 19: Interviewees' positions at Apollo bank.

The investigation's main objective of recognising patterns in corporate foresight reality requires the consideration of two conditions: (i) the analysis of each individual data source and (ii) the organisation of data sources into clusters (e.g., at departmental level). With regards to the latter, the researcher will refer to either the interviewees' organisational form (staff/line) or to the functional level.

3.3 *Collection of data*

According to Yin (2003, pp. 97-107), there are three principles underlying the data collection process in case study research: (i) the utilisation of multiple sources of evidence, (ii) the creation of a case study database and (iii) the maintenance of a chain of evidence. Taking these principles into consideration assists with constructing the validity and reliability of the research design. With regards to data collection, Yin (2003, pp. 85-97) presents six 'sources of evidence' which work in a complimentary fashion when combined (see Figure 25).

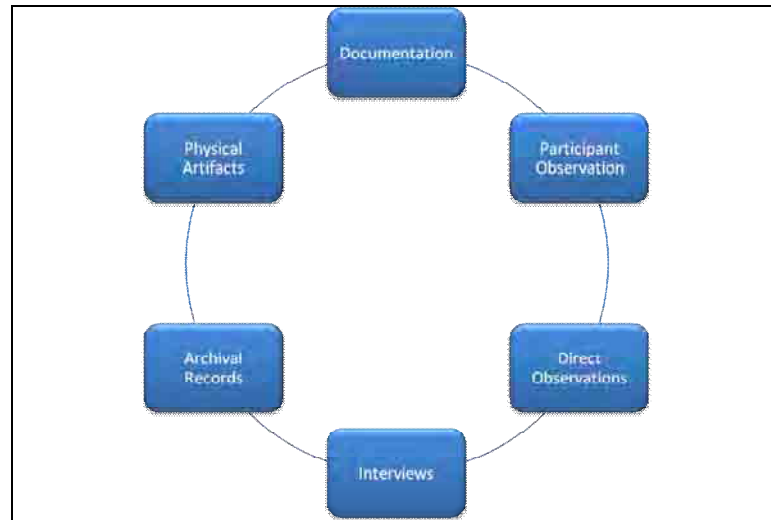


Figure 25: The six sources of evidence (adapted from Yin, 2003, pp. 85-97).

Generally, research distinguishes between methods which are either predominantly concerned with the collection of qualitative data (i.e., data in form of words) or of quantitative data (i.e., data in the form of numbers) (Bryman and Bell, 2007, p. 280).

Silverman (2009, pp. 131-132) considers interviews and focus groups to be ‘artificial’ methods of data collection, in spite of them being widely used, because the interviewer sets the conditions under which the data are being collected. In contrast, observations represent ‘natural’ occurrences due to the fact that the observed subject is unaware of the observation and hence the data collection is not distorted. With regards to the current research, the following methods of data collection were employed:

- Formal and informal interviews: The informal interviews, nine in number, consisted of interviews conducted without referring to the interview guide. Instead each interview focussed on specific topics as well as on certain bank procedures in order to help gain an overall understanding of the organisation in a friendly and informal atmosphere. However, the core of the data collection process was 24

further formal interviews that were predominantly led by the guidelines in the interview guide (cf. section 6.3 in appendix) and prior to undertaking the formal interviews this was made clear to the interviewee. Formal interviews were scheduled for 45 minutes; however, most of the interviews exceeded the set time limit

- Focus groups: Four focus groups were organised in which specific research-related topics were discussed. These focus groups were subdivided into two separate categories: One primarily focussed on the bank's historical background, whilst the other concentrated on organisational changes and alterations between both interview periods. Focus groups were scheduled for a longer period of time than formal interviews due to the presence of more than one interviewee (mostly three per focus group) and the consequent time requirements.
- Observations: Observation field notes were collected via a case study notepad as recommended in the literature (Silverman, 2009, pp. 229-236; Yin, 2003, pp. 92-96). These observations covered areas such as corporate foresight artefacts, labels, products and signs. The case study notepad served as an additional record of the fieldwork as well as a complementary data and information provider for later data analysis.
- Internal and external documents: As supporting material, the bank provided a significant amount of internal and external documentation, enabling a better understanding of the organisation and its context from different perspectives. Additional supporting documents were gained via permitted access to the bank's archive. Moreover, with the aid of external information and information on the

research site made available to the public (e.g., annual reports) publications and papers have also been integrated into the dataset.

The main sources of information for the investigation of corporate foresight were documentation, and formal and informal interviews. The interview approach is not unusual in case study research (Yin, 2003, pp. 85-97). Saunders *et al.* (2006, pp. 311-314) differentiate between three types of interviews: structured, semi-structured and in-depth interviews.

- Structured interviews are also known as quantitative research interviews. Their characteristic is a predetermined set of questions and pre-coded answers from which the respondent has to select their response. These interviews usually aim at collecting quantifiable data.
- Semi-structured interviews rely on a list of themes and questions to be covered during the interview. However, during the course of the interview, the questions may vary and additional interview questions are likely to arise.
- Unstructured interviews are informal and represent an in-depth way of collecting data. The researcher does not produce a predetermined question, but rather leaves it up to the interviewee to talk freely about events, behaviour and beliefs related to the topic area.

In the literature, there is common agreement that the last two interview types are the main tools used in qualitative inquiries (Bryman and Bell, 2007, pp. 343-348; Saunders *et al.*, 2006, p. 312). The literature also highlights the advantages of semi-structured and unstructured interviews in terms of their flexibility. Moreover, both types enable the

researcher to understand issues and events from the interviewees' points of view (Denzin and Lincoln, 1998, p. 3).

The researcher has chosen a semi-structured form of interview for collecting the data, because his first priority was not to generate statistical implications nor to comprehend managers' beliefs and sub-conscious feelings. The underlying rationale of this choice is based upon its potential to identify facts in a structured fashion but also its potential to allow enough room for new insights.

Semi-structured interviews are sometimes also called focused interviews, which alludes to the line of inquiry as set by the researcher. Yin (2003, pp. 90-91) comments on the nature of this interview form as follows: *"[...], a major purpose of such an interview might simply be to corroborate certain facts that you already think have been established [...]. In this situation, the specific question must be carefully worded, so that you appear genuinely naive about the topic and allow the respondent to provide a fresh commentary about it."*

Another reason for implementing the semi-structured interview lies in its major advantage: whilst it remains focussed on a topic, it does not frame the interviewee's potential answers (Denzin, 1978, pp. 115-117).

A final remark is necessary concerning the purpose of this research. As mentioned above, there are still few and limited insights into the perceptions and manifestations of corporate foresight – both formally and informally. Semi-structured interviews therefore provide the necessary means by which to identify these aspects. Finally, semi-structured interviews help the researcher to grasp the bankers' perceptions regarding corporate foresight and their understanding of the future in an exploratory fashion (Saunders *et al.*, 2006, pp. 315-314).

3.4 *Processing data*

In order to resolve any data and validity concerns (cf. section 3.3.6 *et seq.*) it is recommended that research instruments are designed and tested before conducting case studies (Miles and Huberman, 1994, p. 35). A set of instruments was therefore designed before the start of the data collection process. These instruments include an interview guide, a case study book and an appropriate coding scheme.

3.4.1 The interview guide

The interview guide serves as a point of reference covering topics of interest related to the phenomenon under investigation. It functions as a guide as it is not recommendable to pose research questions directly. Moreover, an interview guide should cover the following elements (Bryman and Bell, 2007, pp. 348-349):

- Creation of an array of all phenomenon-related topics in order to allow a conversational flow;
- Premeditated formulation of interview questions to help solve research questions;
- Utilisation of a comprehensible language relevant to the group of interviewees;
- Avoidance of leading questions;
- Recordings of the interviewees' data for the purpose of analysis at a later stage.

The conceptualised interview guide employed in the research is in section 6.3 in the appendix.

3.4.2 The structure of the interview questions

The interview guide covered the following blocks according to the rationale discussed in section 2.5.1 *et sequentes*:

- i) Managerial foresight: The rationale for this research block is the bankers' general perception of the future and the factors related to managerial foresight. This first block introduced the corporate foresight phenomenon. It also aimed at ascertaining to what extent the interviewees were already familiar with the term. Moreover, interviewees were also asked on what grounds their personal perception of the future is based. Overall, the first block was the shortest in terms of the amount of questions, but nonetheless useful as an introductory block.
- ii) Organisation and foresight: The second block was specifically focussed on the organisation and its structures for enhancing corporate foresight. More specifically, the block was subdivided into three subsegments: (i) introduction, (ii) foresight enhancing factors and (iii) the organisation's environment. The introduction subsegment contained questions on how future-oriented and how capable of foreseeing the interviewees perceived their organisation to be or expected it to be, in general. The second subsegment included questions regarding foresight methods familiar to the interviewees as well as the interviewees' opinion of the applicability of these in the bank. Finally, environmental questions aimed to discover how the environment was perceived, particularly with regards to the level of uncertainty. Interviewees were free to comment on their own personal observations and experiences in the banking sector. The researcher was

subsequently able to recognise factors in certain environmental states that trigger the search for foresight information.

iii) Information and relationship between corporate foresight user and researcher:

Having noted that information processes manifest themselves on a multi-dimensional level, a set of questions was formulated which explicitly referred to foresight information flows. The third block contained questions on the interviewees' knowledge of the processes within the organisation that result in the production of foresight information. The design of these processes, the inputs and outputs thereof, as well as the involvement of participants, were all of interest because it was assumed that some foresight methods were either unfamiliar or never actively implemented in the bank (cf. section 3.5). The information processing block therefore also concentrated on identifying formal and informal streams of foresight information activities. Moreover, interviewees were asked about strategic decision-makers' (the information user) involvement and which foresight requirements they felt decision-makers expected of them. The interviewees were also asked their opinions on the implementation of foresight information. The third block was especially designed for those interviewees involved in the production of foresight information.

iv) Strategic decision-making: The fourth and final block was constructed to gain knowledge about strategic decision-makers. Questions covered the decision-making style, the environmental impact on strategic decisions and the quality of foresight information as perceived by the decision-makers. Also, example-based, personal experiences with previous foresight information as well as collaboration

with information-producing entities (e.g. marketing department) were of interest. This block's questions were designed to find out how strategic decisions are manifested in the bank, what type of foresight information is employed and how current information processes are designed. After each interview, the interviewees were requested to express their personal views regarding the impact of corporate foresight on strategic decisions. This allowed interviewees to add personal opinions, if any occurred to them during the interview, thus providing them with the chance to add additional insights prior to the conclusion of the interview.

Mock interviews were conducted with the help of three other PhD candidates at the University of Birmingham prior to the fieldwork. This method was used to assess the comprehensiveness and understanding of the interview guide and interview questions. It helped eliminate misunderstandings, repetitive questions and to identify the estimated interview duration. Moreover, the interview guide and questions were discussed extensively both at the university as well as at the research site to further improve the interview guide wherever necessary.

Finally, it is important to mention that two rounds were needed for the data collection process: The first in April–May 2009 and the second in October–December 2009. Although the structure of the interview guide remained similar in both phases, the first round provided the second round with new insights, which in turn evoked further questions for round two. These new questions in round two particularly referred to areas of further interest such as the inclusion of expert knowledge as a source for foresight information, the impact of regulation on corporate foresight and strategic decisions and the nature of the organisation in dealing with environmental weak signals.

In addition to the interview guide, a case study book was developed, in which the researcher noted down interesting artefacts by way of observation or via informal interviews. This provided the researcher with a multitude of impressions and permitted a triangulation of methods as recommended by Yin (2003, pp. 67-69; pp. 97-101).

3.4.3 Case study book and coding scheme

A case study book – also called a field notebook or case study protocol – is a means by which observations, experiences, important key figures, field procedures and data collection issues can be noted in written form (Bryman and Bell, 2007, pp. 333-334; Yin, 2003, p. 67-69; cf. section 6.4). Saunders *et al.* (2006, pp. 326-327) point out that note taking increases the trustworthiness of the data because important contextual data and interview-related material can be recorded and attributed to the respective source. Other authors (cf. Miles and Huberman, 1994, pp. 50-51; Silverman, 2009, pp. 229-234) add that field notes generally contain summarising data about a particular contact. By using a case study book, the researcher can record details of data sources, preparations for the next contact, and suggestions for new or revised codes and concepts (Miles and Huberman, 1994, pp. 50-51; Silverman, 2009, pp. 229-234).

During this investigation, the researcher created a comprehensive table of the main issues. The table was employed to prepare for forthcoming interviews as well as to make notes of impressions and key observations during data collection. In accordance with the literature, this process served as a basis for the data analysis and helped the researcher to remain focussed on the phenomenon (cf. Silverman, 2009, pp. 232-236).

A coding scheme was developed prior to the research in order to ensure research reliability (cf. section 3.3.6). A coding scheme generally reflects a framework – or a list – displaying the labels used for coding qualitative data. This procedure is of crucial importance in order to make sense of the data (cf. Miles and Huberman, 1994, pp. 55-69) and consequently, section 3.3.5.1 will discuss the development of codes and the coding scheme in more detail.

3.5 *Analysing the data*

A qualitative research inquiry generally involves three steps when analysing data: (i) categorisation and coding of the data, (ii) finding patterns and recognising relationships between categories and (iii) developing theories and drawing conclusions (Bryman and Bell, 2007, p. 431; Miles and Huberman, 1994, p. 89; Saunders *et al.*, 2006, pp. 478-479; Yin, 2003, p. 111). Although the above mentioned stages are generally described as sequential and structured processes (cf. Bryman and Bell, 2007, p. 431; Saunders *et al.*, pp. 478-479), the actual qualitative data analysis usually follows an iterative and reoccurring pattern. The following discussion will describe each step in more detail.

3.5.1 Categorisation and coding of data

The development of codes is central in qualitative studies. Qualitative research usually has a tendency to generate a significant amount of data which is related in different ways to the research questions and objectives. The overabundance of information can lead to possible oversights in relation crucial information. The researcher therefore needs first to design a selective framework within which to conduct the investigation and to mitigate data overload and ameliorate data retrieval. In qualitative research, data overload can occur because

information is primarily in a written rather than in a numeral fashion; the former is far more arduous to analyse and interpret. Data retrieval, however, refers to accessing relevant information which is difficult to reacquire during the data analysis procedure. In order to overcome the above mentioned problems, suitable instrumentation is required. The literature on qualitative data analysis recommends the development of suitable categories and codes and this is considered to be the first step to take when analysing qualitative data (Miles and Huberman, 1994, pp. 55-56; Bryman and Bell, 2007, pp. 428-429; Boyatzis, 1998, pp. 1-4).

Codes are “...tags or labels for assigning units of meaning to the descriptive of inferential information compiled during a study. Codes usually are attached to ‘chunks’ of varying size – words, phrases, sentences or whole paragraphs, connected to a specific setting” (Miles and Huberman, 1994, p. 56). Developing appropriate codes is dependent on the research question, hypotheses, problem areas and/or key variables of the study (Miles and Huberman, 1994, p. 58). To be more specific, there are three approaches in developing codes: (i) theory-driven, (ii) inductive and (iii) prior data/prior research-driven approaches. The two extremes of the continuum are the theory-driven approaches, where codes derive from theories, and the inductive approaches, where codes derive from all the given information and data. The third approach describes a method in which the coding takes place prior to the research. The codes used in this research study have been derived from various studies and suit interdisciplinary studies in particular (Boyatzis, 1998, pp. 29-31).

When researching corporate foresight, and any other topic for that matter, the investigator should not only be open-minded about receiving new impressions, but also should notice interdisciplinary links. The coding scheme used in this study was therefore

developed in advance and employed the third approach as described by Boyatzis (1998, pp. 29-31; cf. section 6.8.1 in appendix).

Although the coding scheme used in this research was deduced from various conceptual frameworks and theories, the researcher strove to improve the coding scheme whenever new insights arose. The coding scheme, which was developed before the first data collection round, was altered before entering the second data collection round according to previous results. In order to achieve structure and precision, codes were categorised in a coherent overarching manner (Miles and Huberman, 1994, pp. 62-63). These categories or themes represent a group of codes reflecting the research purpose. They are independent and are derived from a single classification principle (Holsti, 1969, p. 95). Moreover, the four different interview blocks generally reflect the categories within the interview guide (cf. section 6.8.3). The initial coding scheme thus reflected broad categories that had previously been identified from the literature review and implemented in the conceptual framework of this research (cf. section 2.5.6). After data collection, the coding scheme was enhanced by new, revised or merged codes on the basis of the new insights. Both the initial and refined coding schemes as well as the rationale regarding the change of codes can be found in appendix 6.8.3.

As to how the data were labelled or coded, the researcher abided by the rationale of content analysis. Content analysis is “...a *multipurpose research method developed specifically for investigating any problem in which the content of communication serves as the basis of inference*” (Holsti, 1969, p. 2). Implementing this research method is particularly recommended in qualitative research (Holsti, 1969, pp. 3-5). Content analysis can be further distinguished as either manifest or latent content analysis. The former focuses on the

investigation of certain content in terms of its appearance or, to be more specific, the researcher analyses the number of times a certain word was used or in what context it was employed. Hence, this not only permits an understanding of the use of information, but also facilitates a comparison with other interviewees' statements. The latter, latent-content analysis is rather interpretative in nature: It is more focussed on the underlying meaning of what has been said or written (Boyatzis, 1998, pp. 16-17; Neuendorf, 2002, pp. 23-25; Holsti, 1969, pp. 12-14).

Some authors argue that manifest-content analysis has a propensity to be rather cursory, because the researcher merely investigates the characteristics of the document or communication rather than the actual message hidden between the lines (Holsti, 1969, p. 12).

Nevertheless, in recent years, qualitative research has applied manifest-content analysis more frequently (Boyatzis, 1998, p. 17), and the reason for this may be closely linked to the more advanced technical equipment that is now available to a researcher (Neuendorf, 2002, pp. 125-126; Boyatzis, 1998, p. 17). In contrast, researchers who wish to comprehend what managers actually believe, perceive and understand about a phenomenon, rather than counting certain words in provided documents tend to opt for latent-content analysis.

In the context of this study, latent-content analysis appears to be more appropriate for coding, categorising and analysing qualitative data in corporate foresight research, especially given that most interviewees may not be familiar with the phenomenon under investigation here (cf. section 2.5.2). The choice of latent-content analysis permits the usage of 'unspoken words and thoughts' in order to gain a full understanding of the managers' views on corporate foresight.

The data labels applied refer to qualitative data which were identified as coherent and were thus given a specific label. These labels generally reflect the codes employed in this research (see Figure 26). It is possible for each label to either consist of a mere sentence or as much as a whole paragraph. In total, the researcher labelled or classified 1,124 specific pieces of information. Moreover, the data labels referred to a total of 574 references (e.g., quotation of an interviewee). This means that there are times when only one reference within the whole database is found for certain data labels. In contrast, there are instances of multiple entries in one single reference (e.g., interviewee) for other data labels.

The data labels then were grouped into 60 codes, which either originated from pre-identified codes found in the literature or emerged from the 55 sources within the database. The employed software 'NVivo, version 7' clustered the 60 codes into a higher conceptual level which consisted of seven umbrella terms or tree nodes. The researcher initially termed these tree nodes: Corporate foresight, managerial foresight, individuals and groups, information, organisational contingencies and environment, strategic decision-making and researcher-user interaction. The researcher decided to group the two tree nodes 'individuals and groups' and 'researcher-user interaction' into one conceptual category termed 'people' due the large amount of data similarities between the two tree nodes. The described process consumed approximately four months in total. The process of developing codes and categories made it possible to identify patterns regarding the research topic (cf. section 3.3.5.2).

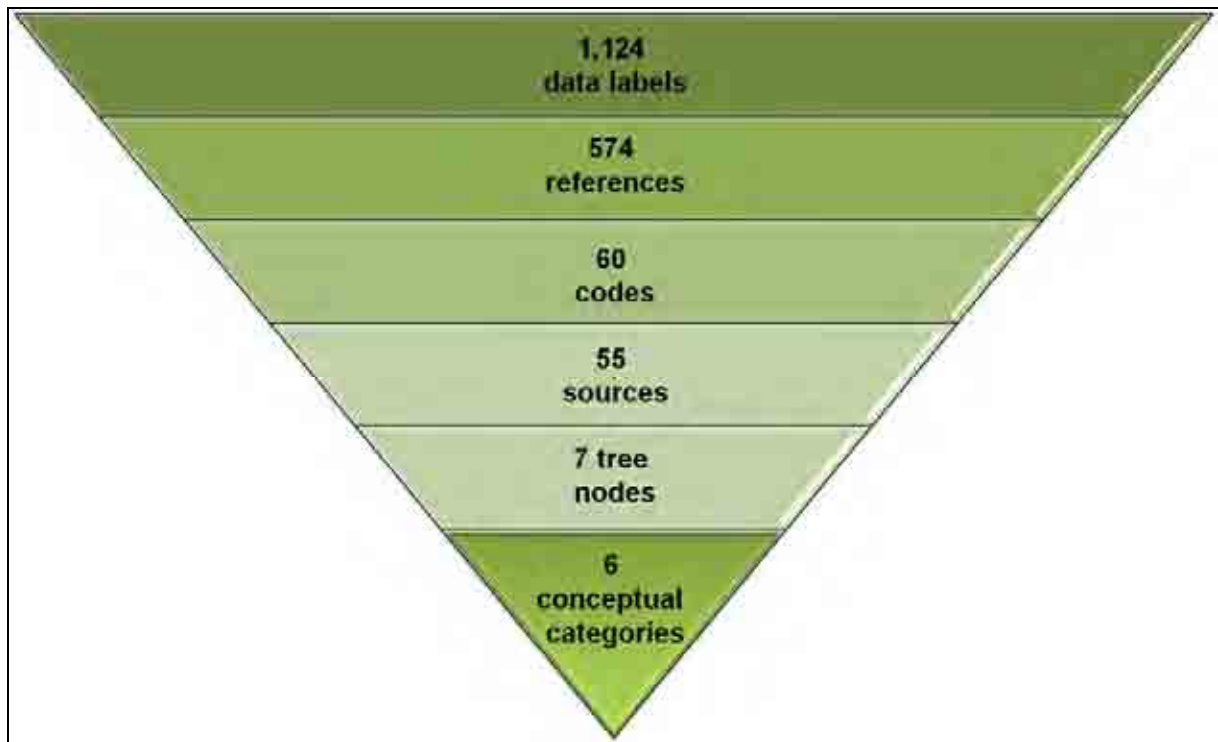


Figure 26: Coding process and categorisation

With the development of analytical software (i.e., CAQDAS (computer-assisted analysis of qualitative data)) for qualitative studies, researchers now generally turn to computers for coding purposes (Boyatzis, 1998, p. 17; Neuendorf, 2002, pp. 125-126). One of the most common advantages of these CAQDAS software systems used for the analysis of qualitative data, such as interviews and documents, is that the system enables the retrieval of coded parts in a short time. The retrieval feature is also called the ‘code-and-retrieve’ element and, apart from helping the researcher to find previously coded items, the software can find specific conditions according to the researcher’s searching purpose. Finally, CAQDAS software is also able to assign attributes to data and information such as age, department or departmental level, which eases comparative analyses (Bryman and Bell, 2007, pp. 445-446; Neuendorf, 2002, p. 81; Silverman, 2009, pp. 252-253). Silverman (2009, pp. 253-257) defines the

advantages of this software as: (i) speed, (ii) rigour and (iii) facilitation of team research. All three arguments support the use of CAQDAS software in qualitative studies.

Although the advantages are clear, the use of CAQDAS software also raises certain concerns, the main one being that the software tends to take the information out of the context and thereby decontextualise the data – which is, of course, considered to be one of qualitative research's great strengths. Moreover, the quantitative features of this type of software may lead to quantification, which also raises the concern that the value of the qualitative analysis will be at risk. Finally, interesting conversational events, particularly in focus groups, are also difficult to compute in CAQDAS software (Bryman and Bell, 2007). However, bearing these potential disadvantages in mind, the use of CAQDAS software is still highly valuable because of the above mentioned advantages and is therefore often used in qualitative research (cf. Neuendorf, 2002, p. 125-126), as is the case in this study.

The CAQDAS software employed here was NVivo, Version 7 software. The software mainly fulfilled three tasks: (i) coding of interviews and documents, (ii) assigning attributes to each case or interviewee and (iii) displaying relationships as defined by the researcher. The first task, coding, was conducted according to the aforementioned principles (cf. section 3.3.5 *et sequentes*). NVivo 7 helped to create the codes and subsequently insert these parts into categories or tree nodes. Thus, a systematic logic could be maintained throughout the coding procedure. The second task, the assignment of attributes, helped identify patterns within predefined groups and functional levels. The third and last task, the display of relationships, was an additional feature employed by the researcher. The researcher identified relationships within the coded parts of the interviews and documents by using a special function of NVivo

7. As a result, graphic presentations of these relationships were made available for later analysis and clarification of different perspectives on corporate foresight.

3.5.2 Finding patterns and recognising relationships between categories

After categorising and ‘giving meaning’ to the collected qualitative data by means of coding, the researcher must search for patterns to gain an enhanced understanding of the phenomenon under investigation. The literature describes two methods by which this understanding can be achieved: Clustering of data and building matrices to structure the data.

The first method, clustering of data, refers to the identification of patterns within the previously coded data. In this respect, clustering of information can also be defined as a means by which a manifold set of codes can be moved to a higher level of rationale by employing conceptual or empirical approaches (Boyatzis, 1998, pp. 136-143; Davis, 2000, pp. 487-488). This process is predominantly led by the researcher’s ability to recognise these patterns and group them into logical clusters or fragments (cf. Bryman and Bell, 2007, pp. 437-439). Boyatzis (1998) describes this process as follows:

Moving to higher levels of cognitive complexity, we could place pattern recognition, or the inductive process of identifying themes or patterns in seemingly unrelated information, as the next highest cognitive capability. It would be impossible to perceive patterns inherent in complex data or seemingly unrelated data without the ability to build, perceive, and think in terms of multiple causal relationships [...]” (p. 139).

With regards to this research’s objectives, the clusters were derived from conceptual and empirical findings. The employed software tool NVivo 7 allowed clustering by way of so-

called ‘tree nodes’ which move and arrange a multitude of single codes onto a higher conceptual level, as previously described in this section.

A further method to spot patterns and relationships induces the creation of matrix displays. According to Miles and Huberman, matrices “...*essentially involve the crossing of two or more main dimensions or variables [...] to see how they interact*” (Miles and Huberman, 1994, p. 239). This means that data will be categorised into dimensions, allowing the identification of patterns between attributes and the respective data or code (Saunders *et al.*, 2006, pp. 479-480; Yin, 2003, p. 111). In this research, the researcher categorised the sources according to their organisational position (functional level) and also the organisational form to which the source of information belonged (staff or line; cf. section 2.2.3.1). NVivo 7 provides a way in which sources with particular attributes – also termed ‘cases’ – and codes can be cross-tabulated. This made it easy to identify differences between groups of informants and the respective coded data under investigation. The assignment of attributes, employment of matrix displays and analysis of cross-tabulated information was partially integrated in this research. This was particularly the case in areas which aimed at revealing differences between the above-mentioned groups (staff or line departmental function). While the differentiation of informants was not required for the analysis of all areas of investigation, a differentiation was helpful whenever the approach was required (cf. section 4.1 *et seq.*; section 4.2 *et seq.*).

3.5.3 Development of theories and finding conclusions

Finally, the coded and clustered data must be connected with one another in order to create a conceptual framework or empirical theory. Although this particular process is neither predetermined nor specified in qualitative research (Silverman, 2009, pp. 12-14; Yin, 2003, p. 120), the literature does provide descriptive guidelines for this sort of approach. These

guidelines are based upon the rationale of explanatory purposes of scientific research. As discussed in section 3.2, building explanations in research refers to the investigation's goal of finding causal relationships between variables which help to design theories and frameworks (cf. Neuendorf, 2002, pp. 47-49). Yin (2003, p. 130) states that the reason for explaining a phenomenon – particularly in case study research – is: “...to stipulate a presumed set of causal links about it. [...]. In most studies, the links may be complex and difficult to measure in any precise manner.” Explanation building – also termed ‘analytic induction’ – for the design of theory and frameworks occurs in an iterative fashion. Scientific rigour is further enabled by including rival explanations and links in the process (Bryman and Bell, 2007, p. 426; Yin, 2003, pp. 130-132). NVivo 7 provided useful tools to build these relationships and links. The researcher thereby defined the direction and interpreted relationships between codes or tree nodes, which was then illustrated by the software. This means that emerging relationships are first identified by the researcher, are then defined in NVivo 7 and finally are graphically displayed (cf. section 6.5 in appendix). On basis of the results, the areas of investigations (cf. section 2.5) were discussed and tackled in order to formulate conclusions from the scientific findings and propositions.

3.6 *Credibility of research findings in qualitative research*

Business and management investigations expect researchers to meet criteria for evaluating their findings. While researchers are not able to know the answer to research questions in advance, they are able to reduce the possibility of making mistakes when formulating the findings. In other words, researchers are expected to design a well-founded research design with scientific rigour in order to increase the credibility of the process by which research

findings are deduced (Bryman and Bell, 2007, pp. 33-44; Saunders *et al.*, 2006, p. 149). Although the way in which the research's achievement of credibility differs to some extent in quantitative and qualitative research (Bryman and Bell, 2007, pp. 286-288; Golafshani, 2003; Kirk and Miller, 1986, pp. 5-6; Miles, 1979; Miles and Huberman, 1994, p. 2; Snow and Thomas, 1994), the literature provides guidelines according to which credibility can be attained. Silverman (2009, p. 274) points out that researchers who follow a qualitative line of inquiry in their studies have to consider two measures to achieve scientific standards: Validity and reliability. The fact that both terms originate from quantitative research inquiries has led to a great deal of discussion amongst scholars on whether these terms are generally applicable in qualitative research (cf. Bryman and Bell, 2007, pp. 287-288; Seale, 1999). Some have suggested that other terms – such as rigour or trustworthiness – should be used to stress the difference between qualitative and quantitative research (cf. Bryman and Bell, 2007, p. 288; Lincoln and Guba, 1990, Miles and Huberman, 1994, p. 2). In contrast, other researchers have pointed out that these discussions are basically obsolete because both terms aim at distinguishing 'good' from a 'bad' research – regardless of the approach used for the research's inquiry. However, overall, the essential importance of both criteria is generally accepted amongst scholars (cf. Golafshani, 2003; Saunders *et al.*, 2006, p. 149; Silverman, 2009, pp. 275-289) as a means of evaluating qualitative research. Therefore, both the validity and reliability of this research will be discussed in more detail in the following section.

3.6.1 Validity in qualitative research

Validity refers to the standard of scientific research and is concerned with limiting potential research errors during the investigation in order to achieve accurate and usable results. The

accurateness and usability of results reflects the extent to which the findings fit the statements they express. One could also ask the question: Are the findings really about what they appear to be about? (Davis, 2000, p. 142; Saunders *et al.*, 2006, p. 150). In order to underline the importance of validity, Silverman paraphrases the meaning of validity simply with the notion of 'truth'. With this semantic comparison, he underlines how significant it is to be concerned with validity issues in research (Silverman, 2009, p. 275). With regards to the application of validity – particularly in qualitative research – criticism predominantly concerns the potential tendency of researchers to be biased during scientific investigations. The critics argue that this researcher bias could induce selective observation, selective recording of information, allowance of personal views and perspectives, all of which would affect data analysis and interpretations (Johnson, 1997; Yin, 2003, p. 35). In order to avoid researcher bias and to increase the validity of qualitative research, Silverman (2009, pp. 278-286) formulates five ways in which it can be increased: (i) the refutability principle, (ii) the constant comparative method, (iii) comprehensive data treatment, (iv) deviant case analysis and (v) the use of appropriate tabulations.

- i) The refutability principle refers to the research's aspiration of achieving objectivity by rejecting initial assumptions, by including contradictory evidence and by avoiding the temptations of easy conclusions (Miles and Huberman, 1994, p. 278; Silverman, 2009, pp. 278-279). This means that the researcher has to first acknowledge any potential bias and second make a conscious effort to reduce this bias in order to maintain neutrality towards the research.
- ii) The constant comparative method is concerned with the researcher's aim of seeking additional cases, informants and data to compare with the actual database.

The consideration of additional cases is achieved when analytic generalisations and conclusions can be drawn. The main purpose of comparative methods is the illustration as well as the acceptance or refusal of identified patterns (Miles and Huberman, 1994, p. 30; Silverman, 2009, pp. 280-281; Yin, 2003, p. 153).

- iii) Comprehensive data treatment describes the ambition of the researcher to continue formulating generalisations and findings until they apply to all relevant collected data (Silverman, 2009, pp. 280-281). Although (ii) and (iii) do not explicitly refer to external validity – which addresses the findings’ quality of being generalised to a larger extent – at this point, (iii) implicitly insinuates and integrates this concept.
- iv) Deviant case analysis deals with the inclusion of anomalies and deviations which at first glance do not appear to explain the data, but rather disclose issues which help to increase the understanding of the phenomenon. Silverman highlights that pieces of data are never deviant in their own right, but become so according to the theory and research approach chosen (Silverman, 2009, pp. 281-284). In other words, researchers following a qualitative inquiry should acknowledge data which might not agree with previous identified patterns in order to strengthen the validity of research.
- v) Finally, the use of appropriate tabulations refers to the graphic and numeric illustration of the data collected. While tabulations tend to ‘quantify’ qualitative research, it helps to provide the reader a holistic view on the data collected. Thus, the reader has the opportunity to gain a sense of the datasets and the conclusions

which have been drawn from them (Silverman, 2009, pp. 285-286; cf. Miles and Huberman, pp. 239-244).

With regards to this thesis, Table 20 displays the five ways in which validity in qualitative research can be achieved and the means by which the researcher has applied these guidelines.

Ways for increasing validity in qualitative research		
<u>Principle and method</u>	<u>Description</u>	<u>Application in this research</u>
Refutability principle	Inclusion of contradictory evidence	<ul style="list-style-type: none"> • Approval of opposing statements • Illustration of opinion ranges where appropriate, rather than single statements
Constant comparative method	Consideration of additional data sources until analytical generalisation can be formulated	<ul style="list-style-type: none"> • Increase number of informants in the second data collection phase • Compendium of archival and contemporary documents • Triangulation of data
Comprehensive data treatment	Continuous analysis and formulation until generalisations apply to all relevant data collected	<ul style="list-style-type: none"> • Use of CAQDAS software to display all relevant data • Graphic illustration of factors related to concepts to grasp all relevant issues
Deviant case analysis	Discussion of anomalies which at first do not appear to fit previous data collected	<ul style="list-style-type: none"> • Inclusion of extreme statements and positions • Critical evaluation of emerging issues and themes during data collection
Use of appropriate tabulations	Quantification of relevant data to provide a sense of the whole data set	<ul style="list-style-type: none"> • Design of tables and diagrams showing the number of interviewees and documents included in the analysis • Calculations of cross-tabulations where appropriate

Table 20: Ways for increasing validity in qualitative research and critical appraisal in this thesis (adapted from Silverman, 2009, pp. 278-286).

Due to the fact that validity and reliability are conceptually intertwined (cf. Britten and Fisher, 1993; Kvale, 1994; Mays and Pope, 1995), the discussion of the second criterion, reliability, will be discussed in the following section.

3.6.2 Reliability in qualitative research

According to Boyatzis (1998, p. 144), reliability of research refers to “...*consistency of observation, labelling, or interpretation.*” The author further states: “*Reliability is consistency of judgement that protects against or lessens the contamination of projection. Consistency of judgement with qualitative information appears in two basic forms: (a) consistency of judgement among various viewers; and (b) consistency of judgement over time, events, and settings*” (Boyatzis, 1998, p. 146-147). Following the author’s perspective, reliability in research following a qualitative inquiry approach has to show a continuous line of data collection, data organisation, data analysis, argument and formulation of findings. The notion of continuity particularly reflects the research’s rigour in being independent of changes in judgements or views as well as not being influenced by contemporary events and occurrences. Other authors concur with Boyatzis, whilst further emphasising that a research study’s standards of reliability are also fulfilled whenever the investigation is reasonably constant across time, researchers and methods (cf. Golafshani, 2003; Kirk and Miller, 1986, pp. 41-42; Miles and Huberman, 1994, p. 278). Bryman and Bell (2007, p. 33, p. 49) further state that reliability refers to the question of whether the results of a study are repeatable which, in turn, has a relation to the measurements employed. This means that the methods employed have to be sufficiently consistent to achieve the previously discussed consistency and continuity.

However, there are also critical voices in the literature regarding the application of reliability – in terms of measurement consistency – in qualitative research. For instance, Stenbacka (2001) argues that since reliability might be viewed as a quality criterion of measurement – predominantly from a positivistic point of view – its transfer to qualitative research could be obsolete and even misleading. However, given that the notion is still

widespread in qualitative research literature (cf. Golafshani, 2003; Miles and Huberman, 1994; Silverman, 2009; Yin, 2003), its application will also be considered in this investigation.

In order to achieve reliability in qualitative research, Silverman (2009) provides two means by which the criterion can be achieved: the use of field notes and the consideration of inter-coder reliability (Silverman, 2009, p. 287; cf. Neuendorf, 2002, p. 142). As already discussed in section 3.3.3 and section 3.3.4.3, the field notes in this research included the recording and transcription of formal and informal interviews as well as focus group discussions, the transcription of internal and external documents, the use of a case study book and the observation of relevant occurrences and events. All data has been documented in order to allow further inspections on request (cf. Silverman, 2009, p. 286).

Regarding the consideration of inter-coder reliability as a means for achieving reliability in qualitative research, this particularly tackles what Boyatzis (1998, p. 147) termed the “[...] *consistency of judgement among various viewers*”. This means that multiple coders have access to the raw data which is consistently understood, interpreted and coded in a similar fashion (Boyatzis, 1998, p. 147; Yin, 2003, pp. 38-39). More specifically, and in practical terms, inter-coder reliability deals with the agreement between two or more individuals regarding the codes given to raw data. This agreement is generally measured by calculating the number of agreements versus disagreements divided by the total number of agreements the coders achieve. The result of this calculation – sometimes also termed ‘the crude agreement’ – can range from .00 (no agreement between coders) to 1.00, which indicates an absolute agreement between coders (Neuendorf, 2002, pp. 143-149). Figure 27 displays the calculation of inter-coder reliability in mathematical terms.

$PA_o = \frac{A}{n}$	<p>PA_o = Proportion agreement, observed</p> <p>A = Agreement between two coders</p> <p>n = Total number of units the coders have coded</p>
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Figure 27: Calculation of inter-coder reliability (adapted from Neuendorf, 2002, p. 149).

Although there is no scientific consensus regarding the acceptable level of inter-coder reliability, the literature generally supports the threshold of .75 as adequate, whereas an agreement of .40 to .70 appears to raise concerns regarding the soundness of inter-coder reliability in research (Boyatzis, 1998, p. 156, Ellis, 1994, p. 91; Neuendorf, 2002, p. 143). In this respect, the researcher employed two independent coders to each code approximately 10% of the transcribed data. This process resulted in an inter-coder reliability level of .77, by applying the formula in Figure 27. Therefore, in line with the above-mentioned threshold of .75, a legitimate level of inter-coder reliability has been achieved in this research. In addition to this process of using more than one coder, the researcher also cross-checked the coding and the interpretation of the data thoroughly together with the two supervisors of this thesis. Finally, the conceptual framework according to which the coding and the interpretation have been approached was presented at two peer review conferences, namely, the British Academy of Management Conference 2007 in Brighton and the Internal Marketing Seminar Series (2010) of the Business School, University of Birmingham.

3.7 Final comments regarding empirical data collection and analysis

The field study involved different interviewees from different departmental and functional levels at the research site. Thereby, a close interaction between the researcher and the

interviewees as well as the gatekeeper – the primary contact in the bank who managed the research internally - was achieved before the actual data collection (cf. section 3.5). Apart from negotiations between the researcher and the research site, the identification of interviewees occurred via suggestions from both the research site and from the researcher. The interviewees in the first phase were mainly suggested by the research site based on the given personality, openness and interest in the research topic as well as position within the research site. The researcher was able to suggest potential interviewees for the second phase. The second selection was based upon a pre-analysis which took place between the two phases which revealed the areas identified for further exploration. For both phases, the research site was responsible for contacting the suggested interviewees to ask for their permission and participation. Although most interviewees agreed to participate, some refused to participate due to timing concerns.

With regards to ethical and scientific professional reasons, the researcher provided each interviewee with a comprehensive summary of the research project so that interviewees could familiarise themselves with the aim and rationale of the research. Moreover, the broad categories (cf. section 6.3 in appendix) that were part of the questionnaire were presented in order to clarify the content of the interview questions. Most of the interviews were tape recorded as suggested by Bryman and Bell (2007, pp. 353-356). This process eased the subsequent transcription of the interviews as well as prevented omission of important utterances made by the interviewees. Before the interview, each interviewee was asked for consent and most complied. Some interviews were conducted via phone due to distance.

In practical terms, some documents and information were recorded in another language than English. Therefore, two external native speakers were employed for translation.

The researcher subsequently cross-checked the translations with the translators to discuss confusing terms or items where the researcher had another interpretation of the documents' content in the original language in relation to the documents which were translated in English. By this doing, the researcher ensured the consistency and quality of 'what has been said or written' and that it was appropriately transcribed and in line with the translators' interpretation.

The data analysis section portrays the interviewees' most significant or most expressive statements - should various interviewees have addressed a particular aspect in the course of the interviews. This means that in order to strengthen the arguments in this thesis, a selection of quotes has been provided within the text. The specific selected quotations were all first identified by NVivo's query function and then selected by the researcher in a second step according to their specific contribution to the discussion. In the course of this discussion, the researcher rigorously evaluated the pre-identified selection and displayed both critical and mainstream opinions to ensure a broad, but relevant view was presented on the collected data.

Further, it is also important to bear in mind that wherever graphs have been constructed in which the statements were counted; the researcher has only included statements that were incontrovertibly and explicitly related to the context or assertion content within the research framework (cf. section 6.6 in appendix).

In the course of this discussion, the term 'bankers' refers to all interviewees who participated in the research and who are employees in the banking sector. In the interest of linguistic and scientific notation, the researcher uses the same term to refer to bankers working at the research site, Apollo bank ('Apollo bankers'). Other similar and interchangeable terms used, include 'managers' or 'the management'. It should not be

assumed that any of these or similar terms are used as a generalisation of all bankers and managers throughout the entire banking sector is or was intended. Finally, the researcher promised that every participant would receive a summary of the thesis as acknowledgment of the researcher's gratitude. Thereby, the study not only complies with endeavours regarding contribution to scientific knowledge, but also provides a contribution to managerial knowledge and perhaps, it is hoped, will positively influence practice.

An overview of the data analysis process can be seen in Figure 28.

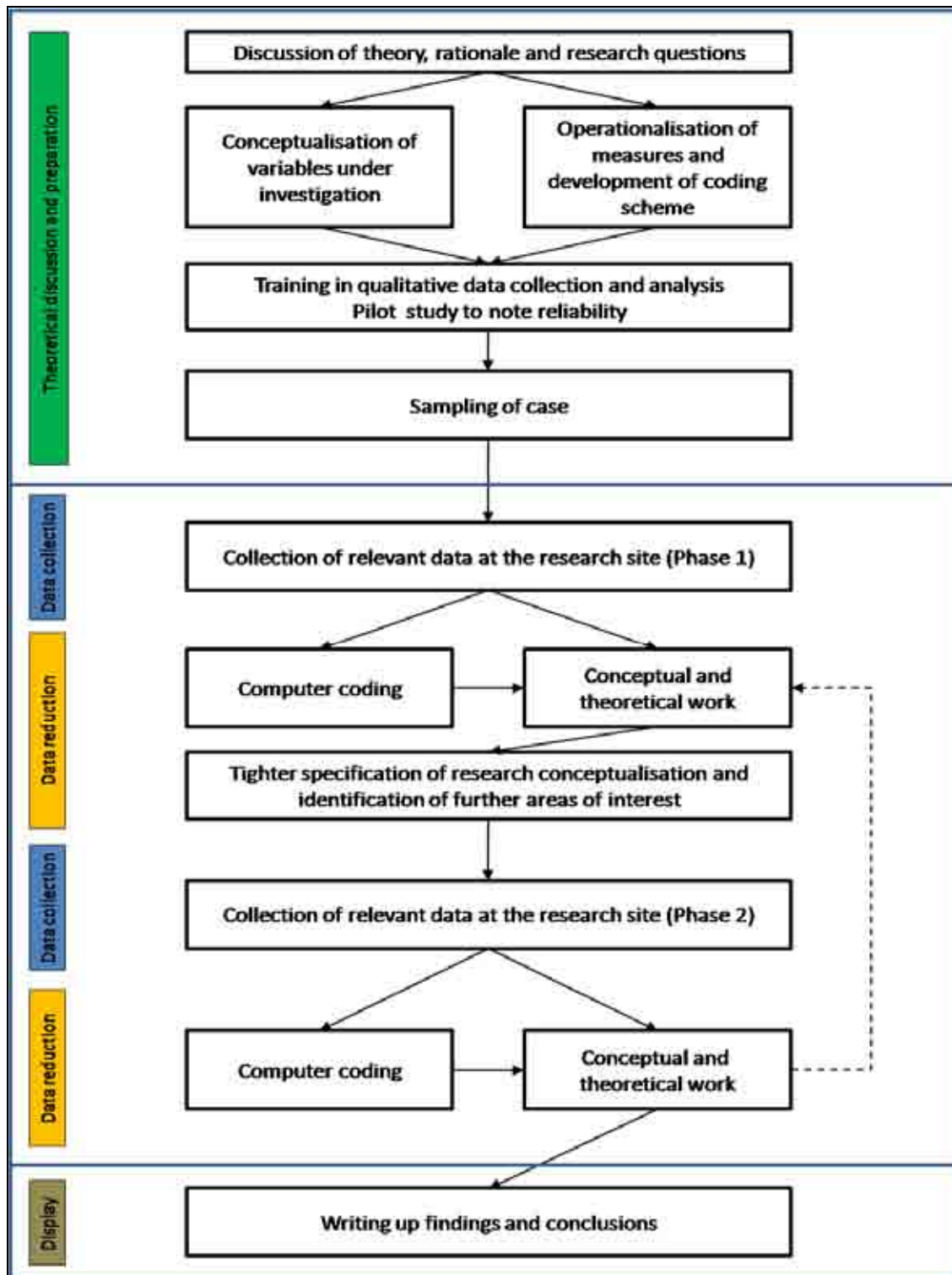


Figure 28: Qualitative research process of the study (adapted from Bryman and Bell, 2007, p. 283; Miles and Huberman, 1994, p. 12; Neuendorf, 2002, pp. 50-51; Saunders et al., 2006, p. XV)

4. The research site

4.1 Overview of the case and ethical considerations

The case study (Apollo bank) was conducted in an international bank which is headquartered in a large European financial centre. The bank provides a variety of services to banking customers including private banking, corporate banking and investment banking. Although the bank's business activities primarily lie in the home market (country of origin), the bank has managed to achieve an international presence by particularly expanding its activities in the European market and beyond. The data collection at the research site consisted of two phases: in May–June 2009 and in October–December 2009. During both periods, the researcher collected data from 30 interviewees from different departmental and organisational levels of the bank.

To date, research in the area of corporate foresight has been limited and still lacks a theoretical background. One of the main objectives of this research is to contribute to knowledge by thoroughly analysing the processes, characteristics and features of corporate foresight thus gaining an in-depth understanding of the phenomenon. The research questions and objectives therefore require an inductive approach which will allow analyses of different perspectives of corporate foresight and framework development from the data (see chapter 1; section 3.1 and section 3.2).

Research sites almost inevitably raise concerns about confidentiality when a case study involves the analysis corporate foresight within organisations. This is generally due to the sensitive topic of strategy which is widely associated with corporate foresight (Gruber and Venter, 2006). Therefore, together with the bank, the researcher needed to negotiate the circumstances under which the research would be conducted within the bank, prior to the case

study process, and meetings were held in December 2007, September 2008 and December 2008. It was agreed that in order to achieve the best possible research outcomes, the researcher would be permitted to interview responsible persons within the whole organisation across different departments and departmental levels. Both the researcher and the research site were at all times highly aware that the publication of highly sensitive data would not only put the interviewees, but also the bank as a whole in an ethically irresponsible position. Furthermore, the bank raised the concern that the publication of sensitive data could threaten the bank's competitive position.

Therefore, an agreement was reached by the research site and the researcher that the bank's identity – including the brand, specifics of the organisation's structure, financial figures as well as the interviewees' identities would be kept anonymous or modified due to the above mentioned reasons. In order to be able to attribute transcribed data to the right interviewee, the researcher developed a coding system which would assure the anonymity of informants and association of data with the right source (cf. Saunders *et al.*, 2006, p. 327).

At first glance, this agreement appears to set further limitations on the research findings. However, the agreement can be reasoned on two grounds. First, previous research studies have traditionally used anonymity for ethical reasons where organisation brands are concerned (cf. Costanzo, 2004; Gruber and Venter, 2006; Schwarz, 2008a; Wright *et al.*, 2008). Second, with regards to the trade-off between the collection of qualitative data and the publication of the bank's identity, the quality of this research remains unaffected at all times as the bank's identity is of insignificant interest as far as the research questions are concerned.

The following sections aim at describing the organisation's characteristics as a basis for later analysis. The statements are based upon the internal and external information

provided by the research site. In light of the earlier mentioned ethical considerations, the researcher has refrained from references to these documents to ensure that he abides by the agreed research conditions. Also in the interest of ethical considerations, the brand name ‘Apollo bank’ is used to describe the research site and this choice of name is in no way linked to the actual bank under investigation. Lastly, where figures have been mentioned, the researcher reserves the right to round the numbers roughly up in order to prevent a subsequent deduction of the bank’s true identity.

4.2 Context of the organisation

In 2008, the number of employees in Apollo bank amounted to more than 30,000 worldwide and at the time it was represented in over 40 countries, being one of the world’s 50 largest banks. Although the bank considers itself to be an international bank when regarding its regional subsidiaries and branches, the bank’s main focus was and still remains the domestic and the European banking market. The financial crisis of 2007–2009+ (see section 1.3) affected Apollo bank significantly – as it did many other banks of similar size. Consequently, banks were forced to reconsider their banking models so as to ensure a quick loss recovery and to prevent any similar risk in future. These reconsiderations regarding individual banking models were mainly derived from the conditions set by national governments as well as by the banks’ self-compliance. The banks’ tendency to change their banking models into a far more stabilised structure by reducing some rather risky yet profitable business methods was both significant and remarkable.

The scope of this research does not include the impact of the financial crisis or the new market conditions which arose as a result of it; however, this contingency will be considered characteristic for the European banking market in later discussions and analyses.

4.3 *The organisation's structure*

In simple terms, the structure of Apollo bank can be divided into (i) operating segments, (ii) central management and (iii) group services departments. More specifically, the bank has four operative segments – amongst others ‘private banking’ and ‘corporate banking’. The central management departments are subdivided into ten sub-departments and the group services department is split into five sub-departments. A simplified model of the bank's structure is presented in Figure 29.



Figure 29: Organisational structure of Apollo bank.

4.4 Key financial figures

Apollo bank is one of the 50 largest banks in Europe. With its large private customer base in its domestic country and banking service provisions to corporate customers across Europe, Apollo is a significant player in the European banking sector.

Keeping the above-mentioned ethical considerations in mind, the key financial figures in Table 21 provide a general overview of the bank. Note that the figures have been modified in order to prevent disclosure of the bank's identity by way of logical deduction.

<u>Facts and figures – Apollo bank</u>	
Operating profit (€m)	> 1,500
Consolidated surplus (€m)	> 1,000
Balance-sheet total (€bn)	> 500
Equity (€bn) as shown in balance sheet	> 15
Employees (worldwide)	> 30,000

Table 21: Adjusted key financial figures – Apollo bank (average p.a. of financial years (2006–2008)).

Chapter 4 - Results, analysis and discussion

The theoretical discussion presented in previous sections indicated that, although corporate foresight lacks theoretical background in science, there are certain indicators on the integration of the phenomenon into judgement and hence strategic decisions. The conceptual framework on which basis this research has been approached was derived from previous research findings as well as by creating logical links between different concepts (cf. section 2.5.6; Figure 21). The following sections will scrutinise and investigate corporate foresight from different angles and formulate findings for later discussion.

1. Areas of investigation, Part 1: Managerial perspective on corporate foresight

The analysis of corporate foresight in Apollo bank requires an analytical framework which ensures that the influencing factors of the phenomenon are identified in a scientific and rigorous fashion. Conforming to the analytical and conceptual framework as proposed in section 2.5.6, the first areas of investigation will analyse Apollo bankers' awareness, reservation, openness and general perception of the phenomenon. These research insights are important in order to understand how bankers in particular acknowledge, understand and relate to corporate foresight. The findings will also serve as the basis for further discussion about the impact of corporate foresight on strategic decisions.

1.1 Bankers' familiarity with corporate foresight

During initial conversations, bankers expressed that Apollo bank does not actively embed and formalise corporate foresight. This indicates that the researcher's first impression was based on the bankers' own perception that their bank does not employ any foresight activities whatsoever. The management provided examples of bank activities which they considered to be foresight methods. However, the management stressed these methods were not explicitly identified as a potential manifestations of corporate foresight.

Most interviewees in Apollo bank were found not to be conversant with terms such as corporate foresight and strategic foresight. Some of them knew of and about the term due to previous study, but this was prompted by self-interest. This finding is in keeping with Costanzo's (2004) research in the banking sector in which it was found that the research site under investigation was inexperienced in using foresight terminology as well as in

establishing foresight activities and embedding them in organisational routines. The same unfamiliarity with corporate foresight applies to Apollo bankers as well.

Interviews, whether formal or informal in nature, started with the research topic, i.e., corporate foresight. The first question related to the interviewees' knowledge of corporate foresight and their familiarity with it. Most managers in Apollo bank had not heard of the term corporate foresight. The following quotation is an example of an interview which reveals that the banker had not heard about corporate foresight:

P25:

Question: Have you ever heard of the term corporate foresight?

No, not under this term. I have however heard of futurology in general, – yes. Especially in context with the term innovation.

Here, the interviewee P25 states that the term “corporate foresight” is unknown to him, but not the idea of futures studies – or “futurology” – as the banker describes it. Moreover, the interviewee immediately provides a reference point, namely “innovation”, which shows his efforts to relate the phenomenon to terms, issues and activities at the bank that are more familiar to him. More specifically, the reference to innovation also shows that bankers try to find familiar examples and issues which also have future-related relevance. This implicitly underlines their understanding of foresight knowledge – without explicitly relating it to corporate foresight.

In order to further understand this issue, another example of unfamiliarity with corporate foresight is provided:

T23:

Question: Have you ever heard of the term corporate foresight?

No, not under this term. But I would imagine it to have something to do with trends and analysing them etc. I could also imagine competition analyses and capital market and trend analyses.

The interviewee T23 denies familiarity with the term corporate foresight, but relates it to familiar terms which according to his understanding are future-related. This again shows how managers implicitly possess knowledge and comprehension about corporate foresight. This becomes evident when bankers relate the phenomenon with other processes, concepts or tools that are more familiar to them. The quoted example also shows that the interviewee's understanding of corporate foresight includes the consideration of long-term developments ("trends") as well as the analysis of these. As opposed to P25, who explains his understanding of corporate foresight from an inside-out perspective ("innovation"), T23 understands corporate foresight from an outside-oriented perspective in terms of environmental analysis.

Both examples, however, support the argument that corporate foresight is unfamiliar – yet it somehow exists in the bank. Another interviewee similarly confesses his unawareness of the term, but tries to analytically derive the meaning of corporate foresight:

G26:

Question: Have you ever heard about the term corporate foresight?

Not under this term. But one can deduce the meaning of the term and realise that it has probably some connection with future contemplation. We also use databases and so forth in order to get an idea of the future. Presumably the methods are all the same - only employed under a different term.

Here, G26 tries to create an understanding by associating corporate foresight with the future. Thus, he gives examples of the means employed in the department for futures studies, namely

the use of databases. Interestingly, the interviewee explains that future understanding is achieved by analysing past developments and projecting these into the future – a generally critical approach in terms of the rationale of corporate foresight (cf. section 2.2.1.1; section 2.2.6)¹¹.

As mentioned previously, only a few interviewees admitted being conversant with the term and concept of corporate foresight. Most other interviewees, however, made a connection with foresight methods to show a pertinent understanding of them. Interviewee L22 is only one of the few participating bankers who were familiar with the term of corporate foresight:

L22:

Question: Have you ever heard of the term corporate foresight?

Well, yes, I have come across it [corporate foresight] before. From my past functions I have already had to do with future-relevant tasks such as scenario planning. There we conducted scenario models and we asked ourselves which measures we would have to consider if they were to become reality.

The quotation shows that the phenomenon is understood as being related to future relevant tasks together with subsequent analysis of the implementation of results. Again, the identification of corporate foresight has either been derived conceptually or – more often than not – is explained by highlighting foresight methods known to interviewees.

Based on Apollo bankers' answers, a summary of their familiarity with the term 'corporate foresight', an explicit reference to foresight methods and tools as well as an

¹¹ The concept of corporate foresight mainly denies that the projection and continuation of past developments will lead to an efficient understanding of multiple futures. However, under the condition that forecasts are means by which users are able to project patterns and illustrate possible futures, these methods can be accounted for in corporate foresight. A further detailed discussion may be read in section (2.2.6) with further reference to Masini's (1993) distinction between subjective and objective methods.

explicit conceptual link between corporate foresight and future-related activities can be seen in Figure 30.

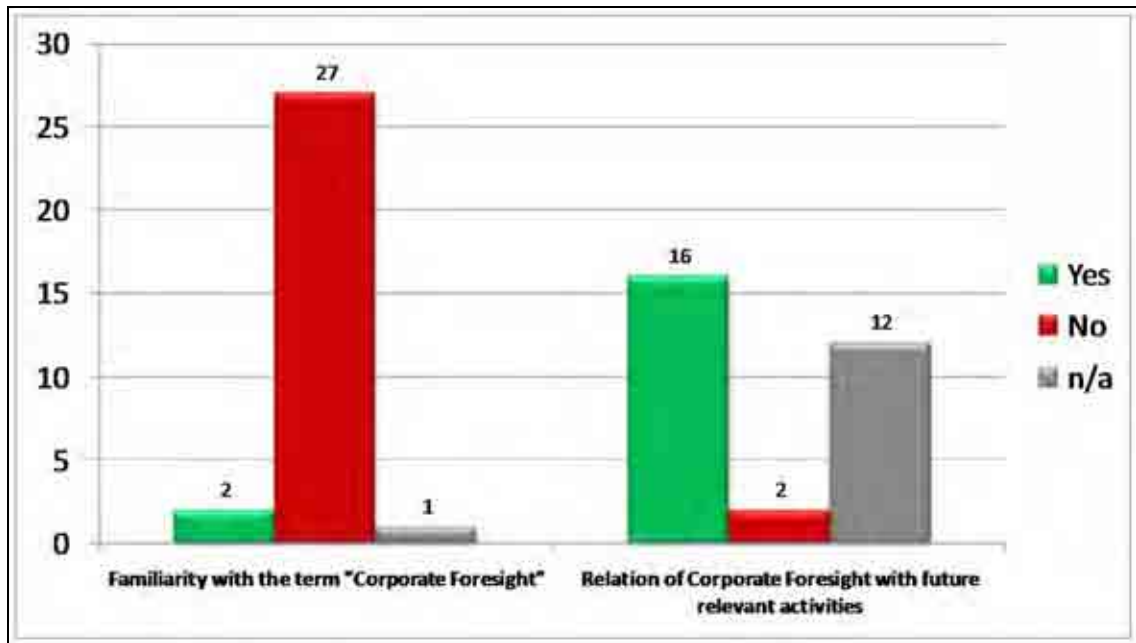


Figure 30: Apollo bankers' familiarity with and general understanding of corporate foresight.

Figure 30 reveals that the phenomenon is mainly unfamiliar to most bankers in conceptual terms. However, it can also be concluded that the bankers did understand the concept either by logical derivation of the term or by providing examples of foresight tools and methods.

1.2 Popularity of corporate foresight and its perceived usefulness – perspective from a functional level

Although scientific publications to date have provided only limited insight into the perception of corporate foresight and its acceptance, some of them claim that corporate foresight is readily accepted at the middle management rather than at the top management level (cf.

section 2.2.6.1.2). Further research has emphasised that greater commitment to foresight practices enhances the general attitude towards the phenomenon and influences decision-making (Chermack, 2008). Regarding the impact of corporate foresight on strategic decisions, it is important to know to what extent the management level plays a role in the acceptance and subsequent use of the phenomenon's results.

With reference to previous section, the management level in Apollo bank can generally be distinguished according to functional levels – ranking from functional level 1, which is the top management level responsible for strategic decision-making to the lower functional levels, here from level two to four of middle management. In future analysis the top management level (functional level, FL1) and the middle management levels (FL2+) will be distinctly distinguished while reviewing the popularity and usefulness of corporate foresight. In order to analyse the areas of investigation to a satisfactory and structured extent, the following two perspectives will be considered:

- Individual experience with corporate foresight¹²
- Assignment of perceived usefulness to corporate foresight.

The former perspective (individual experience) provides insight regarding the bankers' previous experience of corporate foresight and enables us to ascertain to what extent corporate foresight is currently missing or was in the past missing. The latter perspective provides an indication of the perceived usefulness of corporate foresight. This analysis helps us to gain an understanding of the potential of corporate foresight in Apollo bank.

¹² In further discussion, the term of corporate foresight in relation with experience will be referred to formally established corporate foresight manifestations. For further discussion, see also sections 2.2.3.1-2.2.3.2

1.2.1 Individual experience with corporate foresight

Starting at the top management level, bankers showed great interest in corporate foresight. Although some of them were unfamiliar, at times even inexperienced with the phenomenon, most of the bankers had a certain conception of the significance of corporate foresight. The following quotation made by one of the bank's top managers expresses his experience with corporate foresight:

H32:

I have not come across the term corporate foresight. What goes through my mind whenever we come up with various scenarios during our mid-term planning, we thereby always try to consider the different economic circumstances. [...]. I would say that futures studies are far-fetched. In my opinion, it is more a modelling of parameters and with that an attempt to derive any likely developments. And if you then refer to it as 'futures studies', it sounds as though one were concerned about 'of what significance an interest level of X with a Dollar rate of Y and an increase in GDP of Z% would be to us?'. This would be a sort of derivation of parameters. [...]. Well yes, a certain future orientation exists. Disregarding the criticism, which we have all passed on mid-term planning on numerous times, the truth of the matter is, that one must give thought to which developments could affect our most important markets and key customers within the next three years. This is sometimes more, sometimes less scientifically and intellectually distinct. But that one must ask oneself: 'What the future development would actually look like?' – that to me is clearly perceptible.

From H32's statements on his experiences with corporate foresight in Apollo bank, the following main arguments can be distilled: First, the banker admits the consideration of scenarios (although quantitative, cf. Masini 1993; cf. section 2.2.6) in the department's planning procedure. Second, the interviewee does not specifically assign any of the currently employed foresight activities to corporate foresight (or 'futures studies'). The reason for his opinion being that the participant does not analytically perceive a quantitative manipulation of future parameters to be substantially convincing. It may be stated overall that, although a general conceptualisation of foresight is perceptible, top management banker H32 admits being rather inexperienced in corporate foresight.

Similarly, banker F10 states that his experience indicates that other banks are more committed to corporate foresight than Apollo bank:

F10:

As opposed to what I have experienced elsewhere and what I miss in this bank are overall economic scenarios which are formulated for the entire bank. Segments are then instructed to optimise the business policy according to the scenarios. We do not practice this here. What strikes me in the Apollo bank is that many people juggle figures here and this very fastidiously. [...] Three scenarios should centrally be advocated and I would like to know from everyone how he would cope with each scenario. This is not something we do here. This would be a reasonable management of foresight information. The bank states: 'we have agreed on three possible scenarios for the bank'. This is something worth criticising at this point.

F10 pleads in favour of centrally elaborated scenarios which are subsequently distributed to each operative segment for further revision. Due to his previous experience at another bank, F10 reflects a positive attitude towards previous corporate foresight processes which he misses at Apollo bank. Hence, it seems that the banker would like to see the implementation of corporate foresight due to his past experiences, but not due to actual experiences at Apollo bank.

The lack of corporate foresight experience at the top management level is also confirmed by banker Z13:

Z13:

I must admit this [corporate foresight] doesn't occur systematically here. In my group, in the corporate development department, we do some basic research. We look into certain reports from business consultants, from Investment banks and then try to filter the trends from there. We would also like to do some original market research but have lately been pressed for time. For example we would like to ask: How does banking operate in the emerging markets?

It may be concluded that Z13 admits the deficiency of corporate foresight in Apollo bank, the commitment to some basic (futures) research, the preferred study of external reports and

insufficient time as the reason for the lack of proper corporate foresight activities. The impression arising from this quotation is that, at Apollo bank, the top management level in general lacks corporate foresight experience – although the requirement and the desire to exercise corporate foresight are existent. It can therefore be generally stated that although the top management bankers are inexperienced with foresight activities, there are some bankers who are familiar with it due to previous experience.

An exception at the top management level in Apollo bank is L22, who has past experience with foresight activities in Apollo bank:

L22:

Question: Have you ever heard of the term corporate foresight?

Well, yes, I have come across it [corporate foresight] before. From my past functions I have already had to do with future-relevant tasks such as scenario planning. There we conducted scenario models and we asked ourselves which measures we would have to consider if they were to become reality. [...]. Here at the bank, one is very busy with the definition of scenarios – discussing it as a topic at a regular's table with everyone trying to put forward their own opinion. However, it is rare that this is then further pursued for example by agreeing on two to three critical scenarios and defining them clearly. But these general discussions often lead to nothing. [...]. These are definitely exploratory scenarios, because we have a project plan. We take a blank sheet of paper and consider what we would like to change in the project plan.

Interestingly, L22 not only admits participating in corporate foresight activities, but also admits that these are not put into practice properly. It can therefore be identified that L22 is experienced but dissatisfied with the current form of manifestation of corporate foresight. In the course of the discussion, the banker provided examples of foresight tools that were employed at the bank such as qualitative scenario workshops (cf. 2.2.6).

By and large, it may be established that the top management bankers at Apollo bank are experienced with corporate foresight to a certain extent, but that this experience has been gained in other organisations.

From the middle management perspective, corporate foresight seems to be a more specific concept. Whilst most of the top management bankers either described a real, corporate foresight case or derived the concept from a conceptual point of view, middle management bankers seem to be more specific and institutionalised regarding their approach in describing experiences with corporate foresight:

B31:

To date there are no institutionalised [corporate foresight] processes. Likewise, there are no written instructions, for instance in the firm's constitution. Feedback via telephone or email is rather sporadic. [...]. Up until now, we have held monthly meetings together with the group management department.

Banker B31 admits not having had any previous experiences with corporate foresight, interestingly, because foresight processes are not laid down in the bank's constitution. In terms of foresight activities, the banker stresses regular meetings with the group management department (GMD). In addition, B31 conducts irregular communicative routines such as telephone meetings or email conversations. Although this interview extract describes simple communication routines which are difficult to ascribe to corporate foresight, both issues can, however, be related to each other; this is possible because the interviewee responded to a previous question on corporate foresight activities. Overall, B31 can be described as a rather non-experienced corporate foresight participant, although current processes are increasingly perceived by him as being enhanced by foresight characteristics.

Another middle management banker, N27, does not claim to be highly involved in corporate foresight processes. However, he too approaches the phenomenon from a rather distant and impersonal point of view:

N27:

Well, I am not present when strategic decisions are made. You notice that we are not involved at the time they are made. But I guess that all decisions that are made at the bank are made based upon a future oriented motivation. The department that prepares these decisions, also justifies them. The board of management does not make any unreasoned decisions. [....]. [...] eventually you can also trace this back to a certain decision which again was based on future information. Sounds a bit simplistic. But I find your research topic interesting, for sure. There must be a normative-actual comparison - well planned and structured within a process. But, unfortunately, life is also based upon luck. [...]. In my opinion it is a decentralised function, which takes place in the individual sectors. The private banking sector practises futures research [...] within the scope of market research and market observation. And then there are fields which are more introverted – i.e. the service sectors. They also conduct it – only under a different term. The only department to my knowledge which also practices this in a systematic way is the central strategy department. It certainly does not function under the term, used by you – but it is something very close to it. It is concerned with the development of the Apollo bank group. So I suspect it's quite likely to occur there.

Banker N27 is aware that corporate foresight takes places and may have some impact on strategic decisions, although the banker speaks from a perceptible point of view and not from his own experiences. In further comments, the interviewee refers to other departments and teams which are more likely to be involved in corporate foresight processes rather than the department in which N27 is situated. It must be added, however, that banker N27 is employed at a responsible level which in all likelihood serves as an anchor for corporate foresight processes. The reason for the banker's denial of any contact with corporate foresight and his perceived non-responsibility can be based on two arguments: Either the banker is explicitly not experienced with corporate foresight because his scope of responsibilities does not include these processes or the banker implicitly refuses to relate to corporate foresight due to personal or committing reasons. In either case, it can be stated that the interviewee regards himself as

inexperienced in corporate foresight processes. Later in the discussion, N27 explained that the department he belongs to is creating some kind of corporate foresight process. Thus the interview eventually revealed that the participant is somehow more acquainted with corporate foresight than previously stated.

In sum, middle management bankers seem to be more reluctant to admit any active participation in corporate foresight processes. Whilst it remains unclear whether this is based upon perceptions or on substantial evidence, the impression remains that middle managers tend to express themselves as being inexperienced with corporate foresight. In contrast to top managers, however, it can also be stated that the perspectives on current processes differ to a larger extent: top managers tend to implicitly assign various ‘foresight’ characteristics to currently existing processes, whereas middle managers tend to identify specific corporate foresight processes only when these have previously been determined as such. An overview of individual experiences with corporate foresight according to functional level can be seen in Figure 31.

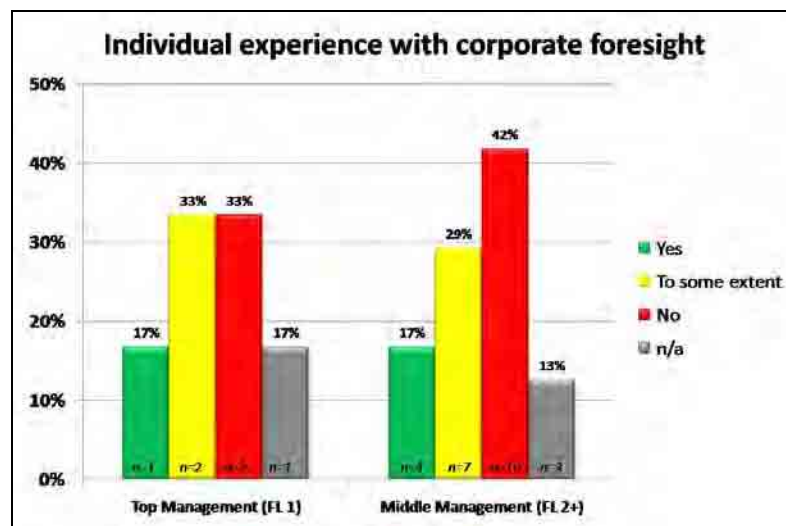


Figure 31: Individual experience with corporate foresight according to functional level.

From an analytical point of view, it can be deduced that top management bankers are more experienced with some foresight practices than middle management bankers. Based upon the analysis, there are two reasons why top managers tend to admit having experiences with corporate foresight in contrast to middle managers. First, top management bankers showed the propensity to assign foresight characteristics to processes on a broader scale. This means that although most of the processes in which top managers participate are not *prima facie* characterised as being typical corporate foresight processes as such, top managers perceive them to have foresight characteristics. This was exemplified by the case when a top banker explained the negotiation of a long-term contract with a supplier as being somehow based upon previous corporate foresight workshops. Middle managers, in contrast, would only experience and label corporate foresight processes as such if the process itself has been identified by formal categorisation.

Second, because top managers are predominantly involved in shaping the organisation's future in a strategic fashion (cf. section 2.4 *et seq.*), the topic of corporate foresight belongs more to their scope of responsibilities. Therefore, top bankers perceive their tasks and responsibilities as significant for the future of the bank and they tend to accept this being labelled as corporate foresight, even though they might be unfamiliar with the concept as a whole. Overall, it could be argued that top bankers confirmed experience with corporate foresight on a broader scale, whereas middle managers defined their experience with corporate foresight on a narrower scale.

Bearing this in mind, it is interesting to analyse further how corporate foresight is perceived by bankers according to their functional level. This will be discussed in the following section.

1.2.2 Assignment of perceived usefulness to corporate foresight

The general perception regarding the usefulness of corporate foresight in relation to the bankers' functional level should also be investigated. Previous research indicates that top management bankers, as opposed to middle managers, find corporate foresight less helpful – particularly in making strategic decisions (cf. Wack, 1985a; 1985b). However, bankers who did not participate in corporate foresight activities might have an opinion of the additional value of corporate foresight. Therefore any banker who participated in the research – disregarding the degree of their experience with corporate foresight – will be considered in the following discussion. Moreover, an analysis of those bankers judging by perception rather than by experience may indicate why corporate foresight is accepted or refused by 'newcomers'.

Commencing with the top management level, it was observed that the interviewees have a positive impression about corporate foresight and its added value in relation to their tasks and responsibilities. Interestingly, some participants, such as Z13, admit not having followed corporate foresight in their scope of responsibilities in the past. However, developments in the financial sector, such as the effects of the financial crisis of 2007–2009+ as well as the identified requirement to alter banking strategy towards profit generation rather than cost cutting, appear to have increased the perceived usefulness of corporate foresight:

Z13:

We have spent the past few years concentrating on how to reduce costs. This is what we are doing during the crisis as well. However, later we have managed to generate gross proceeds through new products and by creating new client approach profiles. I therefore believe that foresight will be of much higher significance than it has been in the past [...]. One would, of course, conceive proper futurology within a bank to be a bit different, but at present it is not being done that way at Apollo bank. [...]. So in addition to that the following questions are: how will banking and the clients' needs change in the next five to ten years? How can we, as banks, adapt to these changes?— To my disappointment, we do not go about this very systematically in the bank. At the moment we are not all too concerned about it.

The quotation from Z13's interview provides an interpretation of Apollo bank's current situation. While the bank had mostly focussed on costs in the past, it equally demonstrated only marginal ambitions to pursue corporate foresight. Nevertheless, the participant emphasises that this lack of rationale was not only observable in Apollo bank but in other banks as well. Thus, Z13's argument is focussed on a general critique towards the banking sector in terms of scarcity of corporate foresight which, to the participant's discontent, was even more underdeveloped in Apollo bank. It is, however, noticeable that although Z13 admits that Apollo bank's corporate foresight is not institutionalised as yet, the phenomenon's importance is likely to increase in future. Thereby it can be asserted that the interviewee assigns a high level of usefulness to corporate foresight on the basis of his expectations and feelings rather than on previous experience.

In a similar fashion, interviewee P11 describes the increase in the perception of the usefulness of corporate foresight in comparison to past banking practice:

P11:

Perhaps I am approaching the topic half-heartedly. Had you asked me five years ago, if I believe in analysts and rating experts, I would have said 'yes'. I am a lot wiser today. It is therefore difficult for me to give you a black or white response in answer to your question. I believe that any management of a company needs to consider the positioning of the bank. That is to say: 'where do I want to be in five, eight or ten years from now?' considering all given circumstances. There will always be managers who do it well and profit from it by excess profit, whilst other managers are more likely to earn a lower profit.

P11 has undergone a learning process from which he discovered that blind faith in external analysts' and experts' opinions initially leads to bias and subsequently heightens uncertainty of bankers. Clearly, the banker emphasises that either approach in imagining the future, namely, via the means of corporate foresight or analysts' and experts' opinions, will be assessed on the basis of profitability. Hence, it could be argued that P11 tends to assign a higher usefulness to corporate foresight because previous processes for imagining the future have failed. One could argue that corporate foresight contradicts this short-term notion. Accordingly, the banker's statement should be rejected. On the one hand, it must be accepted that P11 has high expectations of corporate foresight based upon its potential or rather expectation that it can help to increase profits, which might reflect a banker's conservative perception. On the other hand, it must be taken into account that corporate foresight has to consider these requirements of earning profits in order to be established in the banking sector – at least according to banker P11.

From a similar point of view, interviewee L22 perceives the usefulness of corporate foresight as high, provided that certain preconditions are met:

L22:

What is often missing is the parsing of one particular scenario. What effects does a specific scenario have and what actions would we consider should this scenario occur? This would serve as an early warning indication. [...]. What I would hope for, is a broadened openness to deal with these topics. Which at time even sound esoteric. And further, that one manages to bring key personnel from various areas of the bank together in order to then define the following chain: 'What do we expect is likely to happen and what can be done collectively to prevent it?' That is what I wished would be pursued and practiced more intensively at the bank.

The banker L22 emphasises the preconditions required for corporate foresight, some of which are a closer collaboration between departments and a centrally organised and committed approach to these processes. It can be stated that L22 expects the bank to organise corporate foresight in a more sustainable fashion which leads to the conclusion that the interviewee assigns a high degree of usefulness to corporate foresight – particularly if one considers the last sentence in which the banker argues in favour of sustainably pursuing corporate foresight within the bank.

In relation to the above mentioned preconditions to be accomplished by corporate foresight, H32 equally rates the usefulness of corporate foresight as high – but only under the consideration of further conditions:

H32:

I would have to have a steady concept. To have a mere trend scout to say: 'oh, by the way, in California, a robot welcomes its customers etc.' – maybe nice to know, yet it leaves me with the question of: 'what does one do with that [information]?' Can it be put to use in a process of innovation, in a committee? Can I test it? How do I implement it? [...]. In my view, yes. Therefore, one must consider in great detail, what one wishes to scout. Do I wish to scout products or consultancy concepts? If you think about how things are done in Asia, you are more likely to get a clearer picture of what the customers of tomorrow are going to be interested in. This would lead to a strong focus on the topic of products, consultancy and branch concepts. [...]. Well, such a process [corporate foresight process] does exist. Here we try to anticipate the future in a long-term manner. We don't have a specific network at present. As a team, we discuss how things have developed, where the market is headed and how the organisation is coping. So overall – a long-term perspective is taken here.

While L22 emphasises the networking aspect as being an important condition for increasing usefulness of corporate foresight, H32 highlights the aspect of aiming at accuracy and suitability for further implementation. Thus, according to H32, the foresight process targets of corporate foresight must be defined a priori, otherwise corporate foresight will not lead to an acceptable input in further processes. Moreover, the interviewee implicitly assigns a high degree of usefulness to these perceived corporate foresight processes as these already build an integral part of the banker's daily tasks. It can therefore be concluded that H32 assigns a high degree of usefulness to corporate foresight.

The following is a quotation of another top banker, F10. According to his statement, corporate foresight has rather mediocre usefulness and the interviewee's concerns refer specifically to the perceived ease of manipulating any created picture of the future:

F10:

In my opinion, scenario calculations induce a heightened uncertainty because one is unable to know whether the probabilities that one assigns to each scenario is correct or not. The bottom line is that you are still betting – only that it is more methodical. Yet it still will always remain a bet.

Banker F10 makes an interesting observation that even quantitative scenarios which are based on probabilities are highly subjective. In the figurative sense, the interviewee is of the opinion that the results of corporate foresight reflect the belief and interpretation of the issuer. The interviewee goes a step further and states that any future consideration eventually is a "bet" on which the banker has to make his decisions. This view is fundamentally different from that expressed in the other bankers' statements. This is because it can be argued that this top banker assigns a high degree of usefulness to "fateful" decision-making and does not

intentionally pursue foresight practices. Therefore, it can be stressed that F10 assigns a mediocre degree of usefulness to corporate foresight.

From a middle management perspective, it has been argued that middle managers rate the usefulness of corporate foresight more highly (cf. Wack 1985a; 1985b). Therefore, the following analysis will focus on their perspective. Generally, three types of middle managers with differing perceptions can be identified: (i) those who have a distant perception towards the usefulness of corporate foresight; (ii) those who have a moderate opinion of it; and (iii) those middle who stress the importance of corporate foresight.

Bankers with a rather cautious attitude (i) towards corporate foresight state that its usefulness is mainly based on its informative character. This view is evident in statements such as that made by interviewee H08:

H08:

[Corporate Foresight] always has informative character; to show tendencies. How is the market developing? But no tendency for a large impact.

Banker H08 considers the impact of corporate foresight to be useful to some extent (“informative character”). Nevertheless, this banker also emphasises that he disbelieves that the phenomenon would have a larger impact in general. It can therefore be deduced that corporate foresight is basically perceived as simple information.

Some middle management bankers attribute a mediocre usefulness to corporate foresight (ii), although they equally emphasise the high degree of usefulness of corporate foresight – beyond their scope of responsibilities. It appears that the extent to which usefulness is assigned to corporate foresight depends on the perceived distance between the banker’s responsibilities and the manifestation of corporate foresight:

M09:

I do believe [strategic decision-makers] try to integrate foresight information into strategic decisions. For example business plans are being or whenever we are planning for the forthcoming years, some considerations are done along the lines of: 'how will thing continue from here?' or 'how will things develop in the long run?' It is in this moment in time where one tries to look into the future and incorporate everything accordingly.

Banker M09 explains that the usefulness of corporate foresight is based upon 'some considerations about the future' whenever top managers make decisions on basis of corporate foresight. Although the interviewee is familiar with the concept of corporate foresight, he rather assumes what corporate foresight might or might not provide of additional value. Concurring with H08, banker M09 recognises some usefulness, although an indifferent position is noticeable.

Another banker, P25, comments as follows:

P25:

In my opinion future studies play a big role, i.e. how markets developed. That has a big influence. However, no systematic procedure exists to date.

Banker P25 also assigns a high degree of usefulness to corporate foresight as a whole, particularly in relation to analysing and understanding relevant markets – but with certain conditions: the lack of systemic procedures regarding the manifestation of corporate foresight puts this statement in a perceptible context. Hence, bankers such as P25 argue that corporate foresight does have a higher degree of usefulness, but only in an indirect fashion which means that corporate foresight is perceived as generally being important, but not necessarily for the bankers task responsibilities.

The third group of middle management bankers stress the high degree of usefulness of corporate foresight (iii). Some bankers were more specific and provided examples regarding corporate foresight and its usefulness in their scope of responsibility:

L30:

Well, when we take a look at our prognoses –I am an analyst by profession, trying to verify bank assumptions, i.e. a) does it make sense and is it credible and b) can it be manifested? [...] From an internal point of view middle term planning springs to mind, which is somewhat more distant and takes product and product innovation into consideration. These are the things I would consider relevant to your topic. [...]. Just as important is the track-record. This has never been worked through scientifically. These are factors which have always existed in the past. However, what distinguishes a good enterprise is its predictability for investors. It is precisely this predictability which presumes that one must have a good corporate forecasting ability. It is important to reach the targets that I have expressed for the market as they are of significance for the management also. It is therefore beneficial for an established company to develop its predictability in the long run. All this is of great importance – possibly even more so in the future.

Banker L30 explains some functions where he would conceptually assign corporate foresight processes, namely, in planning processes and product-related functions. The banker goes into detail and leads the discussion to his scope of responsibilities and stating that corporate foresight – according to his understanding – is important to be successful in the banking business. Noting particularly the interviewee's task responsibility of communicating with shareholders and stakeholders, L30 emphasises that it is important that he, his team and the whole bank remains reliable and trustworthy in the eyes of external parties. In this sense, corporate foresight is important because it helps the internal environment to understand the external environment and subsequently convince stakeholders that this understanding has been achieved. It can therefore be inferred that L30 has assigned a high degree of usefulness to corporate foresight.

On a more conceptual and analytical level, some bankers discuss the characteristics of corporate foresight further. These bankers – such as T23 – stress that corporate foresight enhances the overall quality of discussions in relation to the bank’s future and in tackling complex patterns:

T23:

This can best be seen in the depth of analyses as well as what is expected of us that has been increased continuously [...]. Up until now it was commonly held on a rather general, superficial level . Also where internal analyses were concerned. [...] Corporate foresight significance has grown increasingly – which means. futurology on the whole [...] Procedures are becoming more and more complex, especially in regard to internal and external information sources. One hopes to attain better insight.

From T23’s point of view, one can conclude that corporate foresight indeed has a high degree of usefulness for the interviewee. Applied to the context of the interviewee’s scope of responsibilities, processes in the past (prior to the financial crisis) have been considered by the banker as rather shallow in comparison to today’s banking practice. As a result of these circumstances, T23 assigns an increasing importance to corporate foresight in the banker’s view, corporate foresight might help to achieve a better insight into complex patterns. In other words, the specific and perceived usefulness of corporate foresight is justified on the basis of current difficulties and uncertainties which favour the design of new processes that will be able to deal with these challenges – and corporate foresight is seen as being one of these.

The particular difference between the second and third group of middle management level bankers can be distinguished according to whether the perceived usefulness of corporate foresight applies directly and explicitly to the interviewees’ task responsibilities or whether it remains a rather discrete and distant assumption. An overview regarding the different perceptions on the usefulness of corporate foresight can be seen in Figure 32.

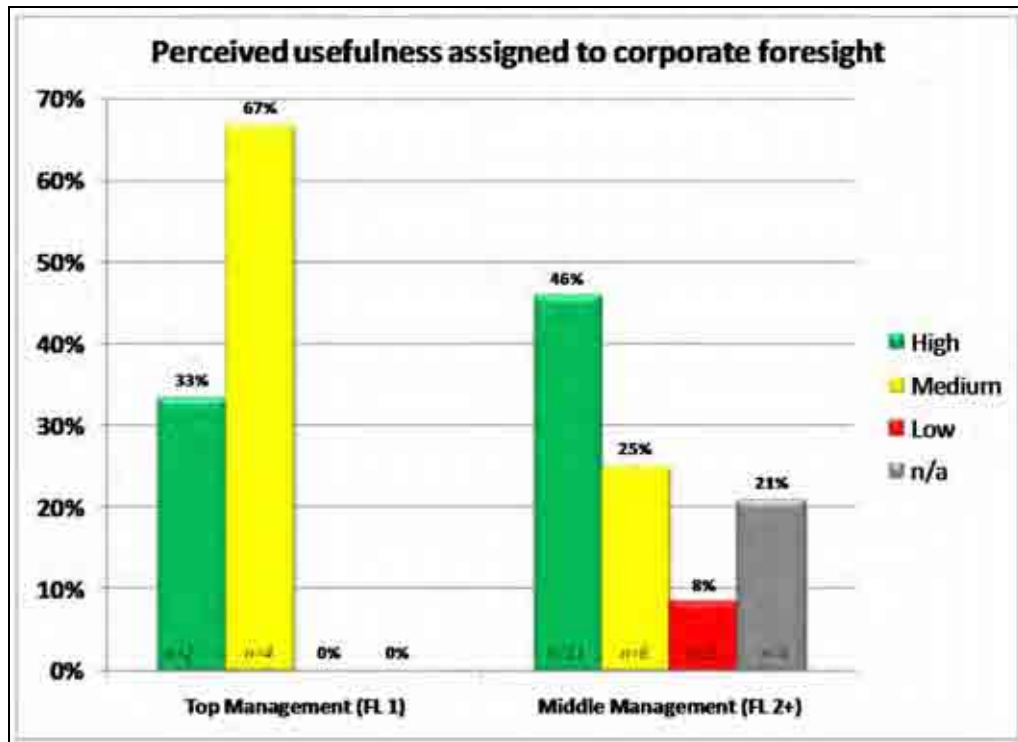


Figure 32: Perceived usefulness assigned to corporate foresight results according to functional level.

Figure 32 shows that middle managers are generally more positively inclined towards corporate foresight than top managers. Interestingly, none of the top managers are reluctant to accept the usefulness corporate foresight, which in turn indicates that the usefulness of corporate foresight is generally perceived as high by top managers. Comparatively, however, middle managers tend to perceive corporate foresight's usefulness slightly higher. The following section will further analyse Apollo bankers' openness and reservation towards corporate foresight, which will be investigated from a functional perspective.

1.3 Bankers' openness and reservation towards corporate foresight – a functional perspective

The banking sector has been scarcely researched from a foresight perspective (cf. section 2.2.5; section 2.5 *et seq.*). Some authors argue that bankers are generally distant towards corporate foresight. This observation is based upon the finding that bankers are trained to assess risks exhaustively to that uncertainty (Rollwagen, 2006) and the notion of 'multiple futures' is avoided. Therefore, a general reservation of bankers towards corporate foresight is expected by the researcher. It is important to analyse bankers' attitudes because it helps us to understand the conditions under which corporate foresight is implemented and accepted in a bank, as well as eventually integrated into judgements and strategic decisions¹³.

The previous section 4.1.3 revealed certain acknowledgments of corporate foresight's functions, such as the increased understanding of developments in the banking sector or the understanding of complex structures in the future. The following discussion consequently aims at categorising the perceived qualities and functional value of corporate foresight from the bankers' point of view. More specifically, the analysis will follow an analytical framework which displays the openness and reservation of bankers towards corporate foresight on the one hand and an inner and outer organisational perspective on corporate foresight's functions on the other hand.

To start with, interviewee L22 gives a first impression of bankers' attitude towards corporate foresight. L22's impression refers to the degree of institutionalisation of corporate foresight in Apollo bank:

¹³ Regarding the integration of corporate foresight into evaluative judgements, see also areas of investigation 4.4.1 *et seq.*

L22:

What I would hope for, is a broadened openness to deal with these topics. Which at time even sound esoteric. And further, that one manages to bring key personnel from various areas of the bank together in order to then define the following chain: 'What do we expect is likely to happen and what can be done collectively to prevent it?' That is what I wished would be pursued and practiced more intensively at the bank.

On the one hand, it could be argued that L22 characterises corporate foresight as being a rather “esoteric” issue, while, on the other hand, L22’s statement emphasises that bankers in Apollo bank do not actively follow up corporate foresight. The labelling of corporate foresight as “esoteric”, reveals that this participant considers corporate foresight to be rather mysterious, culturally contradictory or even an irrational concept. The lack of follow-up foresight activities within Apollo bank can be considered to be a result of the former. The interviewee does not provide more specific insight into this perceived shortcoming here, but further discussion will shed more light in the analysis in section 4.2 *et sequentes*. More specifically, further analysis will distinguish between openness and reservation (attitude) towards corporate foresight on the one hand and from an inner and outer organisational perspective on the other hand.

1.3.1 Inner perspective and openness towards corporate foresight

As mentioned in previous publications the basis of this analysis is the researcher's expectations that corporate foresight is less institutionalised and less favoured by bankers (cf. Rollwagen, 2006). Although a general reservation towards corporate foresight has been expected and documented in other publications (cf. Rollwagen, 2006), some bankers underlined its potential as a suitable platform for communication:

P14:

In my view, corporate foresight, and this is a very valid point which has got very little to do with the question posed, thrives on discussion and communication. Corporate foresight is never a narrator who will suddenly pop out from behind the corner and inform Apollo bank about how it is going to develop. Instead only people who view things from different perspectives and then intercommunicate and exchange knowledge can achieve that. This is also why I am such an advocator for discussions. [...]. Let us be far more concrete: from an anticipate trade and cash flow development I will infer how the bank credit volume will develop over the next five years. Based upon this, I will then setup a plan together with the product managers which is handed over to the group executive management thereafter.

The example of P14 highlights the perceived potential of corporate foresight. Apart from previously expressed reservations, it shows that corporate foresight is understood as being a good platform for communicative purposes. The interviewee additionally emphasises that corporate foresight should not simply be manifested by a futurist (here: *narrator*) with an ability to communicate trends and weak signals. Instead, the interviewee would like to use corporate foresight to internally communicate perceptions of the future. Hence, one could argue that P14 classifies corporate foresight as a vehicle for communicating routines regarding the future – routines which are missing in Apollo bank.

1.3.2 Inner perspective and reservation towards corporate foresight

From a rather reserved, but still inner perspective, other interviewees argue that corporate foresight tends to be difficult to establish in the banking sector due to the predominant conservative attitude of bankers. Generally, the banking sector is perceived as not being very open to change (cf. Rollwagen, 2006) and hence some bankers state that the introduction and embedding of new foresight processes will be difficult due to perceived conservatism at banks:

F10:

Interviewer: Does the bank aspire to be courageous at times?

That contradicts the bank. The bank is conservative and thus security oriented. It is a large accumulation of 'academic snobs'. There is no one who says: 'I want to do something really exciting'. [...] Customers are just like bankers. 95% of them are not in favour of change. Everything should remain the way it is. Only then I can do business with them.

According to F10, major changes in banking would lead to difficulties in business transactions with customers – and even lead to a negative performance of the bank. Although the concept of change management is beyond the scope of this research, F10's statement reveals an interesting point: Some bankers may be open to corporate foresight in general, but be under the assumption that banking must be conservative and unchanged for business reasons. This attitude would hinder the successful implementation of any foresight ambition from the start. In other words, it seems that it is not the perception of corporate foresight that leads to a rather reserved relationship between bankers and corporate foresight, but the perceived low necessity of undertaking corporate foresight for long-term benefit in banking. Another interviewee expressed this point differently:

X01:

I believe it is better to include these [corporate foresight – author's note] structures. But the commitment to futures studies must be in due proportion where costs and benefits are concerned. This also refers to the question as to what extent you can measure foresight and its benefits.

Banker X01 provides a rather traditional and rational approach in assessing (new) processes like corporate foresight processes. According to the banker, corporate foresight must first exhibit a benefit against the incurred costs before an acceptance by bankers can be expected. In a similar vein, J12 provides another reason why corporate foresight had or will have a difficult position in the banking sector against the background of predominantly conservative and change-averse mindsets:

J12:

Clients do not expect anything else. I do believe that there is potential there to inspire clients for the bank or organisation differently. You cannot easily implement this, as overall there exists a certain mindset. You have staff members which have grown with the organisation over the years. And as in every organisation, they carry this burden with them. The history of the organisation plays a relevant role. If certain staff members are not brain washed then they will push the organisation in the same direction – very normal.

The participant provides a further explanation as to why bankers are rather reluctant to accept change. More specifically, J12 claims that the organisation is pushed in a single direction which goes against any alteration towards future-oriented organisational behaviour even if required. In other words, there is a general reluctance towards change in terms of foresight. With regards to corporate foresight, of which one of the side-goals is to establish a strategic fit for the long-term future (cf. section 2.2.4 *et seq.*), this assessment is more than concerning. One could argue from the statements made that bankers have a general reservation towards organisational change – or in this context, towards corporate foresight. This reservation can

again be traced back to the traditionally conservative culture in Apollo bank. Foresight results may therefore fail to be implemented; even though bankers are somewhat convinced that corporate foresight is required.

1.3.3 Outer perspective and openness towards corporate foresight

Having analysed bankers' perception on corporate foresight from an inner organisational perspective, it is also interesting to analyse which areas could or could not favour the organisation from an outer perspective. Generally, Apollo bankers believe that corporate foresight has the potential to understand the environments' and business markets' futures. As this is one of the main foci of corporate foresight, bankers considered the exercise of foresight activities as important in that sense. As one interviewee states:

F24:

Apollo bank is a structural organisation, meaning that the departments and their company performances are reflected in the structural organisation. The segments are therefore a lot more independent. [...] That was also the aim: It is now easier to identify growing segments and to bundle the activities. [...] Well, according to the corporate constitution one should identify and boost growing fields.

F24 is one example of a manager who gives an approach to implement corporate foresight from an outer perspective. The interviewee argues that the constitution stipulates that bankers should 'identify and bundle growing fields of businesses' – which suggests that managers need to spot profitable markets. During this specific interview, the participant did not specifically explain any foresight activity employed at the time when the research took place. However, the interviewee further states:

F24:

Corporate Foresight's significance has grown increasingly – which means futures studies on the whole [...] Procedures are becoming more and more complex, especially in regard to internal and external information sources. One hopes to attain better insight.

It could be argued that F24 has a certain openness towards corporate foresight by assigning an increasing importance to the phenomenon. The last point, namely “better insight”, suits well the foresight concept which aims at understanding the future and achieving some kind of insight eventually.

1.3.4 Outer perspective and reservation towards corporate foresight

From an outer perspective of the organisation and bankers' perception of corporate foresight, there were, however some critical voices against corporate foresight as well. Some bankers referred to their hesitation to acknowledge the external benefits of corporate foresight on the basis of product development in particular. Although previous research argues that corporate foresight is indeed beneficial for the organisation's innovative power (cf. Becker, 2003), the service industry seems to contradict this statement. Interviewee F10 describes this argument:

F10:

And markets, in which we act are incredibly transparent. [...] Regarding your topic, futures studies, the question of innovation within the bank is also raised. There is no real innovation in the bank. Our products consist partly of IT, work and to a small extent of human input. As a result, they are relatively easy to copy, because one cannot patent bank products.

F10 explicitly relates corporate foresight and (product) innovation from a banking perspective. During various interviews, some bankers reacted in a reserved manner when discussing corporate foresight and the external benefits of the phenomenon. Since most

interviewees had never heard of the term, most related the phenomenon to innovation purposes (see section 2.2.4.1.1) – as did interviewee F10. Although the topic of innovation is beyond the scope of this research, an interesting point can be derived from the above quotation: F10 explains that any innovative ambitions, or in other words, the innovation of new products, will not be a promising banking strategy in the long run. This is because banking products cannot be patented, so they can be easily copied in a short time. Hence, the main argument is that corporate foresight is not suitable for any product development activity at the bank.

In a separate interview, banker Z13 essentially agreed with F10's argument and stated the following:

Z13:

Yes this lies solely in the nature of the bank. We are dealing with services here, which generally develop a lot faster as opposed to a five to seven year development period in the automobile industry. This is a huge time span. Banks normally require only one year developing a new product. For example, the Apollo bank could open up 50 regional branches [...] relatively quickly. There is nothing much to it. We do not have these long developmental periods. Exceptions being the transaction banking department and payments departments – both are more of an economies of scale business than a 'the-client-notices-the difference' business. All in all: Yes the bank requires more tactfulness than we have had so far, but it will certainly never be as distinct as it is in the industry now.

Banker Z13 also puts forward the argument that banking products are easy to develop and are characteristically short-lived. The banker further states that it would make sense to manifest corporate foresight in other industries such as the automobile industry. It appears, however, that corporate foresight in the banking sector is of only little use in terms of product innovation given the particularities as stated above. Thus, the future-oriented behaviour of banks in terms of product innovation would be of only limited success and therefore, Apollo

bankers are rather reserved in this respect. An overview of the bankers' attitude towards corporate foresight from an inner and outer perspective is displayed in Figure 33.

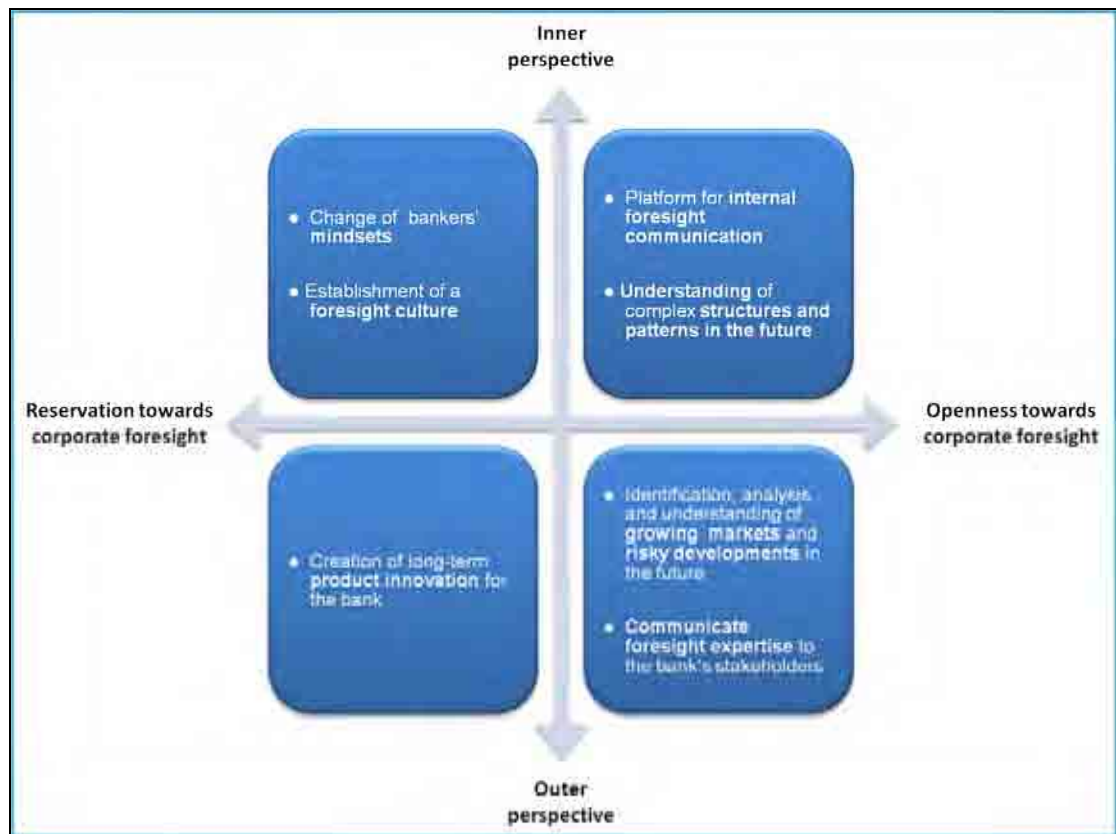


Figure 33: Reservations and openness of bankers in Apollo bank towards corporate foresight from an external and internal perspective.

Figure 33 condenses the reasons for bankers' reservation or openness towards corporate foresight from an external and internal organisational perspective. While the abscissa reflects the participants' attitude towards corporate foresight, the ordinate indicates the interviewees' point of view.

1.4 Findings – Areas of investigation, Part 1: Managerial perspective on corporate foresight

Corporate foresight in Apollo bank: A managerial perspective

The analysis of Apollo bankers' perspective on corporate foresight has identified the following main issues:

Although most of the bankers are unfamiliar with the term 'corporate foresight', the underlying concept has been understood and acknowledged. Some of the interviewees quoted foresight methods and activities to underline their familiarity with foresight tools and practices. Other interviewees, however, did not immediately refer to foresight methods. On the contrary, they quoted methods and tools such as forecasts which are not primarily related to generally accepted, qualitative foresight methods. In sum, the provision of currently employed foresight tools and methods support the comprehension of the phenomenon by Apollo bankers.

The analysis of experiences with corporate foresight did not reveal a clear pattern to provide insight into the bankers' experience with the phenomenon. In terms of perceived usefulness, it appears that top management is open and interested in corporate foresight. None of the top-level managers (FL1) were particularly critical. The analysis of middle management's perspective in this regard showed a divergent picture, with some bankers being reserved and some bankers being open towards the phenomenon. More specifically, top-level managers tend to assign foresight qualities to current processes on a broader scale. Middle management bankers assign foresight characteristics only to processes which have been previously defined as such. This indicates that top-level managers appear to have a higher propensity to assign the usefulness of corporate foresight to current information processes.

Thus, it could be argued that the propensity to assign foresight characteristics to current processes is an indicator of appreciation of the usefulness of corporate foresight. In negational terms, a reluctance to assign foresight qualities to current future-related processes and tasks appears to be an indicator that foresight is not perceived as being useful.

In respect of the functional qualities bankers assign to corporate foresight from an inner and outer perspective, the analysis showed that there was a general openness in terms of understanding the external environment and its developments. However, some reluctance was expressed regarding specific areas such as product innovation and change of corporate culture in Apollo bank.

The first part of the investigation therefore shows a generally diverse picture of how corporate foresight is perceived and experienced in Apollo bank. Although the phenomenon does not seem to be institutionalised, there are some indications that the phenomenon occurs across the organisation in different departments. This lack of integration and formal manifestation of corporate foresight was criticised by some bankers who expressed their expectation that this aspect should be improved in the future.

2. Areas of investigation, Part 2: Organisational perspective on corporate foresight

The lack of extant literature and case studies analysing the phenomenon in depth motivated the researcher to identify the phenomenon in real managerial life. This means that the proposed approach assumes that corporate foresight occurs in a dispersed rather than in a single-point and pre-specified location at the organisation. The research therefore requires the investigation of various levels and departments in order to identify the manifestation of corporate foresight from an organisational perspective. To do this, a conceptual understanding about corporate foresight has to be built upon which further investigation can be conducted.

2.1 Corporate foresight and its formal and informal manifestations at the bank – a departmental perspective

In order to establish a common understanding, interviewees were introduced to corporate foresight as a conceptual phenomenon (cf. section 2.2.1). Having identified the common understanding and perception of bankers regarding corporate foresight in Part 1, the next step in the research was to analyse the phenomenon from an organisational perspective in order to determine the nature and location of foresight activities across the organisation. The identification of these foresight activities is the most explicit manifestation of corporate foresight.

As discussed in section 2.2.3.1 (cf. section 4.1., footnote 12), the intended and formalised exercise of foresight activities will henceforward be referred to as ‘formal foresight activities’. Two aspects in particular attract the attention of the researcher: First, to what extent do teams within different departments exercise corporate foresight activities? This

question refers to the degree of formalisation of these activities. Second, how does the inter-departmental perspective enhance the understanding of information flows in the corporate foresight process? A particular reference will then be made to the perceived responsibility for corporate foresight in the organisation.

The aim is to determine whether corporate foresight is a holistic and dispersed phenomenon within the organisation or a single-point pooling of activities in one specific department. Although interviewees' departmental corporate foresight activities differed significantly in their scope, most of the participants agreed that they conducted foresight activities within their teams and departments. These activities were somehow closely related with the scope, responsibilities and tasks of the departments. The following analysis will argue that departments and teams are experienced in foresight activities and that foresight processes can be observed across the organisation. In accordance with section 2.2.3 *et seq.*, the analytical framework will consider line and staff departments in an attempt to understand how corporate foresight differs across both forms of organisational structure.

2.1.1 Corporate foresight in line departments

Due to the strategic nature of corporate foresight, it is assumed that the phenomenon is more established at departments which have a strategic scope and responsibility (cf. Gruber and Venter, 2006; cf. section 2.5.3). The identification of corporate foresight in line departments is therefore of particular interest due to the researcher's assumption that corporate foresight is manifested to a limited extent in this organisational form.

Banker P25 belongs to an operative, line segment with sales responsibilities. Within the department, however, corporate foresight activities take place:

P25:

We are currently designing such a procedure [corporate foresight processes]. We refer to it as the 'strategic dialogue' [...]. Here we ask ourselves which strategic developments are to be expected in the next three years and what will be the measures involved. This procedure is then meant to rotate annually.

Here, a clear strategic scope of activities is identified; the interviewee explains that foresight processes are planned and aim at understanding the future. The horizon mentioned is three years which, according to the literature, is generally accepted as being a strategic rather than an operative temporal horizon (cf. chapter 2).

A similar example of corporate foresight in a line department is that given by banker P07 who generally describes foresight activities without explicitly referring to them:

P07:

However, it is our task to show tendencies, to observe the market. We thus ask ourselves: 'Why have certain companies survived?' Apparently, because they have anticipated the future. [...]. Market observations and analysis are taking place here every day. [...] One part of our daily work refers to the question: 'What must we do to let distribution work properly?' This results from forecasts. Long-time prospects are being created in a rather qualitative manner.

This excerpt shows that market or environmental understanding is being conducted on a daily basis as part of other operative processes. Although environmental scanning is not neglected in the literature as being strategic in nature, the last part of the quotation makes another interesting point. Here, the interviewee not only emphasises that there is a long-term perspective in their daily market observations and analyses, but also that these are conducted

in a qualitative manner. From this interviewee's statement, it would appear that corporate foresight activities are identified as part of everyday.

Both P25 and P07 agree on the existence of formal corporate foresight activities. These activities take place within organisational routines and are an integral part of subsequent processes. Hence, one can speak of formal corporate foresight activities taking place in these line departments.

An example that shows that informal foresight activities also take place in a line department is provided by interviewee F10:

F10:

How do we do such things [futures research project]? Once a year we meet up with colleagues who are responsible for implementation in this department and discuss about where we want to close or open something. Well that is then the 'offside' to which we treat ourselves. Just to be able to swagger about it. This is not a very formal approach; you cannot set that on the daily agenda and then say: We are now very innovative. Nothing much really happens. [...]. During offside, the people are already informed about it beforehand and bring along something accordingly which we then discuss. As I already mentioned, we talk about the dimensions: Products and countries in which we do business. [...]. A lot happens here based upon gut-feeling. This is usually obtained in a different manner. You must spend the entire day with one another, eat well, maybe have a couple of drinks together and that's how the discussion will roll-in. You have only got to dare.

Interviewee F10 explains an informal corporate foresight activity which takes place in an irregular fashion, which is derived from a rather intuitive than a rational approach. Here, the corporate foresight activity, although not formal in nature, also aims at discussing expectations in a group regarding future events within the scope of the interviewee's responsibility. The specific example of corporate foresight provided by F10 refers to a process by which market developments and the decision to increase or decrease Apollo bank's appearance in some business markets are identified. It can be stated that this example,

although one of only a few, is a typical one showing informal corporate foresight activities, the outcomes of which will be institutionalised at a later stage. The critical distinction between informal processes, such as that described by F10, and the formal process explained by P25 is that the outcomes of informal corporate foresight are likely not to be documented and consequently institutionalised directly into subsequent formal processes. Hence, a later impact analysis of these results into processes will be difficult to trace back. Since it remains unclear what the specific outcome of this corporate foresight process is and since this process explicitly takes place outside the organisational boundaries, it could be argued that corporate foresight is identified in an informal and intangible manner¹⁴.

Overall, corporate foresight in line departments is approached by having a rather open, flexible and broad understanding to future studies. Indeed, line departments are operative in nature and rather detached from strategic activities as per findings in the literature (cf. section 2.2.3.1). This implication supports the argument that corporate foresight also occurs in line departments, although they may be different in their approach. A more specific analysis of corporate foresight in staff departments will shed light on perceived differences between both types of organisational structure.

2.1.2 Corporate foresight in staff departments

Corporate foresight activities have also been identified in staff departments. Here, the general manifestation of future studies reflects a more formalised approach than in line departments.

¹⁴ Further information on the distinction between tangible and intangible outcomes can be found in section 2.2.4 *et sequentes* (cf. Voros, 2003).

More specifically, interviewees in staff departments generally described corporate foresight as a rather structured, formalised and implemented process. One example is provided by interviewee M09 from a staff department:

M09:

We consider foresight to be a forecast calculation at the end of [each] year. This is definitely in the direction of foresight. But always under certain assumptions: should such and such happen, we will either be so or so by the end of the year. We then require the risk assessment of experts on which our calculations are then based and according to which results are computed.

According to this quotation, interviewee M09 describes a process which is claimed to be and understood as a corporate foresight process. Thereby it is shown that foresight takes place annually and is highly quantitative in nature. In fact, this example is a formal approach of understanding the future because the results eventually lead to various inputs for other formal processes; the subsequent processes are related to risk assessments. However, it should be stated that the interviewee in this case explicates quantitative means to be part of the interviewee's corporate foresight activities – a generally critical approach in foresight literature (cf. section 2.2.1.1). Since these forecasts help to imagine the future situation (*"we will stand here or there"*), the interviewee's perception of these activities can indeed be categorised as foresight activity – albeit on a broader scale. This is also supported by the interviewee's own perception and identification of these forecast calculations as being a corporate foresight activity. Finally, the reason why forecasts may well be accepted as foresight methods is reasoned on basis of the interviewee's perspective and understanding. In this example, the interviewee states the conditions under which the picture of the future will

occur. Thereby, it could be argued that the pre-condition for accepting a forecast as a foresight activity is provided¹⁵.

In contrast to this example, but still in a staff department, corporate foresight is also manifested in regular, rather short-term intervals. One example is provided by N27 (note, however, that it must be emphasised that the position of N27 is not related to any strategic department):

N27:

Is there a regular procedure where both your team and you try to read the ‘radar’?

In a team? Well, yes that works perfectly well. We have got weekly meetings. Telephone conferences and well, we have got structured information flows.... also for the board of management – which of course is the principal/ primary customer.

This quotation occurs at a point where the interviewee explained the establishment of a ‘radar’ which aims at identifying weak signals from the environment as an example of formally manifested corporate foresight. More specifically, the example refers to a radar whose target is to spot the development of the regulatory environment in order to prepare Apollo bank for any unexpected surprises. Hence, this example of a corporate foresight process refers to a routine by which the organisation tries to prepare itself for unpleasant events in regulation in the future. Manager N27 also claims that communication in the team works well within regular processes in the department. Interestingly, the interviewee also explains this process of scanning by means of a radar as an ‘information flow’. This is an important point to note in the context of this study: the interviewee refers to foresight

¹⁵ The argument that forecasts are also foresight methods is not new: according to Masini (1993), forecasts are objective foresight methods for which M09’s discussion provides support.

activities as information-producing activities which eventually address the strategic decision-making body at Apollo bank, namely the board of management. This point will be discussed in further detail in section 4.4.

An overview of departmental corporate foresight activities across the organisation, both in staff and line departments, is displayed in Figure 34 and Figure 35.

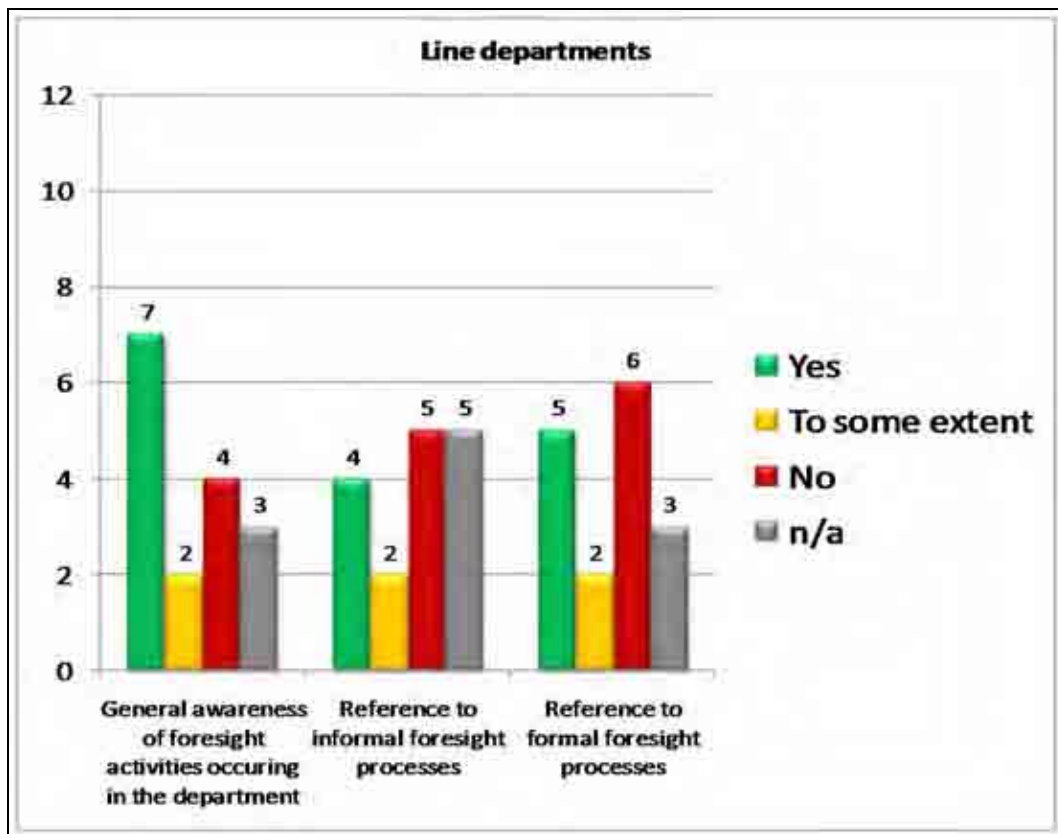


Figure 34: Awareness of foresight activities within line departments (formal and informal). Numbers reflect interviewee count.

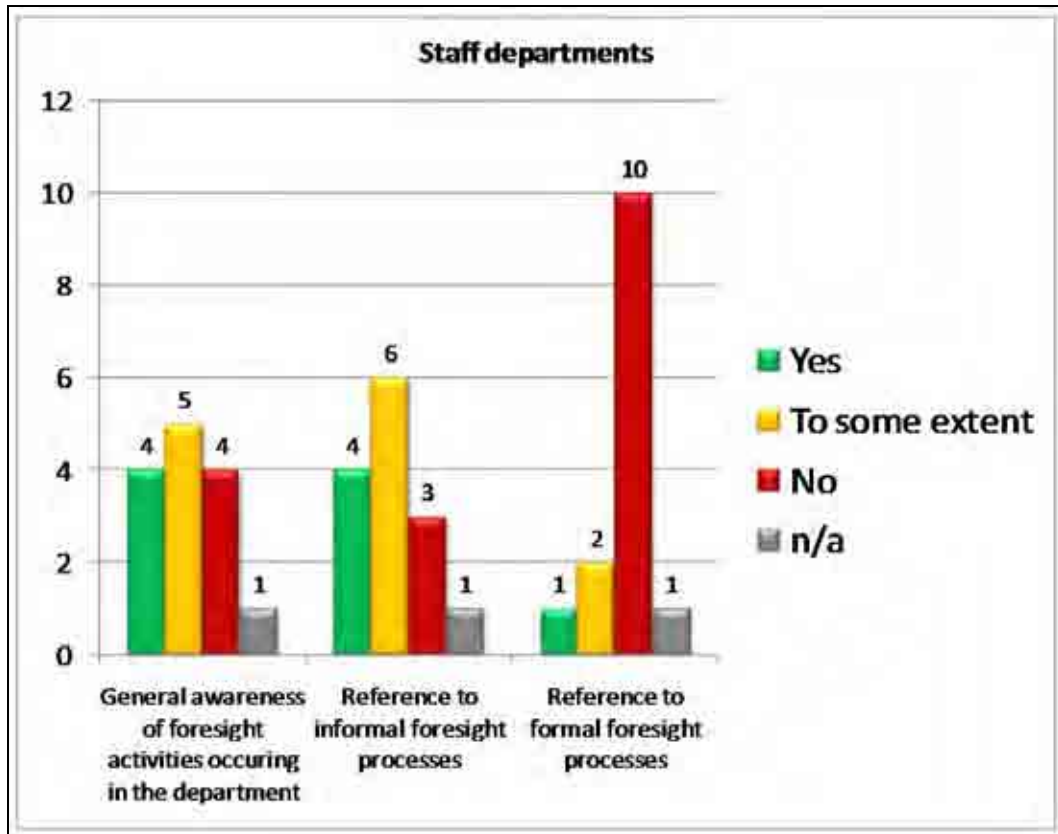


Figure 35: Awareness of foresight activities within staff departments (formal and informal). Numbers reflect interviewees' count

Figure 34 and Figure 35 provide a rather non-uniform picture; corporate foresight seems to exist in a variety of forms and implementations. Some of the interviewees were aware of foresight activities within their department, others would only agree to a limited extent that some foresight activities take place and the remaining interviewees clearly denied any foresight activities taking place within their own department.

Regarding the degree of formalisation of foresight activities, interviewees described either informal or formal meetings in which the team applied various means by which possible futures were analysed. Although most of the interviewees agreed that these foresight means and activities are not sophisticatedly designed, their aim was, however, to understand future patterns and developments. It should be emphasised that some foresight activities

played a rather supportive role in the discussion of other issues such as the development of a specific product or the identification of future demographic challenges. In such cases, corporate foresight was ‘to some extent’ formalised or executed in an informal, supportive manner. With particular regards to the reasons of corporate foresight occurring in informal ways, interviewees’ also stated that corporate foresight has not been formally integrated in the participants’ scope of responsibilities via top-down instructions.

Observations at Apollo bank further support this assumption given that a variety of artefacts have been identified implying that the organisation expects every member to think about the future. One of the most interesting artefacts is the display of the screensaver on the bank’s computers. Whenever the computers are not in use, the sentence “We can shape the future” can be read by every employee looking at the screen. This and other examples show that internal artefacts attempt to enhance future-oriented thinking by employees and promote the idea that the organisation’s future is not determined by outside events, but can be shaped by its own actions. Hence, these and other artefacts particularly enhance the rise of informal foresight activities. In order to create a picture of the identified corporate foresight processes within Apollo bank, Table 22 and Table 23 present selected manifestations of the phenomenon.

Corporate foresight process label	Organisational structure	Degree of maturity	Degree of formalisation	Process aim	Process steps	Foresight methods employed
Early warning system – 'Regulation'	Staff	Low (implementation phase)	Formal	Sensitising the bank towards regulatory issues	Identification of weak signals in regulation by close contact with national entities, deliberation of impact, creation of task force if necessary	- Environmental scanning Early warning regarding regulatory matters
'New marketing and sales approach'	Line	Medium	Formal – once per year	Identification of new and innovative approaches for specific customer groups	Internal deliberation of potential areas for innovative customer approaches, workshops with external and internal participants to discuss topics and areas, agreement with top management team	- Brainstorming - Future workshops - Trend impact analysis
'Product-market task force'	Line	High	Informal	Identification of required products and profitable markets in the future	Market research analysis, annual and informal meeting	- Market research analysis - Brainstorming - Intuitive thinking
'New turnaround customers – acquisition'	Line	Low	Informal	Acquisition of non-customers in financial difficulties	Identification of customer groups with profitable potential in the future, establishment of project task force, customer approach and acquisition	- Market research - Brainstorming - Expert/customer group meetings

Table 22: Selected identified corporate foresight processes and projects at Apollo bank (1/2).

Corporate foresight process label	Organisational structure	Degree of maturity	Degree of formalisation	Process aim	Process steps	Foresight methods employed
'Committee for resources and investments'	Staff	Medium	Formal – depends on investment requirements	Identification of potential investment opportunities and validity of investment decisions	Submission of project idea, deliberation of future potential of investment (mostly based on quantitative grounds), agreement of top management	<ul style="list-style-type: none"> - Scenario calculations (quantitative approach) - Quantitative forecasting
'Three-year foresight plan'	Staff and line	High	Formal – once per year	Agreement between segments and group management on future developments	Board of management annually agrees on achievable targets for each segment (benchmark approach), segments discuss these targets for attainability (internal deliberation)	<ul style="list-style-type: none"> - Scenario planning (quantitative approach) - Brainstorming - Trend extrapolation - Expert group meetings
'Future organisation of banks'	Staff	High	Informal	Alignment of bank's infrastructure towards future markets' requirements	Project based analysis of past developments and identification of patterns, scenario building with identification of 1) Environment, 2) Drivers and 3) Impact on business modes	<ul style="list-style-type: none"> - Scenario technique - Expert group meetings - Environmental scanning

Table 23: Selected identified corporate foresight processes and projects at Apollo bank (2/2).

Table 22 and Table 23 provide a selection of corporate foresight projects and processes at Apollo bank. These can be divided by the location of occurrence, degree of maturity, degree of formalisation, main project aim and steps as well as methods employed. While location and degree of formalisation has been the subject of previous discussion (cf. section 2.2.3.1; section 4.2.1 *et seq.*), the term ‘degree of maturity’ refers to the years and experiences with the mentioned corporate foresight processes. Whenever the processes have been conducted several times, and experiences with these have been expressed by bankers, the process is labelled as having high maturity. In contrast, newer processes or processes with only a little historical background are labelled as low in terms of maturity. Overall, Table 22 and Table 23 reflect the manifold manifestations of corporate foresight at Apollo bank – and through each of them a certain perception of the future becomes gradually part of organisational life. Although the content of these processes might differ to a large extent, they are in nature corporate foresight processes – some are more qualitative, other more quantitative, but they all aim at understanding the future.

2.2 *Corporate foresight and its formal and informal manifestation at the bank – an inter-departmental perspective*

Apollo bank consists of four operative segments as well as various group management and services departments (cf. section 3.5). Considering the complexity of a large corporation, collaboration between different teams and departments can be observed. With particular regards to corporate foresight, the researcher takes into consideration that a close interaction between these departments takes place in terms of information flows (cf. section 2.4.5.3 *et seq.*). It is therefore of interest to discover to what extent this collaboration is manifested and how corporate foresight is perceived by interviewees at an organisational level.

Up to this point, the study has argued that corporate foresight takes places in different ways in terms of manifestations, degree of formalisation and emphasis. The researcher's interest is therefore focussed on the extent to which interviewees perceive corporate foresight to be established in the organisation as a whole. Following on from section 4.1.1 in which it was shown that that bankers had a rather diverse understanding of corporate foresight, with the majority being of the opinion that the bank as a whole does not structurally exercise corporate foresight at all. A first reference to this perception is provided by interviewee H32:

H32:

However, I must admit, the term [corporate foresight] is still largely unknown, I have to admit. And that anyone here in this organisation would seriously think about the future is news to me [...].

As previously discussed (cf. section 4.1.), the interviewee admits the absence of knowledge regarding the term 'corporate foresight' which is in line with most other interviewees' statements. However, this interview excerpt is particularly fascinating because it highlights an interesting issue, namely that the banker is concerned that corporate foresight is generally not employed or followed up at the bank. This shows that the interviewee perceives that corporate foresight may not be found in an institutionalised form at the bank. More specifically, it shows that the interviewee, who is a very experienced employee of Apollo bank, believes that there is not a single department currently established whose task it is to identify the bank's environmental developments in the future. While it could be argued that the interviewee lacks of knowledge in this respect, his long tenure at the bank as well as his experience support the argument that the bank has not formally institutionalised and communicated corporate foresight.

Taking H32's statement as an anchor for further analysis, three points will be analysed in greater detail: (i) the interviewees' perceptions on corporate foresight on an overall organisational level; (ii) the internal allocation of and responsibility for corporate foresight within the organisation; and (iii) the internal collaboration between departments in terms of corporate foresight (see Figure 36).

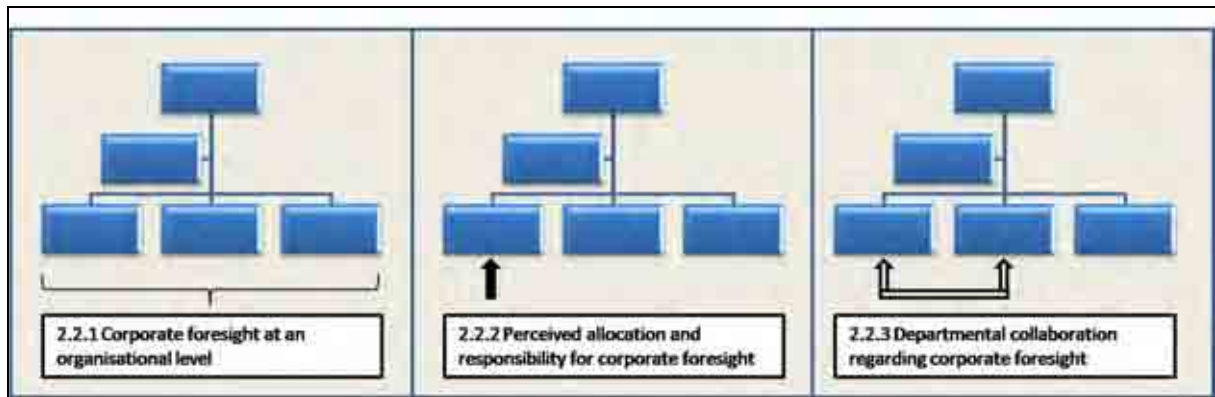


Figure 36: Inter-departmental analysis of corporate foresight at Apollo bank.

The first section will seek to ascertain the bankers' opinion on the general manifestation of corporate foresight at Apollo bank. Particular reference will be made to the banking sector and its implications in relation to the phenomenon. The second section will investigate the perceived allocation of and responsibility for corporate foresight according to Apollo bankers. This part of analysis will shed light on which departments are likely to be involved in corporate foresight exercises for Apollo bank. The third section builds upon the assumption that corporate foresight occurs in any department of the bank – irrespective of the departments' scopes of responsibilities.

2.2.1 Interviewees' perception on corporate foresight on an overall organisational level

Analysing the overall views on corporate foresight and bearing in mind H32's statement above that the bank lacks institutionalised corporate foresight for the whole bank, most other interviewees agreed with this view. Another example which generally agrees with the view expressed by H32 is provided by banker Z13. The interviewee stresses that the phenomenon of corporate foresight is likely to be different in comparison to other industries:

Z13:

One would of course conceive proper futures studies within a bank to be a bit different, but at present it is not being done that way at Apollo bank.

Z13's statement already provides us with some understanding of how corporate foresight is designed in the banking sector. As stated previously in this thesis, the literature on corporate foresight lacks profound understanding when it comes to the service sector as a whole (cf. section 2.2.4; section 2.2.5). The reference by Z13 to the banking sector and other industries shows that the interviewee basically understands the concept and also emphasises that corporate foresight is different in different sectors. However, the interviewee immediately assesses the organisational manifestation of corporate foresight by stating that Apollo bank does not actively exercise corporate foresight. The statement of Z13 is of particular interest because the interviewee's scope of responsibilities involves strategic tasks and therefore enhances his utterance against the background of his organisational experience.

In line with Z13 and also involved in strategic operations at the bank is interviewee P14 who, when asked about corporate foresight, also denies its overall existence:

P14:

Hmm, well... as an advocator for topics like strategy and innovation, I, as the bank, would be of the opinion that we do not engage ourselves enough with [corporate foresight].

The excerpt shows that the interviewee considers himself as someone who favours strategic topics at organisations and he therefore calls himself an “advocator”. His own perception again could lead us to the conclusion that Apollo bank does not actively follow up corporate foresight – even to the extent that P14 says that the bank basically should be more active in practising corporate foresight, and that current activities are not satisfactory yet.

An additional statement in relation to this aspect is provided by F10 who again refers to the lack of corporate foresight institutionalisation at Apollo bank, but F10 goes even further. He emphasises the lack of a multiple futures’ provision developed by central departments and distributed to decentralised units such as segments. Although the interviewee’s argument refers to Apollo bank’s official statements, it clearly shows that this lack of statements leads to the perception that the bank itself does not have any formalised and centrally agreed expectations about the future:

F10:

As opposed to what I have experienced elsewhere and what I miss in this bank are overall economic scenarios which are formulated for the entire bank. Segments are then instructed to optimise the business policy according to the scenarios. We do not practice this here. What strikes me in the Apollo bank is that many people juggle figures here and this very fastidiously. [...] Three scenarios should centrally be advocated and I would like to know from everyone how he would cope with each scenario. This is not something we do here. This would be a reasonable management of foresight information. The bank states: ‘we have agreed on three possible scenarios for the bank’. This is something worth criticising at this point.

The interview with F10 highlights two further issues: First, the lack of scenario communication as a central manifestation of corporate foresight and second, the criticism of this shortcoming. The former refers to the fact that the organisation's units are mostly unaware of the bank's central future expectations. The second issue, namely the criticism of this, also shows that F10 emphasises that the organisation should commit to following up corporate foresight activities rather than accepting that this lack of activities is a generally tolerated development of the bank. Here, it must also be stated that the interviewee again refers to communication issues as a probable reason why corporate foresight is not being detected by most bankers at Apollo bank.

B31, an interviewee who works in a staff department refers to the non-institutionalised processes of corporate foresight:

B31:

To date there are no institutionalised [corporate foresight] processes. Likewise, there are no written instructions, for instance in the firm's constitution. Feedback via telephone or email is rather sporadic. [...]. Up until now, we have held monthly meetings together with the group management department.

The interesting expression at this point is that the organisation's constitution is referred to as the main manual for instructions on processes and therefore is a means to institutionalise these processes. Since corporate foresight is not part of the formal constitution, it is consequently perceived as not being formally institutionalised by some interviewees. The bank's constitution emphasises that the only central group management department (GMD) defines the strategic conditions within which every segment has to identify its own strategy in a decentralised fashion. In other words, only the GMD can define the financial targets which mainly set the boundaries for the segments' strategies. Thus, Apollo bank's constitution does

not provide specific process definitions – and even less in terms of corporate foresight processes. According to this argument, only a few formal artefacts – whether stated in the constitution or following B31’s statements – can be found at Apollo bank.

A common perception was, however, that there are specific departments within the organisation which tend to have the resources and information for exercising corporate foresight. Therefore, the next sub-section will aim at discussing the perceived internal allocation of and responsibility for corporate foresight.

2.2.2 Internal allocation and responsibility of corporate foresight in the organisation

In order to understand the internal allocation of corporate foresight, it is necessary to investigate in which departments resources are perceived to be concentrated for corporate foresight. As a starting point, one could argue that a certain ‘corporate foresight department’ is required to have some kind of expertise and information for corporate foresight.

Research at Apollo bank has particularly shown that certain departments are considered as being responsible for corporate foresight more than others. These responsible departments can be divided into two types: (i) those several departments with strategic task responsibilities and (ii) one specific department which does not primarily have a strategic scope. Regarding the former (i), it can be more specifically distinguished between the segment’s business development departments (SBDD) and the group management department (GMD), respectively. The SBDDs represent decentralised strategic units within operative segments which exercise the strategic conditions set by the GMD and which provide strategic information to the GMD. In short, the SBDDs reflect the strategy department within each

operative segment, for what the GMD reflects for the whole bank. Figure 37 provides an overview of the organisational structure with respect to the position and relationship of the GMD and SBDDs within the bank.

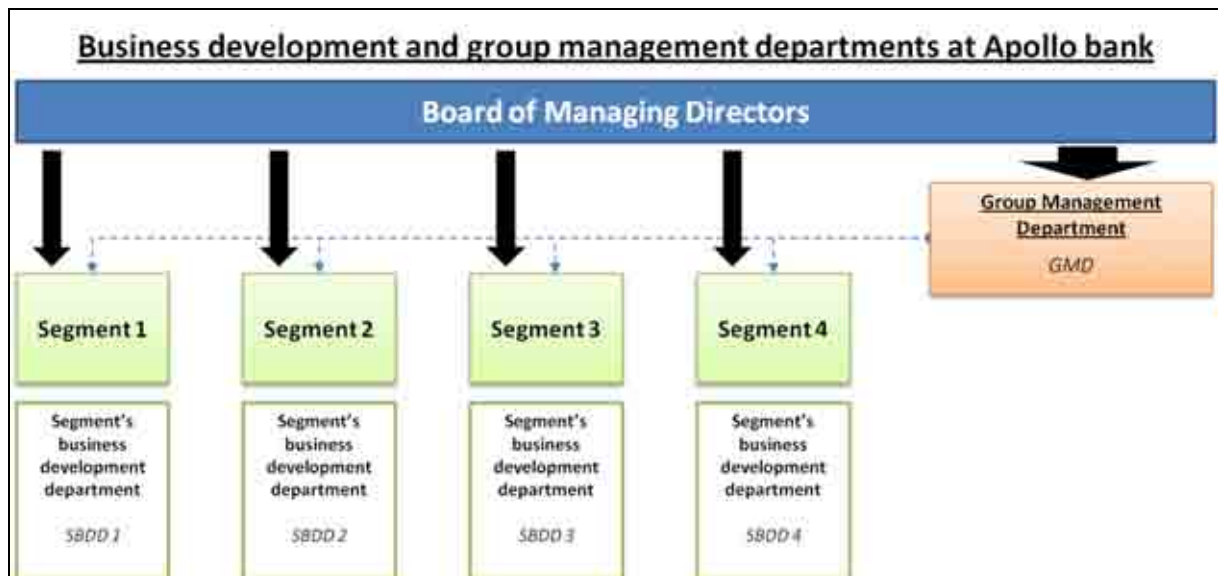


Figure 37: Structure of business development departments and group management department within Apollo bank.

Further discussion will provide insight into the perceived allocation of corporate foresight – particularly with regards to the SBDDs and the GMD as potential departments for corporate foresight. Moreover, another department (ii) has also been referred to as responsible for or capable of corporate foresight, which, however, is not actually responsible for the bank's strategic decisions, namely the internal economic department (IED). The IED is given a particular position by some Apollo bankers in terms of corporate foresight responsibility. Therefore, this department deserves further attention in the following discussion.

2.2.2.1 Decentralised allocation of corporate foresight – the segment’s business development departments (SBDD)

Banker P07 assigns corporate foresight responsibility to the SBDD with particular reference to foresight information issues. The interviewee refers to a ‘knowledge pool’ which is seen as important when considering key elements the department may establish:

P07:

We could be a bit better, but we would require better structural data for this, a so called ‘knowledge pool’. There, results are gathered. This needs a central consolidation. Possible statements could then be: ‘where are the banks moving headed to?’ This task should also be taken over by ‘the segment’s business development department’ [SBDD], this also includes the integration of external data.

Here, P07 states that the SBDD should be responsible for corporate foresight; it should consolidate data and information, calibrate these with external sources and feedback into the organisation – overall, this is an information-processing perspective. Moreover, the interviewee emphasises that corporate foresight’s aim should be the management of foresight information rather than the creation of new information. Considering that P07 is positioned within a segment, this statement is generally in favour of corporate foresight’s integration more closely with the interviewee’s tasks and responsibilities. This means that the interviewee expects the business development department within his segment to closely elaborate foresight information which has been forwarded by the segment’s bankers.

Another example for establishing corporate foresight at the SBDD is provided by T23. This interviewee explains that due to the structural organisational form of Apollo bank, the segments are more independent and can therefore undertake far-reaching tasks:

T23:

Apollo bank is a structural organisation, meaning that the departments and their company performances are reflected in the structural organisation. The segments are therefore a lot more independent. [...] That was also the aim: It is now easier to identify growing segments and to bundle the activities

T23 argues that because segments are independent, corporate foresight should be established at the level of these operative units. The notion of independence as quoted by T23 refers to the fact that segments constitutionally have the right to strategically operate within the boundaries as set by the board of management (cf. section 2.1; section 2.2.3.1).

Overall, both statements provide grounds to consider the SBDD as the department perceived to be responsible for corporate foresight and thus, some bankers are in favour for establishing the phenomenon there. However, some other bankers are of the opinion that a centralised yet still strategic department should be the anchor for corporate foresight at Apollo bank and this is discussed in the following section.

2.2.2.2 Centralised allocation of corporate foresight – the group management department (GMD)

Some interviewees argued that if corporate foresight is to be institutionalised, then the GMD would be the department in which to allocate the phenomenon. Interviewee P11 expresses this argument in his own words:

P11:

I think that every organisation has its own research department. We call it strategy department. In this department they analyse matters like mega trends which influence our business models.

P11 does not specifically mention the GMD, but implicitly refers to it. Overall, P11 makes a case for establishing corporate foresight in the GMD where, according to P11, some foresight practices already take place and hence, resources and expertise already exist.

Agreeing with P11's argument in favour of the GMD being the right location in which to establish corporate foresight, interviewee L22 states the following:

L22:

In a task-sharing organisation such as this, there is no 'one' department responsible for these things [collecting, analysing and sharing of future-relevant developments]. In my opinion, however, everything should take place in a group management department. Because if corporate foresight were to be defined in such a way, that it must bear reference to the bank's profit and loss statement, that is that one needs to see to it that the bank remains positioned in the market sustainably, then this is what corporate development is about. The profit growth, effort, risk development and the capital development can all be seen as essential determinates which are very quantitative.

L22 makes some interesting remarks. Not only does the banker emphasise that there is not a single and specific department known for conducting corporate foresight, but the banker also makes the suggestion that if one department were to be responsible for corporate foresight, then it should be the GMD. The rationale behind this argument is based on the task responsibilities as well as the related expertise acquired by this department. However, the interviewee recognises that this suggestion may be contradictory to the corporate foresight concept because the tasks currently allocated to the GMD are mainly quantitative in nature. Therefore one may identify a certain reluctance to agree on fully integrating corporate foresight into a quantitative departmental context such as the GMD.

Further support for both the above bankers' perception that the GMD is responsible for corporate foresight is the department's own presentation of its task responsibilities on the internal information system (intranet) which is available to every employee of Apollo bank.

There, the GMD formally claims that it is responsible for ensuring the future-oriented positioning of the bank as a whole. Hence, this communication has perhaps enhanced the perception of some interviewees that the GMD is basically responsible for corporate foresight. A summary of the discussion regarding the reasons for the location of corporate foresight responsibility in either the GMD or the SBDD is presented in Figure 38.



Figure 38: Identified reasons for implementing corporate foresight in either the SBDD or GMD.

One could argue, that the discussion about the implementation of corporate foresight in a rather centralised fashion in the GMD or in a rather decentralised way in the various SBDDs reflects a controversy between proponents of a single responsible department at headquarters (central option) and proponents of a dispersed approach that mainly considers the segments as responsible for corporate foresight (decentralised option).

In order to identify patterns, an interesting approach to take in analysing this controversy is the identification of the extent to which interviewees from staff or line

departments prefer a centralised or decentralised option, respectively. An overview of this analysis is provided in Table 24.

	Central responsibility	Decentralised responsibility	
<u>Information source</u>			<i>No reference to this question</i>
Staff	3 (21,4%)	7 (50,0%)	4 (28,6%)
Line	1 (6,3%)	9 (56,3%)	6 (37,5%)

Table 24: Interviewees' statements regarding internal corporate foresight responsibility within Apollo bank (number of interviewees and percentage).

According to Table 24, the vast majority of interviewees prefer a decentralised establishment of corporate foresight. Staff members tend more to accept a centralised option in comparison to line departments. In general and with reference to the interviews' context, it could be argued that Apollo bank is already a rather decentralised organisation which governs the segments in a far-reaching and independent manner. This responsibility for control and authority within the segments leads to the members' perception that segments are capable enough to conduct their own foresight activities due to their closeness to the task environment under investigation. Moreover, according to interviewees, daily contact with actors such as customers in the bank's task environment consequently provides the general ability to identify current market developments. The reason why, on a percentage basis, staff members prefer to keep corporate foresight within the central organisation in comparison to line departments

may be because some activities (e.g., strategic decisions or formal corporate foresight) should be organised in a central manner because these affect every department in the organisation. It must be considered, however, that a decentralised approach to corporate foresight could alternatively lead to differing, but more specific, pictures of the future.

The research at Apollo bank regarding the internal allocation of corporate foresight has, however, not been as straightforward. Some bankers took a rather ambivalent position when asked which department is perceived as being responsible for corporate foresight. One example is provided by interviewee N27:

N27:

In my opinion it is a decentralised function, which takes place in the individual sectors. The private banking sector practises futures studies as well as the marketing department of segment 1 – all within the scope of market research and market observation. And then there are fields that are more introverted such as the service sectors. They also conduct it – only under a different term. The only department to my knowledge which also practices this in a systematic way is the central strategy department. It certainly does not function under the term, used by you – but it is something very close. It is concerned about the development of Apollo bank. So I suspect it's quite likely to take place there.

N27 mentions both types of responsibilities: (i) a decentralised solution with line segments conducting corporate foresight because of their task responsibilities and (ii) a centralised solution in the GMD which, according to N27, already undertakes some kind of corporate foresight. Overall, N27 would prefer that corporate foresight be established in the GMD because this department is experienced with these practices and therefore it is logical to position it there. Although N27 is not specifically certain about foresight practices conducted in the GMD, it can be assumed that his awareness is either based upon his long tenure in the organisation or upon the internal self-expression of the GMD at Apollo bank.

Apart from the discussion as to whether to establish corporate foresight in the SBDD or in the GMD, some interviewees also referred to the IED as a suitable department in which to establish corporate foresight. Since the research provided great support for assigning the responsibility of corporate foresight in this department, a particular investigation of this issue is provided in the following sections.

2.2.2.3 Decentralised allocation of corporate foresight – the internal economic department (IED)

In terms of departments which were perceived as potentially responsible for corporate foresight, a further aspect has to be added to the discussion. This includes the experience of interviewees according to which some departments distinguished themselves with their issued quality of foresight information and thereby reflect a certain 'corporate foresight tradition'. While the discussion up to this point has been focussed on whether SBDDs or the central GMD should be responsible, another department was often mentioned as qualified in distributing corporate foresight information – the internal economic department or IED. One interviewee, who is in favour of the location being the IED, is banker F10:

F10:

Question: Which department would you consider responsible for corporate foresight?

Internal economic department [IED] [...], because of the risk analysis and the economists who are analysing systemic risks systematically.

Here, F10 considers the IED as responsible for conducting corporate foresight for the organisation. According to the banker's argument, the expertise in risk management and the economists employed there are good reasons for the allocation of corporate foresight in the

IED. Although the rationale is based more upon quantitative reasoning than upon foresight resources, the IED seems to radiate expertise in communicating future understanding, particularly by publishing articles and key financial figures of relevant markets. One could argue that bankers are trained to perceive the future in quantitative terms (cf. Rollwagen, 2006) and therefore would prefer quantitative experts in the organisation to be the corporate foresight experts. In other words, F10 states that corporate foresight is best established in the IED because of its expertise in economic terms and therefore his perception is that if corporate foresight were to be newly established, this department should be responsible for the task.

Another example of a participant arguing the case for the IED being responsible for corporate foresight is that of H08:

H08:

For my scope of responsibility: I obtain my information mainly from the —internal economic department [IED] - particularly for risk forecasts and planning. Economic analyses are important as well.

H08 agrees with F10 and argues that foresight information is mainly provided by the IED. Interestingly, H08 refers to his own scope of responsibility when asked about internal corporate foresight allocation. Although one might argue that the interviewee reasons his point on task-related grounds, his statement again supports the argument that the IED already has some kind of superior status as a central point of contact for future-relevant information. Overall, the argument for the IED as the specialised corporate foresight department is based upon quantitative expertise, previous establishment via communication of forecasts/risk figures and the economists working in that department.

A few interviewees were ambivalent, arguing that although the IED holds a superior position within the organisation in terms of foresight distributing tradition, segments should ideally be responsible for corporate foresight. X01 is an exemplar of how these interviewees explain this rationale:

X01:

Methods are especially concentrated on analytic activities. However, no cross-linking between the divisions is existent – at least not for the bank as a whole. Even though information is passed on via the —internal economic department [IED] for information, the divisions are not interconnected well. [...]. If foresight as such exists then solely in specific segments and sectors. Each business segment has to have its own focus first before it can begin with foresight.

On the one hand, X01 states that foresight information is bundled in the IED and then distributed within the organisation, whilst on the other hand X01 also argues that the rationale of corporate foresight asks for a segmental implementation. Hence, the argument is that the IED is perceived as having a dominant foresight position on a broader scale and segments have the responsibility for, capability of and freedom to conducting foresight activities on a narrower scale.

With regards to the question of which departments are perceived as being responsible for corporate foresight, further research at Apollo bank indicated that bankers have different perceptions regarding the question of which department may be responsible for corporate foresight and which departments are actually contacted for the receipt of foresight information. Therefore, the primary source of foresight information deserves further attention. An overview of the departments which were mentioned as being perceived as the primary ‘corporate foresight’ source is provided in Table 25.

	... primarily contact the following departments for foresight information:								
	IED	SBDD	CCD	GMD	Risk	M&S	GFD	n/a	Σ
Number of interviewees from....									
Staff department	3	-	-	6	2	-	1	2	14
Line department	6	3	1	1	-	3	-	2	16
Σ	9	3	1	7	2	3	1	4	30

Table 25: Primary departmental contact for corporate foresight enquiries (Numbers reflect interviewees' count; Distinction between interviewees from line and staff departments) ¹⁶

Table 25 shows that the IED was mentioned as the primary source of foresight information, followed by the strategy and business developments departments such as the GMD and SBDDs. The remarkable position of IED as the primary point of contact can be reasoned on various grounds. First, the IED regularly publishes economic forecasts in terms of expected growth of GDP, interest developments and other indicators. As such, the IED follows a push approach which means that any member of Apollo bank receives foresight information with only limited effort. Second, the information provided by the IED is mostly future-oriented and it therefore creates the perception that the future development of the relevant markets is best understood by this department – although the means by which this information is created may be unfamiliar to most bankers. Finally, the IED's reputation of being highly competent and containing distinguished economists further increases the credibility of the source. Nevertheless, interviewees had a rather distant relationship with the IED, even to the extent that it is perceived as positioned somehow externally to the organisation. Some interviewees

¹⁶ Abbr.: IED (Internal Economic Department), SBDD (Segment's Business Development Department), CCD (Central Communication Department), GMD (Group Management Department), Risk (Risk departments), M&S (Marketing and Sales departments within the operative segments), GFD (Group Finance Department)

softened their choice of the IED as the primary source for foresight information by saying that the IED is the only provider of foresight information.

The following sections discuss the internal collaboration between the departments. Since the mentioned lack of transparency and different approaches in distributing foresight information leads to various interpretations of which department is most likely to be responsible for corporate foresight, the interconnectedness of these departments deserves a more detailed analysis.

2.2.3 Internal collaboration between the departments in terms of corporate foresight

In order to assess the interconnectedness within the organisation, an analysis of collaboration between different departments and units in terms of corporate foresight has to be conducted. The primary reason for this is to gain an understanding of to what extent the phenomenon is enhanced or even devalued by the internal collaboration between departments. Some interviewees argued that foresight information is already available within the organisation, although it is difficult to identify the right information at the right time. An example is provided by J12:

J12:

Yes you have to go and get it [information]. There is a surplus of information. One has to organise it in such a way that the colleagues must actively gather information. Therefore if someone does not have this attitude, the whole flow of information is of no use to anyone. You absolutely have to go and get the information. The bank only has to provide suitable structures with which one can easily retrieve information, via a search-system, or identify the right people to contact.

Banker J12 argues that the organisation does not lack information, but rather there is an information surplus. He claims that it is not a question of new processes being required to gather and process information, but rather there is a need to distribute information efficiently. Organisational structures are consequently required to achieve this efficiency. As already indicated by J12, the internal collaboration between departments tends to be weak in general. A more detailed description of this shortcoming is provided by interviewee L22:

L22: [Information networks] exist – but are confined in their functions. This is dependent on the people involved and their personal zeal – even where networking is concerned. I believe that this is far too little institutionalised and standardised. I also think that the benefits of this are significantly underestimated in this bank [...]. Each colleague is likely to say that he or she works with scenarios and with other departments. For me, however, it has to date not been as it should be. If you were to inquire with three different departments, what the bank's top three scenarios are, you would quite certainly not discover any overlaps. And if so, then the overlap would be purely coincidental. This would merely illustrate that we are simply not referring or speaking about the same thing.

Here, L22 describes the issue of information networks within Apollo bank and in this extract, the banker focuses on the notion that these networks are not institutionalised and standardised – which according to the interviewee leads to efficiency losses. In terms of corporate foresight, another interesting point is made: L22 supports the general statement that the consideration of various scenarios is not unusual for bankers at Apollo bank; however, according to the interviewee, it is not a question of whether corporate foresight is exercised at all, but whether the content of foresight information are equal in their understanding of the future to each other. According to the banker, any similarity of corporate foresight results would be a coincidence, which leads to the conclusion that Apollo bank suffers from a lack of common foresight communication within the organisation. And even then, it could be argued

that a lack of communication between departments leads to a diversity of pictures of the future.

Besides the statements which mention certain difficulties in terms of foresight communication between departments, it is certainly of interest to discover which departments are contacted in the case of foresight communication¹⁷. In this regard, interviewees pointed out that the similarity of tasks is likely to have an impact on the quality of interaction and collaboration. An example is provided by B31:

B31:

Close collaboration with the neighbouring departments – which means with similar tasks. Once a month we have a jour fixe, particularly in areas where we currently try to bundle our activities.

Interviewee B31 explains that neighbouring or similar departments have a closer collaboration between teams. Certainly, it could be argued that task similarities between two departments tend to lead to information exchange in order to share information and other resources. In terms of corporate foresight, B31 referred to the regulatory issues that are expected to affect banking practices, particularly the required ‘stress tests’ that banks have to accomplish as a consequence of the financial crisis of 2007–2009+. The corporate foresight process considered discussions between the neighbouring departments to identify the impact of these new processes on the organisation from a risk management perspective.

¹⁷ The question specifically refers to everyday communication routines rather than conceptual or holistic processes.

L22:

To date, I have worked in several departments. And it all depends on which department you are in, in order to identify with which department you would like to work and which department supplies you with information. There is a difference between pursuing capital management or risk management and creating a complete new financial department.

Banker L22 adds to B31's statement by commenting that the task similarity of departments increases the likelihood that (foresight) information is being exchanged. Hence, the neighbouring departments are described as 'departments with similar tasks or business operations'. In short, some interviewees outlined that homogeneity between departments and their task responsibilities affects the departmental collaboration in terms of corporate foresight.

Other interviewees, however, provided examples of rather heterogeneous collaboration between departments according to specific tasks:

L30:

You have to picture it as follows: the communications department, the CFO and staff [Finance and Controlling], the departments' and segments' COOs are all involved within Apollo bank and deliver the interpretation of all figures, such as 'What is behind all this?' or 'What were the value drivers?'

L30 describes an event where participants of a variety of hierarchical levels as well as scope of responsibilities identified patterns to further discuss future-relevant tasks. This example is contrary to that given by B31 because it shows that heterogeneous departments do collaborate under certain circumstances. The areas of collaboration can include expertise, control and task experience. In this particular case, L30 and colleagues conducted some basic corporate foresight research in order to try to understand patterns in communication issues with shareholders and stakeholders. Essentially, the task was to identify how external stakeholders

expect Apollo bank's communication routines to develop in the future. In this example, in corporate foresight terms, the heterogeneous task responsibilities of departments seem affect the collaboration in corporate foresight terms.

On a higher level of analysis, one could argue that it is not the heterogeneous or homogeneous difference between task responsibilities which affects the collaboration in corporate foresight terms. Instead, some interviewees stressed that mutual understanding of the task is considered as important regarding the departmental collaboration in corporate foresight terms. It could be argued that the more understanding another department has from other departments' tasks, the closer the collaboration between the two in terms of corporate foresight. Interviewee F10 explains this rationale in his own words:

F10:

Yes they [other departments] understand it. In the points in question, where they have better understood the issues, the interaction is much stronger. Whereas, where not understood as profoundly, it's weaker. This is function thereof. On the other hand, I cannot expect anyone to understand my business, which is why we explain it to many people.

F10 highlights two issues: (i) the increase in interaction between departments where a mutual understanding exists and (ii) the cognition that this higher level of interaction can be achieved by thorough explanation of the task responsibilities at stake.

2.3 Findings – Areas of investigation, Part 2: Organisational perspective on corporate foresight

Corporate Foresight at Apollo bank: An organisational perspective

The analysis of the organisation perspective on corporate foresight has identified the following main issues which are synthesised as follows:

Corporate foresight has been identified as occurring in Apollo bank both in informal and formal ways as well as in staff and line departments. Thus, it can be concluded that corporate foresight is exercised across the whole bank, is manifested in different forms and employs a variety of foresight methods. It should be emphasised that although these differences exist, they all to some extent involve corporate foresight. The common understanding of Apollo bankers is that all these activities aim at understanding the future of the organisation's environment. It appears that corporate foresight – particularly if exercised informally – is shaped by the task responsibility of each department.

An important aspect of this study has been the question of whether or not a certain process can be labelled as corporate foresight. Therefore the analytical approach has been to accept the perspective of bankers about they perceive futures studies to be in the team, department or organisation. In terms of employed foresight methods, some bankers understand these in qualitative terms, often as scenario methods; others state that forecasts are foresight methods. At first glance, this might appear contradicting particularly when one compares this definition with that in the literature (cf. section 2.2.3.3; section 2.2.6). However, it should be taken into account that for some interviewees, alternative futures and hence the understanding of the future occurs by considering and analysing quantitative forecasts.

Corporate foresight is not established in one single department within Apollo bank. According to the interviewees, three different departments are particularly acknowledged as responsible for conducting corporate foresight, a critical discussion of the implementation of corporate foresight in each of these departments shows how difficult it is to identify corporate foresight at one location in the organisation. Interviewees distinguish between departments which they feel have the credibility to conduct corporate foresight and departments which are responsible for formally establishing corporate foresight. While some interviewees argued that a lack of institutionalisation is the reason for this dispersion of corporate foresight, others stated that the complexity of the organisation leads to difficulties in identifying where the phenomenon formally takes place for the whole organisation, if at all.

In terms of internal collaboration between departments, corporate foresight suffers from foresight communication shortcomings within the bank. Although it is not clear how departments collaborate in terms of foresight or tasks, it appears that these missing links and routines are an additional reason why there is a manifold appearance of the phenomenon in the organisation.

Overall, given that Apollo bank is one of the largest banks in Europe, it does not seem unusual that corporate foresight is exercised in multiple ways at the bank. However, the perceived shortcoming of holistically putting emphasis on formal corporate foresight at the bank has been criticised by interviewees which, in turn, implies that there is potential for a formal, structured and centralised implementation.

3. Areas of investigation, Part 3: Environmental perspective on corporate foresight

The relationship between the three concepts of managers, organisation and environment has been the subject of much debate in academia (cf. section 2.1.3). Research findings indicate that environmental characteristics have a significant influence on organisational processes and structures (cf. section 2.3) or managerial perceptions referring to uncertainty (cf. section 2.4.5). Consequently, the following section will analyse the relationship and influence of the environment on the manifestation of corporate foresight.

3.1 External environmental characteristics and their impact on the manifestation of corporate foresight

Corporate foresight has been defined as a phenomenon which produces a multitude of different futures for the long-term benefit of the corporation (cf. section 2.2.3.3). In other words, the organisation's external environment represents a certain source of (future) uncertainty which eventually causes information-seeking behaviour by managers (cf. section 2.4.5.3). This means that the organisation by means of its members establishes a variety of foresight processes in a formal or informal way, which enables an understanding of the possible futures, as has been previously discussed. In short, corporate foresight, not only aims to provide an understanding of the organisation's environment, but to add a temporal perspective to it.

With regards to external environmental characteristics, it is assumed that the perception of the current environmental state, and particularly the bankers' perception of it, affects current corporate foresight processes. As corporate foresight aims at understanding the

future, it can be stated that the external environment affects corporate foresight, just as it affects the organisation as a whole (cf. Daft 1988, Duncan, 1972; Tung, 1979; Daft, 1986; cf. section 2.3). The financial crisis of 2007–2009+ caused the bankers at Apollo bank and elsewhere to experience a significant change in terms of environmental volatility – and hence the degree of perceived future uncertainty caused by the environment (cf. section 2.3.2).

Indicators of this assumption were provided by a majority of interviewees. Moreover, because the research was conducted at the peak of the financial crisis in 2009, the interviewees' statements quite clearly emphasise how significant the influence of the external environment, i.e., financial crisis, has generally been for them:

G26:

It is not easy being foresighted. The financial crisis proved that to us.

In line with G26's assessment, banker W19 goes further by comparing foresight practices in the past and in the present:

W19:

A couple of years ago, when the market was not as volatile, it was easier to assess the future. [...]. In times of low volatility foresight was easier.

Since the literature to date has provided only a few insights into the effect of the environment on the manifestation of corporate foresight in organisations, the significant impact of environmental circumstances on corporate foresight emerged from this research data in an inductive fashion. This means that the interview was enhanced by interviewees' comments – sometimes even integrated by the bankers themselves, irrespective of the interview question at the time. This means that interviewees themselves often drifted from the current discussion

and referred to the “un-understandable” developments of the environment – certainly an indicator of the importance of this issue to them. In order to fully investigate corporate foresight, the strong perception of interviewees regarding environmental characteristics needs to be included in the analysis.

Referring back to G26’s and W19’s comments, the researcher interprets these statements in the following way: both managers compare past environmental states with the present, namely that during the financial crisis of 2007–2009+; both bankers believe that it was easier to conduct corporate foresight and to build future imaginations before the financial crisis of 2007–2009+. Moreover, G26 even goes a step further by stating that the significant impact, speed of development and consequences of the financial crisis have been so exceptional that one might doubt that any corporate foresight activity would be fruitful at all.

3.1.1 Bankers’ statements on the manifestation of corporate foresight before the financial crisis of 2007–2009+: Retrospective perceptions

Although an analysis of the development and extent of the financial crisis of 2007–2009+ is beyond the scope of this research, there is no doubt that it has been and is an exceptional event for the financial sector as a whole (cf. section 1.3). Under the assumption that banks such as Apollo bank employ highly sophisticated economic models to calculate risks, the significant effects of the crisis were unexpected for both bankers and non-bankers. The reason why internal corporate foresight processes did not identify weak signals for this crisis or similar risks of this kind is described by interviewee N27:

N27:

Yes, because there are more stress tests – although they were there before, too. Also you have got the sigma and confidence interval – heightened. Now they are calculating with 2 and 3 sigma. The problem with the financial crisis is that the low-probability and high impact events which were placed on the Bell-curve, either on the very right or very left side – they [top management] ignored them. Although this only applied to 99,5% of all cases. And now one such case, of all cases, has occurred. All correlations from various cycles occurred within a year. And now – as a result - extreme scenarios are thought through more frequently.

By explaining the functions of the statistical risk models of banks, N27 emphasises his perception of why these models were not able to fully identify major risks before 2007. The main explanation is that the likelihood of such an event was so small that the bank ignored the possibility of its occurrence. This means that the employed economic models in which bankers put their trust regarding foresight information have not been designed to identify a crisis such as that which evolved from the beginning of 2007. It appears, however, that Apollo bank designed all its internal processes according to rather 'normal' conditions or, as N27 commented, for 99.5% of the imaginable futures in a statistical sense.

In terms of processes, it has been stated by N27 that the bankers' faith in economic models is strong, although it is uncertain to what extent this faith was conscious or unconscious before the crisis began to take form. Because the processes were appropriate in 'normal' times, it could be argued that bankers lost the ability to critically challenge assumptions with their own foresight ability.

One further example is provided by banker H08 who further strengthens the assumption that internal forecast processes, particularly in the past, lead to a certain 'blunting' of the capacity to understand the future:

H08:

It has also got to do with the fact that the environment was actually quite stable. This in turn means the necessity to work future-oriented was not given to such an extent. The progression of a steady state is a relatively simple matter. Once you begin to suspect that the path you are treading on is instable, it has great relevance. I would say, it is substandardly pronounced here as it is on the whole banking sector, although there are certainly some banks which are more active than we are in this respect.[...]. Although this is not a rational or logical procedure, the options with which one could react to the changed base of operations are nevertheless numerous. It is not like a classic economic model, in which I input a few parameters and wait to see what it results in. This is not the given situation. There are being too many and great changes made to the parameters for that. The current usability of preferred information is extremely constricted, the reason being that developments can shape the future to a minimal extent, for that, one needs past developments, history as well as behavioural historical data - the latter is currently very prevailing.

Banker H08 describes the following four phenomena: First, his statement further reinforces the view that the environment had been perceived by bankers as less uncertain and more stable before the occurrence of the financial crisis in 2007–2009+. This means that bankers are undertaking comparative analysis between past and present environmental states. Second, H08 states that in stable times, there seems little need for foresight because the bank “simply” has to project a continuous development into the future. In this case, H08 relates his judgement to capital provisions for the bank in which a non-volatile environment seems to favour a trend projection of past developments into the future. Third, H08 emphasises that the current processes that simulate the most probable and most accepted future are not suitable anymore because these models work under conditions which no longer exist, and as a consequence there is a high uncertainty from the bankers’ point of view. Fourth and finally, the interviewee explains that the foresight tools employed at the bank are mainly built upon the input of historical data and calculating picture(s) of the future on their basis. Although these means of foresight tools has been defined as being part of objective methods of corporate foresight, it could be deduced that the internal processes projecting different

pictures of the future neglect to undertake a critical assessment of the different potential futures according to the foresight principle (cf. section 2.2.1; section 2.2.3).

Another example of bankers' comparative expressions regarding the banking sector is provided by banker R18 who in his senior position explains the manifestation of foresight by applying the analogy of "autopilots":

R18:

In times of non-volatile environments we have to cut costs, employ consultants and fire people. This means that you can turn on the 'auto-pilot'. [...]. Experts did not dare to contradict the 'auto-pilot'. Although information regarding the crisis was already available in the past.

With regards to R18's statement, one could argue that in times of perceived low volatility, such as before the financial crisis of 2007–2009+, bankers switched on the 'autopilot' without considering potential turbulences. According to R18, this mode also hindered the integration of information which contradicted the 'autopilot's' manoeuvre – a dangerous choice. A further analysis of the detailed effects of the environment on decision-makers' judgements can be found in section 4.4.1 and section 4.4.3.

Overall, it can be noted that bankers strongly trust the power of foresight results which are based upon economic forecasts in times of perceived low volatility and subsequently low uncertainty – they trust the 'autopilot'. The rationale of switching to a 'manual mode', which likely led to the failure of European banks during the financial crisis of 2007–2009+, is further discussed in the following sections.

3.1.2 Bankers' statements on the manifestation of corporate foresight during the financial crisis of 2007–2009+: Change in corporate foresight approaches

Having identified the reasons why Apollo bankers and internal foresight processes have not been efficient in understanding future environmental conditions and their massive effects, it is of interest to discover how internal processes – particularly with regard to corporate foresight – have changed since. In terms of activities and foresight processes, it appears that activities are set in a shorter time frame, as can be deduced from the following banker's statement:

W19:

Ever since the financial crisis everything was and still is being conducted in a more short term way. One is also more flexible regarding the creation of revenues. To date, there are more short term activities – their long-term success is questionable when considering the financial crisis.[...] Momentarily, no one believes in forecasts. We create different scenarios which eventually help us, because we assume that somebody has already thought it through. However, it is very difficult at the moment to do that. In relatively normal environment, one is aware of how different measures function and what their expected effects might be. This is no longer the case – instead, it only increases uncertainty. In addition to this, we do not believe in available information anymore.

Banker W19 outlines that the financial crisis of 2007–2009+ has led to a change of process perspectives in general. More specifically, the banker explains that while the environment has turned out to be more volatile than originally perceived by bankers, Apollo bank has also adapted internal processes to more short-term activities. This shows how significant the impact of the financial crisis has been on the organisation as a whole: The increased perceived volatility in the environment and the consequent uncertainty has resulted in processes being shortened in their design because the underlying future horizon has also become shorter.

With particular regards to the processes which aim at reflecting the organisation's future, a last remark should be made about the planning procedure of Apollo bank. Although the concepts of planning and budgeting are beyond the scope of this research, in this context

budget planning at Apollo bank can be taken into account. That is to say, some interviewees referred to the budget plan as one of the few reference points that bankers could use in order to find out what the bank holistically understands and expects the future to be, even to the extent where some bankers such as B31 emphasised that the published budget plan was the only official and formal foresight artefact which the bank distributes within the organisation. It is therefore interesting to include the following statement in the analysis:

Z13:

I believe you have got to look at it from different angles. A bank will initially always make a very detailed plan for the year ahead; it is what we call a budget process. So it is all about costs and revenues. Everything is accurately planned out for this. Due to the crisis, one can almost neglect doing this in the year 2009 because the entire external general framework is currently so volatile which makes any proper planning difficult.

Here, the interviewee speaks about the planning process of Apollo bank, briefly explaining the main items and steps involved. The interviewee particularly emphasises the term “always”, when describing the plan, and therefore one could argue that the planning process is a traditional, formal and well-established measure at Apollo bank. However, with reference to the financial crisis, interviewee Z13 highlights that the core of the bank’s planning tradition is now significantly disrupted and in doubt. This not only strengthens the argument that the volatile environment shortens the future horizon as discussed previously, but also that any attempt to build upon foresight information is problematic as even the one-year budget cannot be established with confidence. Hence, it could be argued that, for Apollo bank, statistical and economic forecast systems based upon past data are sufficient for bankers to imagine the organisation’s future – but only in non-volatile times – and that corporate foresight subsequently appears to have had only a little time to be established. In times of perceived uncertainty and environmental volatility, the need for corporate foresight is high and even

required. However, without formalised and well-established foresight processes, it seems to be difficult for Apollo bank to implement them in a short period of time.

A reference to this point was also made by banker H32 who also considers the comparison between past developments and projections into the future as rather “normal” for Apollo bank – although the banker admits that this rationale is flawed:

H32:

In my opinion this is the only way to go. Going beyond this would mean being far more industry- and product-specific. So in order to know what the world could look like in three years from now, I must think back to what the world looked like three years ago when back then a financial market crisis was nowhere in sight. [...]. Then three years ago today, we experienced an economic boom phase. You would probably not have found a single soul in 2007 claiming that we were in for the worst financial crisis since the end of World War II. It is perfectly legitimate to ask a bank: ‘what are things going to be like in three years and more from now?’

Banker H32 takes the position that a certain change is perceptible in Apollo bank regarding the appropriateness of past foresight methods. The banker, however, also expresses some doubt that any foresight methods would have been able to spot the potential occurrence of the financial crisis of 2007–2009+. Although it is unclear to what extent the interviewee was aware of the foresight information available that could have provided a forewarning about the crisis, it can, however, be deduced that the banker accepts that there is a need for alteration in approaching the future at this point.

Summarising the discussion, it can be identified that the financial crisis of 2007–2009+ evoked for both bankers and the organisation an exceptional awareness of the environment in terms of volatility. While bankers previously perceived the environment to be a rather non-volatile and somehow predictable, the financial crisis proved for them that the perception was static and not generalisable. Bankers at Apollo bank further recognised that

the change of environmental perception significantly affected the managers' perception and organisational processes – particularly corporate foresight processes. An overview of the influence of the external environment on the manifestation of corporate foresight can be seen in Figure 39.



Figure 39: Influence of external environmental characteristics on corporate foresight.

The assumption as expressed by areas of investigation, Part 3 can generally be described in terms of a volatile and non-volatile environment on a corporate foresight level (see Figure 39). Thereby it can be established that the bankers' perception of the environmental volatility leads to significant changes in the ways that foresight is perceived and even in the level of the commitment to certain foresight processes. In general, these changes can be synthesised in two layers, content and process:

- From a content perspective: The quality of the future adapts the current perception of the external environment; there is a change in choice and in motivation to prioritise certain foresight methods (subjective/objective); there is propensity to accept single rather than multiple futures.

- From a process perspective: Processes tend to be designed on different time scales; there is a change in acceptance of qualitative or quantitative information processes; internal processes are adapted according to current environmental perceptions in terms of volatility.

On a higher analytical level, it appears that, on the one hand, corporate foresight aims at understanding multiple futures of the organisation's environment. On the other hand, the environmental characteristics affect the quality of the manifestation of corporate foresight at Apollo bank (see Figure 40).

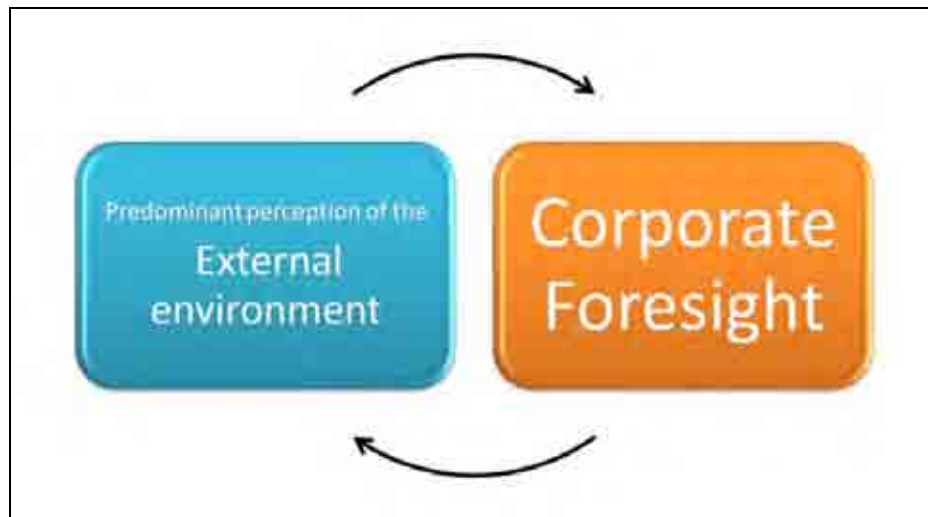


Figure 40: Feedback-loop: Corporate foresight's subject of analysis (external environment) affects the phenomenon's characteristics.

Figure 40 displays the effect which the environment has on corporate foresight. The research at Apollo bank shows that corporate foresight adapts according to bankers' environmental perceptions. There are also secondary effects of this mutual affection which include changes to foresight information preferences or to the use of foresight information in judgements (cf. section 4.4.1 and section 4.4.3).

3.2 Environmental layers' impact on corporate foresight according to perceptive evaluations

Following the classification of the task and general layers of the environment (cf. section 2.3.1), the subsequent analysis will scrutinise the relationship between these two environmental layers and corporate foresight. The underlying assumption is that corporate foresight not only conceptualises the means by which the environmental future is being understood, but that the environment, both the task and the general layers, influence corporate foresight processes. In other words, while the previous areas of investigation have discussed the general relationship between environmental states in terms of volatility, the following areas of investigation aims at analysing to what extent environmental layers influence the corporate foresight process. First, the influence of the task environment on corporate foresight will be discussed due to its conceptual and direct link to the organisation. Then the impact of the general environment on corporate foresight will be scrutinised in greater depth.

3.2.1 Corporate foresight and understanding multiple futures of the task environment

The task environment of an organisation refers to the environmental layer which tackles day-to-day operations and influences the achievement of the organisation's goals. Sectors which belong to the task environment generally include the organisation's competitors, suppliers and customers (cf. Bourgeois 1980, Daft 1988).

With the emergence of the financial crisis of 2007–2009+, Apollo bank has faced significant changes from the external layers, particularly because the financial crisis has not only affected the European banking sector, but also other industrial and service sectors. For Apollo bank, this development was particularly threatening, given that both the financial and

industrial sectors are the areas of the main day-to-day banking operations. Based on the distinction of the environmental layers provided by, for example, Bourgeois (1980) and Daft *et al.* (1988), Apollo bank's task environment mainly consists of customers and competitors. The third sector of the task environment, i.e., suppliers, is not as relevant in this research given that Apollo bank belongs to the banking sector and suppliers are frequently found in the industrial sectors. The analysis of customers and competitors, as the two most representative parts of the task environment, aims at understanding how Apollo bank perceives the task environment influencing the internal manifestation of corporate foresight.

3.2.1.1 Task environment: Customers

Bankers often stated that Apollo bank's customers are crucial for the corporate foresight process. Those bankers in operative segments in particular emphasised the importance of customers as an important source for future relevant information. This view is epitomised by J12 who supports the argument that customers are a crucial pillar for the organisation:

J12:

What you cannot really identify are abrupt changes in the environment. What we are presently experiencing is a drastic upheaval, which we as market participants can hardly equalize before, [...]. For, if research institutes themselves, are caught on the wrong foot, then it is extremely difficult for us as operative market participants to be distinct. You can partly, because we speak with customers which occupy themselves very intensively with the future, for example pharmaceutical research, and thereby receive special information from them.

Here, J12 explains that the environment is perceptibly experiencing drastic changes. Interestingly, the interviewee argues that a certain inability of bankers regarding foresight exists because highly competent bodies such as research institutes have been unable themselves to prove they have convincing foresight ability. The participant's view is that

bankers and Apollo bank's departments may not be better at corporate foresight than these research institutes – unless a close co-operation with customers is established. According to J12, customers of Apollo bank conduct corporate foresight themselves and the results of these processes are helpful for the bank – or in this case for J12 and his scope of responsibilities. In other words, customers' corporate foresight helps to provide insight for Apollo bank's managers.

Another example supporting this argument is provided by banker G29 who comments:

G29:

What we consider the future to be is also dependent on the clients – that is their needs, trends, for example concerning the society, economic cycles, unemployment and globalisation.

Like J12, banker G29 establishes that there is a close relationship between the customers' and the bank's corporate foresight. It could thus be argued that customers' understanding of the future is an important factor for Apollo bank's own corporate foresight.

An example of how customer's foresight management is implemented into internal foresight processes is provided by interviewee H32:

H32:

Referring to the quote: it is advisable to take specific topics into consideration. For example, if you assign a loan to a company, one will deliberate whether or not this company will survive the next ten years.

Banker H32 highlights one way in which various customers' foresight can influence Apollo bank's corporate foresight. In this case, the bank's credit provision highly depends on the credit worthiness of the customer. Conceptually, this assumption includes the consideration of the customer's ability to repay the credit and interests in the future – and hence, the bank has

to quantitatively and qualitatively assess the customer's financial status in the future. Although these credit decisions are mainly based on quantitative and statistical calculations, qualitative assessments of the bank's perception of the customer's credit worthiness includes corporate foresight abilities. Although this example provided by the quote of H32 was specifically focussed on operative transactions, it is a supportive argument in favour of the idea that the customer's future – whether in their own or in the bank's assessment, has an influence on the corporate foresight. On a more general level, the importance of customers' future perception in relation to Apollo bank's corporate foresight is one of the most important inputs for the corporate foresight process.

Having said that, J12 argues that the customers' foresight in the form of the management capacity is even more important than the commitment of the bank towards corporate foresight:

J12:

This is was very general, indeed. One at least tries to incorporate the clients' perceptions or expectations and tries to create the future from the clients' perspective instead of generating an own perception future. Thus, the adjustment follows: we have branch reports [...] which show how single branches will develop. It is often the case with SME businesses that the management capacity of the single client is more important than the respective environment. The implication thereof is even more important than the sector's leading opinion: 'how qualified is the management in actual fact?' Not that this is completely irrelevant, but the management capacity does play an important role.

In this extreme case, banker J12 states that customer factors – such as their perception of the future and their management capacity is of superior importance than the bank's own corporate foresight processes. This statement is extreme because it assumes that customers' perceptions and expressions are trustworthy to the extent that they can substitute internal processes which in turn suggests that the banker has an increased trust in customers in general. Moreover, the

comparatively high reliance on customers' foresight rather than Apollo bank's foresight appears to be unique position of one single interviewee which does not generally reflect the views of bankers interviewed. Finally, the extremeness could also be because the interviewee has operative responsibilities and therefore has a very close relationship with Apollo bank's customers.

Nevertheless, it can be inferred that the manifestation of corporate foresight at Apollo bank is significantly related with customers' corporate foresight in terms of impact or even input into internal foresight processes. Agreeing with J12, but distinguishing between both corporate foresight processes, i.e., those of the customers and those of Apollo bank, banker P07 explains how these processes are interlinked:

P07:

Firstly, customers' perspectives mean: 'where is the trend headed to?' We find this out by carrying out customer meetings and conducting surveys with institutes. This helps illustrate to where the market is headed. In this particular case, we are producers of information [...]. Secondly, we have scouts, which for example respond to the question of: 'where is the US market headed to?' This, in turn, that we ask ourselves whether trends from as far as the US could possibly happen here as well. In this specific case, we function as information users.

As previously argued, banker P07 differentiates between the customers' and Apollo bank's corporate foresight processes: While the former reveals trends and provides relevant future market information, the latter refers to internal processes conducted by Apollo bank. Although it remains unclear under which circumstances Apollo bank tends to substitute both foresight processes or even how they are interlinked, it can, however, be stated that customers' corporate foresight results reflect input for internal corporate foresight processes at Apollo bank. This important input is also recognised by the board of management which

equally seem to put much effort into following customers' perceptions of future developments:

P25:

The director's board is open to client feedback and is very much interested in listening to their opinion.

P25 expresses his personal perception of the board of management which, according to the banker, carefully listens to what customers think and believe. Again, it remains unclear at this point to what extent these opinions influence the manifestation of foresight by top management. However, the statement again supports the finding that customers do play a significant role in Apollo bank's assessments of the future with regards to Apollo bank's corporate foresight practices.

In sum, it can be synthesised that the task environment, particularly the customers' perceptions of the future, is important for Apollo bank's corporate foresight process. Although the impact and the extent of this influence are beyond the scope of this research, it could, however, be concluded that this sector influences the corporate foresight process of Apollo bank.

3.2.1.2 Task environment: Competitors

A rather different picture emerges when analysing the other element of the task environment, namely competitors. While customers seem to have a high impact on the corporate foresight process, it has been put forward by some bankers at Apollo bank such as F10 that competitors are relevant to a very limited extent. As has been argued previously (cf. section 4.1.3.4),

corporate foresight has not been appreciated as means by which competitive advantage can be achieved through product innovation. This threat is mainly based upon the fact that competitors in the European banking sector find it relatively easy to copy banking products which, in turn, leads to product homogeneity in the market.

With regards to the influence of competitors on internal foresight processes, an initial impression is provided by banker F10 who explains how the customers' perception of the future is in fact more relevant than that of bank's competitors.

F10:

Where products are concerned, one tends to look at what the market leader is doing. And markets, in which we act are incredibly transparent. [...].Regarding your topic, futures studies, the question of innovation within the bank is also raised. There is no real innovation in the bank. Our products consist partly of IT, work and to a small extent of human input. As a result, they are relatively easy to copy, because one cannot patent bank products. [...]. I would not say that I always and solely compare myself to the competitors, but I do try to be customer-oriented, also. I consider this a more intelligent approach. I am not quite sure how you see and judge this from the corporate foresight process perspective. But we deal with very simple questions, such as 'our customers have money that we would like to have. What do I need to do to get it?' That to me is the base issue. This is completely detached from both the organisational structure as well as from competition. This is the first questions from which I begin with, because this willpower needs to be present from the start. This is possibly treated rather matter-of-factly, but in the end that is exactly what it is about, because if we don't make any profit, our department will be closed down.

F10 states that any approach including the competition into the internal corporate foresight would only lead to dysfunctional results. In view of the quickly perceived adaptive behaviour of competitors, any future orientation by benchmarking with competitors would only be of short-term benefit. As a consequence, the banker clearly establishes two approaches for corporate foresight processes: First, the neglect of competitors as suitable input for corporate foresight and second, more focus on customers and their business concerns. At first glance, this proposal might appear extreme; however, the majority of Apollo bankers hold this view.

Moreover, further interviews revealed reasons as to why a comparative approach should be disregarded in relation to corporate foresight processes, one of which is explained by banker L22:

L22:

In my opinion, the banks are equally bad [in terms of corporate foresight]. Therefore, I would not necessarily go for a benchmark approach. Apollo bank has tried this in some areas – there are some [of these approaches] in the group management department, [and in] in the risk department.

L22 provides a further argument as to why comparative approaches for corporate foresight processes based on competitors' perspectives might not be considered: In essence, the banker perceives competitors to be equally 'bad'. Although L22 admits that comparative approaches take place in the bank, it would appear that they are not related to corporate foresight, because the interviewee feels strongly that the banking sector as a whole has to improve in terms of foresight processes. The interviewee's later point about partly comparative approaches may rather be related to 'current' than to 'foresight' processes. In other words, Apollo bank may derive information from competitors for input into processes from a present temporal perspective, but not for future-oriented concerns. A more detailed explanation of this is provided by banker A20:

A20:

We also participate in benchmark studies, in order to know how we are positioned compared to the competitors and to know whether we are actually comparable. These [benchmark results], however, only reflect the current and not the future situation. [...]. We have the impression that other banks assume the same [regarding the financial crisis] and analyse the situation in the same manner.

The quotation from banker A20 contains two interesting points: First, A20 agrees with the idea suggested by L22 that comparative approaches in corporate foresight terms are not suitable in the banking sector. More specifically, the underlying proposal put forward in this research that comparative approaches are good for current concerns rather than future ones is supported by this banker's statement. Second, it has been suggested by A20 that other banks' corporate foresight is equally inefficient based upon the impression that a majority of them failed to have an accurate future understanding of the environment. In other words, because the interviews were at the peak of the financial crisis in 2009, the bankers at Apollo bank were able to assert that not just Apollo bank, but competitors as well have not been able to prove their corporate foresight success and efficiency. Although it remains unclear on what basis this impression is built, it should be noted that interviewees did not identify any competitor in the environment who they felt had convincingly established corporate foresight abilities. Considering this above, it appears consistent that bankers are reluctant to accept comparative approaches as being highly significant in shaping the bank's corporate foresight process. The argument that an organisation should learn and adapt its corporate foresight approach from others is further diminished by another point of view: Some bankers refused to accept competitors as an influencing factor on the corporate foresight process because the required input for corporate foresight is generally available to any other bank in the market. The argument of the perceived highly transparent nature of the European banking sector has already been discussed in previous sections (cf. section 4.1.3). Banker P11 elaborates as follows:

P11:

There are layers in it. In commercial banking business we normally have the following situation: there are certain sources of money from which capital flows automatically. Investment demand is created, foreign trade increases et cetera - then your business increases. Conversely, it drops when it decreases. There is a very close correlation. The question therefore is: 'How can we navigate a bank so that she is able to recognise a trend sooner or later?' Market data is normally available for this purpose. There is no advantage being able to estimate the market conditions better.

The way in which P11 describes the banking environment in terms of corporate foresight leads to the assumption that banking business is conducted in a somewhat self-managed fashion. Particularly, the first part of the quotation gives the impression that there is little effort required to do banking business in certain business areas, such as in commercial banking. In the course of the conversation, however, this argument becomes more interesting because P11 asserts that information or market data is generally available to any financial institution, if required and its acquisition necessitates little effort. It would be more reasonable for the bank to find ways in which to better identify future relevant information in the market rather than producing it within the organisation for later processes. In other words, competitors in the banking sector distinguish themselves according to the ways in which information is being identified, but there is not necessarily a lack of information for corporate foresight. At first glance, it seems that this argument is being weakened by the same banker as he continues by saying that a bank is unlikely to have superior advantages in estimating or “foreseeing” future developments in the market. This statement can be understood in the following two ways: First, the banker is under the impression that corporate foresight results can be purchased in the market and advanced efforts in committing to the processes are obsolete. This point of view would, however, ignore the intangible outcomes of corporate foresight as discussed in section 2.2.4.1.3. Second, the banker’s experiences in applying

corporate foresight show a certain propensity to categorise the phenomenon as an interchangeable good. This might not be a contradiction to the previous discussion, considering that the banker asks for an improved awareness to detect foresight information which he considers being very important.

The picture of bankers wholly denying that competitors are a suitable source of input for their bank's corporate foresight is not clear-cut. Some bankers confirm that comparative analyses in terms of corporate foresight would be a supporting factor. Moreover, while most of the bankers focussed on the European banking sector when answering the interview questions, some other bankers compared corporate foresight on an international level. By this international comparison beyond European boundaries, it seems that the bankers interviewed show a higher propensity to agree that comparative analyses are enhancing factors for corporate foresight:

Z13:

I think the banks there [abroad] are a lot more modern than we are here. This also means learning from other countries, i.e. what sort of client acquisition models prevail there. That is surely going to be the next step we plan on implementing [...] as soon as the resources permit it. I would say it is a combination of employing research as well as taking the time you need to say: 'Okay, you three boys – have a look at how banking is currently running in for example in India. 'What sort of products have they got?' You can then make a certain analysis from here or they can hop onto a plane to see how things are run in the banks on site. That is something we still do far too seldom.

Banker Z13 perceives Apollo bank as not being as modern as other banks. This indicates a certain comparative approach – in contrast to the statements of other bankers such as A20. In more detail, Z13's statement can be synthesised into two perspectives: First, from an internal perspective, it can be identified that Z13 perceives Apollo bank not to be as future-oriented as the banker generally expects. Although the reason for this, i.e., lack of resources, is mentioned

it can, however, be noted that a certain motivation to change this state is noticeable. Second, from an external perspective, there seems to be a certain belief or thought that other banks may be more modern or future-oriented than Apollo bank. On that basis one could argue that this banker is an example of a manager who supports the argument that competitors are a factor that can have an impact on corporate foresight. This perspective is, however, also weakened by the fact that the banker is assuming in this respect rather than specifically tackling certain issues. In other words, even banker Z13, who at first glance appears to be in favour of considering competitors' perspectives in developing the bank's corporate foresight processes, qualifies his support.

In sum, according to all the above statements in this subsection, Apollo bank would appear not to consider the competition as a source of corporate foresight.

3.2.2 Corporate foresight and understanding multiple futures of the general environment

In section 2.3.1, the general environment has been defined as the second layer and includes sectors affecting the organisation indirectly, such as social, demographic or economic sectors. Due to the significant differences between companies and their specific business models, the degree to which these sectors are directly or indirectly connected to the organisation depends on the self-assessments of the managers (cf. Bourgeois 1980; Daft, 1988; Dill, 1958).

Previous publications (cf. Daft 1988) have identified regulatory bodies in the banking sector as belonging to the task environment rather than to the general environment due to the frequent transactions between both actors. However, this rationale is only partly applicable to the banking business. In the analysis, regulation will be perceived as part of the general

environment due to its indirect effect on financial institutions' day-to-day operations and on the organisation's goal achievement (cf. section 2.3.1). With the financial crisis, the issue of regulation has become more crucial for European banks in general. This has mainly been due to the governmental involvement required to stabilise financial institutions and the prevention of further threats to the financial markets (cf. section 1.3).

At Apollo bank, the majority of bankers stated that regulation is a planable, structured and to some extent a 'foreseeable' process. This means that regulation did not seem to be an area from which incalculable surprises might be expected, as shown by the following statement:

B31:

We don't expect any big surprises. This has to do with regulation. We are only partly surprised, whenever topics arise that we have already discussed in the past and then suddenly reappear in the context of regulation. In such cases we have already heard about that topic. Sometimes some topics which have already been rejected in the past, will crop up once more only to be reactivated again.

Banker B31 states that regulation does not cause surprising events for Apollo bank. By 'surprises' the banker means events which occur without Apollo bank being aware of their development, i.e., weak signals. Moreover, the statement strongly supports the assumption that future developments in the area of regulation are continuous to the extent that the nature of middle- to long-term progress is only slightly unexpected, or in other words, it is usually 'foreseeable' according to Apollo bankers. With regards to corporate foresight, it is interesting to analyse why this low degree of uncertainty exists amongst Apollo bankers and why the future in terms of regulatory issues appears to follow a continuous development.

In further discussions with the bankers, it was found that regulation is perceived as being highly foreseeable because the bank is highly involved in regulatory matters affecting the sector. This includes a constant and intense communication with regulatory authorities which is why the bank does not expect surprises from regulation. An analysis of this process is provided by banker G26, which is an exemplar of the views held by bankers at Apollo bank:

G26:

*Yet we [...] ask ourselves: 'what could be the underlying equity funds requirements in future and what could that mean for us?' We are not going to wait until a law is passed; instead there will be numerous consultations and consultation papers beforehand. That way we are able to prepare ourselves. Two options exist: Firstly, a consultation paper exists and we assume that everything therein is true which is the worst case. Secondly, one can recite *petita*, so that one can influence the set of regulations. [...]. We are in constant touch with the association of banks. We have currently got the ongoing IRF theme, which states American interests.*

During the interview, banker G26 describes the process by which Apollo bank gets involved with regulation. Starting with consultation papers, the bank receives initial hints on what is expected to be passed into law. This means that regulatory authorities provide financial institutions such as Apollo bank with a rough outline of regulatory issues which are planned to be released in future. Banker G26 describes the two options: (i) the proposed regulatory issues mentioned in the consultation paper become law or (ii) the bank can attempt to influence these issues and recite *petita* to alter certain key points. Although the specific way in which banks are involved in regulatory processes is beyond the scope of this thesis, it can, however, be noted that regulation evolves in an iterative process which is thoroughly observed in the research site and that the organisation can undertake actions under certain circumstances. Particularly, bankers at Apollo bank who are in direct contact with regulatory authorities generally agreed with the assertion that regulation does not reflect a major source

for uncertainty and therefore need for extensive foresight manifestations. A more detailed description of this process is provided by banker B31:

B31:

All important issues usually come from Brussels. They formulate the information only with proposing character. This will then be translated into national law [...]. If a paper comes from Brussels, then we definitely need to look through it and then discuss these issues here in the department. [...]. Reforms are achieved through consultation processes. In these, banks are asked [...] what they have experienced [...], what their expectations are should these regulatory issues be implemented. After that, we provide feedback in an iterative and evaluate [the outcomes] in a consolidated manner.

Interviewee B31 describes the process by which regulatory issues relate to Apollo bank in more detail and B31 emphasises that revisions to regulations are generally known to the bank well in advance of them becoming law. Moreover, B31 described in more detail how the bank is involved in these regulatory matters: The authorities expect banks and other financial institutions to elaborate, in a quantitative and qualitative fashion, the effects which the proposals might have. Based upon this mutual consultation process by both the regulatory bodies and financial institutions, regulatory matters and processes not only become more transparent for all actors, but also the financial institutions have a clearer picture of the regulatory effects on the banks. These processes were also termed “impact studies” by some bankers, such as G26:

G26:

Another thought regarding the foresight topic: In the ‘Basle Action plan’ one also hopes to define what effects specific laws will have. This is what one hopes to find out from the banks [impact studies]. [...]. This way we are never really surprised. It is a constant communicative and interactive process. The procedure is planable. The content however is not as easy. If we know what is in store for us, one is able to attune to it.

In sum, the development of regulation was described by the bankers as an iterative and successive process with a certain amount of involvement of financial institutions. On a higher level, it has also been analysed to what extent this perceived certainty can be taken into account. Thereby, an interesting distinction could be observed: The content of regulation is unknown and therefore higher in perceived uncertainty, but the regulatory process is planable and causes a low degree of future uncertainty. Moreover, the regulatory process represents a planable and iterative process not only from an external perspective, but also from an internal point of view.

With regards to the long-term experience of Apollo bank, the implementation of regulatory matters into the bank has been established and institutionalised:

N27:

Yes, a nice topic [regulation]. Well, we like to say: If it is a small topic, for example a consultation paper or an EU paper, then our work is important. Monitoring, analysing and prioritising et cetera is just as important then. That is where it gets to be strategic. At some point the ordinance or the guidelines set in, which are then laid down, and implemented in [...] law. From that moment on, it is a concern project and our task has been achieved. We are only responsible for informing the organisation that there is something present. The next step would be to ask ourselves whether it is of any relevance to the bank. Would we be affected by it? Also: 'should we lobby or not?' One can give it a try.

Here, banker N27 describes the process by which external regulatory issues become institutionalised within Apollo bank's organisational structure. More specifically, N27's position allows the banker to act as a sensor and receptor for regulations which are then further transferred into other internal processes. Hence, the assumption that regulation is an iterative process and low risk in terms of generating surprising events is also supported by this banker. It can therefore be noted that corporate foresight at Apollo bank is affected to the extent that the content of regulations is the subject of analysis, while the processes by which

the implementation is conducted is institutionalised to great detail. In other words, Apollo bankers are aware that regulation generally progresses in a mechanical fashion, which leads to a high certainty from a processual perspective. In terms of corporate foresight, it could be argued that 'process certainty' decreases 'content uncertainty' for Apollo bankers, and that regulation plays an insignificant role for corporate foresight at Apollo bank.

In line with the previous argument, further evidence was found at Apollo bank indicating that the general environment is only slightly relevant to the bank's perception of the future. Internal documents and instructions regarding macroeconomic figures from the general environment, such as the gross domestic product (GDP) and demographic figures give clear guidelines on how to deal with these signals and foresight information. In a particular example, Apollo bank's risk assessment guidelines scale different indicators according to their importance in risk and credit considerations, and the general environment has been declared 'of only little relevance' (e.g., quote G26) for bank's lending practices. This means that the central risk frameworks assess the general environment as being only slightly relevant in this area, which further strengthens the assumption that the general environment plays a role in specific areas, such as human resources, but is not observable or highly relevant at an overall organisational level.

From the general environmental point of view, regulation has been analysed as representative sector and the bankers showed a far more complex understanding of its influence on corporate foresight. Since regulatory processes follow an iterative and structured pattern, corporate foresight is only slightly affected by this sector. The bankers' understanding is that this sector is perceived as low in terms of volatility, 'foreseeable', and to some extent influenceable and rather easy to understand. In addition, internal guidelines concerning risk

and credit assessment assign macroeconomic indicators a low significance. This in turn means that, formally, Apollo bank instructs bankers to view sectors of the general environment as being only informative, not decisive, in making decisions on credit borrowing.

An overview and summary of the two layers and three representative sectors are presented in Table 26.

	<u>External:</u> Attribute	<u>Internal:</u> Perceptions	Impact on corporate foresight
<u>Environmental layers and sector</u>	Volatility	Perceived uncertainty	Degree of impact on corporate foresight
Task environment			
• Customers	High	Medium	High
• Competitors	Low	Low	Low
General environment			
• Regulation	Low	Low	Low/Medium

Table 26: Overview of environmental layers and sectors: Impact on Apollo bank's corporate foresight (predominant perceptions).

3.3 Findings – Areas of investigation, Part 3: Environmental perspective on corporate foresight

Corporate foresight at Apollo bank: An environmental perspective

Researching corporate foresight from an environmental perspective at Apollo bank, the investigation identified these main issues:

The shape of corporate foresight is significantly contingent on the perceived volatility of the environment. Interviewees particularly emphasised this point in comparative and retrospective reflections before and during the financial crisis of 2007–2009+. Interestingly, the volatility of the financial banking sector was acknowledged differently in both periods of times (non-volatile/volatile, respectively), which further indicates why corporate foresight has perceptibly changed in nature at Apollo bank. This finding is of significant relevance given that the banking sector has previously been characterised as highly volatile in the literature, but was perceived differently by Apollo bankers (cf. section 2.3.2).

A feedback loop between corporate foresight and the external environment has been identified: While one of corporate foresight's main aims is the provision of an understanding of the external environment's future of the organisation, the characteristic of the environment – particularly its perceived volatility – affects the shape of corporate foresight manifestation in a rather subconscious fashion. As a consequence, bankers tend to employ different foresight methods according to the level of perceived environmental volatility. From an organisational point of view, stable or non-volatile environments seem to evoke automatic and rather quantitative foresight processes within the bank – sometimes also metaphorically labelled as an 'autopilot' form of corporate foresight. In times of high volatility, however, bankers show high interest and motivation to commit to corporate foresight, but the means to

support these processes in terms of tangible and intangible inputs, are limited. Foresight processes and contents change according to these circumstances and Apollo bank shortened its activities due to the shortening of the underlying future horizons.

The analysis of the environmental layers, the task and the general, presented an uneven picture. It can be argued that both layers affect the corporate foresight process, although in a distinct fashion. It has been found that the task environment – particularly in comparison to the general environment – tends to have a high influence on corporate foresight processes. More specifically:

Corporate foresight at Apollo bank is particularly affected by the task environment and within this layer, the sector ‘customers’ was found to have a great influence on how corporate foresight is designed because the close relationship between customers and the bank, customers’ intensive foresight activities and their ability to transfer foresight information to the bank.

Competitors (also an element of the task environment) seem to have only limited influence on Apollo bank’s corporate foresight because competitors are not perceived as superior in exercising corporate foresight than Apollo bank. Moreover, the European banking sector has been proposed by some Apollo bankers as being highly transparent from a competitive perspective which further decreases the inclusion of this element into Apollo bank’s foresight activities.

The general environment’s importance, using the example of regulation, was intriguing: Bankers at Apollo bank described an iterative and continuous process by which regulation is developed and subsequently affects the bank. Due to the particular nature of regulation in the European banking sector, its progress is stable and hence “foreseeable”

according to the interviewees' perception. This leads to the perception that this external environment's layer has low volatility which in turn means that little effort need to be made to understand and to gain insight into this part of the environment.

Overall, the analysis of the impact which the environment has on corporate foresight has identified some important issues. At Apollo bank, corporate foresight and hence the understanding of future developments has changed significantly during the past few years. The occurrence of the financial crisis of 2007–2009+ enhanced Apollo bankers' understanding that the process in which the future is imagined (i.e. corporate foresight processes) as well as the content of the pictures follows a dynamic rather than a static logic. Apollo bank's perception across different departments appears unified with regards to the impact of the environment – particularly the perceived volatility and the shape of corporate foresight as a consequence thereof.

4. Areas of investigation, Part 4: Corporate foresight, judgement and the impact on strategic decisions

The previous discussion analysed corporate foresight at Apollo bank from three different perspectives. These analyses gave insight into the complex phenomenon of corporate foresight and the variety of influences to which it is exposed. In further investigations, the interest of the researcher is focussed on the extent to which corporate foresight influences strategic decisions.

Further analysis will focus on how managers and decision-makers judge corporate foresight information which is subsequently considered in strategic decisions. In line with the conceptual framework presented in section 2.5.6, the discussion will first analyse the evaluation, then the predictive element of judgement regarding corporate foresight. Finally, an analytical link between judgement and strategic decisions will conceptually and analytically be designed to answer the research questions.

4.1 The impact of managerial, organisational and environmental conditions on judgement: An evaluative perspective on corporate foresight information, Part 4 (i)

Research at Apollo bank discovered that corporate foresight is affected by the three analytical perspectives, namely manager, organisation and environment. Concerning the evaluative element of judgement, areas of investigation, Part 4 aims to analyse how these three elements affect Apollo bankers' evaluation in terms of integrating corporate foresight information. The analysis will consider the results from earlier analysis and research results from previous publications.

More specifically, the sub-areas of investigation will be formulated as follows:

- The impact of bankers' openness and attitude towards corporate foresight information on evaluative judgement;
- Organisational characteristics and the propensity of bankers to integrate corporate foresight – an informational perspective on evaluative judgements;
- The influence of environmental characteristics on bankers' evaluative judgement.

4.1.1 The impact of bankers' openness and attitude towards corporate foresight information on evaluative judgement

Areas of investigation, Part 1 showed that bankers evaluate corporate foresight from a subjective point of view. This means that the propensity to integrating corporate foresight into judgement and hence strategic decisions is related to the manager's own evaluation of the current necessity for corporate foresight information in comparison to the perceived usefulness of corporate foresight. While Part 1 provided an overall understanding of Apollo bankers in terms of how they perceive corporate foresight to be useful, the discussion will now shed light on the extent to which Apollo bankers judge corporate foresight in an evaluative fashion – particularly their general attitude towards and interest in corporate foresight.

The research found that Apollo bankers exhibit certain attitudes towards corporate foresight which are generally decisive regarding their propensity to integrate corporate foresight in evaluative judgements. More specifically, three fundamental different patterns have been identified according to which managers can be categorised in line with their

general propensity to accept or refuse corporate foresight in evaluative terms. More specifically, the three categories of attitude emerged from the data, passive, neutral and positive, which are defined as follows:

- Passive attitude refers to the banker's perceived low requirement to search for and integrate any foresight information. This means that the banker does not favour the search or integration of corporate foresight information. The consequence of this is that their interest in foresight information is rather low and corporate foresight is judged as insignificant or unnecessary. This attitude is distinct from a neutral attitude because a passive attitude towards corporate foresight also means that the banker accepts, if at all, supporting information, and tends to refuse contradictory foresight information. One could also add that the decision-maker with a passive attitude tends to ignore relevant foresight information if it provokes them to re-think their position or decision. Bankers allocated to this category expressed rather reserved and distant statements regarding corporate foresight information of any kind.
- Neutral attitude denotes an indifferent relationship to corporate foresight information. This means that the integration of corporate foresight depends on other factors than the banker's current attitude. Their interest in corporate foresight information is low or medium due to the banker's situation in which no particular information is required or uncertainty perceived. In contrast to the passive attitude, it could be argued that a banker in this category shows an unconcerned – or even an opportunistic – attitude towards corporate foresight.

Bankers allocated to this category make statements that are expressed in conditional and unaffected rather than emotional and ideological terms.

- Positive attitude is defined by the general openness of the banker towards corporate foresight. The banker in this category assesses the quality of foresight information carefully and expresses their regular endeavour to integrate foresight information. This level reflects the most significant level of openness towards corporate foresight. Bankers allocated to this category also emphasised their ambition to critically assess corporate foresight and to decrease any potential bias towards corporate foresight.

An overview of the identified categories of attitude and levels of interest in corporate foresight can be found in Table 27.

Attitude towards corporate foresight information	Level of interest in foresight information	Example at Apollo bank
Passive attitude towards corporate foresight. Propensity to accept supportive information and neglect challenging foresight information	Low	<i>"Momentarily, no one believes in forecasts. We create different scenarios which eventually help us, because we assume that somebody has already thought it through. However, it is very difficult at the moment to do that [...] we do not believe in available information anymore."</i>
Neutral attitude due to the belief that the requirement to accept or refuse corporate foresight information is not urgent	Low or Medium	<i>"Good foresight information must be well structured in several ways. What is very important is to have a general statement on what we believe are our most important key markets to develop. [...]. To know what that means for me and what I have to consider."</i>
Positive attitude towards corporate foresight. Careful evaluation of information. Little tendency for selective exposure.	High	<i>"Well, if it is relevant information, then I would rather follow up the information and try to increase my horizon, asking the market, the team and the source. This I would definitely try. I try to understand and also to sometimes reject my opinion whenever there is the risk that I develop some kind of bias so that I cannot overlook current issues and be eventually negatively surprised. Because it is exactly that, which I try to avoid."</i>

Table 27: Bankers' attitudes towards corporate foresight and their level of interest in corporate foresight information.

With regards to the evaluative judgemental perspective on corporate foresight, it was identified that Apollo bankers show different attitudes towards corporate foresight. While previous analysis indicated that the perceived usefulness of corporate foresight differs across the organisation, the identification of different attitudinal levels takes effect in a complementary fashion. This means that the perceived usefulness of corporate foresight (cf. areas of investigation, Part 1) reflects a general view on the nature and the phenomenon of corporate foresight, whereas attitude in terms of evaluative judgement (manager's perspective) specifically refers to corporate foresight results. In other words, the usefulness of corporate foresight might be positively seen by some bankers on an organisational level, but the attitude explicitly refers to the bankers' individual situation in which they defines their general propensity to accept or refuse corporate foresight.

In a further step, evaluative judgements will be discussed on an organisational level – specifically from an informational point of view.

4.1.2 Organisational characteristics and the propensity of bankers to integrate corporate foresight: An informational perspective on evaluative judgements

The analysis of corporate foresight from an organisational perspective (cf. areas of investigation, Part 2) has generally followed an information processing perspective which assumes that corporate foresight is an information *producing* process. Formal and informal foresight activities at Apollo bank produce foresight information of different kinds which under certain circumstances take a formalised form within the organisation. The basic question is '*where does corporate foresight occur?*' Particularly, the exploratory research at Apollo bank provided an indication that the source of corporate foresight information tends to

have an effect of the evaluative judgement of bankers. This means that the source of corporate foresight information will be analysed in terms of evaluative judgements.

Three different departments at Apollo bank have been pinpointed as responsible for producing corporate foresight information (cf. areas of investigation, Part 2), namely the segment's business development departments (SBDD), the group management department (GMD) and the internal economic department (IED). It has further been argued that the sources exhibit certain characteristics that favour the consideration of these foresight information sources, namely credibility and expertise. At the time when the research was conducted, Apollo bankers were experiencing a high degree of uncertainty and challenges caused by the financial crisis of 2007–2009+. Therefore, most of the bankers undertook a process of reflection in which they critically analysed the source(s) of foresight information. During the interviews, a dominant and important factor for Apollo bankers was the credibility and expertise of the source.

From an individual point of view, banker G26 states how the perception – and hence integration of the foresight – relates to the evaluation of the source's credibility:

G26:

It [foresight information] can have the exact same content, but depending on who passes the information on to me, I perceive it differently.

Banker G26 highlights how he evaluates foresight information differently according to the qualities of the foresight source. In this context, the banker refers to a personal source in terms of credibility. In line with this identified criterion, to previous discussions, departments have been assessed in terms of credibility as well. One example of a departmental source which internally enjoys high credibility was the IED. This department publishes regularly

macroeconomic data on markets which is available on request such as via intranet pages (cf. section 4.2.2.2). Banker B31 formulates the credibility assigned to the IED:

B31:

We consider different inputs. We also include the IED; they also need different inputs for their models. Here the participants' expertise is of particular importance.

This statement refers to input for B31's departmental corporate foresight activities. More specifically, the banker combines both the IED and individuals within the corporate foresight process in order to evaluate the credibility and expertise of the source. This statement is another example of the strong feelings that bankers express regarding the credibility of foresight information.

On a more general level, another banker, H08, distinguishes credibility according to internal and external sources:

H08:

If you want to have a clear deduction, than you may use internal sources because these have more credibility. If there are deviations with comments from external sources, which implies conflict, then the preference clearly relies on internal information sources.

This example is of particular interest because banker H08 describes a case of conflicting information. The banker decides which source has higher credibility – in this context, he chooses the internal source. The statement is interesting because it not only shows how the banker experiences a certain evaluative judgemental process, but also how clearly this judgement and hence decision is made according to reasons of credibility. However, not only was credibility put forward as the influencing factor in evaluating foresight sources, but also reliability.

From the bankers' point of view, reliability refers to the source's characteristic as being a constant and respectable information provider. While the bankers' definition of credibility mirror synonyms such as accuracy, trustworthiness and permanence, it seems that the perception of reliability is expressed in terms of expertise and reputation, as in the extract from the following interview with banker P11:

P11:

I claim that the source is not determining as long as it is reliable. If you were to build up business decisions, would I adopt them from the [yellow press] – judgement? I would presume not. Do I fundamentally believe that a financial newspaper analyses the economic field better? Yes. That is precisely what I mean when I speak of a reliable source. It all depends on what type of context you find yourself in when searching and gaining information.

Here, banker P11 uses the term reliability in the sense of 'expertise'. This means that as long as the source of corporate foresight information enjoys some sort of reputation of expertise in a specific area, the source can also be seen as reliable.

The distinction between the two terms, i.e., credibility and reliability or expertise, is also emphasised by the following comment of banker H08 who uses both terms separately:

H08:

Well, at the moment it is proving to be relatively difficult to gather somewhat credible and reliable information. Consequently I now have no choice but to clarify which of the basic assumptions that have so far pertained themselves are going through changes, in which direction they are changing, and which market protagonists are involved.

The same banker provides a further comment referring to the credibility of corporate foresight sources. Institutions in financial markets, such as rating agencies, have suffered a significant decrease in credibility due to their perceived failure to foresee the development of the

financial crisis of 2007–2009+. This loss of credibility has led to changes in the bankers' mindset when considering how to evaluate foresight information from these foresight sources:

H08:

Nowadays, expert knowledge counts less. Your own argumentation is much more important. It is no longer sufficient to rely on rating agencies alone. You also have to provide own argumentation. There is a noticeably tendency, for sure. Regarding the credibility of models: Yes, it is true that they have suffered - particularly the rating agencies. The chance of pushing something through just by arguing with rating agencies is far less. You have to bring your own argumentation as well, via detailed opinion on facts. You have to explain everything, even expert knowledge in the organisation. The intensity with which current discussions are being held clearly illustrates this.

This example shows the importance of credibility in evaluating the source of foresight information – in this case, the judgemental evaluation of rating agencies. In doing so, the banker argues in a negational fashion: On the basis of this statement, it could be argued that the banker assigns a decreased credibility and expertise (i.e., reliable source) to the rating agencies, a view which is also shared by other Apollo bankers. This means that the perceived loss in the rating agencies' credibility and expertise in evaluative judgemental terms has affected the whole organisation which in turn has led to a change in the use of this foresight information source.

Overall, it can be noted that credibility and expertise of a foresight source has been emphasised as most important in evaluative judgements of Apollo bankers. In the course of the interviews, the closeness between credibility and expertise on the one hand, and the financial crisis of 2007-2009+, i.e., the environment on the other hand, has been a dominant factor during the research at Apollo bank. Therefore, the following section will analyse the effect of environmental characteristics on the evaluative judgements of bankers in terms of perceived volatility and subsequent uncertainty.

4.1.3 The influence of environmental characteristics on bankers' evaluative judgement

With the emergence of the financial crisis of 2007–2009+, bankers became more thoughtful about the nature of the banking environment as well as the organisation's general ability to understand and to foresee developments in the future. In previous discussions it has been indicated that environmental characteristics influence corporate foresight processes (cf. areas of investigation, Part 3). Building upon this implication, it is of interest to discover how the environment affects the evaluative judgements of bankers at Apollo bank in terms of corporate foresight.

At Apollo bank, most of the interviewees expressed a general paralysis, self-reflection, and certain irritation about patterns which previously had been assumed to be rather easy to understand. An example is given by Banker H08:

H08:

Before the financial crisis set in, one was overly optimistic about the extent to which one could estimate the effects, well knowing that the observation time span and the empiricism, was actually insufficient and yet still somewhat in the position to illustrate the effects. From the market's perspective, one would have fully supported the classic question on how equity can vary in the economic cycle. Common-sense. Due to intensification and the financial crisis incident, common sense has now dwindled. At the moment a great uncertainty about true value is persistent and one can observe extreme values. I would need a very clear picture on the actual movements of the business cycle. [...]. It leads to not being able to make a more or less good foresight at the moment. [...].

Here, banker H08 provides an interesting example of what bankers generally felt and perceived regarding the environment before and during the financial crisis. As stated by the banker, there had been a general certainty and confidence in understanding the environment – more often than not on the basis of highly sophisticated models. These models reflected 'classic' economic cycles which had been accurate for the preceding years. This means in turn that the accuracy of these economic models caused certitude at Apollo bank and reflected a

high ability in understanding the future. In a further step, bankers – such as H08, build their judgements upon these models and corporate foresight had mostly been based upon such economic models.

In terms of evaluative judgements, it can be seen that bankers changed their approach due to the financial crisis of 2007–2009+. An interesting comment was made by banker R18. According to R18's understanding, the more volatile the environment, the more he has to rely on qualitative judgements, whereas under non-volatile conditions, the effectiveness of measures and processes are familiar to most bankers. This statement sheds light on how bankers make evaluations according to environmental conditions:

R18:

Regarding the markets: The more volatile the markets are, the more I need qualitative judgements as well as committees. Particularly, qualitative factors are currently very 'in' again. [...]. In times of non-volatile environments we have to cut down on costs, employ consultants and lay off people. This means that you can turn on the 'auto-pilot'.

Interviewee R18 distinguishes environmental states as either non-volatile or volatile. While this bipolar description of the environment seems extreme at first glance, it provides a basis for the following assumption: The comment shows that in times of a perceived non-volatile environment, bankers' evaluative judgements turn positively in favour of quantitative economic models. Based on the words of R18, this rationale appears to be dominant given that the parameters and conditions framing the economic models match non-volatile environmental settings.

However, these conditions are not met in volatile environmental conditions – such as during the financial crisis of 2007-2009+. This mismatch is recognised by Apollo bankers, such as R18, and hence, evaluative judgements on the appropriateness of the previously

consulted foresight information take place. Quoting the example of R18, he states that in these times “...*I need qualitative judgements as well as committees.*” Although it remains unclear what exactly the manager meant by “qualitative judgements”, one could argue from a negational point of view. This means that this statement implies a rejection of quantitative and econometric models which have been employed in Apollo bank’s corporate foresight in former times.

This analysis is an extension of areas of investigation, Part 3 which described the findings regarding the influence of the external environment on corporate foresight. Building upon this result, the analysis of environmental influence on evaluative judgement provides an additional aspect to this finding. It shows that the environmental conditions have an effect on the evaluation of foresight information – particularly corporate foresight information.

In sum, it can be stated that the current perception of the environmental conditions affects the evaluative judgements of bankers. This statement is based upon the fact that bankers reject previously accepted foresight information sources according to the perceived environmental state. In other words, the integration of corporate foresight in evaluative judgements is affected by current perceived environmental conditions. A detailed analysis of the extent to which the evaluative element corresponds with the predictive element of judgements is further discussed in section 4.4.3.

4.2 Findings - areas of investigation, Part 4 (i): *An evaluative judgemental perspective on corporate foresight information*

The impact of managerial, organisational and environmental conditions on judgement:

An evaluative judgemental perspective on corporate foresight information

The analysis of the impact of managerial, organisational and environmental conditions on evaluative judgements showed that bankers at Apollo bank perceive certain elements as important for the consideration and integration of corporate foresight information. Most importantly, it has been deduced from the data that:

From a managerial point of view, openness and attitude are important to consider when identifying the factors influencing the integration of corporate foresight into evaluative judgements. Three levels have been identified indicating a general tendency according to which managers seek corporate foresight information and these are: passive, neutral and positive attitude.

From an organisational, and specifically an informational, point of view, the credibility of the corporate foresight information source has been emphasised as important. The bankers also emphasised the importance of expertise – which, however, they mostly understood in terms of reliability, accuracy and trustworthiness of the source.

From an environmental point of view, the analysis of the impact of environmental conditions, particularly the degree of perceived volatility has been pinpointed as crucial for the integration corporate foresight in evaluative judgements.

Building upon the analysis of the general acceptance for integrating corporate foresight in terms of evaluative judgements, the next section will examine how corporate foresight is favoured in predictive judgements made by bankers.

4.3 *The impact of managerial, organisational and environmental conditions on judgement: A predictive perspective on corporate foresight information, Part 4 (ii)*

Predictive judgements have been defined in terms of their accurateness in predicting the future – particularly of the human environment. The accuracy of these judgements is determined by the extent to which the individual is able to precisely formulate the environmental future to come which then becomes actual present (cf. section 2.2.2.3; section 2.4.1, cf. Hogarth, 1980, p. 7-9). Predictive judgement – in contrast to evaluative judgement – specifically pinpoints future rather than current conditions or characteristics. In other words, the banker makes judgements based on their understanding of the future which in turn is provided by the manager's prediction or belief at that specific time. Therefore, the following section will analyse the impact of the bankers' confidence on their own managerial foresight as an indicator for the integration of corporate foresight, corporate foresight information and the 'fitting' of them into management goals. The analysis will also examine the influence of the environment on the degree to which corporate foresight is likely to be integrated.

4.3.1 The impact of bankers' confidence in their own managerial foresight as an indicator for the integration of corporate foresight

One main function of corporate foresight is the provision of understanding and insight to managers. It has been previously stated that managers generally play a crucial role within the corporate foresight process (cf. section 2.2.3 *et seq.*). The interviews at Apollo bank revealed interesting issues regarding the ways in which bankers make predictive judgements.

In analysing the impact of corporate foresight, it has been taken into consideration that a certain match or mismatch between corporate and managerial foresight might occur. This

means that two different perceptions on the future collide. In this respect, the research at Apollo bank has not identified a unifying pattern according to which bankers compare their present managerial foresight with corporate foresight. A main discussion has emerged referring to the question as to how a banker would judge if corporate foresight information implies a different future than the banker's own managerial one. This balancing of corporate foresight information and managerial foresight is further referred to as a contradiction, focussing on the mismatch between what corporate foresight information suggests and what managerial foresight proposes – the result of the collision being the predictive judgement of bankers. In further discussions three different groups of bankers have been identified, according to their approach to predictive judgements – particularly with regards to their confidence in their own managerial foresight in contrast to corporate foresight.

The first group of bankers had a rather confident opinion regarding their managerial foresight ability and they are bankers who tend to consider corporate foresight as inferior to their managerial foresight (Level 1). Regarding this group of bankers, the following is an apposite example of this group:

F10:

In my opinion, scenario calculations induce a heightened uncertainty because one is unable to know whether the probabilities that one assigns to each scenario is correct or not. The bottom line is that you are still betting – only that it is more methodical. Yet it still will always remain a bet[...]. As I said earlier, our offices: a small number of them are always our bets, and we observe how they will develop. However, we do not have any certainty. When people did business a hundred years ago when the given information was far less, they nevertheless did good business. I therefore believe that the principle of having many small bets, none of which could truly jeopardise the bank, is important. This is an important issue.[...]. This [contradictory foresight information] is usually the case with each of our bets because the products and hence the countries with which we deal, usually have a 50% chance of being good. That is the nature of the bet. I bet on something, in spite of uncertainty and poor information.

In the quotation, banker F10 uses the term “bet” several times to demonstrate his opinion about judgements based upon foresight information and general uncertainty of the future. In more detail, one can see that the interviewee senses a deep understanding of uncertainties related to any predictive judgement, decision – or foresight information. On the one hand, the banker includes the concept of probabilities in predictive judgements, which at first glance contradicts theoretical discussions from previous research (cf. section 2.2.1.2; section 2.2.6). On the other hand, however, the perspective of banker F10 provides another additional point to consider: The uncertainty – whether mirrored in probabilities or in conceptual terms, is rather distant and abstract to the banker. As a consequence, the banker accepts uncertainty and “bets” rather than judges and manages foresight information. This means that the banker has a high level of confidence in his managerial foresight abilities and relies on this for most judgements and decisions. That this is his viewpoint is strengthened further by his statement: “...*I know that there is uncertainty and that there is negative information but I do it anyway*”. Here, one can additionally identify how dominant the confidence in managerial foresight abilities is because the banker emphasises his refusal of negative – meaning contradictory – foresight information in favour of his own predictive judgement.

A similar case of a banker with rather high confidence in his own managerial foresight in contrast to corporate foresight information is presented by the following banker:

P07:

I do not believe any simple analysis. You will always need a gut-feeling, too. In the case of contradiction: I would rather follow the gut-feeling as opposed to other opinions

Banker P07 is another example of a case in which the dominant tendency to reject contradictory foresight information in favour of managerial foresight is noticeable. This

extract adds to our understanding of the former statements by quoting the terms “gut feeling” and “other opinions”. While the analysis of both terms, particularly “gut feelings”, is beyond the scope of this research, the statement is strong evidence of a critical position towards corporate foresight information. The banker rejects “simple” analysis which induces that the favouring of managerial foresight tends to dominate whenever corporate foresight is too shallow in the eyes of the banker.

Of a similar tenor, but different in terms of the balance between relying on managerial or corporate foresight for predictive judgements are the following two quotations of bankers who represent the second group of bankers. These bankers are classified as managers, where a tendency towards confidence in own managerial foresight and corporate foresight information in cases of conflict is not identifiable (Level 2).

The researcher directly enquired whether conflict occurs when corporate foresight contradicts the banker’s managerial foresight abilities, to which P11 responded:

P11:

I would look at the circumstances – that is those that I based my opinion on at the time. And then I would ask myself why I opted for this solution and why I would decide differently today. I would then take this information and think about whether the path I previously chose is still the right one today and if not, I would then change my decision. I consider the scrutiny of past decisions to be a daily commodity in our lives. Three years ago no one would have ever mocked a car that needed 15 litres of petrol for a 100 kilometre stretch. Then everyone was keen on SUVs until it was no longer ‘en vogue’. This suggests that the investment decisions that were made three years back were entirely different to the ones made today. And the same applies to all other human decisions.

Banker P11’s statement is an example of a case in which general reflection on the balancing between managerial and corporate foresight information takes place. The interviewee highlights that a decision failure is based upon a failure in earlier predictive judgements –

meaning his critical analysis of managerial and corporate foresight. In identifying a decision failure, the banker internally stimulates a process by which the cause of the decision failure is scrutinised. According to the result of his analysis, a commitment to action is considered by the banker. This means in turn that a general assessment of both sources of foresight is being made – whether it is corporate or managerial in nature. It must, however, be stated that this banker refers himself as now being part of the second group while equally stating that he has been too confident in his own managerial foresight in the past. In P11's case, there is a shift from group one to group two.

Also representative of the second group of bankers, and contributing an interesting point, is banker P14 who provides an additional factor affecting the managerial foresight ability, hence predictive judgement: Professional experience. The banker explicates that the picture of the future is built upon a comparison of previous experiences which have been equal or similar to the situation at hand, and to explain further he refers to as building analogies:

P14:

Question: Which factors influence your foresight ability decisively?

That is a difficult question. Let us begin with the simple things. I therefore believe that i can derive analytical skills, strategic thinking and synoptic from an unrelated aspect of logic or relationship. Looking back at our earlier example: Can I predict the bank credit volume for the coming year? No, I am not really able to do that. I can however take a look at how high the market share as well as how high the market volume is. I can also ask myself the question as to how the import and export volumes reacted during the last crises or after a domestic shock. I can draw analogies. I can establish analogies between historical comparisons or even, for example, when an expert or a renown scientist claims that the import/export volume will increase by X%, in which case I am able to draw my conclusions or come up with important correlations. Thanks to my work experience, I now know that certain indicators cohere/ correlate very strongly with business development. There are however prognoses about these indicators compiled by large research institutes. Correlations can accordingly be deduced very simply.

This example enhances previously mentioned statements of bankers who critically assess the balance between managerial and corporate foresight for predictive judgements. Since the banker states that his approach when making predictive judgements involves critically evaluating corporate and managerial foresight, the banker could be assigned to group one due to his strong confidence in professional experience, and thus managerial foresight. However, his consideration of analogies and balancing information means that he could be assigned to group two.

A third group of bankers represents a position in which corporate foresight information tends to dominate over the managerial foresight of bankers (Level 3). In this group, the conflict of critical assessment occurs whenever corporate foresight contradicts the banker's managerial foresight at the very moment a decision is required. One example of this type of banker is the following:

L22:

Well, if it is relevant information, then I would rather follow up the information and try to increase my horizon, asking the market, the team and the source. This I would definitely try. I try to understand and also to sometimes reject my opinion whenever there is the risk that I develop some kind of bias so that I cannot overlook current issues and be eventually negatively surprised. Because it is exactly that, which I try to avoid.

Banker L22 explains that whenever corporate foresight seems to contradict his own managerial foresight, he undertakes efforts to understand why and what this contradiction is based upon to prevent any bias or negative surprise. This means in turn that a general belief in the corporate foresight information tends to be primary in contrast to the predictive judgement of the banker. In this case, corporate foresight has a strong likelihood of being integrated into the predictive judgement of the banker. An overview of the three groups can be found in Table 28:

	Consideration of managerial foresight	Consideration of corporate foresight information	Description:
Level 1	√√		High level of confidence in own managerial foresight abilities; Tendency to refuse corporate foresight information in case of contradiction
Level 2	√	√	Mediocre to high level of confidence in own managerial foresight abilities; Tendency to accept corporate foresight information under circumstances where failures are recognised
Level 3		√√	High level of confidence in corporate foresight information; Tendency to critically evaluate contradictory information in predictive judgements

Table 28: Three levels of approaches in evaluating managerial and corporate foresight information for predictive judgements.

Table 28 provides an overview of the three levels of approaches identified at Apollo bank. It can be seen that the levels differ according to the extent to which bankers decide to base their judgements on either managerial or corporate foresight information. Here, the criteria focussed on the expressed propensity to favour one or the other type of information in cases where there are instances of contradictory foresight information – or different possible pictures of the future.

4.3.2 Corporate foresight information and the fitting of them into bankers' expectations for predictive judgements: An organisational information perspective

As the previous discussion and analysis showed, bankers at Apollo bank differ in the extent to which they tend to approach their managerial foresight abilities or corporate foresight information. While the non-uniform result provides a platform for further research, some interesting issues have been identified by bankers regarding the content of foresight

information. This means that bankers expect corporate foresight information to fulfil certain conditions to increase the likelihood of integration into predictive judgements. A crucial characteristic which has been emphasised by many bankers has been the structure and applicability of corporate foresight information and its implications. Bankers expressed their propensity to integrate corporate foresight information into predictive judgements in cases where this information provides a clear and structured instruction and indicates what to do with this foresight information. One example is provided by banker H32:

H32:

Good foresight information must be well structured in several ways. What is very important is to have a general position and assertion about the development of key markets. And to identify the key drivers for these developments in order to deduce what this means for the bank. Also: To know what that means for me and what I have to consider? What costs and depreciations do I have to expect? [...]. I would have to have a steady concept. To have a mere trendscount to say: 'oh, by the way, in California, a robot welcomes its customers etc.' – maybe nice to know, yet it leaves me with the question of: 'what does one do with that [information]?' Can it be put to use in a process of innovation, in a committee? Can I test it? How do I implement it?

Here, banker H32 describes the conditions expected from corporate foresight information to increase the likelihood of accepting it for predictive judgements. Although the banker does not explicitly refer to the future-oriented nature of the information, but rather to the information itself, it can be said that the banker implicitly expects (foresight) information to address criteria such as impact, results and developments. This argument behind this expectation is further clarified by the statement given by another banker:

L22:

It [foresight information] has to be specific. It needs to be able to tell me what the real drivers of these scenarios are and they need to be concrete for corporate reality – rather than huge global scenarios. [...] It has to provide measurable data / points that have specifically been defined. Ultimately, it has got to include a cross-linking of topics. It does not help me much to have information that does not consider the interaction with other topics – the dynamics, so to speak.

In line with H32's argument, L22 expects corporate foresight not to simply illustrate different pictures of the future, but to explain on which basis these are built and why this understanding has been achieved by considering these drivers. Moreover, corporate foresight is also expected to make conceptual links between different topics which will subsequently enhance the banker's understanding of the environment.

In sum, both bankers understand the predictive potential of corporate foresight, i.e., its ability to display a clear understanding of the future by emphasising the main drivers for the development and to make suggestions for implementation. Strengthening this argument and adding to it, banker P07 states the following:

P07:

The crisis was unexpected. This has to do with foresight which is generally inefficient. Some may have foreseen it, but they are exceptions. Foresight should show possible options. Hence, one is accordingly able to adjust to things in an anticipatory manner.

Again, banker P07 also supports that argument that the integration of corporate foresight into predictive judgements is connected with the provision of possible options or suggestions for actions. This could also be described as the wish for applied foresight information rather than abstract foresight information. Besides the requirement of foresight information to meet criteria such as structure and recommendation for further applications, managers also

emphasised that corporate foresight requires a certain depth of analysis. These needs has particularly been highlighted by internal developments as a results of the financial crisis of 2007–2009+. Bankers stated that it is expected that they increase the depth of their own arguments – particularly in comparison to their arguments in the past. Two examples of bankers’ statements which describe this expectation are as follows:

T23:

This [change in foresight information] can best be seen in the depth of analyses as well as from what is expected of us. [...]. Up until now, it [formulation of foresight information] was commonly held on a rather general and superficial level.

H08:

Nowadays, expert knowledge counts less. Your own argumentation is much more important. It is no longer sufficient to rely on alone. You also have to provide own argumentation. There is a noticeable tendency, for sure.

Both bankers emphasise that currently in Apollo bank, an increase in the level of argument is expected. This means that corporate foresight of any kind is subjected to a significantly increased level of scrutiny and factual analysis in order to meet the foresight expectations of decision-makers.

Closely related, but more specific in terms of the form of corporate foresight, is the topic of formulation and persistency. It could be argued that not only do managers expect corporate foresight to provide in-depth analysis, but they also have expectations about the way in which the information is formulated. Banker G26 expresses this point in his own words:

G26:

Formulation is another thing of importance to us. If we initiate something that has not been written down or implemented as yet, we try to re-word it on the next possible occasion.

The quotation underlines two issues: First, the banker states that the formulation of the information has an impact on how issues are integrated by decision-makers. Second, a failure of integration can be traced back to a wrong formulation. This indicates that decision-makers expect corporate foresight to have a certain wording in order for it to be integrated into their judgements. Banker G26 does not further explain what type of formulation has been successful in the past. However, if his comments are linked to the previous two statements then the argument is that decision-makers expect corporate foresight to have an in-depth analysis, enriched with the manager's own argument and the right kind of wording to increase the likelihood of it being considered for predictive judgements, and consequently in strategic decisions.

Finally, bankers at Apollo bank also expect corporate foresight to address an appropriate temporal perspective. This means that the underlying assumptions and elements must reflect current insights in order to be integrated into bankers' predictive judgements. Banker J12 explains this viewpoint in the following way:

J12:

Look at a branch report, which was written six months ago. What would you do with it today? In actual fact, you have got to ring up your clients every two weeks to see where they stand. No branch report can keep up with that. Even the daily press and online information are of more value because it is constantly up to date. This is the core problem we have got to tackle. The environmental change is so rapid that you can only restrictedly work with information which is several months or years old. Only if really absolutely fundamental things are included, you can use it. This has to do with the nature of the matter.

Banker J12 puts forward that corporate foresight information is unlikely to be integrated into predictive judgements if the assumptions underlying the information are outdated or based upon assumptions which have already been revised. However the statement can also be extended in terms of future horizons. This means that corporate foresight must aim at considering an appropriate horizon for the environment in question. This horizon tends to be shorter for the task environment and longer for the general environment (cf. section 4.3.2). Overall, J12 feels strongly that the appropriate temporal perspective of corporate foresight is a determining factor for its consideration in predictive judgements.

In sum, the discussion of corporate foresight fitting into bankers' predictive judgements has been approached from an organisational, and particularly informational, perspective. From the above, it seems that Apollo bankers expect corporate foresight information to have the following characteristics in order for them to use it in their judgements, i.e., their decision-making process (see Figure 41).



Figure 41: The fit between decision-makers' expectations and corporate foresight information in terms of content and format.

4.3.3 The influence of corporate foresight on predictive judgements: An environmental perspective

The discussion of the environment, its characteristics and its influence on corporate foresight has been discussed in previous section (cf. section 4.3.1 *et seq.*) in which it has been identified that perceived volatility and hence uncertainty particularly affected the manifestation of corporate foresight at Apollo bank. This sub-section principally aims at understanding how the environment affects the predictive judgements of managers at Apollo bank with regards to corporate foresight. The analysis will focus on how the impact of corporate foresight on predictive judgements alters according to environmental characteristics.

In order to increase the understanding of the environmental characteristics, official publications by the European Central Bank (ECB) illustrate the situation which the banks had

to face during the time of the financial crisis. Thereby, the high volatility and the subsequent uncertainty resulting from this issue are clearly shown by the institution:

EZB monthly bulletin Feb 2009-98:

1 THE EXTERNAL ENVIRONMENT OF THE EURO AREA

The global economy is undergoing a severe downturn. The markedly adverse impact of the financial turmoil on real economic activity has been aggravated by a strong contraction in international trade. At the same time, global inflationary pressures continue to ease, owing mainly to lower commodity prices but also to weak labour market conditions and sluggish global demand. The outlook for global economic growth remains highly uncertain, and risks are clearly on the downside. [...] The uncertainty surrounding the global economic outlook is exceptionally high, especially as financial market volatility has soared.

The core statement of the excerpt strengthens the assertion that bankers experienced a high level of uncertainty. Further analysis of the impact of these environmental conditions on predictive judgements has therefore to be scrutinised on these grounds.

To start with, banker H08 explains in depth how environmental volatility, uncertainty and the difficulty of exercising predictive judgements with the integration of corporate foresight are connected and experienced at Apollo bank:

H08:

Well, at the moment it is proving to be relatively difficult to gather somewhat credible and reliable information. Consequently, I now have no choice but to clarify which of the basic assumptions, that have so far pertained themselves, are going through changes, in which direction they are changing, and which market protagonists are involved. [...] Although this is not a rational or logical procedure, the options with which one could react to the changed base of operations are nevertheless numerous. It is not like a classic economic model, in which I input a few parameters and wait to see what it results in. This is not the given situation. There are too many great changes being made to the parameters for that. The current usability of preferred information is extremely constricted [...]. Before the financial crisis set in, one was overly optimistic about the extent to which one could estimate these effects, [...] Due to intensification and the financial crisis incident, common sense has now dwindled. At the moment a great uncertainty about the true value is persistent and one can observe extreme values. I would need a very clear picture on the actual movements of the business cycle. [...] It leads to not being able to make a more or less good foresight at the

moment. I try to generate information much closer now. I ask myself, for example, whether I can limit the uncertainties in such a way that I can act more capably.

This comment provides a good insight into the perceptive viewpoint of bankers during the times of high volatility in the external environment. Three points are mainly emphasised by the banker: First, the high volatility of the external environment – or more specifically the change in perception of the environmental volatility – led to a revision of basic assumptions. This aspect mirrors the cues and hints the banker “usually” employs in pursuing predictive judgements. Second, the increased environmental volatility led to a general restriction in using preferred (corporate) foresight information. According to the banker, this was because previous corporate foresight had been based upon environmental conditions which were not found during the financial crisis of 2007–2009+. Third and finally, the banker expresses the perception that the extent to which managerial foresight – and hence predictive judgement, can be exercised is limited. As a consequence, a certain incapability of taking action is perceivable. Overall, the statement leads to the conclusion that both predictive judgements and the integration of corporate foresight are restricted when there is a *change* in perceived environmental volatility.

In line with this argument, banker W19 adds to this perception. The banker further emphasises that predictive judgements were easier to execute in times of low volatility. Hence, corporate foresight processes routine within the bank changed accordingly:

W19:

A couple of years ago, when the market was not as volatile, it was easier to assess the future. It is important to assess the development of customers' needs in the next 3-5 years. In times of low volatility foresight was easier. [...] This was the case 1,5 years ago. Ever since the financial crisis everything was and still is being conducted in a more short-term way. One is also more flexible regarding the creation of revenues. To date, there are more short-term activities – their long-term success is questionable when considering the financial crisis.

The statement sheds light on the effect of a change in perception regarding the volatility of the external environment. The interviewee supports the argument that foresight was “easier” in times of low volatility. This means that the expectation regarding corporate foresight changes with the change in perceived environmental volatility.

However, it seems that this increased uncertainty as an effect of the financial crisis does not apply to the financial sector as a whole. In further discussion, other bankers tried to increase their understanding of corporate foresight and judgement when distinguishing between different business areas. For example, some business environments seem to be subject to higher efforts in terms of predictive judgements and corporate foresight than others. Particularly, bankers have found it more difficult to exercise judgements that are affected by the external investment banking environment which has caused more uncertainty than other business environments. Banker M09 explains as follows:

M09:

When I ask for information from [segment 1], for example, I am quite certain that this information reflects the truth. Regarding other business sectors, qualitative information is much more uncertain, for instance from the investment banking sector. I think this is the most important insight: To be able to differentiate whenever someone claims that this specific information is absolutely correct. That would simply reflect a ‘spurious accuracy’. Especially, if they forecast 302,8576. It then appears as though someone has calculated everything very precisely indeed.

The above statement by M09 argues that some business markets such as investment banking cause more uncertainty and difficulties for predictive judgements compared to others. In those areas of high volatility, qualitative foresight information is required to build the basis for future decisions. This statement also provides an example of negation: In those environments of perceived high volatility, bankers distrust quantitative or objective foresight information. In line with the previous argument, this insight indicates that corporate foresight must adapt to those volatile environmental conditions in order to increase the likelihood of being integrated into predictive judgements.

Building upon this insight, and referring to the perceived ease of generating profits in certain financial business markets, it has been argued by W19 that the tendency to integrate corporate foresight into predictive judgements is constrained. The influence of 'successful' times and circumstances seems to hinder the general integration of corporate foresight because a certain perception dominates in which corporate foresight is seen as unnecessary. In other words, it seems that profitable and successful conditions in the environment have a certain effect on the way in which corporate foresight is perceived and integrated into predictive judgements. Banker V02 provides an example in support of this assertion:

V02:

The crisis set in, as anticipated by some. One heard them but did not listen to them [...]. Apollo bank did not see the crisis coming and was also not involved in any very risky business. So why did we not listen to the experts? We had been successful in the past and one cannot be forewarned during times of success, which means that it is hard to argue against a functioning system during such good times. [...] One would feel a sense of success and one has got the tendency not to argue against the system – especially during the years 2005 and 2007 in 'segment 1'. [...]. Accepting foresight during hard times is easy, but unaffordable due to impecuniosities for investments.

V02's comment provides a complex construct for interpretative grounds. Basically, the statement says that corporate foresight might only be used in predictive judgements if it considers the current success or difficulties of the organisation. From a contextual perspective, it can be seen that corporate foresight is difficult to integrate in "good" times. This perception is not a sufficient explanation of the failure of corporate foresight in "good" times; however, this statement does provide a platform for further discussion.

According to banker V02, when members of the organisation informally experience some kind of success, this consequently leads to the increasing perception that corporate foresight is no longer required. More specifically, corporate foresight seems to be perceived as means by which potentials can be identified – and hence once the environment favours the bank in economic terms, corporate foresight suffers a certain downturn. Transferring this indication onto the predictive judgements of bankers, one could argue that successful and profitable environmental conditions affect the predictive judgements of bankers who assume that this positive situation will remain stable in the future. This leads to the conclusion that corporate foresight has a difficult stand in profitable environmental circumstances if it is assumed that any requirement for corporate foresight is obsolete.

Agreeing with this argument, banker H32 explains the prevalent atmosphere of success which suppressed certain difficulties that led to the financial crisis:

H32:

We currently find ourselves in an extraordinary economic crisis. Based upon past experience, there will be learning effects. In my opinion this is the only way to go. Going beyond this would mean being far more industry- and product-specific. So in order to know what the world could look like in three years from now, I must think back to what the world looked like three years ago when a financial market crisis was nowhere in sight. Initial indications surfaced in the summer of 2007 [...]and then erupted with a big bang in September 2008. Then three years ago today, we experienced an economic boom phase. You would probably not have found a single soul in 2007 claiming that we were in for the worst financial crisis since the end of World War II.

This comment mainly agrees with the previous discussion which stated that during the years before the financial crisis, potential threats to the financial markets were suppressed. This again could be described as an effect on the predictive judgement of bankers assuming that the “good” times will prevail in the years to come.

4.4 Findings – areas of investigation, Part 4 (ii): A predictive judgement perspective on corporate foresight information

The impact of managerial, organisational and environmental conditions on judgement:

A predictive judgement perspective on corporate foresight information

The discussion and research of areas of investigation 4 (ii) showed that the different layers addressed by the analysis – namely manager, organisation and environment – affect predictive judgement with regards to corporate foresight in different ways. The focus of the analysis has been on the way bankers at Apollo bank exercise their predictive judgements with regards to corporate foresight information.

From a managerial point of view, three levels of balancing managerial and corporate foresight for predictive judgement emerged. Some bankers tend to quickly reject corporate foresight information in favour of managerial foresight in cases of contradiction (level 1), other bankers critically assess the case and alter their predictive judgements according to the results while being positive towards corporate foresight (level 3). The last level of balance (level 2) has been identified as neutral and hence, no specific tendency was identified.

From an organisational, and specifically an informational perspective, certain factors have been identified as being important for Apollo bankers when integrating corporate foresight into predictive judgements. The likelihood of integrating corporate foresight increases when the information fits the expectations of the bankers or more specifically decision-makers. In other words, in cases where corporate foresight fits the manager's expectations, less effort is made to integrate the foresight information into predictive judgements. Thus, it could be argued that corporate foresight requires a certain adaption of format and content before the information is accepted for use in a strategic decision.

From an environmental point of view, it has been identified that a change in the perception of environmental volatility leads to a change in accepting or rejecting corporate foresight information. While in evaluative judgement terms, this finding is static and refers to a specific point in time, the analysis of predictive judgement showed that whenever a change of perception is required, a change of corporate foresight is likely. A reason for this is specifically the managers' conflict in assessing the future whenever there is a shift in terms of environmental perception. In line with this argument, it can generally be stated that both findings (from analyses of evaluative and predictive judgements) are not mutually exclusive, but rather of complementary nature.

In sum, evaluative judgements deal with the present and general assessment and judgements of corporate foresight. This means that managers generally approach and judge upon corporate foresight (static perspective). In contrast, predictive judgements refer to the extent to which corporate foresight specifically helps in understanding the future (temporal perspective). Given the complex nature of judgement in assessing corporate foresight, it should be stressed that judgement serve as a 'filter' for decision-makers. This filter is intermediate between corporate foresight and the strategic decision at the end of the process. Judgemental configurations are decisive concerning corporate foresight's impact on strategic decisions.

Summing up the thorough analysis of evaluative and predictive judgements which are intermediate between corporate foresight and strategic decisions, an overview of this filter has been designed. The structured concepts can be seen in Figure 42.

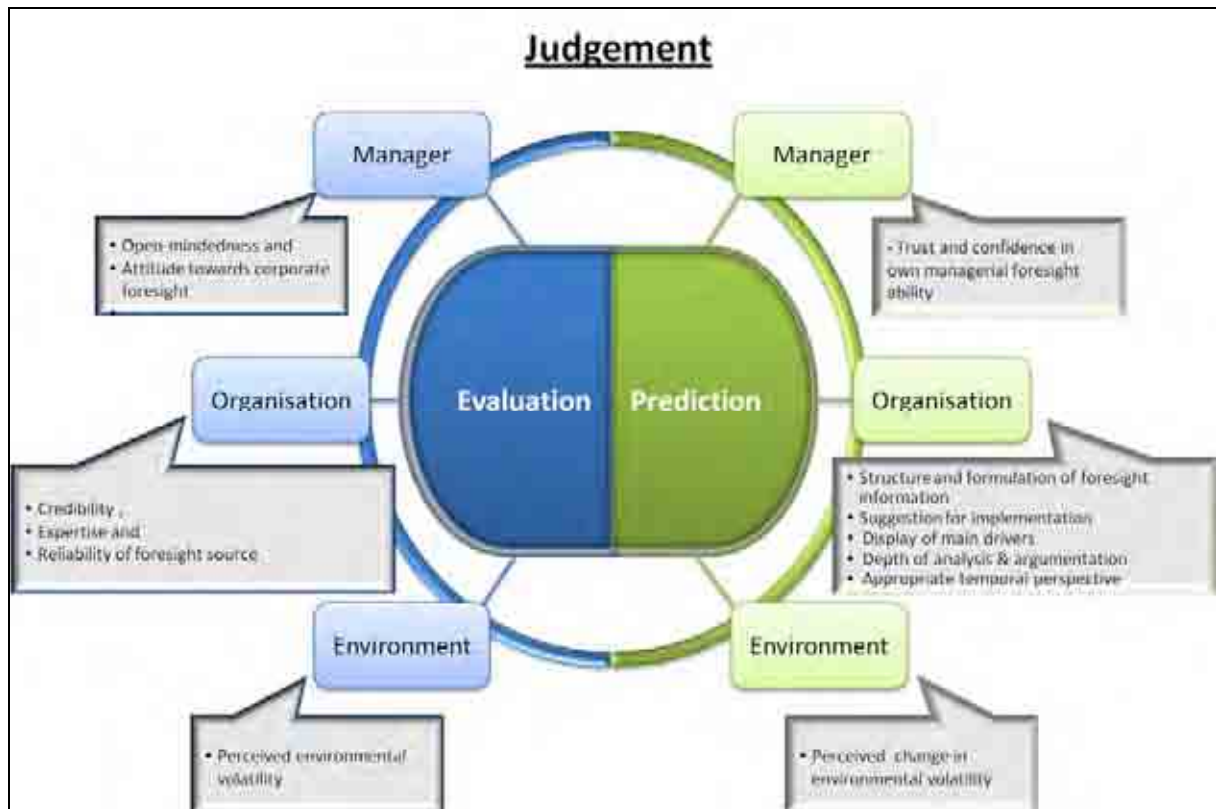


Figure 42: Apollo bankers' propensity to support or dismiss corporate foresight in evaluative and predictive judgements.

As indicated in Figure 42, the 'assessment' of corporate foresight via judgements considers a manifold selection of factors which affect the propensity of bankers to accept and integrate corporate foresight into strategic decisions. It must be emphasised, however, that the complexity and specific interrelationship of these factors remains unclear. Accepting the human being as a complex individual – or as a 'black box' – whose way of thinking and behaving is too multifarious to be analysed in detail here, the results of the analyses nevertheless provide indicators and insights into potentials for and barriers against the integration of corporate foresight into judgements (cf. areas of investigation, Part 4).

With particular regards to strategic decision-making, the following auxiliary areas of investigation will display two specific corporate foresight processes and the consequent

strategic decisions. They are exemplars of two different approaches in which the complex web of identified factors interact and how corporate foresight is integrated.

4.5 Corporate foresight and strategic decisions: Examples of corporate foresight and its impact on strategic decisions

Previous analysis showed the manifestation of corporate foresight as well as the complex interaction of various factors when considering corporate foresight in judgements. The conclusive insight regarding strategic decision-making has been the argument that judgement copes with uncertainty which in turn can be reduced by corporate foresight. Subsequently, the likelihood that strategic decisions are based upon corporate foresight is reasoned under the condition that decision-makers judge corporate foresight as being helpful for the decision to be made. By analysing corporate foresight, under the explicit focus of judgement, it is possible to understand why corporate foresight is successful in certain departments, organisations or environments, and why organisations succeed or fail in employing corporate foresight.

Following this line of argument, two examples will be provided which show typical situations in which corporate foresight finds a use from a process perspective. It should be said that the chosen examples do not represent any specifically good or bad example, but rather deserve attention in order to increase the understanding of the outcomes which have resulted from previous analyses. The first example provides an insight into a strategic decision-making process by which the department foresees and plans the organisation's financial figures for the upcoming three years. This example will be labelled and referred to hereinafter as the 'three-year foresight plan' or 'TYFP' and is a rather confirmatory corporate

foresight process. The second example shows how corporate foresight has been executed in order to identify market opportunities for the bank. This example will hereinafter be referred to as the ‘new marketing and sales approach’ and follows a rather exploratory foresight approach. Finally, a conclusive summary is drawn from the analysis to conceptually link the impact of corporate foresight via judgements on strategic decisions.

4.5.1 Corporate foresight and strategic decision-making: The ‘three-year foresight plan’

Apollo bank annually conducts foresight processes in order to identify the general development of the financial markets in which the bank generates its profits (cf. section 4.3.2). These processes are complex because a variety of different parties are involved and hence different understandings and perceptions of the future have to be exchanged and agreed upon. One of the most important strategic decision-making processes within Apollo bank is the three-year foresight plan (TYFP) which will be analysed in the following investigation.

The TYFP is regulated in the internal constitution of Apollo bank. According to the bank’s constitution, the TYFP is one of the most important means by which strategic and investment decisions are made. The constitution describes the main elements of this strategic decision-making process, which are as follows:

- The TYFP takes place annually and decides on the performance level to be achieved by segments and business units;
- The board of management defines key financial targets for the operative segments of the bank;

- The final strategic decision is made upon agreement between the board of management and the operative segments' top management;

From a content perspective, the main objective of this plan is the identification of shareholders' and stakeholders' expectations of the bank, which are then elaborated at the board of management level. The board of management expectations are then internally agreed with the different operative segments of the bank. More specifically, the strategic decision is based upon financial expectations. These expectations are mainly put forward by external stakeholders and are represented by the board of management within the TYFP. The operative segments represent the bank's internal perception of the extent to which these financial ambitions can be achieved. In other words, the operative segments' task within the TYFP is to utilise the bank's resources to fit the externally set financial targets.

From a process perspective, the TYFP follows a seven-step process by which the different parties exchange different perceptions of the future as well as foresight information. In this way, the discussion of the performance level to be achieved as well as the internal operative potential and resources available are elaborated in an iterative fashion. The main elements and process steps can be seen in Table 29.

		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
		"External input"	"Reflection"	"Agreement"	"Strategic discussion I"	"Strategic discussion II"	"Strategic discussion III"	"Three year foresight plan"
Strategic Decision-making process	Content	Collection of market expectations	Discussion about market expectations	Position-taking regarding strategic guidelines	Discussion between the GMD and segments	Opening agreement between top strategic decision-makers and segments	Final agreement and finalisation of strategic discussions	Sub-goals are identified for every business unit
	Involved parties	GMD, Share and Stakeholders	GMD	Top strategic decision-makers and GMD	GMD and segment leaders	Segment and business unit leaders	Segment leaders and GMD	Top strategic decision-makers and segment leaders
	Objective	Gathering information regarding financial and non-financial market expectations	Discussion regarding the extent to which market expectations can be achieved	Strategic decision as to whether the set guidelines fit the bank's resources and capabilities	Forwarding of targets to the bank's segments, 3-year time horizon	Comparison between bank's overall expectations and segment/business unit's potential	Conversation about potential analysis, Provision of actions for each considered scenario	Assignment of sub-targets to the sub-segments
	Outcome	Information regarding market expectations about the bank's future	"Strategic guidelines" for the bank	Agreement regarding external and internal view, Boundaries and targets set for whole organisation	Three scenarios (downside, most realistic, upside case) and financial figures respectively	Internal consideration of market expectations from the segments' point of view	"Realistic" picture of the bank's business in the future	Final agreement reflecting the bank's and segments' expected business in the upcoming three years
Perspective	Corporate Foresight	External foresight information		Discussion about GMD's corporate foresight elaboration	Quantitative / objective measures	Elaboration of segmental/departmental perception of the future	"Merging" of distinctive future perceptions	
	Judgement	Evaluative	Predictive	Evaluative/Predictive	Predictive	Evaluative/Predictive	Evaluative/Predictive	
	Strategic Decision-making	-	-	Establishment of market expectations and boundaries	-	-	-	Agreement regarding the three year foresight plan, Distribution of resources

Table 29: Main processes of the TYFP: Link between corporate foresight, judgement and strategic decision.

In terms of corporate foresight, the investigation of the TYFP is of particular interest because it is an exemplar of how different perceptions of the future – resulting from previous judgements and corporate foresight processes – converge and proceed into one common picture of the future upon which a strategic decision is based. It could be argued that the TYFP is another corporate foresight process because different future perceptions are being discussed across different parties, with different expectations and beliefs regarding the future. The result of the TYFP is converged foresight information about the perception of the future by the top management level of the bank. This argument is strengthened by the previous discussions with bankers at Apollo bank who themselves referred to the results the TYFPs as the main formal information about what the bank expects the organisation's future to be (cf. section 4.2.1).

As shown in Table 29, the discussion about differing perceptions of the future occurs at steps five and six: the board of management proposes an outside-in foresight view on the organisation's aspiration level in performance terms and the segments' operative top management then puts forward the inside-out foresight view on what the operative units expect to be achievable in the future. Prior to this point being reached, the board of management collate and judge the foresight information, mainly from external stakeholders, and elaborate these according to Apollo bank's specific conditions. The segments' top management, in contrast, internally gather different foresight information from their sub-units regarding their perception on how the future is expected to be. At this point, one could argue that corporate foresight is elaborated by a bottom-up approach across the organisation. The particular convergence between these foresight views can be seen in Figure 43.

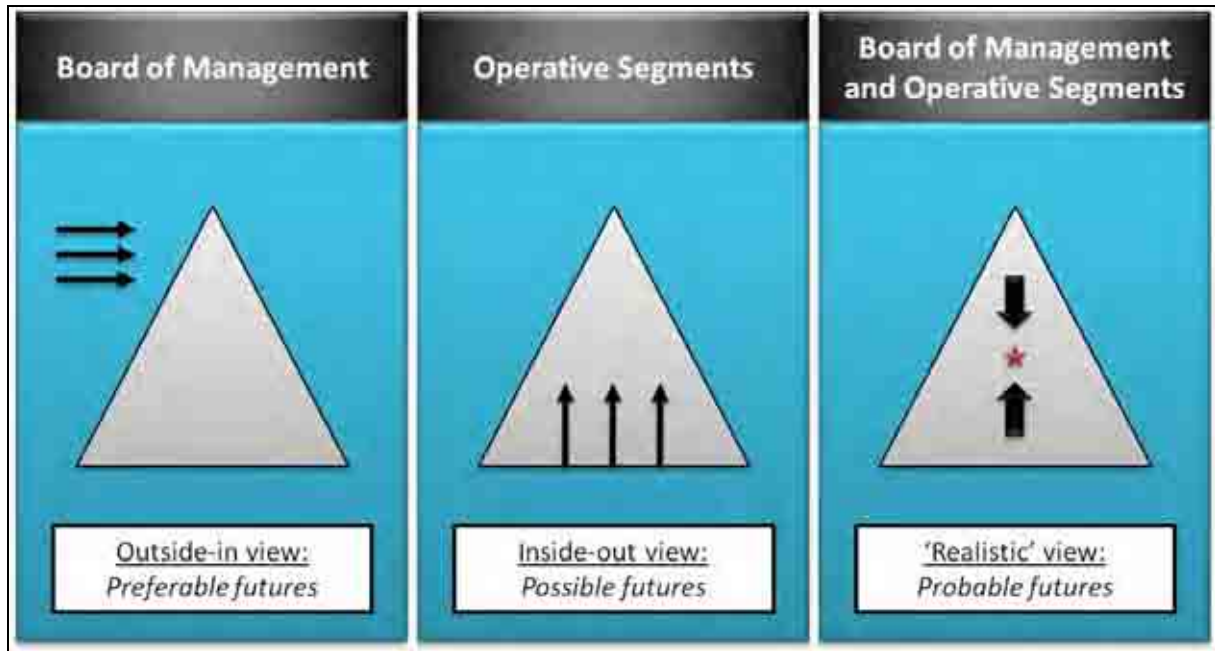


Figure 43: Converging corporate foresight processes between the board of management (preferable futures) and operative segments (possible futures) resulting in a common understanding of the future (probable futures).

In steps five and six, there is in-depth discussion of both perspectives and it could even be argued that a balancing between preferable and possible futures takes place. The result of the balancing and evaluative discussion is agreed in steps six and seven in which the agreed foresight information is produced and reflects both the strategic decision made (*“Where do we want to de-/invest? On which customers do we want to focus in the future? Which processes are we going to set up internally?”*) and the created picture of the future to which Apollo bank formally refers throughout the year (*“How do we believe that business markets will develop? How will the financial crisis of 2007–2009+ impact the banking sector? What expectations do we have and what expectations do our stakeholders have?”*).

Overall, the process to formulate the TYFP shows how one of the main strategic decision processes within Apollo bank occurs and how differing perceptions on the future merge into one at the end of the process. Although the identification of foresight expectations

might not be straightforward, given that other circumstances affect the TYFP apart from future expectations (*“Do we have the resources to establish new processes? How do we cope with the IT infrastructure? Do we want to change the remuneration system?”*), the example, however, is a strong case of a process in which specific corporate foresight results are being discussed and elaborated, which then leads to a final strategic decision.

In addition to the above example, the following decision-making process at Apollo bank provides further insight into how corporate foresight is exercised and implemented in the bank.

4.5.2 Corporate foresight and strategic decision-making: The ‘new marketing and sales approach’

The second example of a strategic decision within Apollo bank involves an innovation approach by an operative segment that aims at identifying new and innovative products and processes for the segment’s customers. This approach will hereinafter be referred to as an innovation process (IP) which eventually takes effect in a strategic decision. Amongst all the processes researched at the organisation, the IP is unique because it is conceptually one of the closest processes matching the ‘foresight principle’ (cf. section 2.2.1; section 2.2.3). Being exploratory in nature, the process is extraordinary at Apollo bank to the extent that even departments outside the operative segment in which the IP occurred were aware of and interested in it.

From a content perspective, the main objectives of the IP were the identification of new products, processes, approaches and ideas to meet the operative segment’s customers’ needs in the future. The initiating department established a variety of future workshops aimed

at creating and evaluating different ideas. Eventually, these ideas were synthesised and forwarded to a strategic decision-making committee that would decide on which of these ideas to implement in further processes, i.e., which ones to formalise and institutionalise.

From a process perspective, there were two main ‘future workshops’ within Apollo bank. Then, following the discussions held in the two workshops, the steering committee decided on the desired outcomes. More specifically, the processes were as follows:

- The objective of the first workshop was the identification of potential areas which the segment should focus on in the future to meet the customers’ needs. The participants were the top management executives of the segment. Within this ‘internal’ workshop, participants were moderated by an external foresight consultancy to facilitate and encourage idea generation and evaluation. Imaginations of futures were built from the participants’ contributions and structured using foresight tools such as scenario creations. At the end of the first workshop, three topics were identified as important to follow up due to their increasing importance for the bank’s and customers’ future.
- The second workshop focussed on the customers’ own perspectives and their perceived needs in the future. It could be argued that the second workshop was an ‘external’ platform for corporate foresight. While the process in which these needs, topics and ideas were generated was similar to the first workshop, it was surprising that the three previously identified topics matched the four ones identified in the second workshop. This means that both of the formal corporate foresight workshops which explicitly aimed at identifying and understanding the future, produced in similar results.

- The third step was the meeting of the steering committee of Apollo bank. Previous to this step, the three common topics of both workshops were amalgamated and prepared by the operative segment's initiating department. Participants in the steering committee were members of the top management from Apollo bank and of the operative segment itself. Within the steering committee, one of the proposed three topics was evaluated, agreed upon and prepared for further implementation. The action in choosing between the three topics for later processes reflects the strategic decision. Although the resultant decision affects only one of the four segments, it has been declared as strategic due to the substantial resources and structures employed to implement the foresight topic.

The above mentioned three steps of the IP show how corporate foresight results are integrated into a selected strategic decision within Apollo bank. Although this process was not related to the previously discussed TYFP, it follows a similar pattern in terms of approaching corporate foresight from an outside-in and inside-out view. While the first workshop explored the perceptions of the future from a rather internal perspective on the outer environment, the second workshop developed an understanding of the future within the bank based on the outer environment (participating customers). An overview of the IP can be seen in Figure 44.

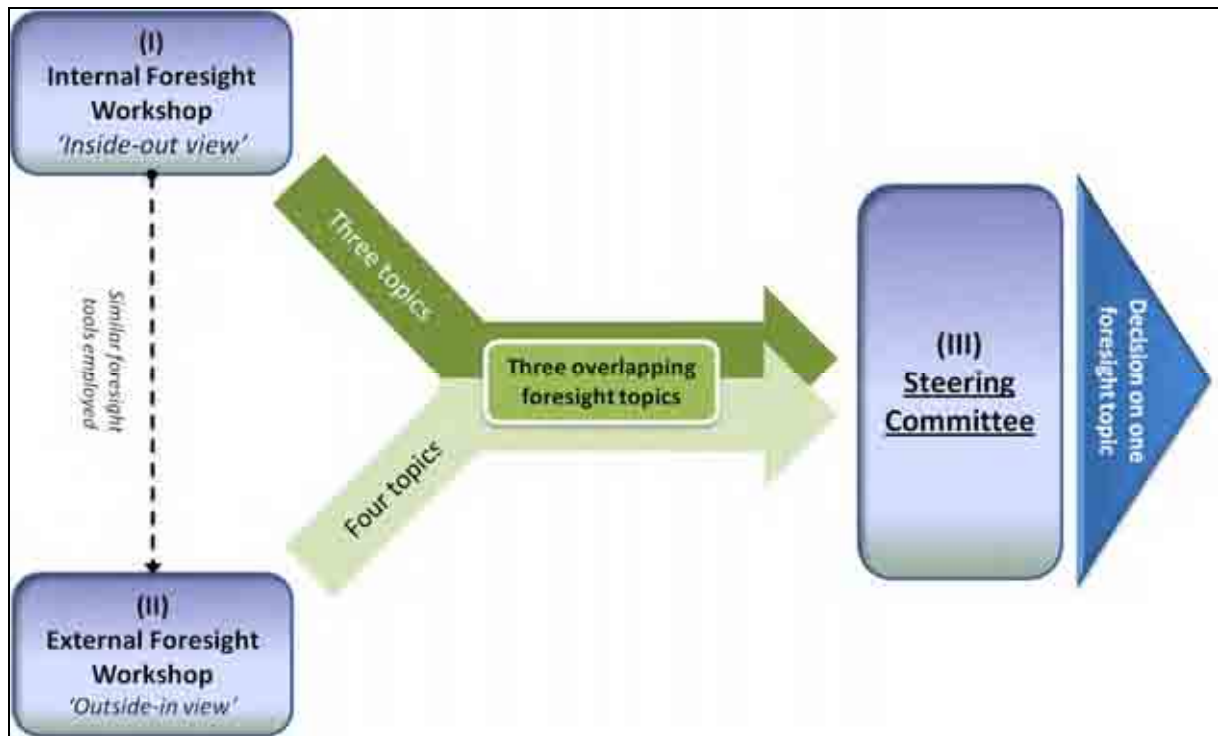


Figure 44: Main elements of the “New marketing and sales approach”

Overall, the example of the new marketing and sales approach provides further insight on how corporate foresight emerges from the development of an understanding of the future in a group setting and results in a specific strategic decision. In this particular example, the interesting point is the formation of similar topics across both workshops, considering that the participants were different. Although it remains unclear whether the tools employed, the influence of the moderators or a common understanding amongst participants is the reason for this phenomenon, one could argue that Apollo bankers tend to have a good understanding of how to develop customers’ future needs as the inside-out view essentially matched the outside-in view in this example.

The last step of the IP, namely the strategic decision made from a choice between three foresight topics – was taken at the meeting of the steering committee after both workshops. According to the initiators of the IP, the decision to take one foresight topic

forward then triggered subsequent processes – mainly operative in nature – and several products and structures were created to achieve the objective of the selected foresight topic. Building upon the insights gained from both examples, the following discussion will draw conclusions by applying the framework developed from previous analysis.

4.5.3 Corporate foresight, judgement and strategic decision-making: Convergence of corporate foresight examples at Apollo bank (TYFP and IP)

Both of the above examples of strategic decision-making at Apollo bank share a common process by which an understanding of the future was developed and led to a final strategic decision. The main elements of these examples have been condensed and scrutinised in depth, while maintaining an explicit corporate foresight perspective. Although both processes are highly formalised and thus share some similarities, there are, however, differences between the two:

- The first example (TYFP) particularly tried to find an agreement within the bank's top management regarding specific strategic actions in the future. In this case, corporate foresight was secondary as it was not an explicit target of the process. Rather, the TYFP provided a platform on which corporate foresight results from previous processes could be discussed by Apollo bankers. Although the influence of these previous corporate foresight processes is identifiable within the strategic decision-making process, it remains unclear where the results exactly came from or how these have occurred. It could also be argued that the foresight results here are not derived from only one single corporate foresight process, but rather they are the products of a multitude of different foresight processes at the bank (cf.

areas of investigation, Part 2). For example, the board of management proposes certain pictures of the future, while the segments' top management proposes their understanding of the future.

- In contrast, corporate foresight processes were the main focus of the second process (IP). If one considers the workshops, it becomes clear that these processes are explicitly aimed at understanding the future by trying to foresee and understand developments and identify suitable foresight topics to meet the customers' needs in the future. Due to the sequential development of the process, it could be argued that corporate foresight and its results from both workshops are integrated in the subsequent strategic decision-making process (steering committee). With regards to the complexity of managerial life, the organisation and strategic decision-making, it can, however, not explicitly be deduced that the strategic decision is only based upon the previous corporate foresight process (i.e. workshops). That is to say, the influence of other informal and formal corporate foresight processes preceding the decision-making process should also be acknowledged.

The following sub-section will sum up the preceding discussion and scrutinise the unit of analysis and its impact on strategic decisions at Apollo bank on a higher analytical level.

4.6 *Findings – Areas of investigation, Part 4: Corporate foresight, judgement and the impact on strategic decisions*

Corporate foresight, judgement and the impact on strategic decisions

The examples of strategic decision-making at Apollo bank showed how corporate foresight emerges from different sources and impacts a specific strategic decision at the end of the process. Overall, it could be argued that both examples provided insight into selected current strategic decision-making processes at Apollo bank which are based upon distinctive corporate foresight processes. It is noticeable how future perceptions emerge and are further discussed and agreed within meetings of decision-makers at Apollo bank. In addition, it has been found that evaluative and predictive judgements are employed as corporate foresight is being filtered either by the decision-makers themselves (cf. section 4.4.1; section 4.4.3) or by preceding filters in the form of initiators (e.g., during the IP) or of departments (e.g., GMD/SDBB).

On a higher analytical level, and applying the framework proposed in section 4.2, it could generally be argued that a multitude of corporate foresight processes are filtered by managers' judgements and that this filtering affects the extent to which the proposed pictures of the future are accepted or rejected. In consequent processes, corporate foresight results (i.e., foresight information) are approved in the strategic decision under consideration provided that the judgemental configurations filtered the foresight information in a favourable fashion (see Figure 45).

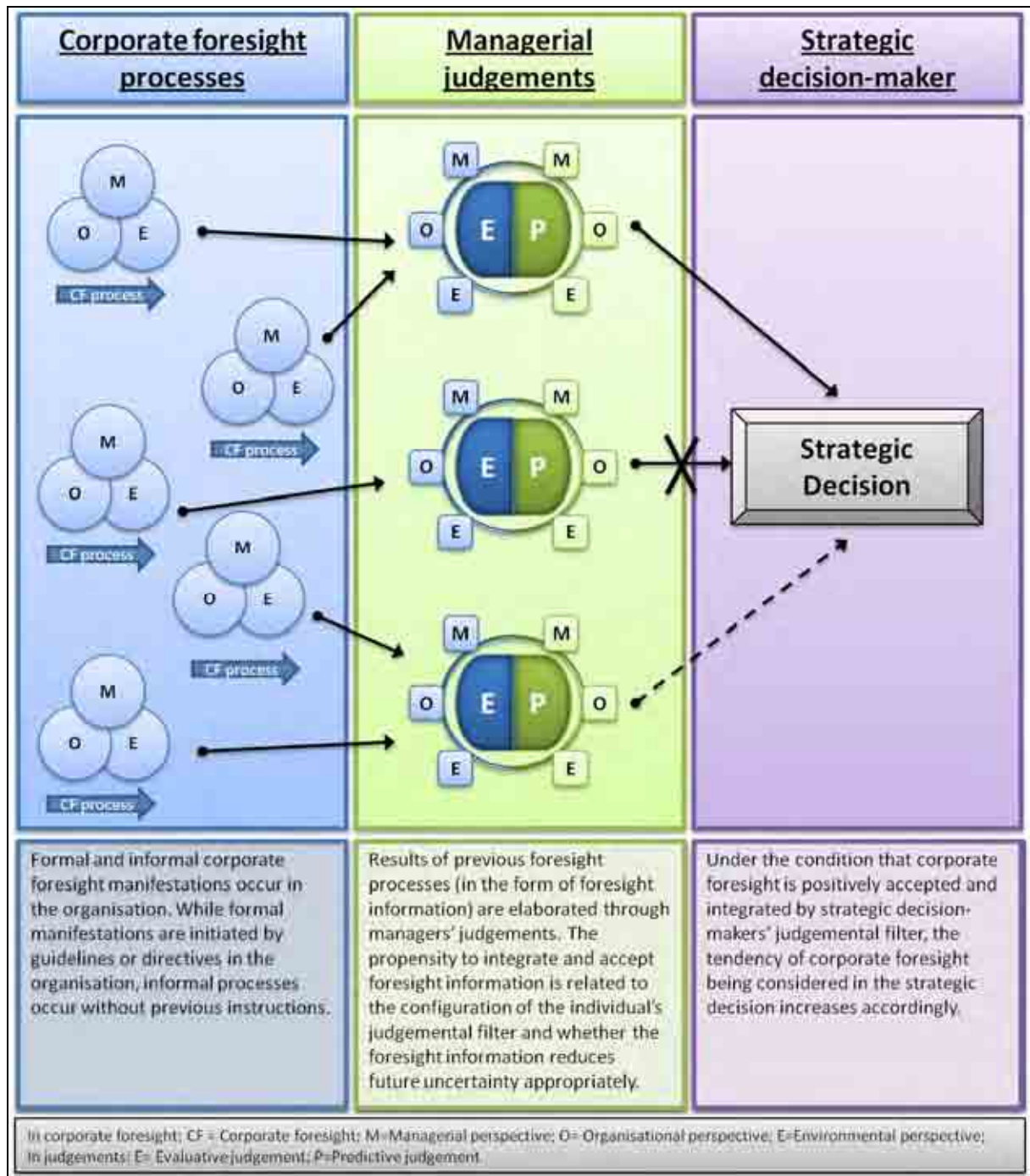


Figure 45: The influence of multiple corporate foresight processes on strategic decisions via intermediary and judgemental filtering.

Referring to Figure 45, the underlying finding is that corporate foresight emerges in different departments, in different manifestations and with different degrees of formalisation and

emphasis. The results (i.e., foresight information) are filtered according to judgemental criteria (evaluative and predictive) and further integrated into strategic decisions. In other words, strategic decision-makers are subject to a range of corporate foresight influences and information – sometimes consciously or unconsciously acknowledged and integrated – in making their decisions. Corporate foresight information finds favour in the final strategic decision according to whether it meets the conditions to satisfy evaluative and predictive judgements and thereby successfully reduce future uncertainty. This means that if the understanding and provided pictures of the future as proposed by corporate foresight successfully transcend the judgemental filter, the strategic decision is built upon this corporate foresight information. However, it cannot be stated that a single corporate foresight process impacts a single strategic decision. The assumption rather is that a single strategic decision is subject to at least one previous corporate foresight process.

The following section will thoroughly discuss the findings and refer to previous publications in order to establish the contribution to knowledge of this research. In addition, details of the research limitations will be provided and ideas for future research will be suggested.

Chapter 5 - Conclusions, implications and recommendations

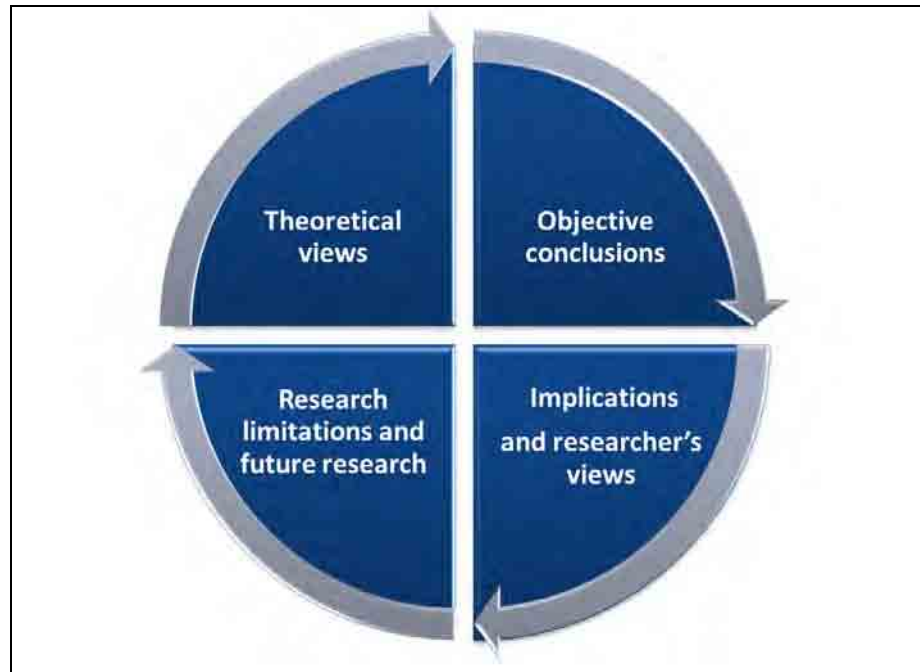


Figure 46: Research contributions of this investigation.

The analysis of corporate foresight at Apollo bank with particular regards to its impact on strategic decisions has revealed a variety of interesting findings. By application of a trichotomous approach in analysing the phenomenon, the research provided insight into each of the three areas, namely the managers, the organisation and the environment. Moreover, the consideration of judgement as an intermediary concept in the analytical investigation of corporate foresight's impact on strategic decisions helps us to understand why and under which circumstances corporate foresight influences strategic decisions.

In section 5.1, the theoretical views will be discussed and evaluated first. These findings are based upon the literature review, discussions about the foresight phenomenon and the analytical framework by which the phenomenon was investigated. Here, the researcher

wants to particularly highlight his views on the phenomenon in literature as well as methodological considerations in researching corporate foresight. Then, in section 5.2, the objective conclusions will be summarised and the findings of this study will be compared with the findings of previous publications. On basis of the discussion, propositions will be formulated. Then section 5.3 aims at underlining implications of the researcher both for academia and practitioners. Thereby, the researcher will distinguish between researcher's views on the research findings and managerial implications. Finally, the research limitations will be discussed and potential areas for future research will be suggested in section 5.4.

1. Theoretical views

This thesis started with a thorough literature review in order to critically evaluate relevant publications in the field in order to establish a conceptual framework that would underlie the empirical data collection and analysis. In the course of the literature review, the researcher provided a new and alternative approach to researching foresight which was required because of a still limited theoretical background to the phenomenon. The following perspectives were discussed and elaborated: Corporate foresight's nature and strategic embeddedness, a trichotomous approach to analysing corporate foresight and the conceptual integration of judgement which intermediates between corporate foresight and strategic decisions. These perspectives are described in more detail in the following sections.

1.1 Corporate foresight's nature and its strategic embeddedness

In the course of reviewing and discussing literature on foresight, it was found that foresight terminology had not been differentiated or clearly defined: Terms such as 'strategic foresight', 'corporate foresight' and 'organisational foresight' are used interchangeably in the literature. This lack of consistency and clarification made it difficult to understand what distinguishes one term from another. Therefore, the researcher attempted to delineate these terms by analysing and comparing the definitions with previous. As a result of this process, it was possible for the researcher to find a relation between these terms which follows a continuum in terms of their usage to describe the scope of a research study: Whereas strategic foresight studies approach the foresight phenomenon in a narrower sense and investigate the implementation of foresight procedures in organisations, organisational foresight studies are concerned with the general philosophy and ability of the organisation to 'foresee'. In line with

this argument, the study of corporate foresight was positioned by the researcher between both concepts (cf. section 2.2.3.3).

The delineation of corporate foresight and its position in relation to other concepts within the foresight literature notwithstanding, all the concepts can be assigned to the strategic stream in management science. Consequently, there are two justifications for the implementation of corporate foresight, in particular, within strategic management. First, corporate foresight and strategic management are both conceptually based on a long-term perspective rather than on short-term occurrences (cf. Argyres and McGahan, 2002; Becker, 2003; Bourgeois, 1984; Chermack, 2004; Drucker, 1999, p. 190; Goldman, 2007; Johnson *et al.*, 2008, pp. 2-4; McMaster, 1996; Hamel and Prahalad, 1994, pp. 25-25). Second, both concepts implicate the understanding of future events as their main pillars. More specifically, one concept aims at identifying and understanding future events (corporate foresight), whereas the other concept (strategic management) considers this activity as part of a larger process in strategy (cf. Becker, 2003; Bourgeois, 1984; Chermack, 2004; Goldman, 2007; Johnson *et al.*, 2008, pp. 2-4; McMaster, 1996).

Apart from assigning corporate foresight to the strategic management stream, this thesis also enhanced the understanding of the nature of the concept. Based upon the findings of this thesis, the following *a posteriori* definition of corporate foresight can be formulated and compared to the *a priori* definition (cf. section 2.2.3.3):

<i>A priori</i> definition of corporate foresight:	<i>A posteriori</i> definition of corporate foresight:
<p>Corporate foresight could be defined as the corporation's ambition to understand the multitude of different futures for the long-term benefit of the corporation. It conceptually reflects an information-processing logic and occurs in a holistic fashion within organisational boundaries. The objective of corporate foresight is the identification and analysis of relevant drivers which are expected to shape the future of the corporation and to thereby provide an enhanced understanding of long-term future to managers. In order to achieve this objective, corporate foresight considers different foresight tools and methods.</p>	<p>Corporate foresight consists of all formal and informal manifestations in a corporation which aim at understanding the multitude of different futures for the long-term benefit of the corporation.</p> <p>It conceptually reflects an information-processing logic and occurs within organisational boundaries in a holistic and dispersed fashion.</p> <p>Corporate foresight's main objectives are the identification and integration of relevant future (environmental) drivers as well as the provision of an enhanced understanding of the same for all members of the organisation. These objectives are generally supported by the employment of several foresight methods and tools. Corporate foresight manifestations themselves are shaped by manifold managerial, organisational and environmental influences.</p> <p>The success of corporate foresight is dependent upon the evaluative and predictive judgemental patterns of decision-makers which are key to the phenomenon's integration into and impact upon strategic decisions.</p>

Table 30: *A priori and a posteriori definition of corporate foresight*

Finally, foresight methods and tools have been thoroughly discussed in the literature review and integrated in the empirical work of this thesis. In the foresight literature, the focus on foresight methods as an integral part of the foresight phenomenon is generally accepted and elaborated (cf. Gruber and Venter, 2006; Reger, 2001; Schwarz, 2008a), and this research partly agrees with this tradition. However, while it is argued that foresight methods are a significant part of the foresight phenomenon, it is also important to bear in mind that foresight

methods represent a structured means by which the future can be understood. In other words, foresight methods are the most apparent, but may not be the only, evidence of corporate foresight practice. On the one hand, organisations can attempt to increase the accuracy of their understanding of the future through the employment of foresight methods, such as scenario workshops or Delphi studies. On the other hand, if one considers foresight methods and tools as the only reflection of corporate foresight this would disregard all the other activities undertaken by organisations in order to try to understand the future. Under the assumption that corporate foresight occurs in organisations in a holistic and dispersed fashion (cf. section 2.2.3.3; section 4.2), it is important to also investigate activities in organisations which at first glance do not appear to be generically foresight methods or tools. The results of this approach have been presented in section 4.1.4 and section 4.2.3.

1.2 A trichotomous approach to analysing corporate foresight

As has been argued in section 2.1.3 and section 2.5, it was essential that corporate foresight was approached in a holistic and dispersed fashion under the assumption that the phenomenon occurs within the organisation in different locations. The researcher adapted the proposed trichotomous approach used in this research based on previous research (cf. Papadakis *et al.*, 1998; Schneider and De Meyer, 1991) which generally establishes three perspectives by which phenomena can be investigated: The managerial, the organisational and the environmental perspective. The researcher decided to consider all three perspectives, especially given that the foresight literature still lacks a profound theoretical background and because one of this investigation's main objectives was to identify, classify and portray corporate foresight manifestations in the banking sector.

First, the managers' perspective on corporate foresight was discussed. The literature provides both theoretical and empirical contributions for understanding how foresight emerges from an individual's – or more specifically, a manager's – point of view (cf. section 2.2.2.3). While the scientific specification and classification of managerial foresight remains unclear (see Table 3), it can, however, be stated that the ability of managers to foresee is existent and can be observed in certain situations (cf. Ahuja *et al.*, 2005). Therefore, it is important to include this aspect in corporate foresight research in order to understand the relationship between individuals' capabilities and the phenomenon itself. Moreover, the lack of research regarding managerial foresight – particularly within manifestations of corporate foresight – enhanced the need to investigate how managerial foresight is embedded in organisational reality.

In contrast to the managerial foresight perspective, the organisational perspective has been acknowledged in foresight literature to a significant extent (cf. Alsan, 2008; Becker, 2003; Daheim and Uerz, 2006; Gruber and Venter, 2006; Karp, 2004; Müller, 2008; Ruff, 2006; Schwarz, 2008a). The literature generally focuses on the functional and processual perspective in relation to the foresight phenomenon (cf. section 2.2.4) as well as on the methods and tools employed (cf. section 2.2.6). This research followed the scientific tradition of integrating the organisational aspects into corporate foresight research by considering the structures, processes and resources the organisation provided. Indeed, the researcher determined that the organisational aspects such as departmental features would be one of the main foci of the investigation of the phenomenon.

Finally, the external environmental perspective on corporate foresight is predominantly derived from organisation studies which have a long research history. Scholars

in the field of organisation studies have investigated how different environmental dimensions (e.g., volatility) or layers (e.g., task environment) affect organisational processes and structures. While publications in the area of organisation studies generally agree on the need to investigate the relationship between the environment and the organisation, the scientific field of foresight research lacks this aspect. To date, only a few investigations (cf. Costanzo, 2004; Gruber and Venter, 2006) have researched how the external environment affects the foresight reality in the organisation. Since various organisational studies have already scrutinised the different aspects of environmental influences on organisational reality on the one hand, and there is a general lack of the equivalent in the foresight literature on the other hand, the researcher decided to include this aspect in the trichotomous approach to investigate corporate foresight.

1.3 Integration of judgement as an intermediate filter between corporate foresight and strategic decisions

One of the main objectives of this research was the investigation of corporate foresight's impact on strategic decisions. This ambition was mainly inspired by previous works (e.g., Wack, 1985b) which emphasise that the integration of futures studies in decision-making processes experiences a variety of obstacles. Moreover, corporate foresight literature also stresses that more research is required to investigate the reasons why and under which circumstances corporate foresight tends to be integrated in strategic decisions (e.g., Gruber and Venter, 2006).

In the course of the literature review, the researcher identified a conceptual link between three different concepts which potentially explain the research problem, namely

corporate foresight, judgement and strategic decision. This link is justified by consideration of an information and uncertainty perspective: Considering that one of corporate foresight's main functions is to create foresight information at the end of a foresight process (cf. section 2.2.4.1.2; section 2.4.5.3) and considering that information reduces uncertainty which is associated with judgement, the first conceptual relationship was created. Furthermore, judgements conceptually precede strategic decisions. The argument presented in section 2.5.1 formulates an interrelated connectedness between corporate foresight, judgements and strategic decisions.

By implication, the conceptual link between the three concepts reasoned the creation of the *a priori* framework, as displayed in section 2.5.6, and the above mentioned elements and concepts were integrated and formulated accordingly. Previous studies criticise the lack of conceptual and empirical explanations regarding the research problem (i.e., the impact of corporate foresight on strategic decisions). However, the researcher believes that the conceptual framework presented in this thesis will contribute to the academic discussion by enhancing the research approach in the field. This means that the conceptual framework provides a means by which future research can be conducted in a scientifically rigorous fashion.

2. Objective conclusions

In addition to the above theoretical contributions which are generally contributions in terms of the research approach and enhanced theoretical understanding in the field, this thesis also included an empirical investigation which is based on the collection of original data in the field. The findings which emerged from the data analysis further contribute to knowledge in the field of foresight research. The following discussion of the empirical findings will be structured according to the areas of investigation in section 2.5, Part 1-4.

2.1 Contributions related to the managerial perspective on studying corporate foresight with reference to areas of investigation, Part 1

The analysis of the managerial perspective on the manifestation of corporate foresight at Apollo bank showed that that most bankers consider themselves as being rather inexperienced with corporate foresight. The phenomenon was unfamiliar to most bankers, although its rationale and conceptual background was understood by the majority. Considering the question of how bankers at the research site make sense of and try to understand the future, findings suggest that bankers rely significantly on quantitative means to understand the future, both in terms of managerial and corporate foresight approaches. Not only was this insight identified by interviewees' affirmative comments, but also by scrutinising the level of the bankers' experience with corporate foresight in general. While at first glance, one might assume that Apollo bank lacks corporate foresight in general, a more detailed exploration led to the conclusion that futures studies within the bank were differently shaped, as suggested by previous research (cf. Becker, 2003; Blackman and Henderson, 2004; Chermack and Nimon, 2008; Costanzo, 2004; Gruber and Venter, 2006; Reger, 2001; Rohrbeck and

Gemünden, 2008; Rollwagen, Hofmann and Schneider, 2008; Wright, van der Heijden, Burt, Bradfield and Cairns, 2008, cf. section 2.2.3 *et seq.*).

While the above mentioned assumptions and first impressions refer to the overall apprehension of Apollo bankers' approach in understanding the future, the data provides evidence that corporate foresight is well accepted by both top and middle managers. Previous research (Wack, 1985a; 1985b), who has argued that foresight – by means of scenario building – is particularly popular amongst middle managers rather than top managers. However, this research argues that this statement cannot be confirmed. In contrast, the top managers interviewed in this study found corporate foresight particularly useful and supportive, whilst middle managers showed some hesitation regarding its efficacy. This research disproves the previous research findings on the following three grounds:

First, Wack's research was published 25 years ago at a time when the political and economic conditions were different. Although applicable to 1985, it appears that in 2010 top managers and decision-makers are more open and unbiased towards corporate foresight than before. These findings are in line with other, more recent publications (cf. Schwarz, 2008) which concur with the findings in this research and which emphasise that managers generally believe that the importance of futures studies will continue to increase.

Second, this study is, to the best of the researcher's knowledge, one of the first of this kind to investigate how corporate foresight is manifested, perceived and integrated in a bank setting. With particular regards to the significant change experienced in the financial markets as a result of the financial crisis of 2007–2009+, it appears that Apollo bankers now perceive corporate foresight to be more important than before the financial crisis. This means that corporate foresight had generally experienced an increase in popularity at the time when the

research took place (cf. section 4.3.1). Consequently, one could argue that the increase in popularity is a contemporary – and perhaps only temporary - effect.

Third, the research site is decentralised in terms of decision-making authority (cf. section 2.2.3.1; section 3.5), which means that the number of top managers directly or indirectly involved in strategic decisions includes more managers than just the members of the board of management. The study identified that top managers tend to assign foresight features to current processes on a rather broader scale, indicating that top managers perceive their tasks have more strategic and long-term characteristics than middle managers. This means that top managers find their current tasks to be ‘corporate foresightful’, even if they do not themselves label their tasks as such. Middle managers appeared to accept corporate foresight on much more conditional grounds than top managers, which implicates that middle managers have a narrower understanding of corporate foresight.

Finally, and with regards to Hines’ (2003) distinction regarding managerial attitudes towards futures studies, this research generally agrees with the author’s statements (cf. section 2.2.2) identifying differing managerial attitudes towards corporate foresight. Hines (2003) principally categorises managers according to dimensions based on affinity, such as pragmatism and ideology on the one hand and supporters and deniers on the other hand. The findings of this research further suggest that attitudes and dispositions towards corporate foresight depend on the specific topics and areas of responsibility of managers. On the basis of the empirical data, it is suggested that an inner and outer perspective on Apollo bankers’ openness or reservation towards corporate foresight provides a more helpful means by which to conceptualise the phenomenon in the banking sector. The findings of this study suggest that bankers generally appreciate the potential of corporate foresight to help them to gain an

understanding of future environmental drivers. However, the findings also suggest that bankers are reluctant to appreciate other potential contributions of corporate foresight such as the change in Apollo bankers' mindsets. Indeed, interviewees expressed a great hesitation to agree with this issue. This finding partly disagrees with previous research findings which particularly emphasise that corporate foresight is a means by which corporate culture can be changed (cf. section 4.1.3).

Table 31 summarises the key issues identified with reference to areas of investigation, part 1. Moreover, the table provides the answers to research question 1: What is the influence of managers on foresight processes?

Research question 1: What is the influence of managers in foresight processes?	
<u>Areas of investigations</u>	<u>Findings</u>
• Familiarity with corporate foresight	Research findings suggest that managers at Apollo bank understand futures studies in a different fashion. While some managers exhibit corporate foresight by quantitative means, other managers create multiple futures by employing qualitative means. Overall, it can be argued that the concept of corporate foresight was mainly unfamiliar to Apollo bankers.
• Experience with corporate foresight	Based upon emerging insights from the data analysis, it will be proposed that experience with corporate foresight affects managers' attitude towards the phenomenon. It further appears that articulated experiences with corporate foresight depends on the degree by which organisational processes are categorised as foresight processes by managers.
• Hierarchical position of participants and perceived usefulness of corporate foresight	The data provides an indication that top and middle management have slightly different standpoints towards corporate foresight according to their hierarchical position. This study finds that none of the top managers are reluctant to admit corporate foresight's usefulness in general. As opposed to top managers, however, middle managers perceive corporate foresight's usefulness to be slightly higher.
• Attitude towards corporate foresight	It can finally be argued that managers' attitude towards corporate foresight depends on thematic categorisation rather than just on managers' affinity. It appears that bankers are open or reluctant towards corporate foresight according to specific topics in the banking sector such as product innovation or external environmental aspects.

Table 31: Managerial perspective on corporate foresight: Answers to research question 1 and key issues identified.

Based upon the research findings and the key issues identified, the following propositions are formulated:

Proposition 1:

European bank managers tend to create an understanding of the future by quantitative rather than by qualitative means. The more experienced that managers in the European banking sector are with corporate foresight activities, the more receptive they are towards corporate foresight. Moreover, bank managers distinguish the general usefulness of corporate foresight by thematic categorisation.

Proposition 2:

Top and middle management bankers have different understandings of the role of corporate foresight in the organisation. While top managers understand and assign the phenomenon's characteristics in a broader sense to current processes, middle managers assign them in a narrower sense.

The two propositions are derived from the literature and have been further elaborated on basis of the empirical results and own views. These propositions serve as a basis for future research and are part of the thesis' contribution to knowledge in the field. The following section 2.2 deals with the empirical findings regarding areas of investigation, Part 2.

2.2 Contributions related to the organisational perspective on studying corporate foresight with reference to areas of investigation, Part 2

Previous research approaches to studying foresight have focussed on the analysis of specific foresight manifestations in preliminary selected organisational locations and departments (cf. Costanzo, 2004; Gruber and Venter, 2006; Müller, 2008; Rauscher, 2004). From a methodological point of view, this approach assumes that foresight occurs in a formally embedded way in one specific location in the organisation. With regards to this investigation, the application of a 'predefined foresight' research approach – which analyses single and specific foresight manifestations – is not appropriate for studying corporate foresight which has been identified as occurring in a holistic and dispersed fashion in the organisation (cf. section 2.2.3.3; section 2.5.3).

The research findings support this distinctive perspective. It was identified that corporate foresight is manifested in formal and informal ways. While formalisation has been defined in terms of the extent to which activities and behaviour are addressed and instructed by the organisation for all members (cf. section 2.2.3.1), corporate foresight appearances occur formally and informally. A formal corporate foresight manifestation reflects a process for which a guideline or instruction has been issued beforehand – such as in the company's constitution. In contrast, informal corporate foresight manifestations capture all activities undertaken by members within the organisation which aim at understanding the future, even without any written or observable cues. On the one hand, both types of corporate foresight manifestation are different in their appearance and visibility in the organisation before and during manifestation. On the other hand, corporate foresight results – whether formal or informal, and their integration into subsequent processes, mainly strategic decisions, appear to significantly depend on other factors such as judgements (cf. section 4.4). With particular

reference to foresight methods, the employment of the same does not reflect the whole corporate foresight reality – but rather is observable evidence of the phenomenon (cf. section 4.2).

In addition, this research found that corporate foresight is manifested both in staff and in line departments. This finding suggests that even although line departments are predominantly focussed on operative rather than on strategic tasks (cf. Davis, 2009, pp. 41-45), corporate foresight exists in that organisational structure as well, which goes against the prior conceptual expectations (cf. section 2.1.3). Interestingly, it appears that corporate foresight is generally approached differently by staff and line departments: While the former considers corporate foresight in a more structured and narrow sense, the latter manifests foresight in a rather open and amendable way. This difference can be explained by the fact that staff departments tend to follow centrally formulated guiding principles which explicitly describe the staff's strategic tasks. Therefore, staff departments tend to design processes according to the organisation's constitution or guidelines whenever strategic or foresight processes are set up. In contrast, line departments do not appear to be expected to consider strategic issues in their operative tasks (cf. Davis, 2009, pp. 41-45). Therefore, line managers have more opportunities and freedom to design foresight structures and processes according to their own needs and expectations. In addition, evidence also supports the argument that Apollo bank tends to describe foresight and strategic tasks for staff departments in its constitution, whereas these descriptions are not applicable for line departments.

A further important issue was identified regarding where the interviewees expect to find corporate foresight processes within the organisation. The evidence strengthened the assumption that Apollo bank's corporate foresight is not perceived as being located in one

specific area within the organisation, nor is it perceived that one specific department uniformly exhibits a certain responsibility or credibility in terms of corporate foresight. The findings suggest that Apollo bankers tend to anchor corporate foresight either in strategic or economic research-related departments. This insight partly contradicts previous research findings that have allocated foresight in one single department within the organisation (cf. Gruber and Venter, 2006). With regards to the implementation of corporate foresight in strategic-related departments, it can be argued that Apollo bankers are undecided as to whether segmental or central strategy departments are responsible for and capable of the central establishment of corporate foresight. According to some previous studies, a centrally or decentrally executed as well as a hierarchical anchorage of corporate foresight basically reflects where futures studies are initiated. This means that considerations regarding the organisational allocation of corporate foresight have been addressed by asking where corporate foresight is predominantly initiated for processes to follow (van der Duin *et al.*, 2009). However, this research argues that the bankers at Apollo bank identify the location of corporate foresight according to the degree of responsibility and authority as well as foresight credibility.

In terms of the organisational perspective on corporate foresight, it appears that, according to Apollo bankers' statements, departmental collaboration is weaker than expected or even required. It was identified that task similarities between different departments either encourage or inhibit a collective execution of corporate foresight. While heterogeneous tasks between collaborating departments strengthen the sharing of different perspectives, expertise, know-how, creativity and information in terms of foresight, homogeneous tasks ensure a higher mutual understanding between corporate foresight participants. In other words, while heterogeneous tasks between departments tend to increase the quality of corporate foresight

results, task homogeneity generally leads to a smoother collaboration between the organisation's members involved in the corporate foresight process (cf. Hackman, 1968; March and Simon, 1958; Newcomb, 1953; Tushman, 1978).

The consideration of the collective aspects of corporate foresight emerged from the finding that Apollo bankers complained that too many foresight processes occur within the organisation, in a parallel fashion and with major diverging contents in terms of multiple futures. This means that corporate foresight activities are disseminated to such an extent within the organisation, that multiple futures are explored in multiple locations. At first glance it would appear that this development is a result of the naturally occurring corporate foresight manifestation as previously argued or a beneficial development as a result of differing perspective in understanding the future. However, it could also be argued that the organisation requires one main corporate foresight process that bundles or directs all other corporate foresight manifestations (cf. van der Duin *et al.*, 2009; cf. section 5.3). An overview of the main issues identified in areas of investigation, part 2 can be seen in Table 32.

Research question 2: How are corporate foresight processes currently manifested?	
Areas of investigation	Findings
<ul style="list-style-type: none"> Corporate foresight's degree of formality 	Corporate foresight occurs in formal and informal ways. All activities which explicitly aim at understanding the future can be considered as corporate foresight activity. The degree of formality refers to the extent to which these processes are explicitly described beforehand such as in a project manual or letters of intent. The foresight methods are used as a means to enhance both formal and informal corporate foresight processes, which in turn means that their employment is independent of corporate foresight's degree of formality.
<ul style="list-style-type: none"> Structural implementation of corporate foresight in line and staff departments 	Corporate foresight occurs in both staff and line departments. While staff departments approach corporate foresight in a more narrow and specific way, line departments employ foresight in a more open and flexible fashion. It is argued that this is because there is a distinction between strategic and operative tasks which the two types of organisational structures respectively undertake.
<ul style="list-style-type: none"> Departmental responsibility for and credibility in producing corporate foresight 	With reference to which department is perceived being responsible for and capable of manifesting corporate foresight for the whole organisation, bankers distinguish between departments according to those departments' responsibilities for exercising corporate foresight and credibility – particularly expertise. While responsibility to conduct corporate foresight refers to the departments' tasks and decision authority to implement structures to look into the future, the concept of credibility considers the departments' experience, expertise and resources to create foresight information.
<ul style="list-style-type: none"> Task similarities between collaborating departments in terms of corporate foresight 	Departments within the organisation manifest corporate foresight either independently (see first key issue of this table) or in collaboration with other departments. The extent to which departments collaborate with other departments in terms of corporate foresight appears to be related with the departments' task – but in an interrelated fashion: While distant departmental tasks lead to a broader and more creative foresight process and outcome, task similarity between departments tends to lead to a smoother interaction between corporate foresight participants during the foresight process. Existence of the latter can be explained by arguing that participants share a common language, knowledge and experience.

Table 32: Organisational perspective on corporate foresight: Answers to research question 2 and key issues identified.

Based upon the research findings and the key issues identified, the following propositions are formulated:

Proposition 3:

Corporate foresight differs in formality within a European bank. The degree of formality is reflected by written artefacts before corporate foresight takes place. In the exercising corporate foresight, line departments are more open and flexible – informal, whereas staff departments are more structured and specific – formal.

Proposition 4a:

The formal nature and structured embeddedness of corporate foresight in banks depends on the degree of perceived credibility and responsibility of a department to provide an understanding of the future for the organisation's members. Bankers distinguish between departments which are responsible for exercising corporate foresight regularly and departments constituting credible experts creating foresight information.

Proposition 4b:

The degree of collaboration between departments depends on task similarities. Departments with similar tasks are more likely to collaborate to create a greater volume of corporate foresight, whereas departments with different tasks tend to produce a better quality of foresight information.

2.3 Contributions related to the environmental perspective on studying corporate foresight with reference to areas of investigation, Part 3

The findings of this study identified that corporate foresight is significantly affected by the outer environment of the organisation. While previous research has provided only a little insight into this aspect to date, it has been identified in this research that general environmental characteristics have to be considered whenever corporate foresight is studied. In the case of this research, it was found that corporate foresight in the banking sector is affected by perceived environmental volatility – with particular regard to the task environment. With the emergence of a major change in the perceived environmental volatility which was caused by the financial crisis of 2007–2009+, the way in which foresight was administered changed to a significant extent.

In Apollo bank, under non-volatile environmental conditions, corporate foresight produced results which proposed that the future was more stable, longer termed and understandable by quantitative means, whereas volatile environmental conditions led to almost the opposite approach in understanding the future. In addition, environmental volatility shortened the time horizon over which bankers tried to understand the future. This means that in perceived volatile environments, bankers are more uncertain about the future and they consequently explore the future over shorter time horizons and adapt to it by employment of short-term activities. The foresight literature has provided only limited insight into this aspect to date. Apart from publications emphasising that volatile and fast changing environments require organisations to employ foresight (cf. Brown, 2004; Day and Shoemaker, 2005; Grossmann, 2007; Ilmola and Kuusi, 2006), the feedback and effect of foresight occurring in these environments have only been researched to a limited extent. One of the few publications that has provided insight is that of Costanzo (2004) who found that flexibility, visibility,

structure and extensive communication are required to establish strategic foresight for innovation purposes in highly-volatile environments. While this finding normatively describes the means by which foresight activities have to be designed to cope with high-volatility environments, this thesis enhances previous research outcomes by arguing that the degree of perceived environmental volatility changes corporate foresight's manifestation. In contrast to previous research, this thesis contributes a deep insight into the phenomenon's appearance rather than attempting to provide instructions on how to design corporate foresight processes.

Furthermore, this investigation proposes a distinctive approach regarding the way in which environmental layers (cf. Daft *et al*, 1988; Duncan, 1972; cf. section 2.3.1) are considered in corporate foresight research. While these layers – the task environment and the general environment – generally the main foci in terms of corporate foresight content, they also appear to provide potential for a different perspective for corporate foresight research. The task environment layer has been analysed by investigating two of its elements – customers and competitors. Customers appear to have the greatest impact on the manifestation of corporate foresight manifestation; specifically, bankers appreciate customers' opinions and perceptions as input for understanding the future. This appreciation is based upon the bankers' common perception that customers are close to market developments and can provide weak signals to Apollo bank in a timely manner. This means that customers are a major element in shaping corporate foresight manifestations in the organisation. The other element of the task environment – competitors – does not affect the bank's corporate foresight as much. This is because competitors are not perceived as being superior in conducting corporate foresight because of the ease of copying banking products and the transparent market conditions as perceived by Apollo bankers.

The evidence further suggests that the general environment layer appears to have only a limited influence on shaping corporate foresight. By analysing regulation as one of the main elements of the general environment, it was identified that the bank is well interlinked with regulatory authorities so that regulation is perceived as planable and to some extent ‘foreseeable’. Due to the process of law-making and the interrelationship between banks and regulatory authorities, warnings are generally identified at an early stage and integrated into organisational processes in an accustomed fashion. In sum, regulation does not appear to have a large impact on shaping the manifestation of corporate foresight – although the significance of the same is certainly important in terms of corporate foresight content.

In conclusion, an interesting finding is that the organisation’s environment has a significant impact on the way in which bankers try to understand the future – and hence, corporate foresight’s general manifestation at Apollo bank. Although the literature on corporate foresight has included analyses of the external environment for the past few decades (cf. Ansoff, 1980; Costanzo, 2004; Daheim and Uerz, 2008; Georghiou, 2000; Rohrbeck and Gemünden, 2008; van der Duin *et al.*, 2009), the opposite view – i.e., the impact of environmental characteristics on futures studies – has only been researched to a limited extent. The findings of this research suggest that both perceived environmental volatility and customers have great impact on corporate foresight manifestations at Apollo bank. Therefore, it is proposed here that the manifestation of corporate foresight is contingent on external environmental characteristics. An overview over the findings is displayed in Table 33.

Research question 3: To what extent does the outer environment impact on corporate foresight?	
Areas of investigation	Findings
<ul style="list-style-type: none"> • Environmental volatility of financial markets and its impact on corporate foresight 	<p>Manifestations of corporate foresight are shaped by external environmental characteristics – particularly the degree of perceived volatility. It has been found that in times of high environmental volatility, the future appears to be more uncertain and this causes a shorter time horizon in terms of the way in which the future is discussed. In times of low volatility, the future appears to be easier to understand which induces bankers to prefer employing quantitative forecasts as foresight methods – reflecting Apollo bankers' certainty about the time to come. This bilateral relationship is labelled as an environmental feedback-loop which denotes that the external environment not only dictates the main focus of corporate foresight's content, but also the environmental influence on the manifestation of corporate foresight.</p>
<ul style="list-style-type: none"> • Task environment and general environment and their influence on corporate foresight 	<p>At Apollo bank, the task environment appears to have the highest impact in terms of input into corporate foresight, whereas the general environment has only little influence. Although the general environment is certainly an important pillar for foresight content, the layer itself has only little influence on the manifestation of corporate foresight at the bank, particularly in comparison with 'customers' who are part of the task environment and are the most significant provider of important information about business markets which are in turn integrated into corporate foresight processes</p>

Table 33: Environmental perspective on corporate foresight: Answers to research question 3 and key issues identified

Based upon the research findings and the key issues identified, the following propositions are formulated:

Proposition 5:

Corporate foresight manifestations are shaped according to the external environment's volatility. In a perceived low level of environmental volatility, bankers employ quantitative means to understand the future. In high volatile environmental conditions, bankers employ qualitative foresight means to understand the future. The underlying time horizon in corporate foresight is adapted according to the perceived level of environmental volatility: In high-volatility environments, the future horizon is shortened, whereas bankers tend to look further into the future in low-volatile environments.

Proposition 6:

The bank's task environment affect corporate foresight: Customers are the most important factor and are perceived to provide higher quality input into foresight activities at the bank. In contrast, the general environment is of lower importance and provides only a little input into corporate foresight processes at the bank.

2.4 Contributions related to the impact of corporate foresight on strategic decision with reference to areas of investigation, Part 4

In the course of the research, it was identified that corporate foresight and the integration of the same into strategic decisions appears to require the consideration of an intermediary factor (cf. Blackman and Henderson, 2004; Horton, 1999; Popper, 2008; Voros, 2003). Apollo bankers explicitly expressed that corporate foresight and strategic decisions are – according to their understanding – two different issues. Moreover, although corporate foresight's main task is the support of strategic processes in organisations in general (cf. section 2.1.3), its integration does not occur without conflict or, in other words, in a natural and smooth fashion. While some authors explicitly stress that the concept of corporate foresight is independent from subsequent strategic decision-making processes (cf. Voros, 2003), other authors such as Blackman and Henderson (2004) include intermediary concepts (e.g., mental models) to explain the interface between corporate foresight and strategic decision-making. The latter approach was used in this thesis because it was possible thereby to explain why certain corporate foresight results are successfully integrated in strategic decisions and why some have failed to be.

This research finds evidence to disagree with Voros (2003) which disregards processes which follow corporate foresight – such as strategic decisions – as reflections of the way in which the phenomenon has to be understood. Instead, it is argued in this thesis – in line with Blackman and Henderson (2004) – that an intervening concept has to be considered to understand the relationship between corporate foresight and strategic decisions. Moreover, it is claimed that the study of this interface is crucial to our understanding (cf. Gruber and Venter, 2006).

In this research, it was identified that judgements in particular are a certain type of ‘filter’ according to which corporate foresight finds general approval in strategic decisions. The underlying research approach adopts the conceptual model by Hogarth (1980; pp. 3; pp. 65-67; p. 157; cf. section 2.4.1) which distinguishes judgements in two parts: An evaluative (preferences) and a predictive (belief) part (cf. Bell, 2004, p. 319). This research understands the difference between both parts as being mainly based on temporal reasons: While evaluation (and preferences) is constructed according to personal experiences and priorities, predictive judgements are based upon assumptions about the future (cf. Hogarth, 1980, pp. 3; pp. 65-67). This distinction not only helped to conceptually reason the link between corporate foresight and strategic decisions (cf. section 2.5.1), but became evident during the research.

The concept of judgement provided a robust ground for analysis and enabled the researcher to explain how Apollo bankers generally deal with corporate foresight. In more detail, in the case of evaluative judgements, Apollo bankers look at corporate foresight from the following three perspectives:

- From a managerial point of view, Apollo bankers’ general attitude towards corporate foresight appears decisive regarding the question of whether corporate foresight overcomes managerial restraints. This means that it appears that a certain attitude towards corporate foresight is important to understand why decision-makers generally accept or reject to integrate corporate foresight into strategic decisions. Empirical evidence supports three different types of attitudes towards corporate foresight which describe Apollo bankers’ propensity to accept or reject corporate foresight from an evaluative judgement point of view. These three levels are labelled as follows: Passive, neutral and positive. Each level is

distinctive according to the banker's general attitude towards the phenomenon as well as the banker's specific interest in foresight information. These empirical findings agree with previous findings in the literature. Janis and Mann (1977, pp. 204-207) established a hypothetical set of coping patterns according to which decision-makers define their information preferences. By application of the 'conflict model' in decision-making, Janis and Mann argue that certain circumstances – such as time pressure or potential risks – shape decision-makers' information preferences. The authors identified four basic patterns categorising the conditions by which information preferences are formed, namely unconflicted adherence or change, defensive avoidance, hypervigilance and vigilance (Janis and Mann, 1977, pp. 204-207). In comparison, this thesis generally agrees with Janis and Mann's hypothetical coping patterns in terms of information preferences, but differs on two specific points: First, this investigation links the attitude towards corporate foresight with the level of interest in that foresight information. In contrast Janis and Mann conceptualise coping patterns with a dominant information mode and the characteristic information preference. The difference is that Janis and Mann tackle the general information preference, whereas this investigation defines attitudes towards corporate foresight as decisive in classifying information preferences in terms of foresight information. Second, Janis and Mann state that decision-makers who are categorised as unconflicted – or "indifferent" (dominant information mode) – have only little interest in information. This investigation, however, argues that a neutral attitude towards corporate foresight can also emerge from a medium level of interest in foresight information, because it is not clear why the information is required nor with what

circumstances the decision-maker is currently dealing (cf. Janis and Mann, 1977, pp. 204-207). Overall, it must also be stressed at this point that bankers' general attitude towards corporate foresight – as identified in this research – may well change over time. This means that the three identified patterns only reflect a general and situational tendency rather than a universal law.

- From an organisational perspective, the findings of this research suggest that the source of foresight information – or in other words, the location from which corporate foresight results are issued – is being evaluated by Apollo bankers as well. The concept of credibility – particularly expertise – appears to be the most decisive issue in a banker accepting or refusing corporate foresight information. This finding is in line with previous research (cf. 2.4.5.1 *et seq.*) and it further contributes to knowledge by showing that credibility is a decisive factor for bankers in corporate foresight terms (cf. Birnbaum and Stegner, 1979; Blattberg and Hoch, 1990; Cuhls, 2003; Kelman and Hovland, 1953; Steinmüller, 1997). In sum, it appears that the message of foresight information (i.e., pictures of the future) is disregarded unless the source of foresight information fulfils the above mentioned criteria (i.e., credibility and expertise).
- From an environmental perspective, it is proposed that bankers' perception of environmental volatility is crucial for the way in which evaluative judgements are constructed. While Apollo bankers tend to accept quantitative means to look into the future in low-volatility environments, bankers' acceptance of qualitative foresight generally increases in times of perceived high volatility. With regards to corporate foresight, it can further be shown that the generally qualitative nature of

corporate foresight is more accepted in times of high volatility due to the fact that qualitative judgements are predominantly sought in these circumstances. The reason for this observation can be argued on basis of perceived uncertainty: From a negational point of view, corporate foresight is more likely to be accepted in perceived highly volatile environments due to the omission of previously employed means in non-volatile market conditions (e.g., quantitative forecasts). Affirmatively, it also appears that highly volatile environmental conditions cause a certain kind of irritation which increases corporate foresight's strength in transmitting future knowledge. The concept of perceived environmental uncertainty is not new (cf. Downey and Slocum, 1975; Jauch and Kraft, 1986; Leblebici and Salancik, 1981). Previous research findings strengthen the argument that environmental uncertainty is a concept which relates to subjective rather than to objective assessments (Downey and Slocum, 1975) and environmental volatility – meaning the rate (velocity), degree (force) and predictability (directional deviation) of change (Jauch and Kraft, 1986; Leblebici and Salancik, 1981; Osbom *et al.*, 1980), causing uncertainty for decision-makers (Leblebici and Salancik, 1981). This research therefore agrees with previous statements: Perceived environmental uncertainty in the banking sector occurred as an effect of a shift in environmental volatility – in a contemporary context, this effect occurred with the emergence of the financial crisis of 2007–2009+. When bankers experience an either low or high degree of volatility, the way in which corporate foresight is integrated is altered accordingly. These findings have two main contributions: While perceived environmental uncertainty caused by volatility is not a static, but a dynamic phenomenon, the research also found out that corporate

foresight tends to be more accepted in times of high perceived uncertainty, such as in times of high environmental volatility. The latter finding agrees with Phelan's (1997) statement that financial models and forecasts increase perceived certainty – and to some extent strategic unawareness. Based upon the idea that the accuracy of a single-point forecast increases in stable conditions, this finding applies in stable – or low-volatility environments as well. This means that Apollo bankers tend to apply only quantitative forecasts rather than qualitative corporate foresight in non-volatile financial markets because the high perceived accuracy of such forecasts appears to best explain the future.

In sum, it has been found that decision-makers in the bank assess corporate foresight in evaluative terms according to general characteristics, which are the bankers' attitude towards corporate foresight, the source of corporate foresight and the perceived environmental volatility. These factors are rather independent of corporate foresights results and information and describe an evaluative mechanism which determines whether corporate foresight is accepted or rejected.

In predictive judgemental terms, this research proposes that corporate foresight information is assessed according to specific foresight information characteristics, particularly future-oriented judgement. In detail, the findings are as follows:

- From a managerial and predictive judgement point of view, the research findings suggest that corporate foresight information is assessed by means of managerial foresight. This means that corporate foresight provides decision-makers with a certain understanding of the future. Decision-makers in turn compare foresight information resulting from corporate foresight with their own understanding of the

future (i.e., managerial foresight). This research finding agrees with previous publications that found that managers have a certain confidence in their own foresight capability (Ahuja *et al.*, 2005; Phelan, 1997; Reading, 2004, pp. 14-17). According to the strength of confidence in their own managerial foresight, managers decide which assumptions about the future to accept and which to reject. This research suggests that Apollo bankers' confidence in their own managerial foresight can be categorised into three basic levels (cf. section 2.4.3.1). The more confident an Apollo banker or decision-maker is in their own managerial foresight capability, the higher the propensity to reject corporate foresight information in the case of contradictory standpoints.

- From an organisational and informational perspective, research findings support the assumption that corporate foresight information is assessed according to its content, i.e., picture of the future. Previous research in the area of foresight explains that foresight information is more likely to be integrated when it fits managerial needs, beliefs and goals (cf. Feldman and March, 1981; Lawless, 1997; Reading, 2004, pp. 15-17; Rollwagen *et al.*, 2006). This research generally agrees with this statement and contributes to the understanding by providing five categories which help to classify this 'fit of foresight information' (cf. Feldman and March, 1981; Rollwagen *et al.*, 2006). In this context, the predictive element in judgement refers to the fact the decision-makers' fit of foresight information reflects individual expectations according to which foresight information is being accepted and integrated or not. In other words, the identified five elements (cf.

section 4.4.5.2) are the requirements for acceptance which are imposed by Apollo bankers on corporate foresight information's characteristics.

- From an environmental perspective and with regards to the relation between corporate foresight and predictive judgements, it can be stated that the change in perceived environmental volatility has an effect on the way in which decision-makers achieve an understanding about the future. It also appears that when the change of perceived environmental volatility is significant – as during the financial crisis of 2007–2009+ – Apollo bankers tend to revise basic assumptions regarding the patterns according to which the environment has been perceived and foreseen. There are two findings that have emerged from the data which can be compared to previous research findings: First, Bourgeois and Eisenhardt (1988) explicitly classify the banking sector as being a high-velocity environment (cf. section 2.3.2.1). Against the background of this research's context, it will be argued that Apollo bankers are not clearly aware of this categorisation. There is evidence that Apollo bankers assumed that the environment was low in volatility – particularly in the years before the financial crisis of 2007–2009+. This means in turn that although the financial banking sector has objectively been categorised as being highly volatile, Apollo bankers' perception of the very same differed on subjective grounds. Second, it is proposed that perceived environmental volatility subjectively changes over time – and therefore is of a dynamic, rather than of a static nature. In addition to the previously mentioned misconception of environmental volatility, the second point stresses that the degree of perceived environmental volatility has to continuously be compared to the objective degree

of environmental volatility by decision-makers. In terms of corporate foresight, it is proposed that in times of a misjudgement of the level of environmental volatility, Apollo bankers find it more difficult to understand the future. This is likely to be because the irritation caused by changes in the perception of environmental volatility leads to difficulty in employing previous patterns for understanding the future.

The analysis of two selected decision-making processes at Apollo bank demonstrated how evaluative and predictive judgements are employed as intermediary between corporate foresight and strategic decisions. Although both the selected processes are distinct regarding their scope and procedural dimensions (cf. section 4.4.5.3) two main issues were identified which strengthened previous argument and findings:

First, the selected examples showed that differences in future understandings are the subject of intense discussions within strategic decision-making processes. It appears that strategic decisions are the result of Apollo bankers' preceding judgements about the future which in turn are the result of manifold influences of different corporate foresight manifestations within the organisation (cf. Figure 45). This means that strategic decisions are influenced by manifold corporate foresight manifestations occurring within the bank – under the pre-conditions that these have successfully overcome judgemental configurations as previously described.

Second, the reasons for decision-makers' significant differences in understanding the organisational future can be traced back to either different corporate foresight information or to different judgemental approaches towards the same. These differences became evident in strategic decision-making processes in which the top management negotiated their distinctive

understanding of the future – as was exemplarily displayed in the case of the TYFP (cf. section 4.4.5.1). During the strategic decision-making process, top managers from different organisational backgrounds provided their future understanding following a top-down and bottom-up approach. Hence, discussions of the future considered decision-makers' expectations about the future as a result of previous corporate foresight's influences. With reference to the literature, the three levels of corporate foresight's integration into strategic decisions by Gruber and Venter (2006) or the four levels as identified by Burmeister *et al.* (2002) are not only supported but complemented given that the reasons for the achievement of each level have now been further clarified and established in this study. It can be stated that an understanding of both the nature of corporate foresight in the organisation and the judgements preceding strategic decisions is crucial to gaining insight into why some corporate foresight results are successfully integrated in strategic decisions and others are not.

In line with the categorisations by Gruber and Venter (2006) as well as by Burmeister *et al.* (2002), this research provides three levels of corporate foresight's integration in strategic decisions according to the level of impact. The meaning of each level is formulated as follows:

- Poor foresight decision: Strategic decision-makers show only little interest in integrating corporate foresight information and make decisions on a short-term basis. Corporate foresight is considered as merely informative and not particularly supportive. Recommendations provided by previous corporate foresight manifestations are integrated without any structural approach. Poor foresight decisions are predominantly a result of either poor corporate foresight manifestations within the organisation, a lack of foresight information

dissemination within the organisation or an unfavourable judgemental configuration of strategic decision-makers.

- Indifferent foresight decision: Corporate foresight provides irregular input for strategic decisions without any recognisable pattern. Decision-makers consider corporate foresight as important and acknowledge its manifestation within the organisation. However, corporate foresight results are not structurally elaborated and integrated in relevant decision processes. The phenomenon is perceived as a simple information provider, rather than as a mechanism by which a deep, holistic and grounded understanding of the future can be obtained.
- Integral foresight decision: Strategic decision-makers regularly consult corporate foresight information from relevant sources in the organisation. The rejection of corporate foresight recommendations by decision-makers has to be reasoned and defended. The phenomenon's position within the organisation is clearly perceptible and foresight results are directly or indirectly respected by most members. Integral foresight decisions exhibit a deep and holistic understanding of the organisation's future. This level of integration means that a member of the organisation can gain a rich explanation of the organisation's future without directly knowing the initial corporate foresight information.

An overview of the three levels of corporate foresight's impact on strategic decisions can be seen in Figure 47.

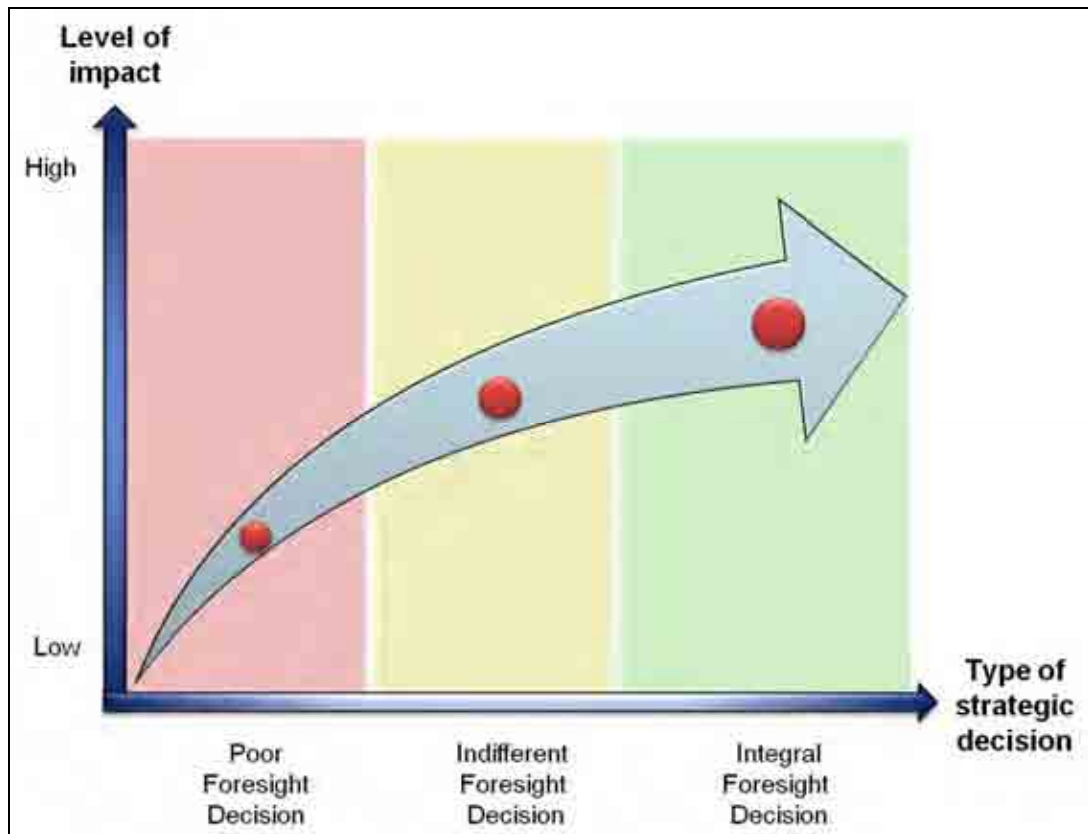


Figure 47: Levels of impact and respective types of strategic decision.

Having displayed, explained and discussed the complex filter of judgement which intermediates corporate foresight and strategic decisions, this thesis proposes a three-level pattern according to which different types of strategic decisions can be distinguished (see Figure 47). These types are predominantly classified as conforming to the level of corporate foresight's impact and integration. While the proposed pattern may suggest a clear-cut distinction between each type and level, it is important to emphasise the continuous nature of the three types. This means that the reader must be aware that the three types reflect a general tendency rather than one-of-a-kind and ideal types. An overview of the main issues identified in areas of investigation, Part 4 can be seen in Table 34.

Research question 4: What is the impact of corporate foresight results on strategic decisions?	
Areas of investigation	Findings
• Evaluative judgements and corporate foresight	The bankers' attitude towards corporate foresight is a decisive factor in their general acceptance of the phenomenon and three levels of attitude were identified: Passive, neutral and positive. The source or location from which corporate foresight results is important for later integration of the same: It has been found that corporate foresight source's credibility – particularly expertise – increases its acknowledgement by top management. The degree of environmental volatility has an effect on bankers' perceived environmental uncertainty. Apollo bankers tend to increase their acceptance of corporate foresight in times of perceived high volatility rather than in times of perceived low volatility.
• Predictive judgements and corporate foresight	In cases in which corporate foresight's statement regarding the future contradicts bankers' managerial foresight, a cognitive comparison between both understandings of the future occurs. The bankers' confidence in their own managerial foresight appears to be decisive factor in whether corporate foresight is accepted or rejected. Apollo bankers' expectations and needs set limitations regarding the propensity of corporate foresight being integrated. Five dimensions were identified according to which a 'fit' between corporate foresight information and bankers' expectations and needs can be achieved. The perceived degree of environmental volatility appears to change over time. Changes in environmental volatility increase perceived uncertainty and cause irritation from the bankers' point of view, which in turn increases corporate foresight's standing in the organisation.
• Impact of corporate foresight on strategic decisions	During strategic decision-making processes, different understandings of the future are discussed in the top management team. The discussed futures are the result of manifold manifestations of corporate foresight in the organisation, which in turn are filtered by decision-makers via judgements. The level of integration of corporate foresight into strategic decisions is based upon the conditions under which corporate foresight is filtered by bankers' evaluative and predictive judgements. Three ideal types of strategic decisions are categorised according to the level of corporate foresight's impact on the same.

Table 34: The impact of corporate foresight on strategic decisions: Answers to research question 4 and key issues identified.

Based on the research findings and the key issues identified, the following propositions are formulated:

Proposition 7:

Bankers' attitude towards corporate foresight and the source from which corporate foresight information is issued affects the bankers' propensity to positively evaluate and integrate corporate foresight information.

Proposition 8:

Bankers judge corporate foresight information based upon a comparison with their own managerial foresight. Thereby, the confidence in their own managerial foresight as well as corporate foresight's formulation and content determines the bankers' propensity to accept the same for understanding the future.

Proposition 9:

The impact of corporate foresight on strategic decisions is determined by the evaluative and predictive judgemental configurations of bankers. Favourable judgemental assessments of corporate foresight information increase the likelihood of corporate foresight affecting strategic decisions. Provided that bankers receive manifold corporate foresight information, every strategic decisions is based upon at least one corporate foresight process. It is, however, not possible to state in advance whether one specific piece of foresight information will find favour in a strategic decision.

3. Implications and researcher's views

The previous discussion of objective findings in comparison with research publications in the past extensively evaluated the contribution of this study to research. Farther, the researcher hopes to contribute to knowledge by stating his own views and formulating of implications of this study. In addition to that, a further sub-section particularly addresses interested managers and policy-makers in the field in order to give advice on how to successfully implement a corporate foresight structure in organisations.

3.1 Implications – Researcher's reflections

On the basis of the discussion so far, the researcher argues that bankers in the European banking sector are generally unfamiliar with corporate foresight compared to managers in industrial contexts. Further and when investigating corporate foresight, the researcher is of the opinion that the definition of corporate foresight, its processes and manifestations should be analysed from the bankers' point of view. Only then will it be possible to obtain a holistic picture of foresight activities within a bank. Finally, the researcher argues that the general attitude towards corporate foresight in the banking sector primarily depends on the phenomenon's function and thematic categorisation as opposed to the bankers' hierarchical position.

In organisational terms, the researcher asserts that corporate foresight includes both, formal and informal foresight activities within an organisation. Their inclusion is important as it enables future research in the area of corporate foresight to truly comprehend how the future perceptions occur within a bank. A further distinction between departmental dimensions provides deeper insights into how corporate foresight manifests itself in various settings. The

researcher claims that the strategic decision makers' evaluation of the corporate foresight initiator – such as its credibility and the corporate foresight result itself – are of significant importance. Finally, the quality of inter-departmental relationships is based upon the significant integration of corporate foresight into further processes. A good relationship and close collaboration between two departments increases the likelihood that corporate foresight information will be passed on from one department to the other – particularly where results from informal corporate foresight activities are concerned.

Crucial for corporate foresight research is also the environmental aspect in relation to the phenomenon. The finding that corporate foresight is influenced by the external environment puts future foresight research into a temporal context. This relationship implies that participants in foresight activities are significantly affected by current environmental conditions – which in turn illustrates that research requires the acknowledgment of the environment as well. Furthermore, the researcher ascertains that banking customers are the most important foresight information providers. This indicates that corporate foresight – and hence understanding the future within an organisation - not only 'thrives on' the quality of internal communications, but also on substantive cooperation with external stakeholders.

Finally, the researcher points out that the previously claimed lack of corporate foresight's integration into strategic decisions are not only due to poorly executed foresight activities, but also due to decision-makers' judgemental configurations. As a result, the successful acceptance of corporate foresight not only requires favourable decision-makers' judgements, but also good corporate foresight execution. Farther, the researcher deduces from the discussion's outcome that in an organisation, no 'ultimate' corporate foresight result, which impacts a strategic decision at stake, is existent. Instead it is argued that strategic

decisions are subject to corporate foresight's multiple influences, provided the phenomenon occurs in a holistic fashion.

3.2 *Managerial implications*

The research has shown that corporate foresight occurs in formal and informal ways and in different locations. Regardless as to whether corporate foresight occurs within the managers' own department, a fundamental difference exists between the perceived responsibility to formally establish corporate foresight (cf. section 4.2.2) and the acceptance that futures studies is a phenomenon which affects all members and processes in the organisation. The divergence between the manifestation of and perceived responsibility for corporate foresight potentially leads to a significant deficit of important foresight information.

In the case of Apollo bank, managers complained that an efficient exchange of foresight information does not occur and that this is as a result of the lack of formal assignment of corporate foresight responsibility as well as the unawareness that futures studies is a phenomenon which occurs in every department, but with different degrees of sophistication. Therefore, managers are advised first to identify the existence of any kind of corporate foresight within the organisation, then to accept different perspectives and perceptions of the future and integrate these different perspectives into a formally established corporate foresight process.

From a conceptual and organisational point of view as well as supporting statements by bankers at Apollo bank, it appears that a hierarchical foundation of corporate foresight would be an efficient way in which to implement futures studies in a bank. Thereby, the general management department elaborates formal frameworks which instruct members on

how to conduct corporate foresight within the organisation. The segmental business development departments in turn collect foresight information from relevant task departments. This means that the superior level aggregates foresight information from hierarchically inferior departments. The centrally elaborated corporate foresight results – i.e., how the organisation expects the future to develop – can then subsequently be communicated to lower-level departments to ensure a common understanding of the future based on corporate foresight within the organisation (see Figure 48).

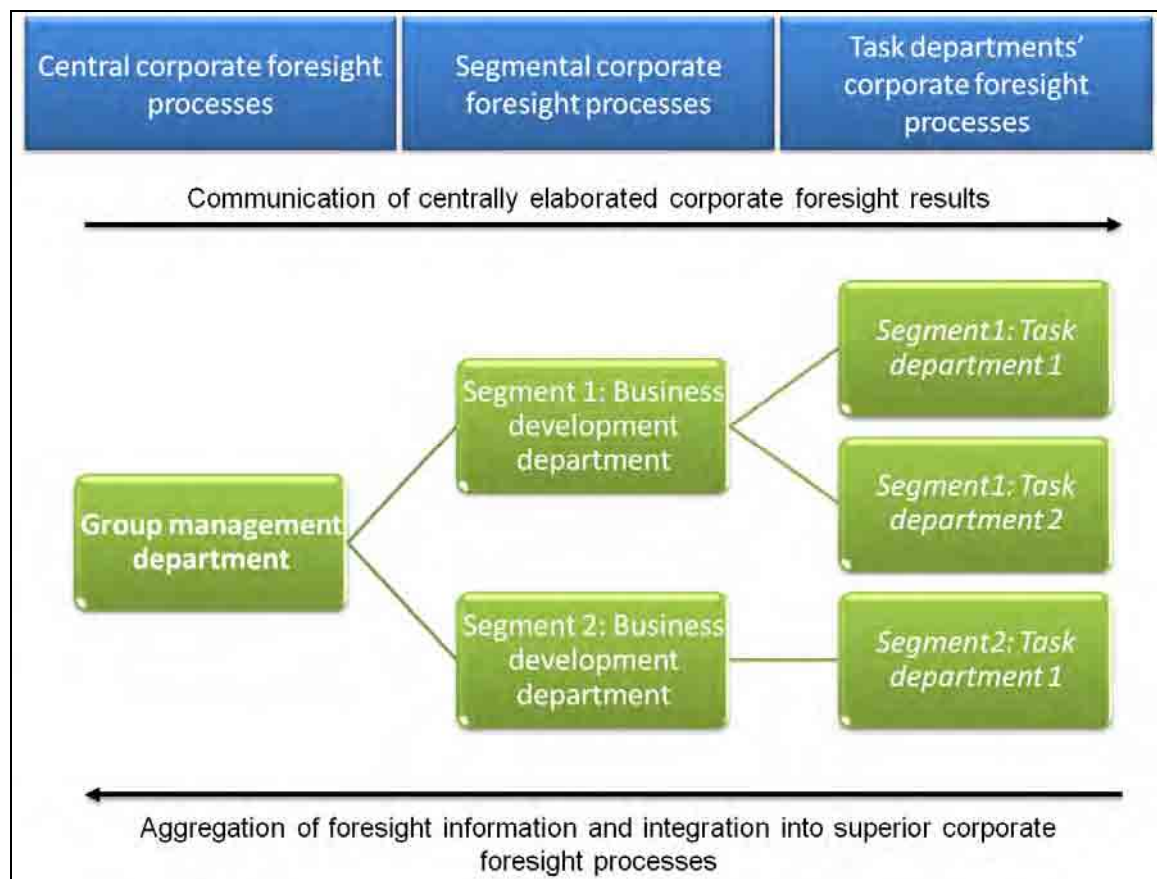


Figure 48: Proposal for establishing corporate foresight in a hierarchical fashion at Apollo bank.

Another implication is the research's suggestion to acknowledge that the understanding of the future is related to environmental conditions. As it has exemplarily been seen at Apollo bank, the unawareness of this relationship may lead to managerial irritation in terms of foresight. Therefore, the awareness that environmental conditions affect the way in which the future is perceived helps managers to consciously counteract this potential irritation. In this way, managers can employ appropriate means according to the environmental degree of volatility. In addition, a combined employment of quantitative (objective) and qualitative (subjective) foresight methods (cf. section 2.2.6) can enhance a holistic understanding of the future, regardless of the environmental conditions. This means that the combined triangulation of foresight methods helps to mitigate undesirable environmental effects on corporate foresight manifestations.

Finally, the identification of a complex judgemental filter which intervenes between corporate foresight and strategic decisions from a processual point of view can further help understanding why certain corporate foresight results are successfully integrated into strategic decisions and why other foresight results are not. While it remains difficult to influence managerial judgements (its scientific investigation may be referred to other scientific areas - see for instance works in the field of psychology), by increasing the awareness of the filter according to which corporate foresight's success is evidently affected and by ascertaining why certain managers tend to accept corporate foresight more than other managers, the design of corporate foresight processes can be altered according to participants' characteristics.

4. Research limitations and suggestions for future research

The above discussion has identified various corporate foresight manifestations in Apollo bank as well as mechanisms according to which corporate foresight results are integrated into strategic decisions. These findings are based upon empirical investigations under the conditions as set by the research's scope. However, these conditions have some limitations in terms of the research's scientific significance. Therefore, the following section will tackle these limitations and derive issues for future research in the area of corporate foresight.

From a conceptual point of view, the research analysed the phenomenon of corporate foresight, its manifestation and its integration into strategic decisions in a given context and from a holistic point of view. Taking into account the lack of extensive foresight literature, this thesis approached the topic by clearly defining what corporate foresight is and where the distinction between this phenomenon and neighbouring concepts lies (cf. section 2.2.3.3). This distinction – particularly between corporate and organisational foresight on the one hand, and corporate and strategic foresight on the other hand- was derived from a literature review and a rational conceptualisation of the topic. Although the defined understanding and holistic approach to corporate foresight led to fruitful insights and answers to the research questions, future research could further scrutinise the specific foresight tools and methods that are employed in banks by which an understanding of the future is gained.

From a methodological point of view, the chosen research strategy was appropriate given the thesis' research questions, scope and circumstances. On the one hand, a qualitative research inquiry promised the best means by which scientific findings could be identified against the background of the research's conditions. On the other hand, a qualitative research inquiry limits the statistical generalisability of the research findings. This means that the

formulated research findings can only be applied in the context of Apollo bank, but not to the whole population of all European banks. Provided that the generalizability only applies to a theoretical, rather than a statistical contribution (cf. section 3.3.1), future research could investigate to what extent the findings apply to other European banks as well. Moreover, the identification of differences between universal and specialised banks in terms of corporate foresight has also been methodologically limited in this research, but could well serve as a basis for future research.

Furthermore, the research's findings are not only contextually limited, i.e., they basically concern Apollo bank, but they are also limited from a temporal point of view. As mentioned in section 1.3, the research took place during the peak of the financial crisis of 2007–2009+. Although the researcher aimed at identifying the general and universal nature of corporate foresight at Apollo bank by application of suitable means of collecting the data (e.g., interview guide), the significant impact of the financial crisis of 2007–2009+ noticeably shaped Apollo bankers' perceptions and their way of understanding the future. While this effect does not contradict, but is even in line with the chosen case study approach (cf. section 3.1), it can be argued that the findings may be tinged by the massive impact of the financial crisis of 2007–2009+. For research studies in the future, this contemporary influence can be taken as a basis and elaborated upon in order to make further contributions in the scientific field of corporate foresight research.

In line with above mentioned limitations, future research should also consider the integration of corporate foresight's impact on operative systems in banks or other organisations. In the course of the research, bankers partly referred to operative structures such as the bank's risk management or trading system while answering the interview

questions. This indicates that future research could well focus not only on corporate foresight's strategic embeddedness, but also on its relevance for operative business activities. Also, the extent to which external sources of foresight information compete with internal sources has only briefly been discussed in this investigation. While the provided framework generally considers the differences between both sources with regards to credibility and expertise in particular, future research would be well advised to integrate this aspect too.

Finally, and from a cross-disciplinary point of view, this research prepares the ground for future research in other academic fields. While judgement as a filter has been analysed and integrated in this research to explain why and to what extent corporate foresight finds favour in strategic decisions, other scientists – such as psychologists or sociologists – could find potential in investigating whether this insight could be further strengthened and extended in their field. On basis of the findings, an examination of the judgemental assessments of bankers may well prove fruitful and contribute to knowledge. On a broader scale, not only does judgement on an individual basis appear to affect and to be affected by corporate foresight, but it also appears to have an effect on and be affected by the organisational culture. Therefore, future research in the field of sociology and management studies could integrate this perspective in their research objectives and investigate how cultural aspects affect the phenomenon in managerial reality.

In conclusion, this thesis has endeavoured to shed light on the phenomenon of corporate foresight and its impact on strategic decisions in the context of the European banking sector. The findings herein are a minor – but hopefully significant – contribution to corporate foresight research. Against the background of the young history of foresight research, the researcher also hopes to have inspired future researchers to further pursue the

research's propositions and further strengthen or revise the findings as formulated in this dissertation.

Chapter 6 - Appendix

1. Coding schemes

C) Corporate foresight		O) Organisational contingencies	
C:Tho	Time horizon of foresight and activities	O:Inno	Organisational innovativeness
C:Act	Current foresight activities	O:Ext	External factors affecting organisation
C:Cul	Corporate foresight and culture	O:Int	Internal factors affecting the organisation
C:Res	Results of corporate foresight, dissemination and access	O:Env	Characteristics of environment
C:Met	Corporate foresight methods	O:Net	Network characteristics
C:Per	Perception of corporate foresight information	O:Proc	Process ownership
C:Eff	Effectiveness of foresight information	O:Res	Resources (financial /non-financial)
C:Eff_CF	Effectiveness of corporate foresight information	O:Stru	Organisational structure
C:Imple	Implementation of corporate foresight		
C:Impac	Impact of corporate foresight		
C:Pro	Corporate foresight process		
I) Individual foresight		In) Information	
I:Ifc	Individual foresight capability	In:Typ	Type of information
I:Ife	Individual foresight expectations	In:Qual	Quality of information
I:FuP	Future perceptions	In:Plau	Plausibility of information
I:FuE	Future expectations	In:Usa	Usability of information
I:FKn	Foresight and knowledge	In:Tim	Time and information
I:FExpc	Foresight and experience	In:Ext	External sources of information
I:FTr	Trust in own foresight capabilities	In:Int	Internal sources of information
I:FExpt	Foresight and expertise	In:Net	Networks as information sources
I:Int	Intuition and foresight	In:Pro	Information processing
UR) Researcher-User interaction		S) Strategic decision making	
UR:Inv	Involvement of researcher and user	S:SN	Strategic nature of DM
UR:Co	Commitment of researcher and user	S:Pro	Decision-making process
UR:Tr	User-researcher trust	S:In	Decision-making inputs/information
UR:OP	Inclusion of other party's objectives	S:Eff	Effectiveness of SDM
UR:MP	Mutual perception of other party	S:Sty	Decision-making style
UR:RelP	Mutual perception of relationship	S:IF	Individual foresight and decision-making
		S:Cf	Corporate foresight and decision-making
IG) Individuals-Groups			
IG:In_Cf	Individuals in corporate foresight	IG:In_Dm	Individuals in decision-making process
IG:Gr_Cf	Groups in corporate foresight	IG:Gr_Dm	Groups in decision-making process

Appendix 1: Coding scheme – a priori

C) Corporate foresight		O) Organisational contingencies & Environment	
C:Met	Corporate foresight methods	O:Inno	Organisational innovativeness
C:Imple	Implementation of corporate foresight	O:Env	Characteristics of environment
C:Impac	Impact of corporate foresight	O:Net	Network characteristics
C:Pro	Corporate foresight process	O:Proc	Process ownership
C:WS_MT	Weak signals and Mega trends	O:Res	Resources (financial /non-financial)
C:BU_Per	Business Units and perceptions	O:Stru	Organisational structure
C:CU_Per	Customers' perceptions	O:Reg	Regulation (Banking)
C:BN_Exp	Bank expectations	O:Comp	Competitors
C:MA_Exp	Market expectations	O:Cust	Customers
C:Adv	Advantages of Corporate Foresight	O:FC_inst	Financial crisis and instable Environment
C:Req	Requirements for the future and CF	O:Env_FM	Financial markets
C:NC	Nature of Corporate Foresight	O:Sh_St	Shareholders, Stakeholders, Investors
C:Exa	Example of CF	O:Curr	Current practices, questions and products
C:In	Input for CF	O:Stru_BU	Business Units
		O:BN	Nature of banks
		O:Cul	Organisational Culture
		O:Cha	Organisational Change
		O:Env_Int	Internal environment
I) Managerial foresight		In) Information	
I:Ifc	Managerial foresight capability	In:Typ	Type of information
I:FuE	Future expectations	In:Usa	Usability of information
I:Int	Intuition and foresight	In:Ext	External sources of information
I:FuP_SDM	Future perception of decision makers	In:Int	Internal sources of information
I:Ifc_In	Personality and Foresight information	In:Pro	Information processing
I:Bel_In	Believe in Foresight Information	In:Inter	Interpretation of foresight information
		In:NI	Nature of information
		In:Sou	Sources of information
		In:Resp	Responsibility for foresight information
		In:Cre	Credibility of source
UR) Researcher-User interaction		S) Strategic decision making	
UR:Inv	Involvement of researcher and user	S:NS	Strategic nature of DM
UR:Inter_De p	Interaction with other departments	S:Pro	Decision-making process
		S:Cf	Corporate foresight and decision-making
		S:Exa	Example of Strategic decisions
		S:Stra	Strategy and strategic planning
		S:Jdgmnt	Judgement intermediating corporate foresight and strategic decisions
IG) Individuals-Groups			
IG:TMT	Groups in decision-making process		

Appendix 2: Coding scheme – a posteriori

2. Variables

Old codes	New codes	Merged codes	Reason for adjustment
C) Corporate foresight			
C:Tho	C:BU_Per; C:CU_Per	—	Questions regarding 'time horizons' led to indifferent answers. It appeared that interviewees preferred to discuss perceptions about the future rather than time frames.
C:Act	—	C:Met	In the course of the interviews, bankers preferred to discuss corporate foresight methods rather than activities. The term 'foresight methods' appears to be more concrete and comprehensible to interviewees rather than 'activities'.
C:Cul	O:Cul	—	Culture was attributed by the researcher to the organisation rather than to corporate foresight. While 'organisation' has a superior conceptual position, culture and corporate foresight emerge from organisational reality.
C:Res	C:Adv	C:Pro	Corporate foresight results were discussed in line with 'process' questions. In addition, foresight results were generally attributed with advantages or disadvantages/qualities of foresight processes by interviewees. The new perspective allowed the researcher to collect richer information about results and their perceived characteristics simultaneously.
C:Per	C:BU_Per; C:CU_Per	—	Perceptions were divided into those of the business units and those of the customers because the data analysis showed that the node 'perceptions' lacked of sufficient focus. A more detailed differentiation was required.
C:Eff; C:Eff_CF	C:Adv	—	Interviewees preferred to use the term 'advantages' rather than 'effectiveness'. The distinction between 'effectiveness of foresight information' and 'effectiveness of corporate foresight information' did not result in fruitful discussions. Interviewees merged both concepts during the interviews and referred to 'advantages' instead.
—	C:WS_MT	—	The terms 'weak signal' and 'megatrends' were frequently used by interviewees. Both terms seem to be profoundly integrated in the organisational vocabulary.
—	C:BN_Exp; C:MA_Exp	—	Expectations of the 'market' as well as of the 'bank' – although very general – were often acknowledged as affecting factors by interviewees. Therefore, it was necessary to create these new nodes. This new perspective particularly helped to understand the interrelationship between internal and external factors affecting corporate foresight in terms of expectations.
—	C:Adv	—	See C:Eff and C:Eff_CF
—	C:Req	—	This code (corporate foresight requirements) was important to consider in order to gain an understanding of the conditions required for a successful integration of corporate foresight into the banking sector.
—	C:NC	—	Some interviewees expressed lack of corporate foresight experience (dissenting) or the desire to formally establish the phenomenon in the banking sector (affirmative). Subsequently, some discussions were focussed on the general nature of corporate foresight, rather than its explicit and current manifestation.
—	C:Exu	—	In order to create an overview of identified corporate foresight manifestations, examples were separately coded in order to easily retrieve this information for later analysis.
—	C:In	—	While the new code C:Req (requirements) encapsulated the general conditions and parameters for the manifestation corporate foresight, 'input' specifically considers data, information, resources or other means used to exercise foresight in the bank.

Appendix 3: Change in codes between first and second data collection phase (1/3)

Old codes	New codes	Merged codes	Reason for adjustment
I: Managerial foresight			
I:Ifc; I:FuP	–	I:FuE	Interviewees' expectations were integrated into the node 'future expectations' – including 'individual foresight expectations'. Therefore the code label was changed.
I:FKn	–	–	The concept of 'knowledge' has neither empirically emerged from the investigation, nor has it theoretically been established in the foresight literature. Both reasons justify its omission.
I:FExpc	C:Exa	–	Interviewees' experience with corporate foresight was reflected and illustrated by the provision of examples.
I:FTi	–	I:Ifc	The term 'managerial' rather than 'individual' foresight was used in order to particularly emphasise the managers' role in foresight. 'Trust in own foresight capability' was integrated into the superior node of 'managerial foresight capability' as this allowed mutually exclusive comprehension.
I:FExpt	In:Sou; In:Cre; C:Req	–	In the course of the investigation, 'foresight expertise' was attributed as an information characteristic or a requirement for corporate foresight. This refinement was based upon the general conceptualisation of information characteristics in the literature.
–	I:FuP_SDM	–	Due to the particular relationship between corporate foresight and strategic decision-making – one of the main focuses of this investigation – decision makers' perception of the future deserved particular attention. The distinctive code (I:FuP_SDM) appeared necessary in order to increase the understanding of corporate foresight's potential integration into strategic decisions.
–	I:Ifc_In; I:Bel_In	–	Both the literature and empirical evidence suggested that personality relates to some extent with affinity with corporate foresight. As this also became evident during the research, a particular code was created to retrieve all coded data in this respect. In addition, interviewees' belief in foresight information was coded reflecting the indirect favouring of the phenomenon by bankers.
O: Organisational contingencies and environment			
O:Ext	–	O:Env; O:Env_Int	Rather than referring to 'external factors', interviewees preferred to use the concept of 'environment' to underline the influence of factors beyond organisational boundaries. Apart from that, some intemp. environmental issues were discussed which were not attributable to other codes. Therefore, the code O:Env_Int was created.
O:Int	O:Stru_BU	O:Res; O:Stru	The code 'internal factors' appeared to be too holistic and lacked necessary focus. Therefore, the codes 'organisational structures' and 'organisational resources' as well as 'organisational structure – business units' helped to increase the focus on internal occurrences within the bank.
–	O:Reg	–	The topic of 'regulation' was mentioned frequently during the investigation. Two reasons appeared to justify this occurrence: The financial crisis of 2007–2009 and the close interrelationship between regulatory bodies and banks. Therefore, an additional node was created to collect all relevant data in this respect.
–	O:Comp; O:Cust	–	During the research, customers and competitors were often mentioned by interviewees as important factors for corporate foresight. Two additional codes had to be created to further analyse these factors' contributions to the investigation.
–	O:FC_Inst; O:Env_FM; O:Sh_St	–	The research context (European banking sector) induced a large amount of contextual data. In order to create a thorough understanding in this respect, codes dealing with sectoral information were created. Moreover, shareholders and stakeholder factors in the financial sector were mentioned by some interviewees as important factors affecting the way in which the future is perceived.
–	O:Curr	–	Some interviewees mentioned processes and activities in the organisation which did not relate to the research scope at first glance. In order to maintain the focus on the study, but still retrieve information about everyday operations, the code O:Curr was created. In reviewing processes during the data analysis, these routine activities were scrutinised on various occasions in order to identify contributions to the research's scope.
–	O:BN; O:Cha	–	From a contextual and corporate foresight point of view, some interviewees claimed that banking (the nature of banks) is particularly different in comparison to other forms of businesses. Consequently, a code was developed in order to identify all relevant information which provided insight into this claim by bankers. In this respect, the concept of change was discussed and hence, integrated into the analysis – although it's conceptualisation was beyond the scope of this thesis.

Appendix 4: Change in codes between first and second data collection phase (2/3)

Old codes	New codes	Merged codes	Reason for adjustment
In) Information			
In:Qual	--	In:Typ	Instead of focussing on 'information qualities', it was more appropriate to establish the code 'types of information'. This approach allowed the researcher to focus on differences between types of information, rather than on attributes such as usability or credibility.
In:Plau	--	In:Usa	'Plausibility' was perceived as equivalent to 'usability' by interviewees. The advantage of 'usability' can be based on the broader application of the term; thus capturing a larger amount of data within this category.
In:Tim	--	In:Typ	This code (In:Tim) was not particularly discussed by interviewees. Conceptually, the temporal perspective on information was defined as part of 'information type'. The new allocation allowed the researcher to gain a fuller understanding of information in general, instead of focussing on different characteristics of information.
In:Net	--	In:Ext; In:Int; O:Net	Information networks appeared to be a too broad concept in this investigation which required a conceptual refinement in terms of codes. While internal and external sources of information reflect the <i>source</i> of information (network partners), organisational network characteristics analysed the particularities of the <i>relationship</i> between the partners.
--	In:Inter	--	The ways in which banker interpreted foresight information appeared to differ and deserved closer attention. For this reason, all data referring to the interpretation of foresight information was grouped into this code.
--	In:NI	--	While the type of information analysed general categorisations of information (such as reports or documents), 'nature of information' refers to the general perception of interviewees regarding information characteristics (such as meaning or structure).
--	In:Resp	--	The research not only aimed at identifying the source of foresight information (In:Int, In:Ext, In:Sou), but also the perceived responsibility to produce or issue foresight information. Therefore, the code In:Resp was created.
S) Strategic decision making			
S:In	--	S:Cf	Researching strategic decisions' input (S:In) led to a dispersed picture of required resources. Therefore, this code did not appear to be useful for this investigation due to its too broad coverage. Instead, a code for the particular relationship between both concepts – namely corporate foresight and strategic decisions – was created to retain the focus on the phenomenon only.
S:Eff; S:Sty	--	S:NS	Considering that corporate foresight is the unit of analysis as well as the limited time available for the research, a specific analysis of decision effectiveness and style appeared to be time consuming and rather detached from the investigation's objectives. Therefore, the qualities of strategic decisions – such as effectiveness – were assigned to a new code: 'Nature of strategic decisions'.
S:If	--	I:Ifc	Data referring to 'managerial foresight' (previously: 'individual foresight') – such as S:If – was assigned to a single code (I:Ifc) in order to prevent repetitive coding.
--	S:Exa	--	The coding of specific examples of strategic decisions helped to identify potential relationships between them and corporate foresight.
--	S:Stra	--	Due to the close relationship between strategic decisions and strategy in general, a new node was created. This is because some interviewees discussed the impact of corporate foresight on strategy rather than on strategic decisions. In order to ensure a selective understanding of both concepts, an additional code was created to capture all the relevant data referring to strategic issues (e.g., strategic planning) – separate to strategic decision-making.
--	S:Jdgmt	--	Since the insertion of judgement as an intermediary filter between corporate foresight and strategic decisions was conceptually, but not yet empirically reasoned, the researcher created this code to first collect all data to prove or revise this assumption. It was then possible to identify succinct distinctions within this category (i.e., evaluation and prediction).
UR) Researcher-User Interaction			
UR:Co; UR:Tr; UR:OP	--	UR:Inv	Commitment, trust and inclusion of researcher and user in organisational activities were merged into a single node (UR:Inv) in order to achieve a holistic and broad understanding.
UR:MP; UR:ReIP	UR: Inter_Dep	--	Mutual perception and perception of the relationship between researcher and user were merged into a single code (UR:Inter_Dep). By doing this, a particular organisational and comprehensive perspective could be achieved without disregarding perceptive factors.
IG) Individuals-Groups			
IG:In_Cf; IG:Gr_Cf; IG:In_Dm; IG:Gr_Dm	IG:TMT	--	In terms of decision making, the research focussed on the top management team (TMT) rather than on differentiating between individuals and groups. On the one hand, the 'top management team' is a shared concept in the literature. On the other hand, the approach of clustering all decision-relevant factors in teams into one code enabled a more in depth understanding of decision-making at the research site.

Appendix 5: Change in codes between first and second data collection phase (3/3)

3. Interview guide

<i>Managerial foresight</i>				
Opening - Introduction				
Code	#	Question	Subquestions / Comments	Notes
	1	Have you ever heard about the concept of corporate foresight? NO: What do you think does this concept mean? YES: What do you know about corporate foresight?		Only for new interviewees!
	2	→ Short explanation of „CF“ „Corporate Foresight“ = General term for organisational engagement in better understanding the future	- Methods - Previous research: Rather focussed on industrial sectors	
<i>Managerial foresight</i>				
Code	#	Question (I.Order)	Subquestions / Comments	Notes
I:ffc I:FKn I:FEExp c	3	What factors do you think affect your foresight ability?	Also: <i>How much do you think does your knowledge of past events affect your foresight?</i> Examples? → Experience	Foresight affection
	4	Could you please describe to what extent your managerial foresight is shaped by unofficial or official/explicit future statements of the organisation?	Focus: Do managers change or rely on planning to the extent that their managerial foresight shifts?	
In:Usa S:In	5	How much importance would you personally assign to Key Performance Indicators (KPI) or other macroeconomic data in making decisions (strategic/operational decisions)?		
In:Usa S:In	6	How important is the consideration of qualitative foresight information in making these decisions? <i>I. How would you assess this consideration and its inclusion in decision-making?</i> <i>II. What are the obstacles of including non-qualitative data and how could these be mitigated?</i>	- Example: Statements of the CEO or politicians - Newspaper article	

Appendix 6: Interview guide – First block of questions

Organisation and Foresight				
Introduction				
Code	#	Question (1.Order)	Subquestions/ Comments	Notes
C:Act C:Cul O:Inno	1	<ul style="list-style-type: none"> How much would you say does your organisation consider future development in its current activities? How foresightful would you classify your company and why? 		Current activities and foresight
O:Inno C:Cul C:Per	2	<ul style="list-style-type: none"> How important is innovation for your organisation? How important is the consideration of trends and early warnings for your organisation? 		Innovativeness Trends and Early warning
Corporate Foresight Enhancing Factors				
Code	#	Question	Subquestions/ Comments	Notes
E:Net	3	<ul style="list-style-type: none"> Can you tell me <i>internal</i> and <i>external</i> networks which you associate with the collection of future-oriented information? Could you please also refer to tacit knowledge arising from these networks? How do you personally contribute to the organisation with disseminating your tacit, future-oriented knowledge? 		Networks and foresight information Information sources
O:Stru	4	<p>Which departments would you consider most <u>appropriate</u> and <u>responsible</u> in collecting information related to future development of the environment? <i>Focus: Your department</i></p>		Departments and foresight information
C:Cul	5	What role would you assign to corporate culture with regards to corporate foresight and its rationale within the Banking sector?		
Organisation and environment				
Code	#	Question	Subquestions/ Comments	Notes
C:Per In:Usa O:Ext C:Eff O:Env	6	<p>To what extent do you think that foresight information helps decreasing uncertainties from the environment?</p> <p><i>Focus</i></p> <ul style="list-style-type: none"> Uncertainties from environment Complexity and Volatility 	-	Foresight and uncertainty Environment and foresight

Appendix 7: Interview guide – Second block of questions

Foresight methods and tools					
Code	#	Question (1.Order)	Subquestions / Comments		Notes
C:Met	6	<ul style="list-style-type: none">What are the main foresight methods and tools currently employed?What foresight methods would you assign most appropriate or inappropriate in the banking sector?Why?	Environmental scanning, trend monitoring or early warning	Scenario technique	Foresight methods → Plausibility → Use of results → Credibility → Trust in Content → Method appropriateness
			Delphi method	Forecasting	
			Simulation gaming	Creativity methods	
Relationship between foresight researcher and user					
Code	#	Question (1.Order)	Subquestions / Comments		Notes
UR:OP UR:Inv UR:Co	7	To what extent is the <u>user</u> of the foresight information <u>involved</u> in formulating the objectives of the foresight process?	- Expectations of User - Target formulation - Provision of input - Participation in the process		User's objective involvement
UR:MP UR:OP In:Usa	8	What factors do you think are important when forwarding foresight information to (strategic) decision-makers?			Foresight and SDM
UR:Inv	9	How much <u>involvement do you have</u> in the strategic decision-making <u>process</u> for which the foresight information has been researched?			Involvement in SDMP

Appendix 9: Interview guide – Third block of questions (2/3)

Implementation of foresight information				
Code	#	Question (1.Order)	Subquestions / Comments	Notes
In:Qual In:Usa C:Impac C:Eff C:Per	10	<ul style="list-style-type: none"> What makes foresight information effective? What attributes would you assign to <i>good</i> foresight information? 		Effectiveness of foresight Foresight information quality
In:Inter In:Usa	11	<ul style="list-style-type: none"> How is foresight information interpreted? Is there a difference between foresight information provided by <u>internal</u> or <u>external sources</u> in with regards to the <u>interpretation</u> required? 		
C:Res C:Eff	12	<ul style="list-style-type: none"> What is the importance of Corporate Foresight in the process of strategic decision making? <i>How would you measure it?</i> 		Implementation of foresight
Impact on strategic decision making				
Code	#	Question (1.Order)	Subquestions / Comments	Notes
C:Impac	13	<p>What is the overall impact of corporate foresight on strategic decision-making?</p> <ul style="list-style-type: none"> Level of impact (strategic/operational)? Strength of impact (advisory vs planning role?) 		Impact of corporate foresight

Appendix 10: Interview guide – Third block of questions (3/3)

Strategic decision-making				
Introduction				
Code	#	Question (1.Order)	Question (2.Order)	Notes
S:SN	1	When is a decision <i>strategic</i> according to your opinion?		Definition
S:Pro	2	How are main strategic decisions made (in your department)?		Decision-making
Decision-making characteristics				
Effectiveness, style and ownership				
Code	#	Question (1.Order)	Question (2.Order)	Notes
S:Eff	3	How would you describe the effectiveness of the decision?		Decision effectiveness
S:Eff S:If S:Cf	4		What are the major factors affecting the effectiveness of foresight information in strategic decision-making?	Decision effectiveness
S:If S:Cf	5		How is the consideration of the future discussed in strategic decision-making?	Future and SDM
Input of strategic decisions				
Code	#	Question (1.Order)	Question (2.Order)	Notes
In:Qual_In S:In	6	According to your opinion, what are the main qualities or characteristics of good information or input for strategic decision-making?		Information quality
	7		Could you please briefly describe the last main strategic decision you made?	Example of SDM
S:In	8	What has been the main information before you made the mentioned strategic decision?		Information and SDM
S:In S:Eff	9		Did the use of this information contribute to the success of this strategic decision? Why?	Information and SDM

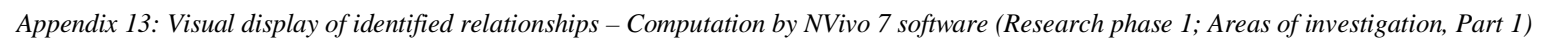
Appendix 11: Interview guide – Fourth block of questions

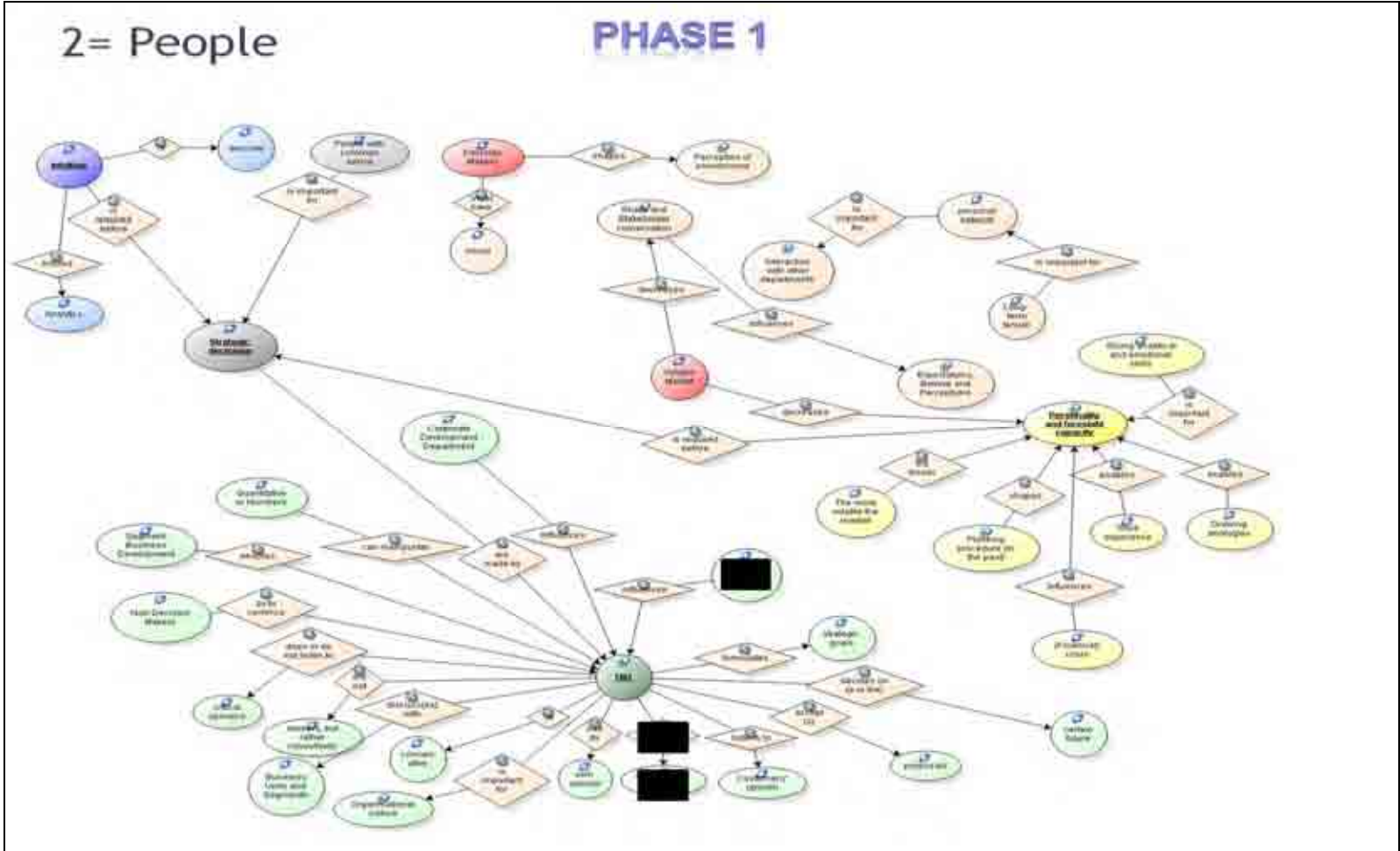
4. Case study protocol

Case study protocol		
A. Pre-data collection: Key information		
A1. Name of information source		
A2. Location/Department		
A3. Role of information source		
A4. Contact details (Phone/ Email)		
A5. Expected preparations prior to visit		
A5. Additional notes		
B. Data collection - Agreements		
B1. Information of first contact (Phone/Gatekeeper...)		
B2. Date/ Time / Venue of data collection		
B3. Additional notes		
C. Data collection – Special notes		
C1. Alterations to interview guide (Additional questions,...)		
C2. Attachments		
D. Evaluation		
D1. Overall impression of data collection		
D2. Source's contribution to investigation		
D3. Reference to other potential sources ?		
D4. Particular observations made		
D5. (Informants feedback, if applicable)		
D6. Tape recording and notes (cross-check)		
E. Further research tasks		
E1. Additional concepts / rival explanations to be further investigated		
E2. Changes in data collection procedure required		
E3. Lessons learned		
E4. Additional notes:		

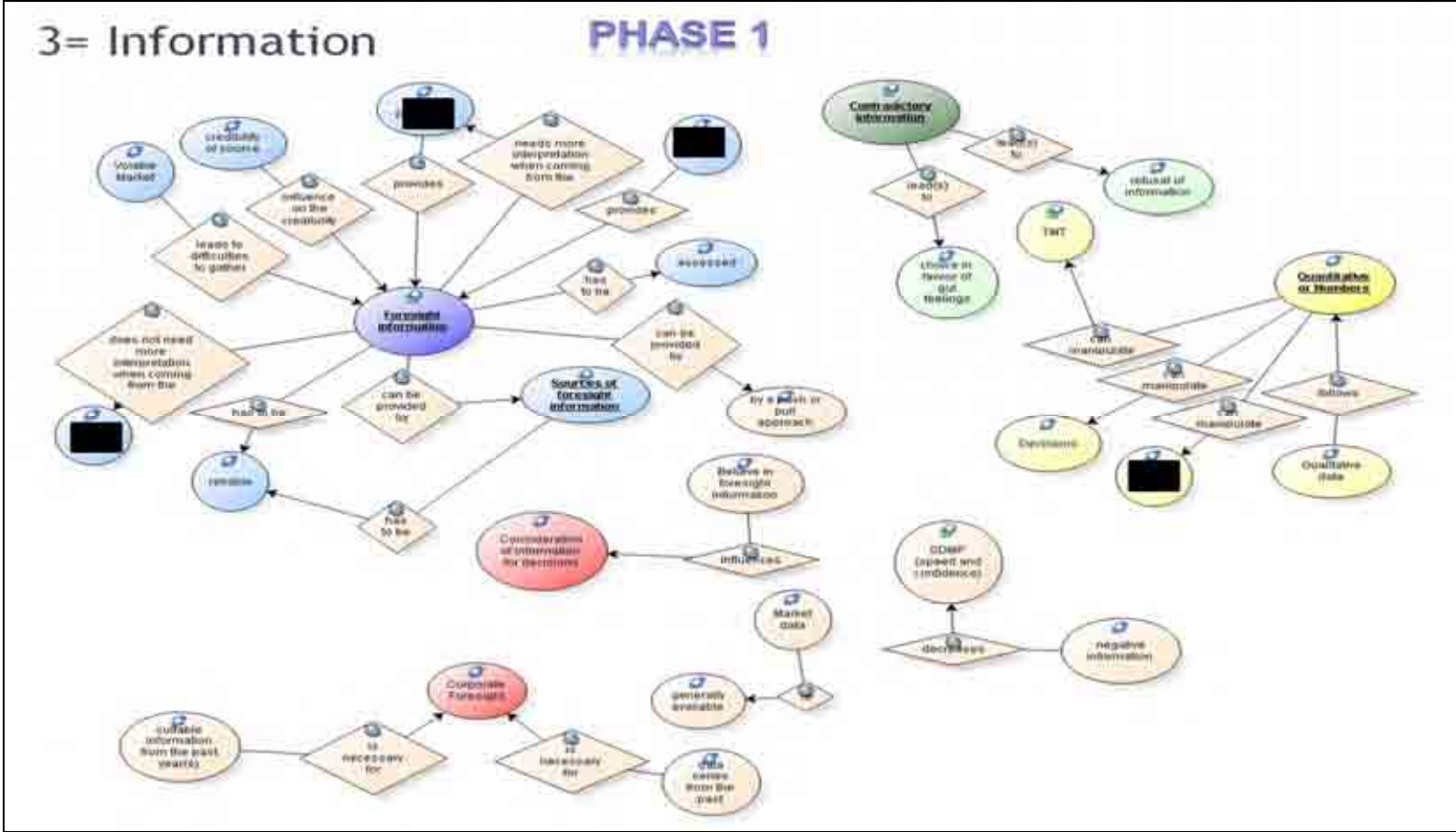
Appendix 12: Case study protocol – Field notes (adapted from Yin, 2003, p. 68; cf. Miles and Huberman, 1994, pp. 50-51; Silverman, 2009, pp. 229-234)

441



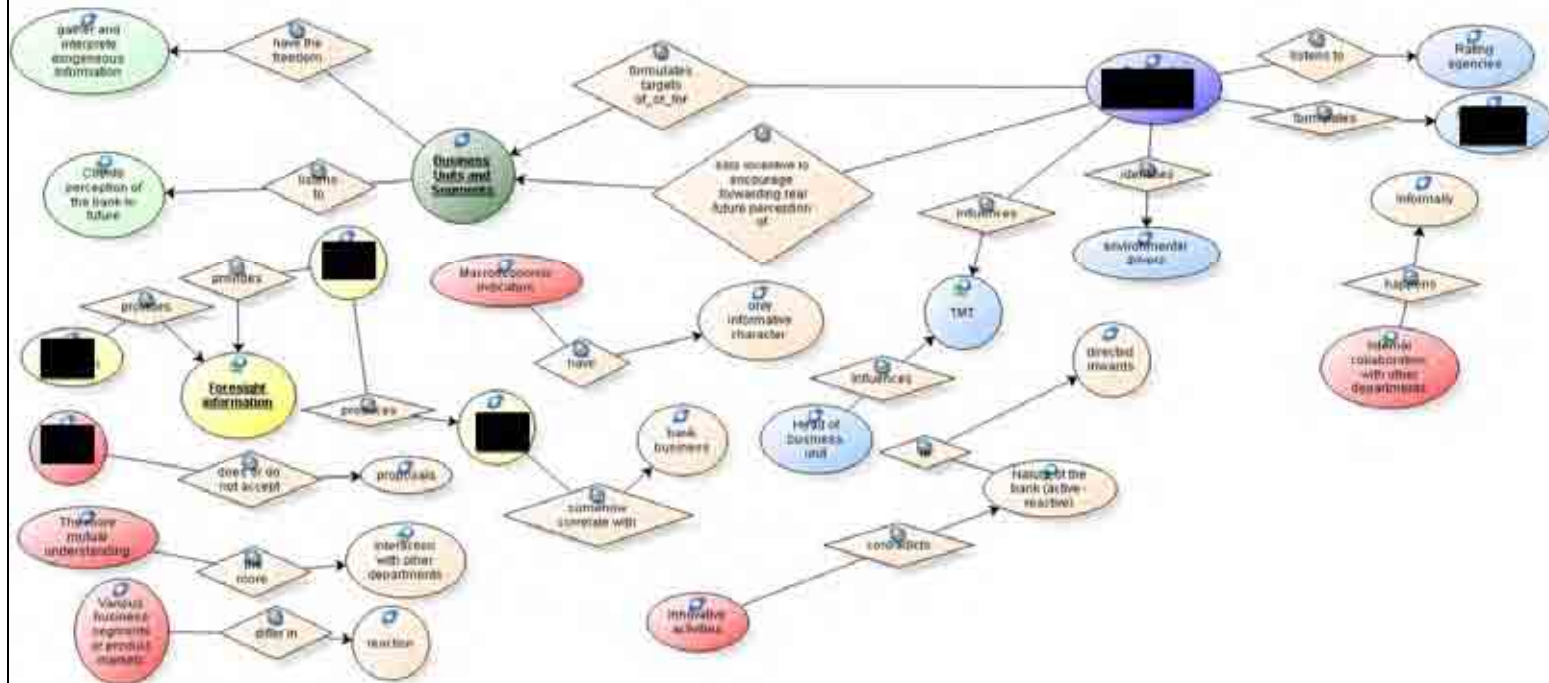


Appendix 14: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 2)

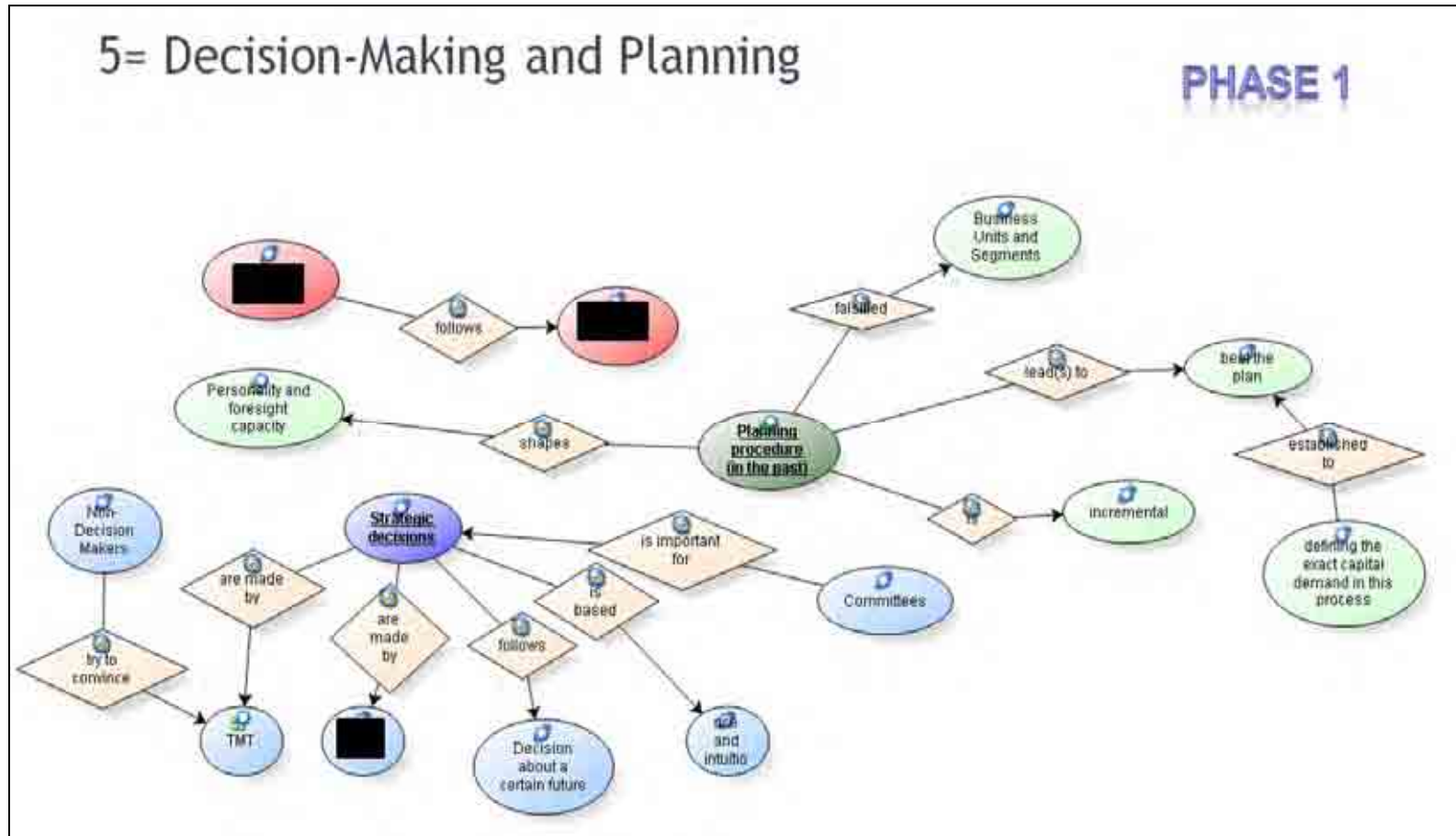


Appendix 15: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 3)

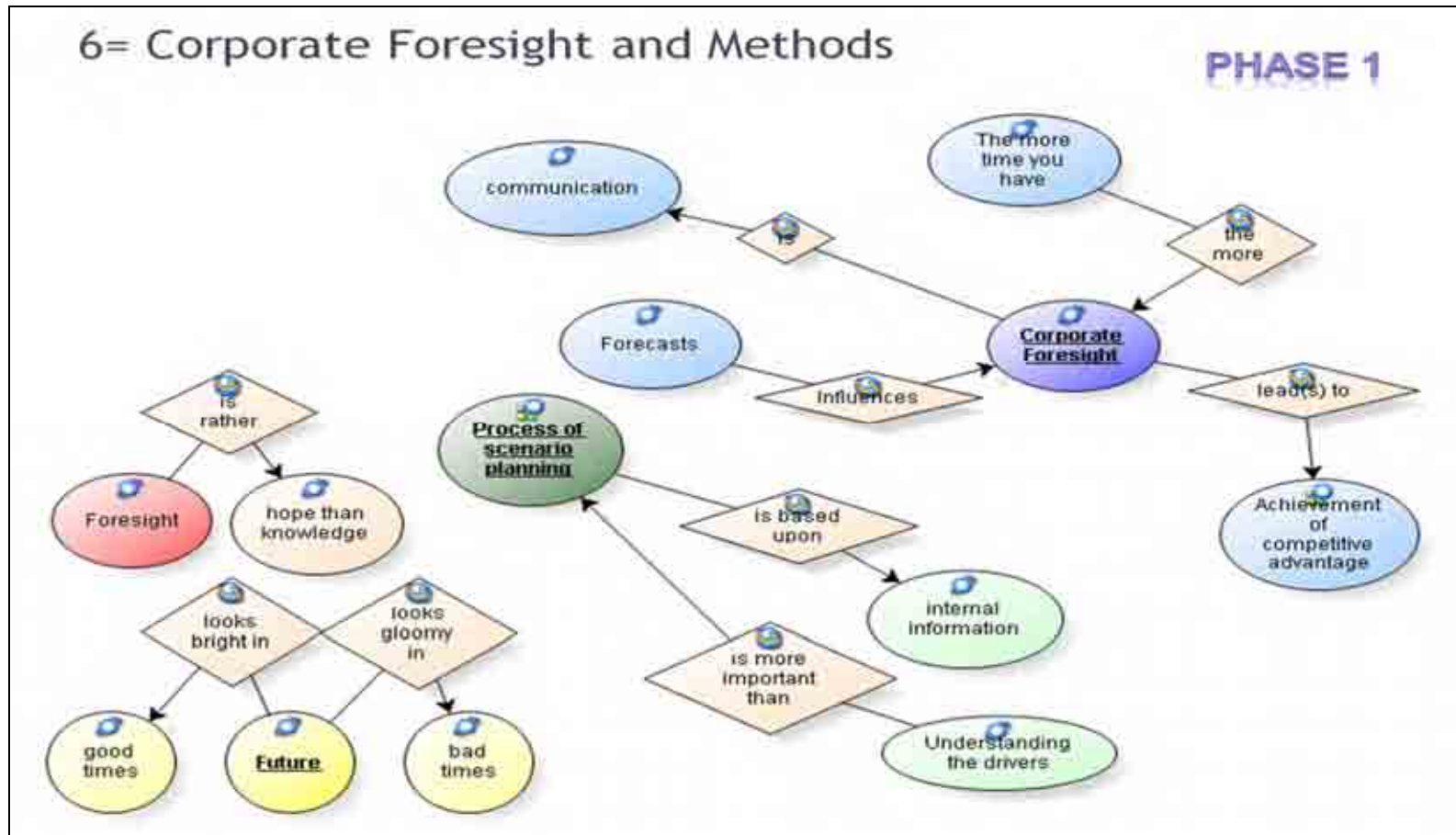
PHASE 1



Appendix 16: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 4)



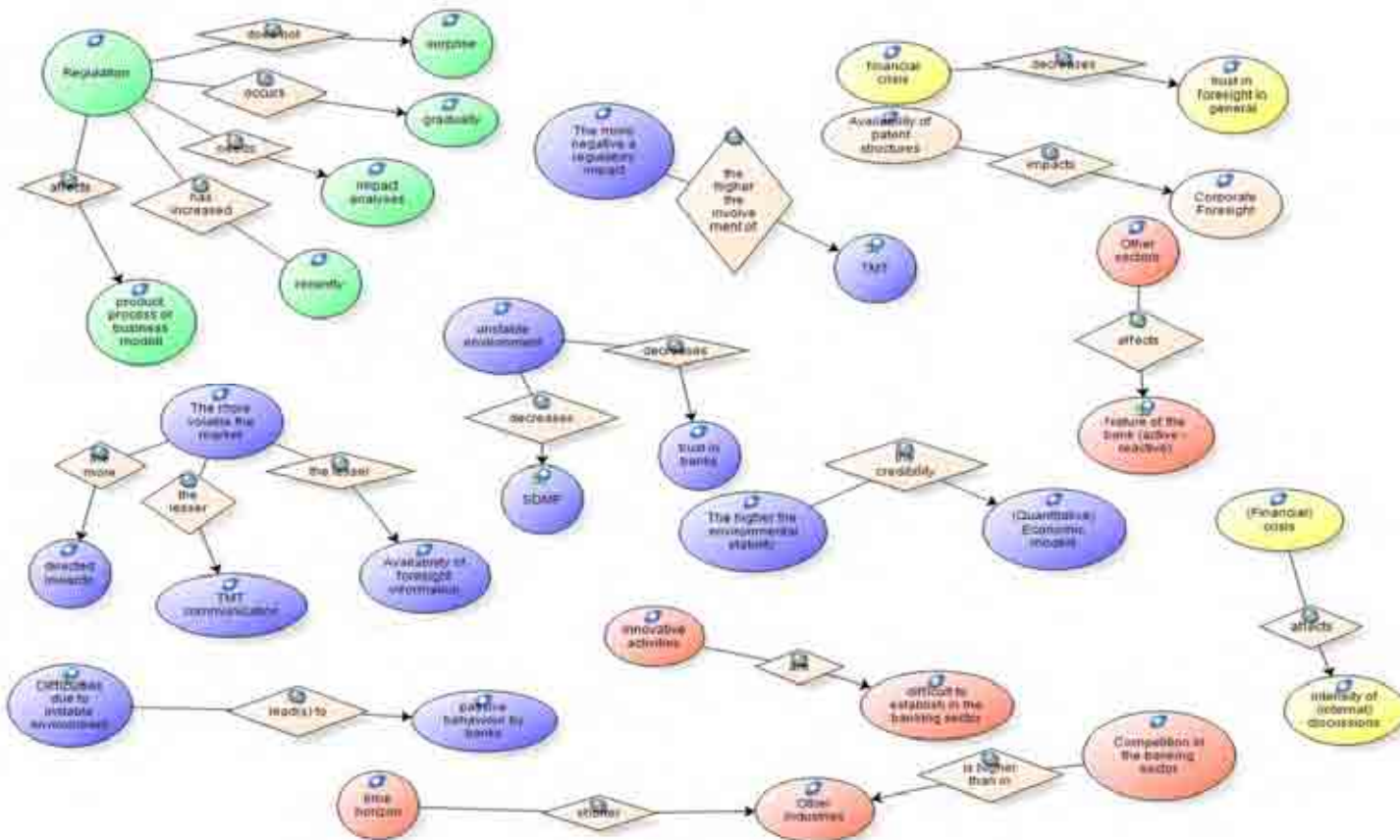
Appendix 17: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 5)



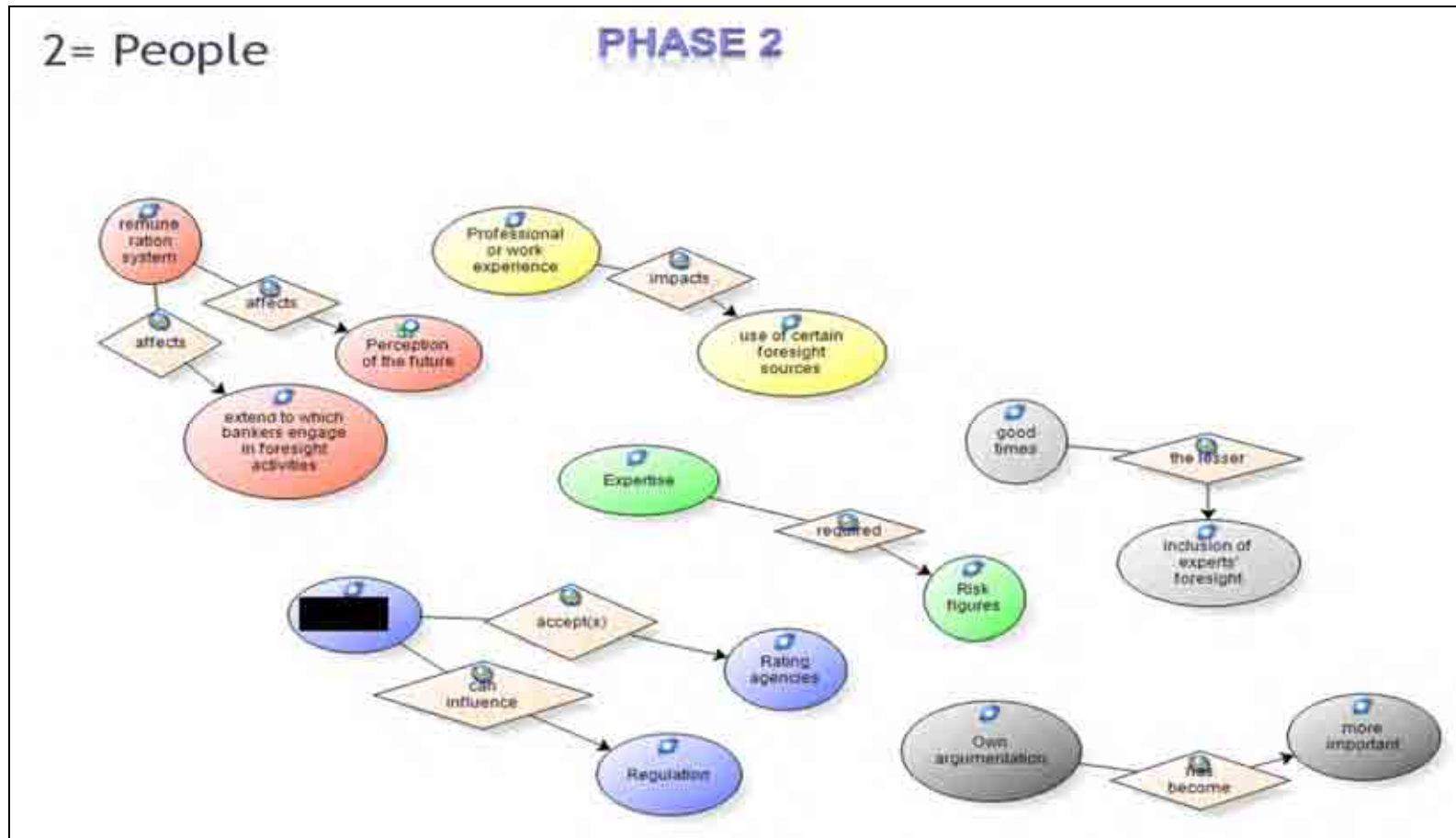
Appendix 18: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 1; Areas of investigation, Part 6)

1= Environment

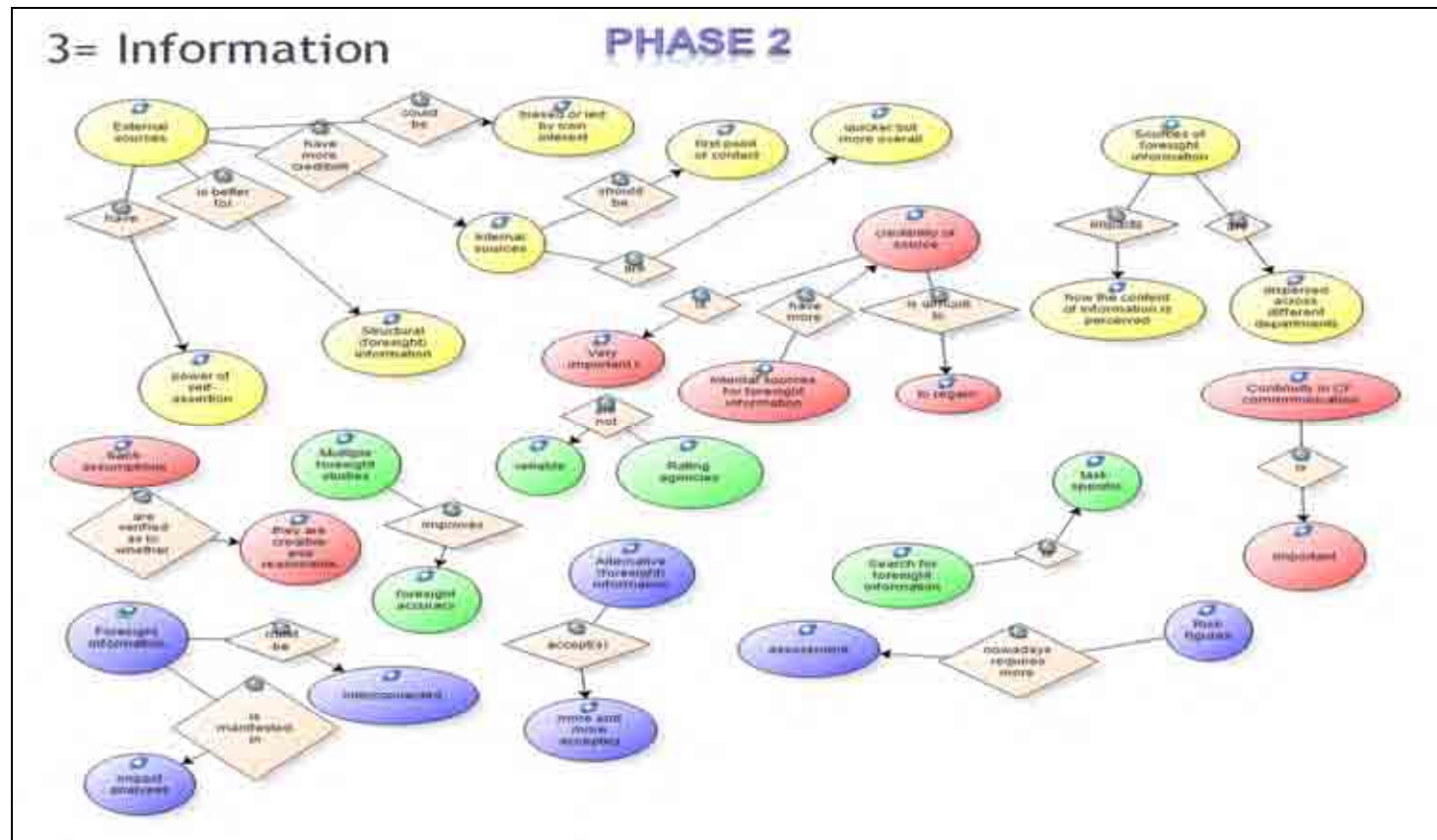
PHASE 2



Appendix 19: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 1)

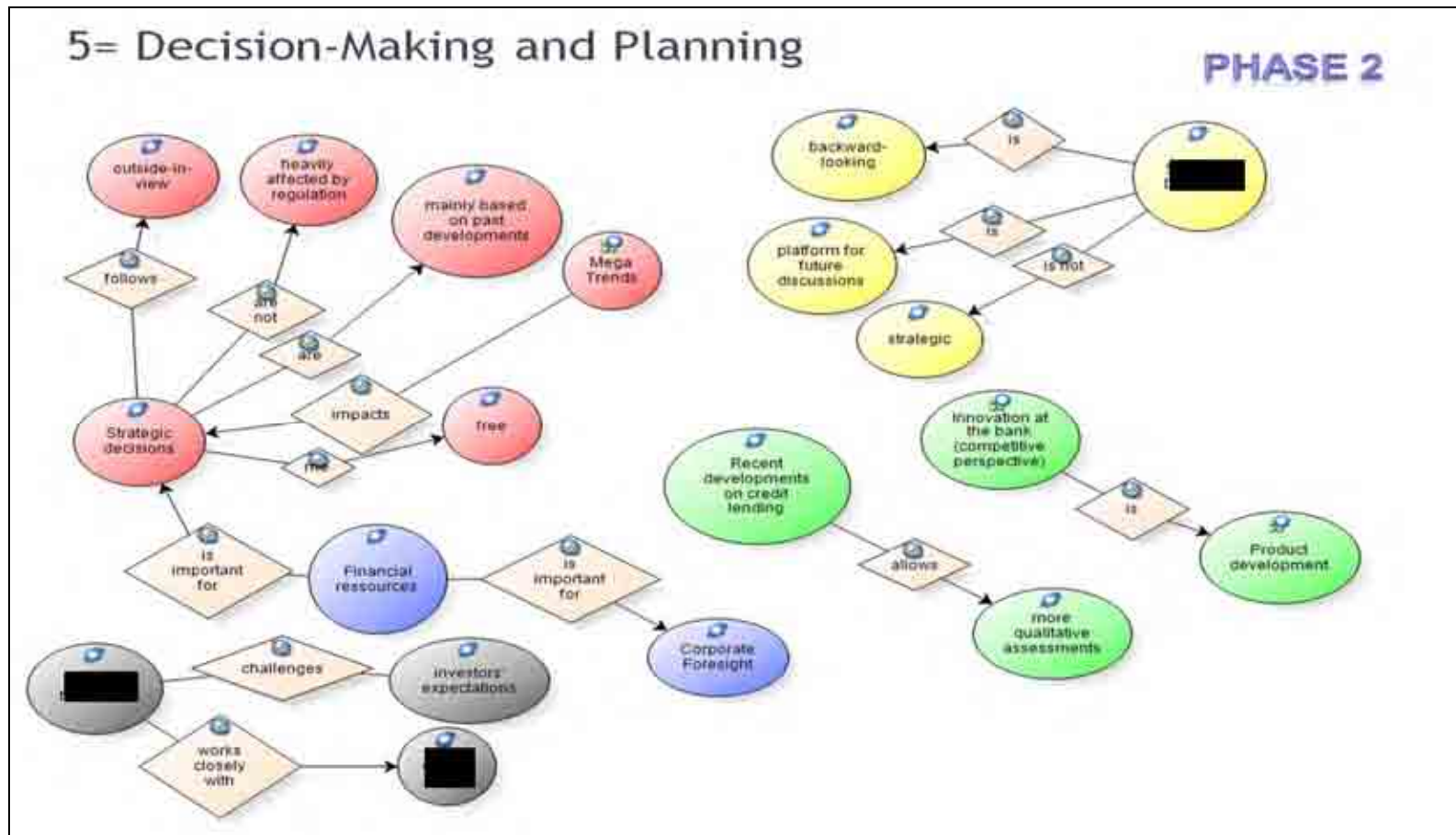


Appendix 20: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 2)

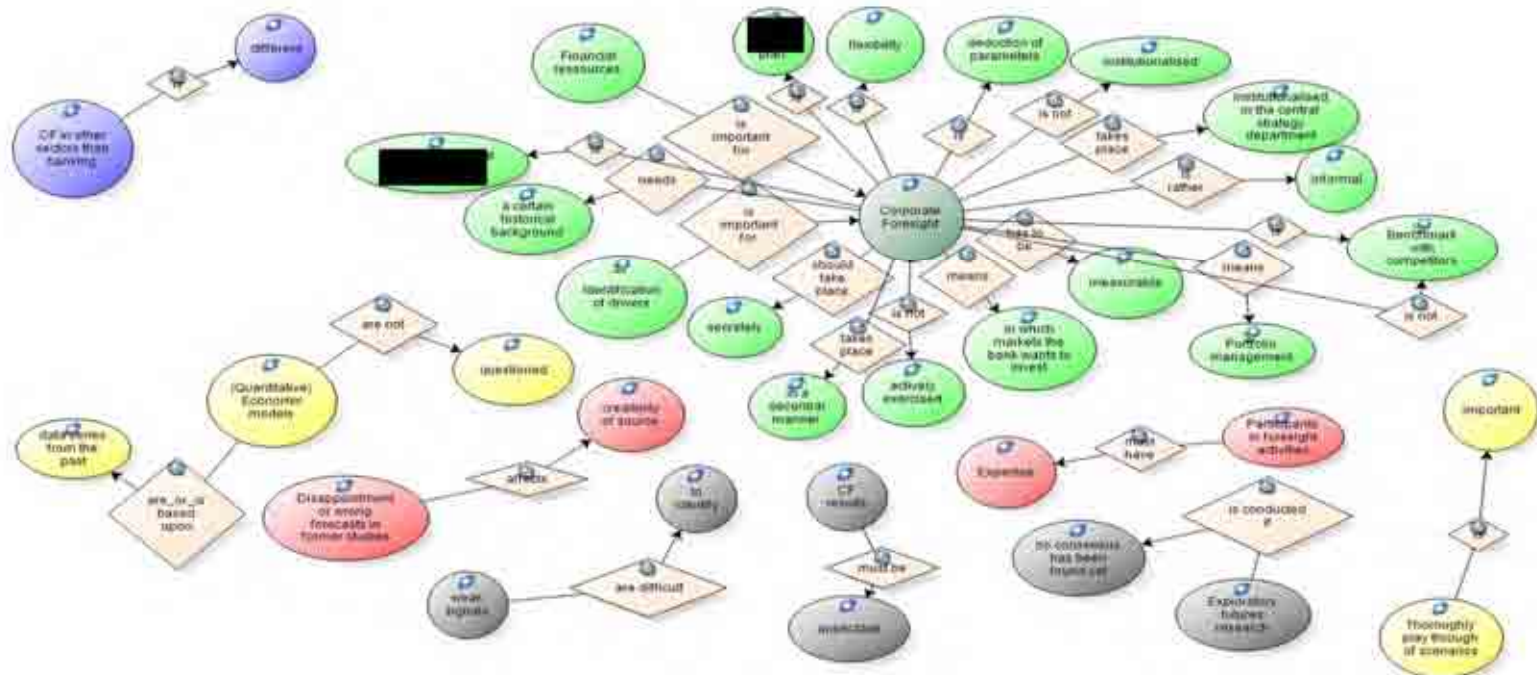


Appendix 21: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 3)

Appendix 22: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 4)



Appendix 23: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 5)



Appendix 24: Visual display of identified relationships – Computation by NVivo 7 software (Research phase 2; Areas of investigation, Part 6)

6. Taxonomy of quotations

Areas of investigation		Categorisations	Examples
Part I	Bankers' familiarity with corporate foresight	<ul style="list-style-type: none"> • Yes (familiar with corporate foresight) • No (not familiar with corporate foresight) • N/A 	<p>Affirmative: "Well, yes, I have already heard of that [corporate foresight]. Due to my past positions I was already associated with future relevant tasks such as scenario planning."</p> <p>Negative: "No, the term [corporate foresight] is not known to me."</p>
	Relation of corporate foresight with future relevant activities	<ul style="list-style-type: none"> • Yes (relation of corporate foresight with foresight tools) • No (no relation of corporate foresight with foresight tools) • N/A 	<p>Affirmative: "Not under this term [knowledge of corporate foresight]. What I would normally understand by it, are scenario calculations – but not to an all too noteworthy extent. No."</p> <p>Negative: "Not under this term [knowledge of corporate foresight], but one can deduce the meaning from the term and realise it has probably got something to do with future contemplation. We also use data bases and so forth in order to get an idea of the future. Presumably the methods are all the same only employed under a different term. All of this is based on the analysis of historic occurrences."</p>
	Individual experience with corporate foresight	<ul style="list-style-type: none"> • Yes (citation of specific foresight examples) • To some extent (theoretical derivation and description of foresight examples) • No (no apparent experience with corporate foresight) • N/A 	<p>Affirmative: "From my past functions I have already had to do with future relevant tasks, such as scenario planning. There we conducted scenario models and we asked ourselves which measures we have to consider if they become reality."</p> <p>To some extent: "No, not under this term. But I would imagine it to have something to do with trends and analysing them etc.. I could also imagine competition analyses and capital market and trend analyses."</p> <p>Negative: "In the future we hope to develop long-term scenarios as well, but have so far been unable to due to the fact that our department has only been existent for a couple of months."</p>
	Assignment of perceived usefulness	<ul style="list-style-type: none"> • High (Interviewee believes that corporate foresight is generally useful) • Medium (Interviewee believes that corporate foresight is partly useful) • Low (Interviewee perceives corporate foresight to be only limited useful) • N/A 	<p>High: "If [corporate foresight] is very important. Moreover, the current financial crisis has led to us questioning many business models, which we draw up today and which could possibly also lead to radical changes. It is for precisely this reason that Corporate Foresight has become as important as never before"</p> <p>Medium: "But I guess that all decisions of the bank are made based upon a future oriented motivation. Because the department that prepares these decisions, also reasons them. Because the board of management does not make any unreasoned decisions."</p> <p>Low: "[Corporate foresight] Does always have informative character; to show tendencies. How is the market developing? But no tendency for a large impact."</p>

Appendix 25: Assignment of interviewees' positions and perceptions (1/2)

Areas of investigation		Categorisations	Examples
Part II	General awareness of foresight activities at the department	<ul style="list-style-type: none"> • Yes (Interviewee expresses awareness of various foresight activities in the department) • To some extent (Interviewee assumes departmental foresight activities) • No (Interviewee is not aware of foresight activities in the department) • N/A 	<p>Affirmative: "We are currently building up a radar – i.e. we are trying to change the bank's point of view in a regulatory sense."</p> <p>To some extent: "I would say, that futures studies would go too far. According to my understanding it is rather a manipulation of parameters and hence a trial to deduce, how different developments might work. [...] But that this is a holistic model, including the analysis of different sectors and customers, "would that be positive or negative for us?" – this (holistic) picture was not perceived as such to date."</p> <p>Negative: "But we are not very active in this [corporate foresight] area."</p>
	Reference to formal or informal foresight manifestations	<ul style="list-style-type: none"> • Yes (Interviewee explicitly mentions or describes formal or informal foresight manifestations) • To some extent (Interviewee implicitly notes some manifestations taking place) • No (Interviewee does not provide any example of formal and informal foresight activities) • N/A 	<p>Affirmative: "Participants [of a scenario workshop] also included clients, especially those which were considered to be very innovative. We mainly invited those which had participated in the year before but also a few new clients [...]" – Formal activity</p> <p>To some extent: "It [foresight information processing] depends. To quote an example the economic department distributes the information following the Push approach. Whereby departments like Credit Management follow the Pull approach where information is only distributed upon request. However one has to differentiate. [...] So it really is a mixture of both." – Informal activity</p> <p>Negative: "I must admit this doesn't happen very systematically here. In my group, in the [Group Management Department, GMD], we do some basic research." – Formal activity</p>
	Centralised or decentralised manifestation of corporate foresight	<ul style="list-style-type: none"> • Central responsibility (Statement that corporate foresight has to be established at a central department) • Decentralised responsibility (Statement that corporate foresight has to be anchored in a decentralised fashion) 	<p>Central responsibility: "And here I would address the central departments, where I would rather implement corporate foresight"</p> <p>Decentralised responsibility: "In my opinion it is a decentralised function, which takes place in the individual sectors. The private banking sector practises futures studies as well as the marketing department."</p>
Part III	Perceived volatility of environment	<ul style="list-style-type: none"> • High (Interviewee perceives degree of environmental volatility as high) • Medium (Interviewee expresses a medium degree of perceived environmental volatility) • Low (Interviewee does not appear to perceive environmental volatility as high or medium) • N/A 	<p>High: "Due to the crisis, one can almost neglect doing this [planning] in the year 2009 because the entire external general framework is so volatile making any proper planning difficult."</p> <p>Medium: "Regarding uncertainty it seems that is again a little less of a topic than compared to June and October 2007, where volatility was very high."</p> <p>Low: "We also observe developments on an EU- level (financing), they then build the fundament the Banking Act. [...] We are able to view and comment on it. We then have two weeks time to work with on the consultations and influence them before working together with the banking organisation. [...] The whole process is planable, due to the fact that it is a procedure in accordance with the rule of law."</p>
	Perceived uncertainty of environment	<ul style="list-style-type: none"> • High (Environment induces uncertainty to a significant extent) • Medium (Interviewee does not specifically refer to a high or low degree of environmental uncertainty) • Low (Environment does not induce uncertainty) • N/A 	<p>High: "It has also got to do with the fact that the environment was actually quite stable. This in turn means the necessity to work future-oriented was not given to such an extent. [...] Once you begin to suspect that the path you are treading on is instable, it has great relevance."</p> <p>Medium: "Due to framework conditions, the bank is currently really confined. [...] As a result the bank is only partly strategically free. That is a given fact. On the other hand, one is always more flexible where the domestic market is concerned – meaning I am more flexible in some areas than I am in others."</p> <p>Low: "Market data is generally available. We do not have any advantage in estimating the market conditions in better way."</p>
	Degree of impact on corporate foresight	<ul style="list-style-type: none"> • High (Factor has a high impact on corporate foresight) • Medium (There is only a limited influence of the factor on corporate foresight) • Low (Corporate foresight appears to be unaffected by this factor) • N/A 	<p>High: "This [foresight information] is very generally formulated i.e. they try at least to incorporate the perception or expectation of the client and to create the future from the perspective of the client instead of generating an own future." – Customers</p> <p>Medium: "Only now one has begun to realise that regulation is quite costly for the bank. Be it directly or indirectly. Directly because it could possibly cause adapting-related costs or indirectly because it narrows down profits and profitable opportunities." – Regulation</p> <p>Low: "According to my opinion, banks are equally bad. Therefore, I would not necessarily go for a benchmark approach." – Competitors</p>

Appendix 26: Assignment of interviewees' positions and perceptions (2/2)

7. Purpose of areas of investigations

Areas of investigation <i>Part 1</i>	Purpose of areas of investigation			Notes
	Descriptive	Exploratory	Explanatory	
Bankers' familiarity with corporate foresight	⊙			This discussion aimed at identifying the extent to which Apollo bankers are familiar with corporate foresight. Thereby, a census across participants gave the researcher a flavour of the bankers' familiarity with the phenomenon at Apollo bank.
Individual experience with corporate foresight	⊙		⊙	The degree of experience with corporate foresight was analysed against the background of interviewees' hierarchical positions. This sub-part of the analysis included a descriptive and explanatory dimension.
Assignment of perceived usefulness to corporate foresight	⊙		⊙	The assignment of perceived usefulness was analysed in conjunction with the interviewees' organisational positions, in order to identify differences between the groups on a conceptual level.
Bankers' openness and reservation towards corporate foresight		⊙		This discussion aimed at exploring different areas and functions where corporate foresight is – according to Apollo bankers – advantageous or disadvantageous. This analysis predominantly focussed on exploration, rather than description or explanation.

Appendix 27: Purpose of areas of investigation, Part 1

Areas of investigation <i>Part 2</i>	Purpose of areas of investigation			Notes
	Descriptive	Exploratory	Explanatory	
Formal and informal manifestations of corporate foresight – departmental perspective (line and staff departments)	⊙	⊙	⊙	This part of discussion included different analytical lenses: First, the researcher identified differences in corporate foresight approaches between staff and line departments (descriptive/ explanatory). Second, the analysis conducted a census across Apollo bankers to identify awareness of formal and informal corporate foresight manifestations in both types of department (descriptive). Third, various corporate foresight examples were pinpointed and classified (exploratory).
Formal and informal manifestations of corporate foresight – inter-departmental perspective:				
• Corporate foresight at an organisational level	⊙	⊙		The analysis focussed on the general perception of Apollo bankers regarding corporate foresight's implementation at Apollo bank on an organisational level. This analysis was exploratory and descriptive in nature because it described the implementation of corporate foresight at Apollo bank and explored the justification of its manifestations.
• Perceived allocation and responsibility for corporate foresight (centralised/ decentralised)	⊙	⊙	⊙	Interviewees described their preferred anchorage of corporate foresight at Apollo bank (centralised or decentralised). This approach was descriptive and exploratory in nature because specific departments were identified by interviewees. The inquiry into why certain departments are preferred by Apollo bankers and the criteria behind their reasoning fulfilled the purpose of explanatory research.
• Departmental collaboration		⊙		The analysis of inter-departmental collaboration focussed on the diagnosis of why and under which conditions certain departments collaborate in terms of corporate foresight.

Appendix 28: Purpose of areas of investigation, Part 2

Areas of investigation <i>Part 3</i>	Purpose of areas of investigation			Notes
	Descriptive	Exploratory	Explanatory	
External environmental characteristics and their impact on the manifestation of corporate foresight (retrospective perspective and current perspective)	⊗	⊗	⊗	This complex analysis included two perspectives: First, the comparison between the environmental perception before and within the financial crisis (descriptive and exploratory) and second, the reasons why corporate foresight changed in both environmental states (explanatory). Thereby, the descriptive part was of a supportive nature in order to illustrate the arguments put forward by Apollo bankers.
Distinctive environmental layers and their influence on corporate foresight (task environment and general environment)	⊗		⊗	Since specific environmental layers were identified beforehand (task: customers and competitors; general: regulation), this analysis predominantly aimed at identifying the reasons why certain layers have more influence on corporate foresight than others.

Appendix 29: Purpose of areas of investigation, Part 3

Areas of investigation <i>Part 4</i>	Purpose of areas of investigation			Notes
	Descriptive	Exploratory	Explanatory	
Evaluative judgemental perspective on corporate foresight information				
• The impact of bankers' openness and attitude towards corporate foresight information on evaluative judgement	⊗	⊗	⊗	The identification of different attitudes towards corporate foresight were based upon an exploratory rationale, categorising different groups and patterns within Apollo bank's participants. Thereby, the meanings of these different attitudes are displayed in a descriptive fashion. The reasons why some bankers are assigned to one group rather than to another was based upon an explanatory rationale.
• Organisational characteristics and the propensity of bankers to integrate corporate foresight – an informational perspective on evaluative judgements	⊗		⊗	The different criteria according to which Apollo bankers evaluate the source of foresight information was identified in an explanatory fashion because the criteria of information sources were previously derived from the literature. The explanatory approach was applied to categorise why certain criteria are more important than others.
• The influence of environmental characteristics on bankers' evaluative judgement	⊗	⊗		The impact of current environmental conditions on evaluative judgement (corporate foresight perspective) was predominantly focussed on the exploration of which factors are most important for the way in which foresight information is integrated into evaluative judgement.
Evaluative judgemental perspective on corporate foresight information				
• The impact of bankers' confidence in their own managerial foresight	⊗	⊗	⊗	Groups of Apollo bankers were distinguished according to their propensity to rely on managerial or corporate foresight (descriptive/exploratory). In addition, the reason why these groups can be established in this fashion was derived on explanatory grounds.
• Corporate foresight information and its 'fitting' into bankers' expectations for predictive judgements	⊗	⊗		The analysis of the main expectations of decision-makers towards foresight information and its criteria was based on an exploratory rationale. This means that the five different criteria were explored by means of qualitative data analysis.
• The influence of corporate foresight on predictive judgements – an environmental perspective	⊗	⊗		The identification of the impact of different environmental conditions on predictive judgement employed an exploratory approach, in order to identify the reasons why corporate foresight's integration may be limited in certain environmental states.

Appendix 30: Purpose of areas of investigation, Part 4

8. Assignment of codes to areas of investigation

	Part 1				Part 2				Part 3		Part 4					
	1	2	3	4	1	2			1	2	1			2		
						2.1	2.2	2.3			1.1	1.2	1.3	2.1	2.2	2.3
C) Corporate foresight																
C:Met		⊗			⊗	⊗			⊗							
C:Imple		⊗		⊗	⊗	⊗	⊗					⊗	⊗			
C:Impac			⊗	⊗							⊗					
C:Pro		⊗			⊗	⊗	⊗	⊗					⊗			
C:WS_MT			⊗						⊗	⊗						
C:BU_Per						⊗	⊗		⊗	⊗			⊗			
C:CU_Per									⊗	⊗						
C:BN_Exp						⊗	⊗		⊗	⊗						
C:MA_Exp									⊗	⊗			⊗			⊗
C:Adv			⊗	⊗							⊗					
C:Req			⊗	⊗		⊗	⊗	⊗				⊗		⊗	⊗	
C:NC			⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗				⊗	
C:Exa	⊗	⊗		⊗	⊗	⊗										
C:In						⊗	⊗	⊗							⊗	
I) Managerial foresight																
I:Ifc			⊗	⊗					⊗	⊗	⊗			⊗		
I:FuE						⊗	⊗		⊗					⊗		
I:Int														⊗		
I:FuP_SDM						⊗								⊗	⊗	⊗
I:Ifc_In	⊗		⊗								⊗			⊗		
I:Bel_In	⊗		⊗			⊗					⊗			⊗		
UR) Researcher-User interaction																
UR:Inv								⊗				⊗				
UR:Inter_ D								⊗				⊗				
IG) Individuals-Groups																
IG:TMT								⊗				⊗				

Appendix 31: Assignment of codes to respective areas of investigation (1/2)

	Part 1				Part 2				Part 3		Part 4					
	1	2	3	4	1	2			1	2	1			2		
						2.1	2.2	2.3			1.1	1.2	1.3	2.1	2.2	2.3
O\Organisational contingencies & environment																
O:Inno			⊙	⊙	⊙											
O:Env				⊙					⊙	⊙			⊙			⊙
O:Net							⊙	⊙				⊙				
O:Proc					⊙		⊙	⊙				⊙				
O:Res		⊙		⊙	⊙	⊙	⊙									
O:Stru		⊙				⊙	⊙	⊙				⊙				
O:Reg											⊙					
O:Comp											⊙					
O:Cust											⊙					
O:FC_inst									⊙				⊙			⊙
O:Env_FM									⊙				⊙			⊙
OSh_St										⊙						
O:Curr	⊙	⊙			⊙				⊙			⊙				
O:Stru_BU							⊙									
O:BN			⊙	⊙					⊙							
O:Cul	⊙		⊙	⊙								⊙				
O:Che				⊙					⊙							
O:Env_int				⊙	⊙	⊙	⊙	⊙				⊙				
In\Information																
In:Typ	⊙		⊙	⊙							⊙			⊙	⊙	
In:Uba											⊙			⊙	⊙	
In:Ext		⊙				⊙			⊙	⊙		⊙				
In:Int		⊙				⊙	⊙	⊙				⊙				
In:Pro					⊙	⊙	⊙	⊙								
In:Inter			⊙					⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
In:NI				⊙										⊙	⊙	
InSou					⊙	⊙	⊙	⊙				⊙				
In:Resp						⊙	⊙					⊙				
In:Cre			⊙												⊙	
S\Strategic decision making																
S:IG			⊙	⊙		⊙	⊙	⊙	⊙		⊙	⊙	⊙	⊙	⊙	⊙
S:Pro						⊙										
S:Cf			⊙	⊙		⊙								⊙	⊙	⊙
S:Exe						⊙	⊙	⊙								
S:Stru			⊙	⊙		⊙										
S:Idgmt											⊙	⊙	⊙	⊙	⊙	⊙

Appendix 32: Assignment of codes to respective areas of investigation (2/2)

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