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**THE RELATION OF STRATEGIC MANAGEMENT MODELS
AND LEARNING NETWORKS TO PERFORMANCE
INCREASE**

Lessons from a Brazilian Learning Network of SMEs

A Thesis
Presented for the Degree of
Doctor of Philosophy



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**THE RELATION OF STRATEGIC MANAGEMENT MODELS
AND LEARNING NETWORKS TO PERFORMANCE
INCREASE**

Lessons from a Brazilian Learning Network of SMEs

by

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A thesis submitted to the
University of Birmingham
in fulfilment of the requirements for the Degree of Doctor of Philosophy

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ABSTRACT

The objective of this thesis is to investigate the relationships between performance change or increase and strategic management or strategy implementation, based on Learning Networks Groups of SMEs in Brazil. The research is based on a group of medium-sized South American companies that participate in what will be called here a “Learning Network Programme” (or LNC, Learning Networks Companies – which is a fictional name for a real existing and operative Brazilian learning network programme). This partnership project has, as its main goal, “a deep quest for results”. It currently consists of around 600 mid-sized companies organised into several regional groups in Brazil, Paraguay, Chile and Portugal. It has an external coordinating entity, which seeks to promote improvements in mid and long term results by raising awareness and gradually building up knowledge. The LNC encourages the exchange of experiences while discussing management models, putting management and strategic tools into practice, and training the participating companies’ employees in managerial instruments. It is all carried out from the perspective of building together, the companies and the coordinating entity working side by side all the time while following-up on the results.

A hypothetical Global Performance model based on Strategic Management Elements and also on Learning Network Elements was developed and, subsequently, tested through a field survey with 300 Brazilian SMEs, being 150 from companies that have experimented the LNC Programme and 150 organizations that have never gone through a project like that one, both groups representing all geographic regions of the country and also several industries.

In order to test the empirical validity of the model, structural equation modelling was used, with reference to both main and unfolded hypotheses, and analysed the variables of strategic management and learning networks and their possible impact on the companies’ global performance. The proposed model demonstrated to be able to predict 62% of the variance in the global performance construct considering the LNC Group and 5.6% considering the Non-LNC Group.

KEY-WORDS: Strategic Management, Strategic Planning, Strategy Implementation or Execution, Learning Networks, Corporate Global Performance.

The unexamined life is
not worth living

Socrates (470 BC – 399 BC)

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Cíntia Oliveira, research assistant, definitely made a huge difference to this research. Only those who research within the corporate field in Brazil know how difficult it is to obtain answers from executives. And 300 valid answers, obtained by internet, phone and in person if necessary, each one with more than 80 questions, took her almost six months to do. This mission would have been an impossible one without her courage and willingness to work and help. After Cíntia's effort, also Prof. Plínio Monteiro was an invaluable help with his wise support in the use of statistical packages. Notwithstanding this, certainly, no high quality field research would have been possible without the very complete list of learning network companies to be approached, provided by my friend Paulo Emílio Lima Carreiro (FDC).

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GLOSSARY

BNDES	Banco Nacional de Desenvolvimento Econômico e Social (or Brazilian Bank for Economic and Social Development)
BUs	Business Units
CNI	Confederação Nacional das Indústrias (Brazilian National Confederation of Industries)
CPM	Corporate Performance Measurement
IBGE	Instituto Brasileiro de Geografia e Estatística (Brazilian Institute for Geography and Statistics)
EVA	Economic Value Added
FDC	Fundação Dom Cabral
FGV	Fundação Getúlio Vargas
FNQ	Fundação Nacional de Qualidade (Brazilian National Quality Foudation)
GDP	Gross Domestic Product
IS	Information Systems
KPIs	Key Performance Indicators
LNC	Learning Network Companies (of the Brazilian Programme of SMEs)
MDIC	Ministério do Desenvolvimento, Indústria e Comércio Exterior (Brazilian Ministry of Development, Industry and Foreign Trade)
MIS	Management Information System
ONS	UK Office for National Statistics
PLS	Partial Least Squares
PMI	Project Management Institute
ROIC	Return on Invested Capital
SEBRAE	Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (Brazilian Service of Support for Micro and Small Companies)
SMEs	Small and Medium-Sized Enterprises
SLA	Service Level Agreement
SUs	Services Units
TQC	Total Quality Control
USITC	United States International Trade Commission
TQC	Total Quality Control
WACC	Weighted Average Cost of Capital

CHAPTER I

1. INTRODUCTION

This chapter presents the background of the research, the motives for conducting this study, its relevance, the definition of the research problem investigated, the rationale for the option of studying the performance of mid-sized companies in Brazil, the objectives of the work and the form of organisation of the thesis.

1.1 Background to the research

In an organisational context, the growing number of partnerships has led to the strengthening and expansion of people's awareness of networks –value, knowledge, and supply networks – resulting in what has been commonly termed a networking society. The networks with the latest evolution are the “information networks”, which have arisen due to the advances in communications and information technologies.

Such a move has transformed the business environment and become a variable of strategic relevance, constituting a source of differentiation between companies. This is because the limits of the organisations, the sectors, the structure of the industries, have changed significantly from the scheme followed before. The reality of the business world has shown that the greater part of the value of products and services is generated in networks, and no longer individually, within the confines of a single company. In view of this, the economic agents must adapt their behaviour in the search for shared resources, and among these, knowledge stands out as the one that is capable of generating sustainable competitive advantages.

Such a statement is possible, in view of the fact that another characteristic of the times currently faced by companies is that they live in an era characterized by learning. The basis of this economy, therefore, cannot be other than knowledge. However, we know that the

development of humankind has always been based on “knowledge”. What distinguishes this era is the fact that the share of “physical work” contained in the goods is smaller than the quantity of knowledge production, distribution and processing. The value of the portion of knowledge and information contained in the goods has grown significantly, as well as the knowledge-intensive activities. Many now say that the companies that survive in a global market have knowledge as their main strategic resource. Even more, they adopt a policy of intensive and continual learning as a form of maintaining their competitiveness and, in consequence, their longevity.

In the learning economy, the ability to seek new knowledge and learning is an essential condition for the economic success of the companies in the construction of new strategic competencies. It cannot be associated only with the high-technology intensive sectors, but it may be found in traditional sectors. It refers primarily to the ability to learn – searching for what’s new – but also, to the ability to forget; that is, to relinquish what has become obsolete, inadequate – an essential capacity in economies marked by major changes, in which it is essential to constantly acquire new proficiencies – much more so than the ability to acquire information.

There is no doubt that organisational learning is a core element in the attainment of competitive edge. However, considering the speed of the changes, the learning ability of a company extends beyond its capacity as a single agent. One must think of learning in the context of the network in which the company resides, where all participants are primary sources of innovation. Hence, the activity involved in searching for knowledge outside the company becomes essential. Within such an environment, the company must develop the ability of taking a stand as an element of agglutination and coordination, developing organisational routines that foster the sharing of knowledge.

It should also be stressed that the networks must not be seen only as relationships that foster the dissemination of innovations and standards of joint behaviour, or as links that explain the access to information. Rather should they be seen as cross-company knowledge flows, providing rapid arrival in the market, increased productivity and innovation. Thus, the measurement of such flows, by means of indicators, becomes fundamental to allow the

performance of the company, with the support of its network or production chain, to be properly understood and its prospects of sustainability properly ensured.

Besides that, the rising competitiveness of global markets has systematically caused the traditional models of Corporate Performance Measurement (CPM) to become obsolete. The need for companies to quickly adapt to a more complex and dynamic market is increasingly more visible. On the other hand, although shareholders delegate to the top management the task of defining and implementing corporate strategy, the pressure on these managers to create value has become greater, as the first concern of an investor is to ensure that the return on capital employed by him will meet his requirements, vis-à-vis the risk he has assumed (Stewart III, 1990); (Damodaran, 1997); (Ehrbar, 1999); (Young and O'Byrne, 2001)¹.

With the professionalization of economic activities, resulting from mounting vertical and horizontal growth of business groups, managerial challenges have increased, as a result of the increasingly sparse presence of the formerly very present “eyes of the owner” on his investment. It is from this perspective that many organisations have had to think afresh their traditional systems of results assessment, as well as the whole compensation structure developed to reward (or punish!) their managers based on performance; namely, to seek a way of aligning the decisions of their surrogates to their own expectations.

Little by little, one has noted that the relative improvement of certain performance indicators is not necessarily good for the company if other factors are not equally evaluated. Recent Brazilian research² has shown that there is a clear mismatch between what the Brazilian companies consider as “strategic” and indicators of results used to check if such strategic guidelines are actually being followed. That is, most of the time companies measure what is not considered a factor that produces competitive advantage and end up failing to routinely develop indicators that can systematically measure the performance of their strategic objectives.

¹ According to Dornas (2001), “The concept of value and its creation and the notion that companies generate value for their shareholders only by earning returns on invested capital that exceed the cost of that capital is definitely not new (Adam Smith, 1776 - John Stuart Mill, 1848 - Alfred P. Sloan, 1919 - Franco Modigliani and Merton Miller, 1961). [...]. Simply put, it measures the difference between the return on capital employed and its cost, and determines, after all, a monetary figure that tells how much wealth a company has created in a given period of time”. Mathematically, it can be written as difference between Return on Invested Capital (ROIC) and the firm's WACC, or its weighted average cost of capital ($EVA = (ROIC - WACC) \times Invested\ Capital$).

² Unpublished research conducted by Dom Cabral Foundation to *CTE – Centro de Tecnologia Empresarial*, about Productive Chain performance indicators, 2004.

The method of Robert Kaplan and David Norton (1997) which, differently from the traditional management methods, allows one to translate and enable company strategy through day-to-day actions, by measuring corporate performance following a weighted group of financial and non-financial indicators, was created already with a strong appeal. In this methodology, the authors presented an important differential, which is precisely to acknowledge that the mere monitoring of financial indicators, in itself, is not sufficient to ensure the longevity of the organisation, as such a procedure does not assume the existence of some important drivers of long-term profitability. That is, the analysis, even in depth, of such financial indicators is what can be called “rear-view mirror” analysis; namely, the one that emphasizes a result that has already occurred, the outcome of actions taken in previous periods, about which nothing more can be done.

Finally, two main ideas underlie previous paragraphs and these refer to the need to understand that we live in a society that has become constituted by learning networks, at least in the corporate world, in order to be able to better capture, share and work the knowledge together, in the search for mutual benefit and a strategy that is sustainable in the long term for each and every participant.

On the other hand, this research has argued about the need of companies to give equal importance both to the conception and implementation of strategy. These aspects and their importance were highlighted by many researchers over the last decades, but the work of Kaplan and Norton (1997) on the balanced scorecard was probably the one with most impact in the business world.

This research accordingly becomes relevant to understanding how small and middle-market companies are managing their knowledge networks in Brazil in the last few years, and whether they are aware of the necessity to think strategically daily, and clearly separate the conception from the execution of strategy in order to increment their long-term financial results.

1.2 The reasons for the research

The world, and Brazil in particular, have undergone considerable changes in the last decade, more notably, from the last quarter of 2008, changes that have transformed the economic scenario and altered productive, commercial and financial relations. The most acute phase of uncertainty seems to have already been passed, but the challenges should remain in view of the new global configuration. It seems certain that the business environment will no longer be the same one that we saw in the last years of the last century, which becomes even more evident when one considers the worldwide instability that came in the wake of the crisis of the second half of the last decade. After all, large transformations in the economy, when they occur, do not usually conduct their agents to the same point they were at before the change.

In this context, the small and medium Brazilian enterprises (SMEs)³ have been facing the tough challenge of maintaining themselves competitive in a totally new environment. Certainly, the times of instability and its consequences in the real economy have stamped some learning on companies of all sizes and sectors. The most important thing learned concerns the preparation that they need to have, to adapt to changes in the business environment with the same rapidity with which they can suddenly occur.

And one of the main attributes of companies that have proved themselves to be prepared for any transformations in the business dynamic is the constant search for effectiveness. If, for the large companies, efficient management is a determining condition for the continuity and prosperity of the business, independently of the economic scenario, for small and medium enterprises, this reality is exactly analogous.

³ This study uses the classification of companies by size adopted by the Brazilian National Bank for Economic and Social Development (BNDES - Banco Nacional de Desenvolvimento Econômico e Social), in terms of the Annual Gross Operating Revenue of the companies, as follows: i) Microenterprise - up to R\$ 2.4 million (*not considered in the sample*); ii) Small enterprise – from R\$ 2.4 million up to R\$ 16 million; iii) Medium enterprise – greater than R\$ 16 million up to R\$ 90 million; iv) Medium-Large enterprise – greater than R\$ 90 million up to R\$ 300 million and v) Large enterprise – over R\$ 300 million (*not considered in the sample*). The need for more flexibility when conceptualizing a medium size company in Brazil is related to what BNDES considered a “Medium to Large” organization, which can be viewed as a medium sized corporation, with the potential to be large in terms of annual gross revenues in the medium-term. Besides that, it was possible to realize that the “medium-large” companies represented an important part of the LNC Group. Thus, responses to the questionnaires from companies with gross annual revenues of R\$ 2.4 million to R\$ 300 million were considered valid, for both groups analyzed, having in view the broader concept of SMEs from BNDES, which included corporations at the “medium to large” level.

Available

<http://www.bndes.gov.br/SiteBNDES/bndes/bndes_pt/Institucional/Apoio_Financeiro/porte.html>, accessed in 25.08.2011.

at:

and

Accordingly, the discovery and development of efficiency generating mechanisms are challenges that distinguish the managements of those SMEs that have grown more in the current context. In the times of the new economy, efficiency has come to depend increasingly on the complex understanding of current trends and on the proper measurement and evaluation of competitive activities and forces.

Thus, the analyses undertaken in this present study have the objective of investigating the SMEs regarding the search for efficiency in the use of resources, in the adoption of technological innovations, in people management, in the conquest of target-markets, among other factors, in sum on their global performance, which certainly arises out of an increasingly strategic positioning and which is based on fruitful relationships. These companies are more likely to better identify the barriers related to their growth, maintaining a critical and systematic vision of their functional activities, so that they can maintain themselves competitive and grow in a world in constant transformation and with growing opportunities.

Considering the high importance of the participation of SMEs in the Brazilian GDP, the present study can be considered of interest. This is certainly not only due to their weight in the monetary formation of the GDP, but more importantly, because of the generation of employment, where SMEs figures have a relevant participation.

The contribution of SMEs is recognized mainly through their market capillarity and their capability of labour absorption, including that of those with the greatest difficulty of insertion in the market, such as young people in search of their first job, and the over 40s.

According to the most recent data of the IBGE⁴, corroborated by a Serasa Experian study⁵, the SMEs are responsible for 60% of the 94 million jobs in Brazil and constitute 99% of the 6 million legal establishments existing in the country. Most of the businesses are located in the south-east region, with nearly 3 million companies, the most important sector being trade, followed by services, industry and civil construction.

⁴ Available at: <http://www.brasil.gov.br/empreendedor/empreendedorismo-hoje/o-mapa-das-micro-e-pequenas-empresas>. Accessed in 19.03.2011.

⁵ Serasa Experian (2009). *Desafios e Oportunidades de Negócios com Pequenas e Médias Empresas*. White paper. Available at www.serasaexperian.com.br/cursosinteresses/palestras/ftp/ftp_0099.pdf. Accessed in 07.06.2013.

According to such statistics, since 2000, the share of the SMEs in the total of Brazilian productive undertakings has increased considerably. While the annual growth rate between 2000 and 2008 was 4% for all companies, independent of size, for the small and medium enterprises it was 6.2%. In this same period, the SMEs were responsible for approximately half of the legally created jobs, that is, 4.5 million.

The gross revenues of the SMEs have also grown considerably in recent years. In the first semester of 2010, real income registered an increase of 10.7% compared to the same period in 2009. This indicator shows that the small and medium enterprises have a rate of growth larger than that of the Brazilian economy as a whole.

Given this economic importance, the study deals also with the concern of leaders in this sector in improving managerial practices, in view of the fact that annual surveys undertaken by the consultant Deloitte Touche Tohmatsu (2006-2012)⁶ show that one of the recurring themes of SME leaders is to grow, sustainably, more than the average for the sector in which they are active.

What this study proposes is therefore to identify in the first place, efforts to introduce a sustainable strategy among a group of small and medium enterprises, some involved in knowledge networks, others not, to try to understand if these companies, from both groups, have succeeded in developing important elements of strategic management - conception and execution - in their daily management routine and if such elements have contributed to better corporate performance. Currently, there exists a curious paradox that, while strategic decisions are the most complex and important aspect of management, the strategic decision-making process is the less systematized of all management decision-making processes (Ansoff, 1983).

From this fact comes the notion that, in addition to being understood, the strategy needs to be put into practice, which requires a minimum of structuring for this purpose. One of the problems of business management lies precisely in the integration of systems, which are often

⁶ <http://www.deloitte.com/view/pt_BR/br/Conteudos/estudosepesquisas/PMEs/index.htm#.UbZCBPmTySo> Accessed in 15.08.2012.

isolated and do not lead to satisfactory bottom-line results, such as the production of a Strategic Plan without the due proposition of trend and results indicators related to such Strategy, because one would never know for sure if the planned route was being duly followed; or by the achievement of a plan of Operational Improvements with no express link to the Strategy, because the lack of prioritization of actions inevitably wastes important resources such as time, raw-materials, supplies, capital and even motivation; or even the indiscriminate use of operational Performance Indicators that have no evident relationship with the strategic indicators, leading to confusion and lack of sense of direction at the top management levels.

So, from this point of view, we see this study as a relevant piece of research as it expands the studies covering strategic execution and its effects on global short, medium, and long-term performance. This it does by presenting empirical evidence of the results produced by companies attempting to build and systematically use a strategic intelligence model, based on trend indicators and their correlation with the desired results, in the pursuit of so-called corporate strategic management.

In the second place, the study also intends to see if the groups of SMEs that work together in learning networks, exchanging strategic information among themselves, in the search for state-of-the-art management practices, are also favoured with increases in their performance, above the market average.

1.3 Research problem and objectives

Based on the reasons and motives presented in the previous section of this work, the main research questions are:

- 1) Does the construction of a Strategic Management Model, such as the one proposed in the LNC Programme, based on strategic indicators related to strategic objectives (strategy formulation), and the systematic measurement of corporate performance of such indicators, followed by the proposition of strategic initiatives (strategy execution), help the development

of “Strategic Management Concepts and Elements” within the companies and favour the achievement of higher (differentiated) short, medium and long-term financial performance?

2) Does the fact of being part of a Learning Network contribute to implementing “Strategic Management Concepts and Elements” and making the organisation “Strategy-Focused”?

3) Does the fact of being part of a Learning Network contribute directly to the achievement of higher (differentiated) short, medium and long-term financial performance?

The main objective of this study is, therefore, to propose the construction and verify the validity of a conceptual model that allows us to identify the principal elements that conduct Brazilian medium size companies to a better global performance.

In a broader view, the general objective of the research can be seen as an attempt to evaluate the short, medium and long-term global performance of a group of companies participating in the Programme “LNC – Learning Network Companies”, looking for a possible relationship between a change in such performance and the implementation and functioning of a LNC Intelligence Model of Strategic Management. In other words, whether there is a correlation between the implementation of this programme and a differentiated performance.

Using this general objective as a basis, the following specific objectives were defined:

1. To identify whether the fact of joining a formal LNC Group (Learning Networks) helps the companies to become “Strategy-focused Organisations”, developing strategic management elements;

2. To identify which “Strategic Management Concepts and Elements” were developed in a company during a minimum 2 year period;

3. To identify the relationship between the creation of concepts and elements and possible higher (differentiated) short, medium and long-term financial performances;

4. To identify whether the fact of joining a formal LNC Group (Learning Networks) directly helped the companies to achieve higher global performance.

1.4 Contribution of the research

Small and Medium Enterprises (SMEs) have been receiving a lot of attention in recent years. Even so, the knowledge content in this area, above all in Brazil, is not proportional to their importance in the national and regional context, as has been amply shown in section 1.2. Accordingly, any and every scientific investigation that has as its aim to increase knowledge of these business units is justified in itself (Lara, 1993).

Nevertheless, many of the researchers in management consider that one of the greatest difficulties in studying small and medium enterprises is their great heterogeneity, notwithstanding the fact that the term “SME” comprehends a wide spectrum of definitions that varies from country to country. In general terms, the main definitions are related to headcount, sales or assets, “Gross Revenue” being the guideline used in this present study. So, this variety of interpretation and the heterogeneity among SMEs could partly explain the backward state of such studies and research and the difficulty of proposing adequate theories and conclusions in their regard, which in all likelihood will at least diverge partially from those proposed for large companies.

Thus, the recognition of the backwardness of management studies on the development of SMEs in Brazil, allied to the clear recognition of the importance of this type of organisation in the country’s economy, confers on this study the character of relevance. In themselves, the numbers produced in section 1.2 show that small and medium enterprises have a vital importance both from the economic as from the social point of view.

In fact, Pandya (2012) explains that the research of Tambunan (2008)⁷ noted that Small and Medium Enterprises (SMEs)

⁷ Tambunan, T. (2008). Development of SME in ASEAN with Reference to Indonesia and Thailand. *Chulalongkorn Journal of Economics* 20(1): 53-58.

“Play a vital role in economic development, as they have been the main source of employment generation and output growth, both in developing as well as in developed countries. In developing countries, the roles of SMEs become more crucial as they have potential to improvement of income distribution, employment creation, poverty reduction and export growth. It also leads to the development of entrepreneurship, industry and the rural economy”. (Pandya, 2012, p. 1).

This importance is first well illustrated when Luna (1983) highlights a set of characteristics specific to these economic units, among them: i) the capacity to absorb significant contingents of the labour force, at a low cost, with fewer exigencies in terms of qualifications, in fact constituting an important school for the training of labour for the larger companies; ii) their large share in the formation of the GDP and, consequently, in the stability of the economy; iii) their contribution to the solution of regional imbalances and the process of strengthening different geographical regions, given their greater flexibility in terms of localization; iv) their activities which are complementary to those of large companies, operating in sectors which are incompatible with their scale.

Jesus *et al.* (2001) also observes the dependence of the economy on SMEs for job creation and their great flexibility as instruments for putting entrepreneurial and innovative capacity into practice. But in spite of the small and medium enterprises having always existed, it was only starting with the studies of Staley (1958) and, following that, the reflections of Schumacher (1977) that they have become a more frequent object of focus for economists (Leone, 1991).

Accordingly, even considering that interest in SMEs has only been awakened in relatively recent times, the fact is that there already exists important information about their activities in several countries. Current studies show that the importance of SMEs in regional economies is not restricted to the Brazilian economy. According to data from the magazine Exame⁸, one of the most influential economic publications in Brazil, SEBRAE being the source of the data of the end of the year of 2010, SMEs represent 95% of the formal undertakings in Latin America and the Caribbean, generate 35% of formal jobs and account for 33% of the Gross Domestic Product (GDP).

⁸ Available at <<http://exame.abril.com.br/pme/noticias/aumentar-participacao-pib-desafio-pequenas-empresas-602381?page=1>> and accessed in 19.03.2011.

It should be pointed out, however, that the same studies state that, notwithstanding the importance of such numbers, which make the small and medium enterprises account for almost all the legally constituted enterprises, in ten countries in Latin America and the Caribbean analysed by SEBRAE, they register GDP share indexes which, in our opinion, could be more expressive, mainly when compared to a roll of developed countries, which fact certainly increases the contribution of this study, as can be inferred from data below.

With the exception of the Argentine, El Salvador and Peru, where small businesses account for 60%, 44% and 42% of GDP, respectively, other countries like Venezuela, Ecuador, Chile, Brazil, Mexico, Uruguay and Colombia have SMEs participating in the GDP at indexes lower than 35%.

In the case of Venezuela, small businesses represent 98% of legally constituted undertakings, 55% of the jobs and only 13% of the GDP; in Ecuador, the micro, small and medium enterprises generate 24% of formal jobs and 14% of GDP; in Brazil and in Chile, 52% of the jobs are generated (60%, by the calculations of the IBGE, as per section 1.2) and 20% of the GDP; in Mexico, 80% of the jobs and 23% of the GDP; in Uruguay, 48% of the jobs and 30.27% of the GDP, while in Colombia, the figures are 63% of the jobs and 35% of the GDP.

According to the same publications, in European countries, the percentage share of the SMEs in the GDP is greater. In Spain, small business accounts for 99% of legally constituted undertakings and 50.6% of the GDP. In Greece, the figures are 99.4% and 55.6%, respectively, and in Italy, 99.5% and 55.6%. In addition, recent research led by the UK Office for National Statistics (ONS)⁹ within the private sector, and that emphasizes the importance of UK SMEs in 2010, concluded that 99.9% of the total companies in the UK are SMEs. In Japan small or medium-sized enterprises also represent 99% of total business (Pandya, 2012). Besides that, SMEs were responsible in the UK, at that time, for 59.1% of the employment

⁹ UK Office for National Statistics (ONS). Importance of UK SMEs within the private sector. Department for Business Innovation and Skills. 2010. Available at (<http://www.simplybusiness.co.uk/knowledge/news/2011/07/2011-07-28-ons-research-highlights-importance-of-uk-smes/>) and accessed in 11.06.2013.

and for 48.7% of the GDP, corroborating the research of Ayyagari *et al.* (2007, 2011)¹⁰, of the World Bank, which affirms that the contribution of formal SMEs is around 50% of GDP on average, besides its huge contribution to the majority of employment generation in almost all the countries analysed in recent surveys (Ardic *et al.*, 2011)¹¹.

In another study in 2012, Ecorys (2012)¹², a Dutch research and consultancy firm, having the European Commission as a client, presented similar research findings on European SMEs, very close to the previous one. In a general view, their findings show that SMEs in Europe, in 2012, represented 99.8% of the established enterprises, while representing 67.4% of the jobs and 58.1% of the GDP.

In the North-American market, Schwenk and Shrader (1993, p. 1), based on a study of Wheelen and Hunger (1989)¹³, analysed that SMEs were, at that time, the foundation of the North-American economy, “*accounting for more than half of total employment and over 80% of employment growth in the past decade*”. In more recent studies, according again to Ecorys (2012), “*in the US, the number of SMEs and employment both fell sharply in 2008 and 2009, more so than their counterparts in the EU*”¹⁴. Notwithstanding, US SMEs were still clearly important to the USA economy in the last few years and nowadays. According to studies conducted recently by the USITC (2010a, 2010b)¹⁵, SMEs represented approximately 50% of private non-agricultural GDP between 1998 and 2004, while expressing 99.9% of the private nonfarm companies in 2006, and also contributing for 50% of the 120 million jobs at the nonfarm private sector in the same year.

¹⁰ Their 2011 research presented worldwide study, using a cross-country database related to the contribution of SMEs to total employment, job creation, and growth across 104 developing economies, using a sample of 49,370 firms analysed over the period of 2006-2010.

¹¹ According to Ardic *et al.* (2011), a unique data set on SMEs was used, based on the Financial Access 2010 survey in January-April of that year, by the CGAP/World Bank Group. The authors also affirm that the survey annually collects data from the main financial regulators such as central banks or bank supervisory agencies in more than 140 countries.

¹² Ecorys (2012) EU SMEs at the crossroads. Annual report on small and medium-sized enterprises in the EU, 2011/12. Available at: http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/supporting-documents/2012/annual-report_en.pdf. Accessed in 11.06.2013.

¹³ Wheelen, T. and Hunger. J. (1989). Strategic management and business policy. Reading, MA: Addison-Wesley.

¹⁴ Based on the data from the United States Bureau of Labour Statistics, United States Census Bureau, Bureau of Economic Analyses and Cambridge Econometrics.

¹⁵ USITC, Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports. Investigation no. 332-508, Publication 4125, January, 2010a. And USITC, Small and Medium-Sized Enterprises: Characteristics and Performance. Investigation no. 332-510, Publication 4189, November, 2010b.

So, as old and more recent research shows there is a well-known correlation between the generation of jobs and share of GDP, in other words the more jobs the higher will be the GDP, it becomes necessary also to think in terms of productivity. In Brazil, as in other developing countries, small and medium enterprises generate a substantial part of the jobs, but this is not reflected in productivity (GDP formation). When compared to the above-mentioned developed countries, based on the studies quoted in the footnotes 4 to 15, it can be seen that there is a gap to be filled in the Latin American countries, relative to the share of small and medium businesses in the national GDP, in view of the fact that in the European countries cited here it is around 50%.

In fact, in the last decades, the globalization of markets has fostered intense global trade flows that increase the competition between firms, a scenario that can be identified for both large and medium-sized corporations. And, if, for large firms, the efficient management is essential for the continuity and prosperity of the business regardless of the economic environment, for SMEs, this situation is no different or even more important due to their natural difficulties to access international markets and compete globally.

According to previous mentioned annual surveys undertaken by Deloitte Touche Tohmatsu (2006-2012), this gap in productivity is due to some known factors, as follows (in order of importance, based on the 2009 report): i) lack of planning with respect to demand growth; ii) lack of definition of strategies, objectives and targets; iii) inadequate management of talent and strategic leadership; iv) insufficient knowledge of competition and markets; v) insufficient investment in technology; and vi) lack of specialized advice (consultancy services in different management fields). It can also be considered valuable to remark that, from these main identified issues quoted in their annual surveys, only one factor is linked to the lack of investment in technology (with only 14% of positive answers), while the general management issues are paramount.

Although these variables are not found within the management realm of large corporations, as these firms are likely to have more access to a wide set of resources, both locally and globally (Deloitte Touche Tohmatsu, 2006-2012), studies conducted in the last years by IPEA, MDIC and BNDES clear demonstrate that the lack of productivity of SMEs can also reduce national competitiveness in an indirect way. It is due to the fact that most of national SMEs participate

in major productive chains, which notably have their development hampered by the gaps in competitiveness of the different links, despite the huge influence of the “anchor-companies” over the whole chain¹⁶ (Gunasekaran *et al.*, 2000; Dawson and Larke, 2005).

In addition, these recurrent surveys identified over the years that the SMEs of emerging countries are more susceptible to international market fluctuations, when, during global crisis, they are the first organizations to experiment: i) increased competition; ii) reduced availability of credit; iii) fall in industrial production; iv) devaluation of local currency; v) reduction of foreign investments; vi) fall in commodity prices; v) reduced flow of international trade; vi) increase in default (nonpayment); vii) fall in the local stock markets; and viii) rising unemployment.

And, this gap in competitiveness is evident when one realizes that it is common in SMEs from developing countries the existence of an entrepreneurial spirit – most of them are family-owned companies -, but with little technical background, either concerning the markets or management attributes in its various dimensions (Deloitte Touche Tohmatsu, 2006-2012). Moreover, it is notable that many of these organizations do not even come to recognize the existence of such deficiencies, which is why many governments have sought a proactive stance on this sector of the economy in order to create specific programs that seek to enhance and improve the performance of SMEs, while trying to promote a sustainable way to improve their global competitive position (For example, initiatives from BNDES, CNI, SEBRAE, and FDC) (Naretto *et al.*, 2004).

¹⁶ IPEA – Instituto de Pesquisa Econômica e Aplicada (2004). A trajetória das políticas públicas para pequenas e médias empresas no Brasil: Do apoio individual ao apoio a empresas articuladas em arranjos produtivos locais. Planejamento e políticas públicas, n. 27.

Available at: <http://www.ipea.gov.br/ppp/index.php/PPP/article/viewFile/51/54>. Accessed in 05.03.2014.

MDIC – Ministério do Desenvolvimento, Indústria e Comércio Exterior (2006). Manual de apoio aos arranjos produtivos locais. Grupo de Trabalho Permanente para Arranjos Produtivos Locais.

Available at: http://www.mdic.gov.br/arquivos/dwnl_1289326568.pdf. Accessed in 28.02.2014.

BNDES – Banco Nacional de Desenvolvimento Econômico e Social (2000). Características gerais do apoio a arranjos Produtivos locais. Available at:

http://www.bndes.gov.br/SiteBNDES/export/sites/default/bndes_pt/Galerias/Arquivos/conhecimento/bnset/set1210.pdf. Accessed in 13.02.2014. According to the BNDES researchers, the systemic view of the productive chains, with all its links (including SMEs), is of a great importance, despite the fact that “(...) *Performance, strategies, techniques of production and management of the ‘anchor-company’ determine training needs and patterns of the whole productivity, being these main companies, therefore, the engine of a given productive chain. They have, consequently, a strong influence on productivity improvement, qualification and training of related companies, as well as on the dissemination of product technologies and production processes*”. (Pag. 198).

At this point, the central normative contribution of this work is highlighted. The methodology suggested here and evaluated through this research seeks to demonstrate the effectiveness of strategic management in promoting superior results, but in view that the individual strategies are designed and implemented in the context of learning networks that generate and share relevant knowledge.

Therefore, recognising the relevance to society as a whole, the normative implications of our findings in the present study is to demonstrate that, ultimately, the development and operationalization of a strategic management recurring process, with both formulation and implementation phases, can effectively reduce this identified productivity gaps in SMEs of developing countries. In addition, other important implication seems to be of interest: realizing that strategy, in general sense, has a greater effect in long-term performance (productivity) when it is conceived and executed within the boundaries of a Learning Network. In other words, our findings seek to demonstrate that the fact of being part of a Learning Network can effectively help SMEs to, together, produce and share knowledge with the purpose of developing sustainable competitive advantages for the participating companies.

In a complementary way, the first academic contribution of this study can be considered the development of two new scales to measure the development or existence of variables of the strategic management and learning network constructs. Obviously, these scales still lack a more stringent validation process, especially for its replication and comparison of results. However, such metrics can be taken as a starting point for the improvement of scales that aim to measure similar constructs.

Considering the importance of managerial issues in fostering the competitiveness of the SMEs in Brazil, the main academic contributions of this thesis are centred, then, on its collaboration with the process of developing an explanatory model, which intends to advance the knowledge within the Strategic Management researcher's community, and also contributing to the inter-organizational networks theory (more specifically, the learning networks approach). The collaboration involves the validation, in the Brazilian environment, of a proposed theoretical model, besides presenting two new scales of measurement (also relative to the constructs of strategic management and learning network). This cross-field perspective could be considered a starting point for new studies in these areas of research, notably in the

business environment of small and medium enterprises (SMEs) not only in Brazil, but also to other emerging countries with the same competitiveness issues. Accordingly, both academic (conceptual and literature) and policy/practice contributions can be considerable valuable as way to understand why some small and medium companies develop at higher rates becomes a fundamental study for possibly filling the abovementioned productivity gaps of SMEs in different regions of the globe.

Finally, it is also valuable to observe that this present study could be considered an important starting point to emerging countries' governments when proposing long-term formulation and implementation of public policies to support a faster development of SMEs, considering their above-mentioned relevance to national economies. It is noticed that many of the programs in this sector are geared toward management training and financial and/or technological support to businesses and individual entrepreneurs. Nevertheless, these are public actions that have not been seen in a systemic way. Although these *ad hoc* initiatives contribute to competitiveness in certain ways, this study seeks to demonstrate, with a systematic approach, the effects of learning network environments in enhancing strategic outcomes and, consequently, the ultimate superior performance.

This dissertation contributes thus to management knowledge by i) showing that there exist Brazilian SMEs with differentiated performances; ii) showing that some SMEs succeed in developing fundamental elements of strategic management that impact their global results; 3) showing that there exist SMEs that succeed in gaining access to strategic information fundamental for their competitiveness, precisely what large corporations do, only through learning networks, which information not only lowers the cost of access to knowledge and its management as a whole, but also serves as an incentive to improve global performance through the systematic contact with the other participants in the network.

1.5 Structure of the thesis

This paper is divided into 07 chapters, as described below.

Chapter 1 – INTRODUCTION -, this chapter, presents the background to the research, as well as the motives that led to the delimitation of the theme, and the definition of the research problem investigated and general and specific objectives. In addition, it is in the introduction that the theme of the contribution of the study or its relevance for the academic, and business milieu, as well as for society as a whole, is addressed, and also the global organisation of the thesis.

Chapter 2 – LITERATURE REVIEW – covers in greater depth the theoretical bases related to the research questions, which are related to Strategic Management in the realm of organisations and the work contained in the Learning Networks, in addition to the relation of both to the construct of Global Business Performance. Finally, this section seeks to address the literature identified knowledge gaps.

Chapter 3 – THE LNC PROGRAMME – describes the functioning of a formal and operative Learning Network of Brazilian corporations, managed by a local business school with international reputation. This section seeks to explain the activities and dynamics of the regional company groups that are members of the programme.

Chapter 4 – THEORETICAL MODEL AND HYPOTHESES - With reference to the objectives proposed in this thesis, the fundamental categories of each construct are considered and analyzed in this section, along with the proposition of the hypothesized theoretical model. Finally, the research hypotheses were proposed.

Chapter 5 – RESEARCH METHODOLOGY - describes the basic research characteristics, the population being investigated, the techniques, instruments and strategies adopted for collecting data, as well as the procedures used for the statistical treatment of this information. Also, the variables employed for the measurement of the phenomena being studied are defined, based on the categories considered in the theoretical model and hypotheses, as well

as the assumptions that guided the execution of this work. Finally, this section addresses the analysis of the quality of the measurement and the global quantitative results.

Chapter 6 – THEORETICAL MODEL AND HYPOTHESES VERIFICATION – analyses the theoretical model and verifies the hypotheses proposed.

Chapter 7 – CONCLUSIONS AND FINAL REMARKS - discusses, from the nomological point of view, a global summary of the results obtained, the academic and managerial implications, as well as expanding on possible future studies and the limitations encountered in bringing the thesis to a conclusion.

CHAPTER II

2. LITERATURE REVIEW

2.1 Introduction

Various authors have heralded the arrival of a new knowledge-based economy or society. Drucker (1994) argues that, in the new economics of knowledge there is not just another resource besides the traditional production factors – work, capital and land – but, rather the only meaningful resource. The economic power of a modern company is, therefore, more centred on its intellectual and service capabilities than on the fixed assets. The value of most products and services depends, especially, on how one can develop the intangible factors based on knowledge. Such factors are know-how, technology, the design of the product, the strategy of positioning, marketing, and understanding of clients' requirements, personal creativity and innovation (Nonaka and Takeuchi, 1997; Nag and Gioia, 2012).

This means that, in the knowledge-based economy or society, individuals and teams must develop a systematic approach to integrating knowledge resources to the several strategic projects of the companies in order to improve their performance (Gardner *et al.* 2012). To Salleh and Ching Choo (2011), the importance of knowledge management can be clearer or more significant when one is dealing with knowledge-intensive organisations, but actually the truth is all the firms are competing in a whole knowledge-based environment. Actually, Nag and Gioia (2012, p. 425) well illustrate this scenario when they argue that “(...) *this 'possession' view of knowledge has recently been complemented by a view in which knowledge is more an organisational property in action rather than something that resides in various repositories in an organisation*”, an idea that seems to be shared by Gardner *et al.* (2012, p. 998) that pointed out that it is important, from the beginning, to realize that “(...) *knowledge workers are individuals who process information rather than physical goods*”.

Over the last decades, experience has shown that the most innovative companies are the ones that demonstrate more competence in creating and administering knowledge and where the management of knowledge is part of the work of all members (Davenport and Prusak, 1998).

A few authors state that companies that survive in a global market have knowledge as the principal strategic resource (Choo, 2002; Nag and Gioia, 2012; Dulipovici and Robey, 2013) and adopt a stance of intensive and permanent learning as a form of seeking competitiveness. The strategy is, by definition, the *locus* where the knowledge accumulated by the companies is evaluated, discussed, reviewed. So, it is within the context of strategic reflection that the company attempts to appropriate and put knowledge to use, whether this is explicit, tacit or practical (Hartley and Benington, 2006; Nonaka and Takeuchi, 2011).

This present chapter has the purpose of discussing the strategy in a context impregnated with corporate learning, having as a consequence the need of sharing resources and, therefore, the establishment of networks and a possible final consequence in performance increase of SMEs. For this purpose, it initially demonstrates the core concepts that support the discussion and, later, a reflection is made about the impacts of these concepts on the exercise of formulating and executing or implementing strategy. In this way, next section aims to highlight what is currently known about the three theoretical major blocks related to the corporate strategic management process: i) Basic Strategic Elements ii) Strategy Formulation and iii) Strategy Implementation. Finally, it reveals the most present elements, or the body of knowledge, contained in each of these blocks that emerged from current literature review and the literature identified knowledge gaps of these concepts.

2.2 Strategic Management

Hunger and Wheelen (2002) presently understand strategic management as the set of decisions and strategic actions that determine a company's long-term performance. It is a type of management that includes a thorough analysis of the internal and external environments, formulation (short, medium and long-term strategic planning), implementation, evaluation and control of the strategy. In a complementary way, Foss and Lindenberg (2013, p. 85), argue that “(...) *strategic management is concerned with the creation, identification, and exploitation of those sources of competitive heterogeneity that result in high levels of appropriable value creation*”.

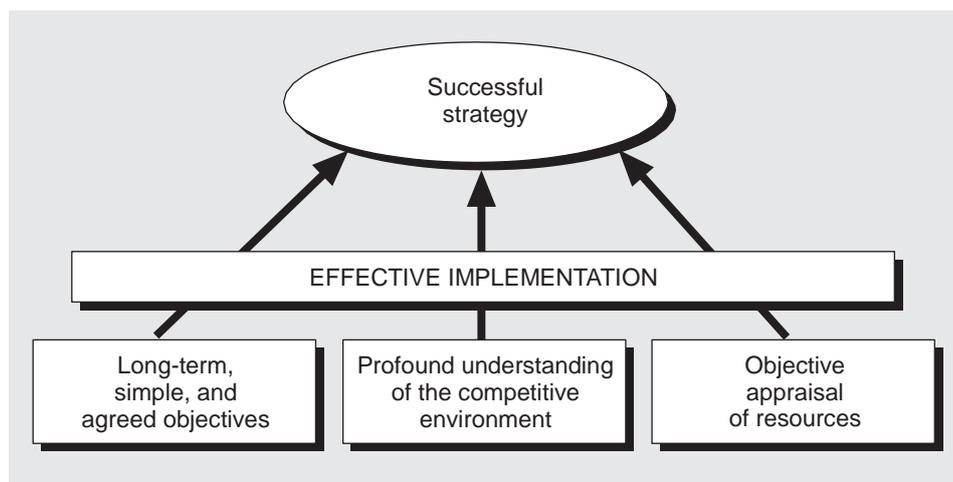
In fact, Ansoff and McDonnell (2009) recently also found a hiatus¹⁷ in their studies between the traditional potential and that necessary for new business strategies, in addition to the development of problem solving technologies and of the contribution of theoreticians and consultants. For these authors, the essence of strategy formulation and implementation, which is the summarized concept of strategic management, can be summed up in the replies to the following questions: i) how to choose the right directions for future growth, among the many imprecisely known alternatives (formulation) and; ii) how to mobilize the energies of a large number of people in the new chosen direction (implementation).

In a similar way, Guga, L. (2010, p. 135) argues that

“**Strategy formulation** includes the planning and decision making that lead to the establishment of the firm’s goals and the development as a specific strategic plan. Strategy formulation may include assessing the external environment and internal problems and integrating the results into goals and strategy. This is a contrast to **strategy implementation** which is the use of managerial and organisational tools to direct resources toward accomplishing strategic results. Strategy implementation is the administration and execution of the strategic”.

An argument that can be also clear identified on Robert Grant (2005)’s illustration below (Fig. 2.1).

Figure 2.1 - Common elements in successful strategies



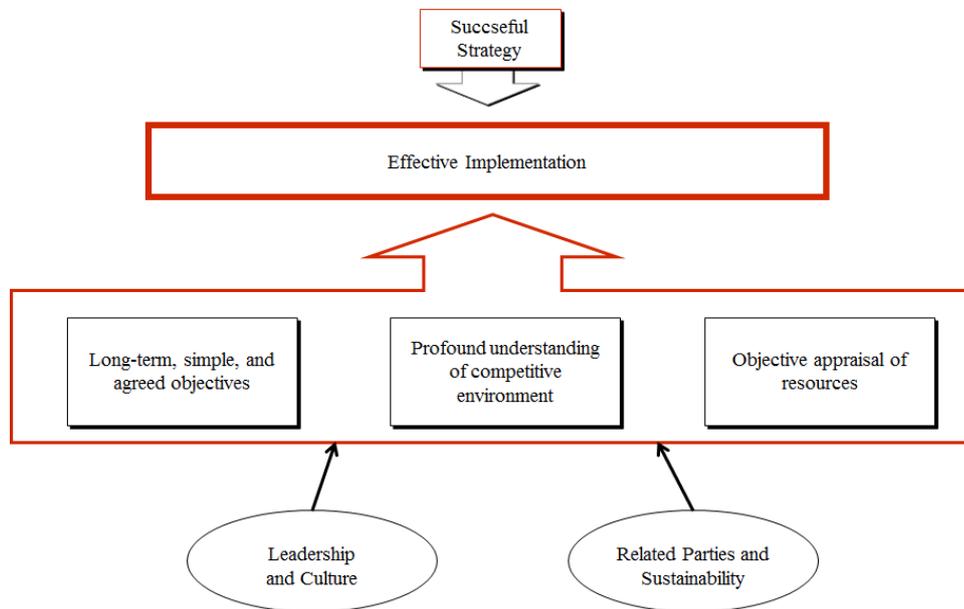
Source: Grant (2005, p. 7)

¹⁷ (...) the original focus of strategic planning was based on the supposition that the new strategies should take advantage of the traditional strong points and avoid the weak points of the company. It was therefore supposed that the traditional potential could continue the same, while the strategy was being changed. (Ansoff and McDonnell, 2009, p. 302).

Notwithstanding this common view, it becomes therefore necessary, in a more detailed fashion, to extend the constituent parts of what is currently called Strategic Management, as well as to check the existence of other assumptions for their operationalization.

For a general view, we resort once again to Grant (2005) in the attempt to interpret these 3 conceptual blocks identified in the bibliographical review (See Figure 2.2) and that were enumerated initially at the end of section 2.1, of this chapter. Looking back, they are: i) **Basic Strategic Elements**; ii) **Strategy Formulation** and iii) **Strategy Implementation**.

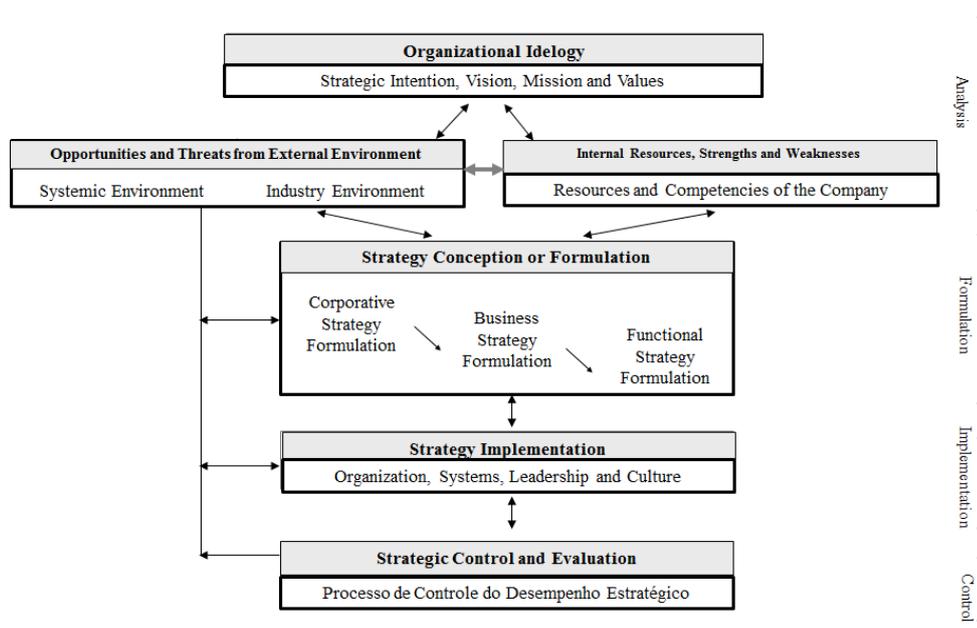
Figure 2.2 – Common elements in successful strategies with “basic strategic elements”



Source: Adapted by the author from Grant (2005, p. 7)

To improve the understanding of a possible model to be adopted relative to corporate strategic management, we have recourse to the study carried out by Mendes (2011), illustrated below:

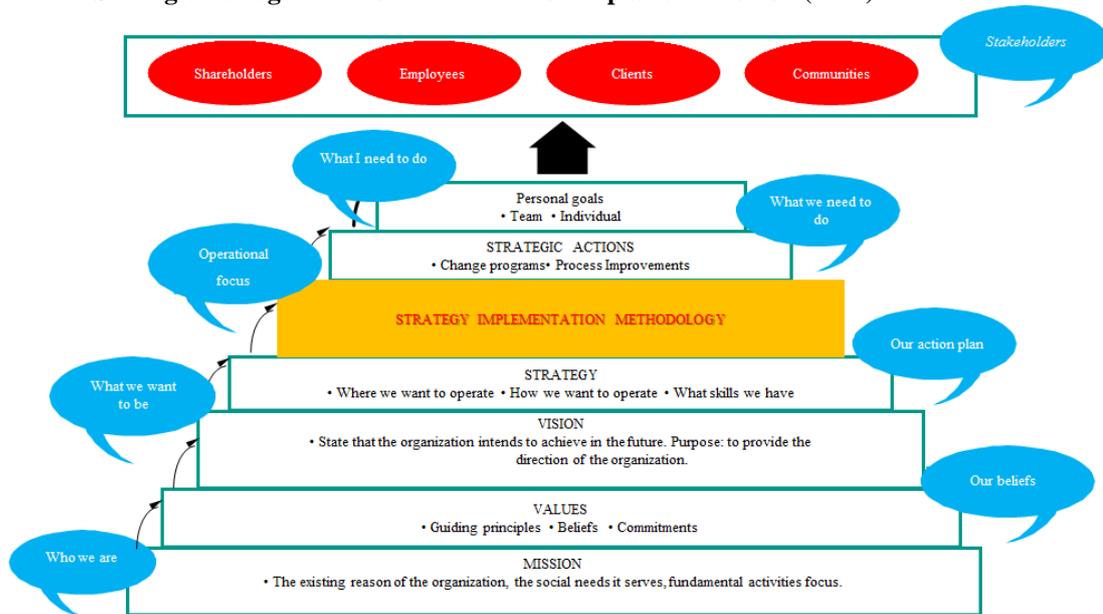
Figure 2.3 – Strategic management flow



Source: Adapted by the author from Mendes (2011, p. 41)

Accordingly, the current section has the objective of understanding by means of a review of the literature, what is currently known about the common elements to the three above-mentioned theoretical blocks. To this end, we shall consider the Basic Strategic Elements as assumptions or drivers for a strategy of success, in accordance with the bibliographical review and shall follow the flow proposed above by Mendes (2011) to understand the constituent elements of the other large blocks of strategic management: that of **formulation** and of **implementation**, with an understanding similar to that of Kaplan and Norton (1997), illustrated by Figure 2.4.

Figure 2.4 – Strategic management flow in the view of Kaplan and Norton (1997)



Source: Adapted by the author from Kaplan and Norton (1997, p. 85)

2.2.1 Basic strategic elements

Leadership Culture

According to Kotter (1998), leadership and management are two systems of action distinct and complementary and that the great challenge of the corporation would be to combine these systems in a balanced way. According to the author, managers deal with complexity making plans and budgets with objectives and targets for the following month or year, while leaders make the changes, starting by establishing a direction or vision of the future, generally long-term, with the strategies that produce the changes necessary to reach the goal. Finally, managers accompany their plans, controlling and resolving problems, and the leaders reach the vision by means of the motivation and inspiration of people, resulting in all moving in the right direction and facing the challenges, considering the needs, values and emotions of the led (Kotter, 1998).

In a broader view, Porter (1996) believes that one of the leader's functions is to teach others in the organisation on strategy to say 'no'. To the author, setting limits is another function of a

strategic leadership, what is directly related to strategy formulation (Vera and Crossan; 2004; Theodorakopoulos *et al.*, 2009).

In the view of Schoemaker, Krupp and Howland (2013), being a strategic leader means identifying weaknesses in the following skills and correcting them: i) **anticipate** moves of the market; ii) **challenge**, or reframe a problem from several angles, iii) **interpret** scenarios, demonstrating curiosity and an open mind; iv) **decide**, balancing long-term investment for growth with short-term pressure for results; v) **align**, being able to also assess the stakeholders; and vi) **learn**, by communicate stories about success and failure to promote institutional learning.

Besides these dimensions of the desired profile of a strategic leader, an important trend that has developed over the last two decades has enormous implications for leadership in organisations. It consists of management through the delegation of power or what literature calls “empowerment” or delegation process. This new approach argues that effective strategic leaders share power and responsibility with their employees (Rupprecht *et al.*, 2013). Garratt (1995) values **delegation** as a practice that **unleashes creativity** and **increases the commitment** of the followers to corporate goals, maximizing their contribution and job satisfaction.

In the end, strategic leaders of an organisation are the primordial intervening link in corporate performance, held to be the identifiers and communicators of collective values, they ensure that resources are available for the people internally and listen the greater part of the time, as they are modellers and defenders of cultures focused on performance. These professionals form teams to serve the common good, frequently to the detriment of personal objectives, taking into consideration that a less direct leadership is favoured by the guidance of examples and of a communication and a vision of stimulating values grounded much more on listening and caring for the followers (Kouzes and Posner, 2009; Vera and Crossan; 2004; Theodorakopoulos *et al.*, 2009; Nonaka and Takeuchi, 2011). That’s why strategic management leadership is currently considered a fundamental basic assumption for strategy success, in terms of both formulating and implementing the strategic way.

Related Parties and Sustainability

Today, the external environment is undergoing continual and fast changes, with far-reaching effects on organisations and their strategies. In the past, for organisations, it was sufficient to maximize profits: the managers were judged by how well they performed in the interests of **shareholders**. This model of corporate governance that had reference only to the interests of shareholders, however, is insufficient in the new context, or the one of the new economy. It is required to manage according to the interests of, and contributions from, a larger set of interested parties (**stakeholders**). The pursuit of excellence by companies starts with the definition of objectives related to quality of relationships and economic, social and environmental sustainability and degree of stakeholder impact on sustainability strategies depends on the power of that particular stakeholder group (Eesley and Lenox 2006; Darnall *et al.* 2010; Pelozo *et al.*, 2012; Wolf; 2014). These are the principles of the term “Sustainability” and must be included in long-term strategy by the strategic leadership.

Hax and Majluf (1984, p. 35) identify the group of stakeholders as

“Not only shareholders, customers, suppliers, executives and other professionals in business, but also the government, the community and all groups affected directly or that may be affected by the direction of the company, such as environmentalists, consumers, and others”.

To Johnson, Scholes and Whittington (2005, p. 179), “*stakeholders are those individuals or groups who depend on an organisation to fulfil their own goals and on whom, in turn, the organisation depends*”. According to them, a position corroborated by Hollos, Blome and Foerstl (2012), important stakeholders include, besides the shareholders, financial institutions, unions, suppliers and company customers. Within a wider definition of customer, adding all stakeholders in the organisation’s activities, both internally and externally, one can conclude that today it is not sufficient to achieve good profit margins, as it is important to add value to various activities undertaken by the company (Merriman and Sen, 2012).

Another aspect of growing concern in strategy formulation is related to the social role that an organisation plays in the society in which it operates. According to the Ethos Institute for Social Responsibility (2008), the company is socially responsible when it goes beyond the

obligation to respect the laws, pay taxes and observe the appropriate safety and health conditions for workers, and does so because there is a belief that, acting in this way, it will be a better company and will contribute to building a fairer society. The practice of social responsibility appears internally in building a healthy work environment and one conducive to increasing employee's satisfaction and the company's ability to recruit and retain talent.

So, from the standpoint of strategic formulation and decisions, because “*the interest of a stakeholder group can conflict with another*” (Wheelen and Hunger, 2002, p. 41), the triple bottom line¹⁸ concept must be taken into account, given the range of interests and concerns that exist in a firm's task environment. In this way, the authors argue that, before making any strategic decision, which includes all strategic planning process, strategic managers ought to realize how the available alternatives could affect different stakeholder groups (Rogers and Hudson, 2011; Milne and Gray, 2013). Not necessarily the most profitable decision today will lead the company to sustainable long-term financial superior results (Carter and Rogers, 2008; Surroca *et al.* 2010). And it must be contemplated in strategy as an assumption for success (Mirvis *et al.* 2010; Gibson, 2012). Table 2.1 summarizes, from the point of view of Johnson, Scholes and Whittington (2005), some conflicts that may occur in strategic decisions, in relation to existing stakeholder groups.

Table 2.1 – Some common conflicts of expectations

• In order to grow short-term profitability, cash flow and pay levels may need to be sacrificed.
• “Short-termism” may suit managerial career aspirations but preclude investment in long-term projects.
• When family businesses grow, the owners may lose control if they need to appoint professional managers.
• New developments may require additional funding through share issue or loans. In either case, financial independence may be sacrificed.
• Public ownership of shares will require more openness and accountability from management.
• Cost efficiency through capital investment can mean job losses.
• Extending into mass markets may require a decline in quality standards.
• In public services, a common conflict is between mass provision and specialist services (e.g. preventive dentistry or heart transplants).
• In large multinational organisations, conflict can result because of a division's responsibilities to the company and also to its host country.

Source: Johnson, Scholes and Whittington (2005, p. 181)

¹⁸ The economic (financial performance), the social and environmental risks of a company.

Even so, according to Grant (2005), (...) *even beyond the common interest of all stakeholders in the survival of the firm, there is likely to be more community of interests than conflict of interests among different stakeholders* (Grant, 2005, p. 41).

2.2.2 Strategy formulation

Ideology and Vision Deployment

Any strategic management system must have as a starting point the identification of what are the desired outcomes, and the strategic horizon within which it intends to achieve them . This strategic step is known as “Corporate Ideology” and defines basically the rules under which the company will operate and the “desired future state”. These concepts include Vision that must be seen as a firm’s future achievement, the Mission and Values that represent the rules of operation (Gómez, 2013).

Tavares (2008, p. 98) defines vision as

“a projection of the place or space that is intended that the organisation will take in the future and, through the articulation of the aspirations of its components in the present, the imagination of which kind of project is necessary to achieve it”.

According to Santos (1992, p.71) *“the vision becomes a way forward and a common language to guide and unify the company consistently and coherently”*. Therefore, it is the vision that indicates the *“magnetic north pole”*, the sense of direction in which the organisation wants to go, and should comprise a long-term perspective (Collins and Hage, 1993; Collins and Porras, 1996). With a similar view, Cady *et al.* (2011, p. 65) explain that

“(…) if organisations want to maximize productivity and ensure that they are doing the ‘right’ work, they must provide organisational members with a clear understanding of who they are, where they are going, and how they are going to get there”.

Referring now to the Corporate Mission, the review of the literature currently takes us to a series of propositions, coming from distinct authors, which demonstrate a reasonable

consensus that the mission of an organisation represents the reason of its existence (Collins and Hogue, 1993; Senge, 1990; Senge *et al.*, 1994; Hunger and Wheelen, 1995; Collins and Porras, 1996; Johnson, Scholes and Whittington, 2005; Grant, 2005; Mendes, 2011; Werner and Fuyuan, 2012; Rupprecht *et al.*, 2013).

In the same way that we dealt with the vision previously, it is possible to identify important common elements in the conception of the corporate mission, among the above-mentioned authors, as the basic purpose of the organisation, with focus on the external client, as well as additional values that the organisation intends contemplating in its “*raison d’être*”, reflecting, very clearly, a previously prepared analysis of the environment. The mission functions, therefore, as a general criterion for orientating decision making, defining objectives and helping in the strategic choices.

The final concept to be addressed in this section is Corporate Values. It is necessary to stress that, to fulfil the corporate mission and reach the vision, the company will need some sign posts to prevent wrong decisions. The two pillars that serve as supports in guiding a company are the mission and the values. While the first serves as a compass, the second serves as sign posts or value criteria for decisions and behaviour in the company.

According to the American Psychological Association (2011), “*the values statement should describe the guiding principles by which the staff is expected to function to achieve the organisation's mission.*” For this reason, corporate values and competences cannot be changed from time to time and must remain faithful to the corporate mission, all of them according to a given desired vision statement (Asan and Soyer, 2009).

Strategy Conception

As has already been discussed in preceding sections of this study a strategy is fundamentally constituted in two stages: i) **formulation** and ii) **implementation**¹⁹. The first refers to the

¹⁹ This division or distinction of stages is, in fact, a didactical one, as one can identify in most contemporary authors (for example, Mintzberg, 1994; Mintzberg *et al.*, 2002; Mintzberg *et al.*, 2005) that strategy is a process or a “pattern”, meaning that this two conceptual stages must be seen as an ongoing process that never ends, one feeding the other in both directions.

conception of the strategy, while to the second falls the realization of the strategy conceived in the previous stage, the commitment and involvement in the process of seeking success by means of a sustainable competitive differential.

The line of strategic formulation followed here, in detriment to the "Theory of the Resources" (or the Resource-Based View, widely known as RBV) as in Penrose, (1959), Rumelt (1984) and J. Barney (1986, 1991, 2001), among others, is the line known as "outside-in", that evolves an analysis of the competitiveness of the business, by researching the characteristics of the industry, as the specialized authors do in "Industrial Organisation", more specifically M. Porter (1986, 1992, 1996, 1998, 1999)²⁰.

Thus, according to this line of thinking on the question, the company strategy would be a function of industry structure and of the opportunities that it offers for obtaining the sustainable competitive differential. From the identification of such external opportunities, the company would then organize itself internally to take advantage of them, as well as warding off the pressing threats that have also been identified (outside-in strategy) (Jolayemi, 2012).

From these analyses, the best strategic alternatives are defined to realize the vision of the organisation. Formulating strategies is, then, to project and select options that conduce to reaching the organisational objectives (Ansoff and McDonnell, 2009; Andrews *et al.*; 2009; Walker *et al.*, 2010; Mendes, 2011; Poister *et al.*, 2013).

In fact, looking initially into the current literature to understand the definition and role of strategy, one can note that Wright²¹ (quoted by Mintzberg *et al.*, 2005, p. 17) defines strategy as "*top management's plans to attain outcomes consistent with the organisation's missions and goals*", while Chandler²² (quoted in Ghemawat, 2000, p. 15) understands strategy as "*the determination of goals and long-term objectives of an organisation as well as the adoption of action plans and allocation of resources needed to achieve these goals*".

²⁰ The discussion about the weaknesses and strengths between these lines of thought on strategy (both to formulation and implementation) is beyond the scope of this study. Given the fact that the methodology of Strategic Management used in the LNC Programme under consideration is grounded on the "Industrial Organization" theory (outside-in), this strategic approach was prioritized in the context of this thesis.

²¹ Wright, P.; Pringle, O. and Kroll, M. (1992). Strategic Management Text and Cases (Needham Heights, MA: Allyn and Bacon.

²² Chandler, A. (1963). Strategy and structure. Cambridge: MIT Press.

To Rose and Cray (2013, p. 723),

“The larger the number of relevant components in the environment and the more complex their interrelationships, the less reliable are predictions of future states. Environmental complexity is therefore proposed as one of the emergent factors that have transformational effects upon intended strategy”.

Although the current definitions of strategic formulation are many, as well as the approaches to it, some points seem common in general terms, in various lines of strategic thinking. In this analysis, it seems to have become evident that, in the strategy formulation process, the survival, growth and performance of the organisation are the elements that should be considered central. In summary, strategy formulation or conception is a proactive approach that helps a company to find a better position in world full of uncertainties (Yazdani and Gulza, 2013). In fact, according to Andrews *et al.* (2009, p. 3), “(...) *rational planning is characterized by analytical, formal and logical processes through which organizations scan the internal and external environment, and develop policy options which differ from the status quo*”.

Strategic Objectives Deployment

Every organisation has a strategy, even if it is not an output of a structured process or formalized. The strategy deployment into objectives is required to communicate it and to generate action. According to Filho (2005), such objectives are exactly the expected results of a determined strategy and should be translated and communicated in a language that is easily understood by the employees of the different company levels (Stacks and Bowen, 2011). And, for them to be consistent among themselves, the author states that the strategic objectives should encompass, necessarily, short and long term horizons, making it possible to monitor the progress of the strategy in the competitive environment, over the whole prevailing strategic cycle.

Tavares (2008, p. 312) defines objectives as “*targets to be achieved to make the vision a reality through the concentration of efforts and resources over predefined periods of time*”,

while Wheelen and Hunger (2002, p. 12) propose that they are “*the end results of planned activity. They state what is to be accomplished by when and should be quantified if possible*”.

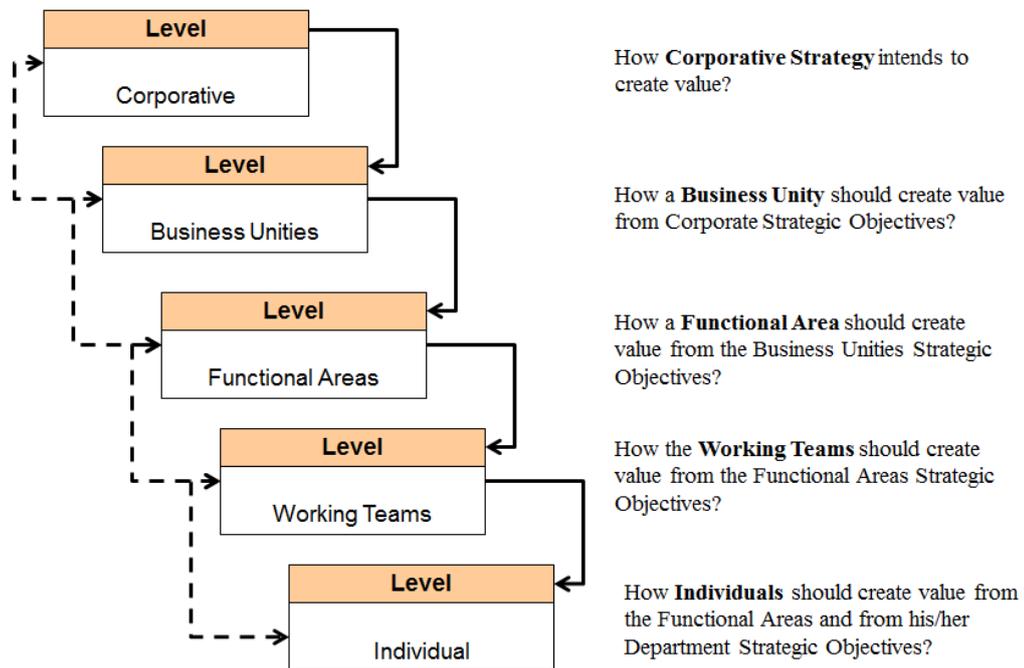
In addition, now related to the gains of strategic objectives, DeFeo and Janssen (2001) have observed in their study the following results: i) implementation of change actions that lead to expected outcomes; ii) focus on using resources in essential actions; iii) increase of cooperation among companies from different areas; iv) delegation of authority, lowering the levels responsible for action plans related to strategy; v) elimination of unnecessary effort in activities not covered by the plans; and vi) elimination of conflicts between plans of different units or areas.

Among the methodologies for the deployment of strategic objectives in these unit areas, one that is known worldwide is that related to the Total Quality Control (TQC) methodology. The FNQ²³ (2001) presents the management model by guidelines and advocates that senior management must set the related goals and actions. The management level could choose to deploy to other areas the objective (what) or the action (how), but the first one, the objective unfolding, is strongly recommended. If the objective is deployed, one must seek the corresponding action, and vice-versa.

In fact, as Filho (2005) argues, it is fundamental that departments and even individuals understand how their daily work is related to the company strategy as a whole. And the response to this requirement would be in what the author calls “cascade effect” (Filho, 2005, p. 219), in other words, the transfer down of the strategic objectives of the higher (corporate) level of the corporation to the other levels, as business units, functional areas or of services, departments and individuals. Figure 2.5 seeks to illustrate such process.

²³ FNQ – Fundação Nacional de Qualidade (Brazilian National Quality Foundation)

Figure 2.5 – The cascading effect of strategic objectives



Source: Filho (2005, p. 220)

Kaplan and Norton (2001, p. 259) also highlight the benefits of the deployment of the scorecard to the level of individuals, claiming it to be the “*clearest mechanism for aligning personal goals with the goals of business units and the corporation*”.

However, Filho (2005) warns that, in this transfer stage of strategic objectives into other organisational areas, there are other relevant points that deserve to be emphasized. The strategic formulation process and the consequent transfer to other areas are complex actions and demand a programme of continuing education to increase comprehension of the strategy, taking into account the distinctive profiles of staff that work in all the organisational levels (Hrebiniak, 2005). In the second place, with a view to favouring the process of organisational change, the commitment of the collaborators ought to be stimulated through a system of recognition and variable remuneration, based on a meritocracy, a theme that will be further detailed in this section.

Strategic Performance Indicators

In recent years, it has become clear that, not only financial measurements, largely employed in the past, being employed now and, very likely, will be employed also in the future, should be taken into account in order to measure an organisation's global performance. The measures must be linked to strategy, based on the concept discussed here of Strategic Management (Rodriguez *et al.*, 2009; Sanchez and Robert, 2010).

In the previous paragraphs when strategic objectives were defined, they were presented as concise statements that describe the specific actions one must perform well, if a successful implementation of strategy is wanted. And how to access the real global performance, the one linked to strategy execution, is the next step. So, according to Niven (2002, p. 114), “(...) *performance measures are the tools we use to determine whether we are meeting our objectives and moving toward the successful implementation of our strategy*”, representing quantifiable patterns used to evaluate and communicate performance against previously established results. Similarly, the FNQ (2001, p. 8) advocates that “*a performance indicator measures numeric or quantitative data, and has a goal attributed to it, which performance is brought periodically to the attention of managers of an organisation*”.

In addition, as Vouldis and Kokkinaki (2011, p. 484) explain, it is worth remarking that “*a performance measurement system should be a dynamic system and must include information from the wider environment. (...) the external and internal environment of an organisation is constantly changing*”.

In the same way, Niven (2002) affirmed that

“(...) no simple definition can truly capture the power that well-crafted and communicated performance measures can have on an organisation. Measures communicate value creation in ways that even the most charismatic CEO's speeches never can. They function as a tool to drive desired action, provide all employees with direction in how they can help contribute to the organisation's overall goals, and supply management with a tool in determining overall progress toward strategic goals”. (Niven, 2002, p. 114).

In fact, according to research conducted by the consulting company KPMG, with 143 senior management executives, from public to private sectors of the economy, 93% of them believed that the measurement process was effective in influencing the performance of their organisation, but only 51% were satisfied with their current performance and evaluation systems (Drickhamer, 2002).

Considering relationship of proposed performance indicators, at all managerial levels (strategic, tactic or managerial and operational), the main idea is to develop a model that shows how strategic performance indicators are linked, or correlated. As explained by Olve *et al.* (2001) this proposed model should indicate how some indicators depend on each other (for example, satisfied customers buy more and, thus, increase the profits). It is called the cause and effect relationship. The authors explain that these relationships can be of two types: “*One type comprises the relationship, more or less verifiable that can be revealed by experiments and analysis. (...) The other is an expression of what we choose to assume*” (Olve *et al.*, 2001, P. 219). In similar way, Kaplan and Norton (1997, p. 30) agree that “*a strategy is a set of hypotheses about cause and effect. The measurement systems should make the relationships (hypotheses) among objectives (and measures) in the various perspectives explicit so they can be managed and validated*”.

Strategic Goals

Several authors have observed in their studies that a performance target stimulates team motivation, and individual or collective persistence, and gives a direction to the work of the employees of an organisation to meet strategic objectives. To Foss and Lindenberg (2013, p. 88), an important issue that stimulates this motivation that and affects the potential strength of a goal frame are “*the signals of goal frames of other people, especially of those in higher positions.*” Additionally, one can cite the findings of Johnson *et al.* (2012, p. 557) that “*leaders who set multiple goals were perceived as having improved more across leadership competencies than those who set only a single goal*”, with a similar view of (Choi *et al.*, 2012).

In addition, as argued before, the organisations are inserted in an institutional environment of great uncertainties, fruit of the changes that have occurred in the new economics, “the learning economy”, which is a direct consequence of the increase in the flow of information and knowledge. Based on these uncertainties, there are some authors arguing that they have found that a process of measurement and gauging of targets has its importance increased exponentially, for it to provide a direction for companies and, thus make the attainment of incremental results feasible (Locke and Latham, 1990, 2006; Locke, 2004).

But, one difficulty that still exists is the setting of goals or targets. While the selection of strategic indicators can be considered less difficult, after the definition of strategic objectives that compose a strategic map, organisations often suffer from a lack of benchmarks to set goals to be pursued (Cobbold and Lawrie, 2002). However, from the start, something is already clear: after the formulation of strategy, the following step is its execution, which consists in the implementation of the strategic actions and in the proper use of the organisational controls, **which is only possible after the definition of a system of targets** (Simon, 2000). According to the author, such execution also lacks a good system of corporate governance and of internal controls and appropriate organisational structure. It is that such organisational controls are important in the directioning of the implementation of the strategy, comparing the results obtained in relation to those planned and directing corrective action to be taken when the difference is not considered acceptable (Hitt *et al.*, 2008).

In very similar manner, Kaplan and Norton (1997) also argue that a measurement system can come to be a factor of competitive advantage in an environment of uncertainties, in view of the fact that it has as a premise to improve the performance of the organisation. According to their analysis, a system of targets can be defined as the way in which an organisation measures the variables judged important for its business.

On the other hand, thinkers exist such as Ordóñez *et al.* (2009) that affirm the existence of wrong paths for reaching targets, because they would be incapable of producing an increase in performance for the organisation, being considered limiters in the use of a system of targets. As a central point here, we have the setting of objectives to be reached for indicators that are not the most appropriate for guiding the organisation to the maximization of its result, or the setting of objectives that are not made compatible with the others in the ambit of the

organisation. According to the author, there exist furthermore those that, on being established, generate a detrimental climate of competition between the staff which prevents the desired cooperation.

2.2.3 Strategy implementation

Strategic Initiatives and Action Plans

While the strategic objectives represent “what” ought to be reached in strategic terms, and previously defined targets represent the “degree of intensity” of what has to be reached, the strategic initiatives or projects, translated in the form of action plans, are the “how” one would have to act to reach such objectives. In addition, these initiatives must be prioritized in time, in accordance with the availability of resources of all kinds, in order to facilitate the monitoring and control of the projects.

In fact, Niven (2002, p. 188), argues that “*the last piece in the puzzle is (...) the development and prioritization of initiatives that will help you achieve your targets*”. He also explains that

“Initiatives are the specific programmes, activities, projects, or actions you will embark on to help ensure that you meet or exceed your performance targets. The target is your ‘end in mind’ for the performance measure, and to get there you need to determine what investments in initiatives are necessary to guarantee a positive outcome”. (Niven, 2002, p. 188).

In a similar way, also related to strategic initiatives, Hunger and Wheelen (2002, p. 15) define the implementation of the strategy as “*a process by which strategies and policies are put into action through the developing programmes, budgets and procedures*”. They also state that a programme is “*a statement of activities or steps needed to accomplish single-use plan. It makes that strategy action oriented*”.

This means that, once the organisation determines the strategy, its implementation is done by the segmentation of long-term objectives into short-term, well defined and quantified. Each of these objectives must be achieved by an action or project and these are prioritized according

to relative importance and availability of resources (financial, human, material etc.) and sequenced over time in schedules, considering the periods for which their results need to be achieved (Kaplan and Norton, 1992, 1996, 1997, 2001; Niven, 2002; Bitner and Myers, 2010; Jayashree and Hussain, 2011).

In this way, according to Hunger and Wheelen (2002), initiatives and action plans are important to i) serve as a link between the formulation, evaluation and management of strategy; ii) specify what should be done differently from the current way; and iii) contribute to a more favourable climate to the extent that the allocation of responsibilities creates an engagement process around the improvement of organisational results.

Going further, the budget also considered an important element in the establishment of annual plans, and strongly influences the strategic choice, although it must be subordinate to the latter and not the contrary. Regarding the objectives to be achieved, the definition of strategies will directly affect differentiated allocation of resources in terms of value and disbursement schedule. Thus, the first step in achieving the overall target of the organisation is determining the strategic budget, which will be detailed later in accordance with the strategies and specific needs of each area (Kaplan and Norton, 2001; Hunger and Wheelen, 2002; Niven, 2002, Grant, 2005; Johnson, Scholes and Whittington, 2005; Tavares, 2008).

Finally, it is worth pointing out that the lack of criteria and definition of priorities of the strategic initiatives can result in a loss of strategic focus and the consequent diluting of resources among an excessive number of projects, which will make implementation of organisational strategy difficult.

Thus, for a strategic initiative to bring benefit to the organisation, it is fundamental that it is managed and is part of a project, which follows objective prioritizing criteria. To this end, as we have already argued in previous paragraphs, an organisational structure should be defined, with rules and responsibilities, in sufficient detail for the management of such a portfolio of projects to be able to be measured and its interrelations determined (Kendall and Rollins, 2003).

To summarize, a “project” by definition is a temporary effort undertaken to create a unique product or service which is, accordingly, finite, with well-defined start and end, utilizing processes that are executed by people. And a set of related projects that seek the same benefit is defined as a “programme”, this being managed in coordinated fashion. The set of projects or programmes and other grouped work (operational) is called a “portfolio” when it aims at attaining the strategic objectives of the organisation (PMI, 2004).

For Gareis (2002), the management, even if efficient, of isolated projects has no longer proved itself sufficient for organisations in the new reality of the complex learning economy. Additional competences therefore, are necessary, such as the development of criteria for the selection of strategic projects and their consequent alignment with the corporate programmes, as well as the good management of strategic portfolios for obtaining the best possible results of the individual projects, but through the focus on the set of projects and actions so as to ensure that all are contributing to the strategic objectives proposed on the occasion of their formulation.

Information and Communication Systems

Information and communication are attributes that are strongly present in the daily routine of organisations, being “*Strategic IT management (...) one of the most demanding and critical tasks for organisational performance*” (Wilkin and Cerpa, 2012, p. 53). It is true that all management systems require an investment of much of the manager’s time in processing a significant amount of information and in communication with other stakeholders, internally or externally to the organisation. This makes clear that an information and communication system cannot be independent of the planning, management control and organisational structure. In fact, Lacombe and Heiborn (2003) define an information system as an integrated and consistent system for the generation, processing, storage and communication of data and information in good time at the various levels of the organisation.

McLaren *et al.* (2011) reinforce this point of view when they recognize the evolution of “Information Systems” over recent years, according to the authors, “*to compete in a highly dynamic marketplace, firms must frequently adapt and align their competitive strategies and*

information systems (...) Improving the strategic fit of a firm's information system has been a primary goal of IS executives for at least two decades". In fact, Gaines et al. (2012, p. 2) understand that "the power to collect, assess, and disseminate information is a valuable strategic resource that any organisation can use to improve its competitive advantage", while Drnevich and Croson (2013, p. 483-484) also affirm that "(...) there is clear evidence of a measurable correlational relationship between Information Technology investment activities and firm performance on several strategic dimensions".

Kaplan and Norton (2001, p. 13) believe that "(...) today's organisations need a language to communicate both the strategy and the processes and systems that contribute to the implementation of strategy and to generate feedback on the strategy."

In this way, in the search to summarize the importance of the information and communication systems of a corporation to strategy, Gaines et al. (2012, p. 14) explain that

"It should be obvious (...) that viewing IS as a support function is no longer sufficient. Executives should work to avoid the once-common practice of just dumping scarce resources on IS-related projects. Rather, executives should remember to view IS from a strategic standpoint, working to maximize their return on investments by using IS to their advantage. The management of IS-related issues is a dynamic process that takes into consideration the ability that IS brings to an organisation to become more flexible in answering the forces of the competitive environment. Thus, executives responsible for any organisational function should be mindful to partner with IS wherever possible, or risk failure. Organisations that do not include IS as a key strategic function will likely be doomed to failure also. Executives must constantly monitor their alignment with the overall business strategy, which must also include an overall IS strategy, especially as the competitive environment changes, technology changes, customer expectations change, and regulatory requirements change".

A position that is corroborate by Drnevich and Kriauciunas (2011) and also by Pavlou and El Sawy (2006), which studied the impact of strategic information technology and competitive advantage.

Control and Evaluation

Control and evaluation is the process that accompanies the activities and results so as to detect beforehand diversions in the plans laid down, and propose corrective action in the sense of

“course correction”, should something be coming out wrong, in accordance with the preliminary planning. The managers of all the levels should have control and evaluation mechanisms available to be able to carry out the respective corrections and alerts in timely fashion. According to Christ *et al.* (2012, p. 434), these specific control and evaluation instruments “(...) can take many forms, including, but not limited to, policies and procedures, segregation of duties, performance-based compensation, supervisory reviews, computerized edit checks, and so on”. In sum, these types of controls seek, by means of these specific tools, to determine to what degree the established strategies are being effective in obtaining results, in a system in which individuals and teams take responsibility for the continuous improvement of business processes (Kumari and Malhotra, 2012; Choi *et al.*, 2012).

In a complementary view, to Wheelen and Hunger (2002, p. 243) control and evaluation information consists of

“performance data and activity reports (...). If undesired performance results because the strategic management processes were inappropriately used, operational managers must know about it so that they can correct the employee activity. Top managers need to be involved. If, however, undesired performance results from the processes themselves, top managers, as well as operational managers, must know about it so that they can develop new implementation programmes or procedures. Evaluation and control information must be relevant to what is being monitored”.

They also explain that “*such strategy review is usually initiated when a gap appears between a company’s financial objectives and the expected results from current activities*” (Wheelen and Hunger, 2002, p. 243).

A target evaluation process, therefore, demonstrates the causes or existence of the gaps between setting goals and achieving them. The assessment should seek to share information, encouraging organisational learning and coping with risk. Tavares (2008, p. 338-339) also affirms that “*actions arising out of the control can be reactive or proactive. The reactive actions aim at correcting the diversions detected, while the proactive aim at preventing them occurring*”. In fact, Romney and Steinbart (2009) also believe that preventive controls can “deter” problems before they arise, while detective controls can “discover” them after they take place.

To seek the above-mentioned in the use of a system of evaluation and control, Tavares (2008) summarizes that to implement an evaluation and control plan it is mandatory to i) define evaluation parameters; ii) establish points of control; iii) verify these points of control; iv) correct deviations; and v) provide feedback to the total process, with a similar view of Tsai *et al.* (2013) that verified in their study the importance of data input/output control and the type of access of these information.

Strategic Learning

Considering the longevity of the organization the primary objective, organizational learning can be considered as a process that takes actions to decrease the company's risk of failure, in which any mechanism for reviewing the past should also consider the implications for the future, mostly, in situations perceived as similar to others (Kim and Miner, 2007, Trainor *et al.*, 2008; Gary *et al.*, 2012; Routley *et al.*, 2013).

Idris and AL-Rubaie (2013, p. 71) identify that strategic learning occurs in an organisational environment “*when mistakes are discovered and fixed by re-thinking problematic regulations, policies and methods.*” In other words, it can be defined as a process, based on learning, to conceive and implement new strategies for continuous adaptation to the environment and their variants.

Analogously, Huber (1996, p. 822) teaches that “*an organisation learns when, through its processing of information, it increases the probability that its future actions promote an improvement of performance*”. For this to be possible, for the author, the process of knowledge generation in the organisation should involve the acquisition, the distribution and the interpretation of the information, normally in an interpersonal and social manner and accordingly, fuelling the organisational memory (Huber, 1991).

From Kuwada's perspective (1998) on the other hand, there are two types of organisational learning, **business learning**, according to which the organisations acquire knowledge about the business, and **strategic learning**, according to which the organisations acquire corporate knowledge. For the author, strategic learning is a level of organisational learning that

improves the strategic capacity of the organisation, changes its basic presuppositions and permits it a new set of references.

In addition, Rose and Cray (2013, p. 725) also argue that “*institutional learning may be closely aligned with emergent strategy as the mental models of the actors are modified in response to the environment*”. In fact, Hsu and Fang (2009) affirm that strategic learning is a competence that is put into practice to help companies formulate strategies and achieve their objectives through its implementation, and also related on the corporative capacity of understanding of external environment and respond properly (Tallon, 2008; Charlotta, 2012).

Recognition and Compensation

To Ericson (2012), and many other scholars, executive compensation needs to be focused strongly on performance. According to the author,

“It must meet external standards for competitiveness, efficacy and propriety. At the same time, it must be clear, valuable and compelling to executives. If not, then these large outlays may be largely wasted” (Ericson, 2012, p. 53).

In this way, the theme of compensation and recognition is notably one of the most important and complex in the strategic administration of people and teams. At the same time as it stimulates the search for increasingly better performance, the system of remuneration and recognition should try to align the behaviour of people with the strategic objectives established in the strategic formulation phase of the organisation (Balkin and Gomez-Mejia, 1987; Mone *et al.*, 2011; Mu and Jeffrey, 2014). Foss and Lindenberg (2013, p. 86) argue that “*a key reason why strategic goals matter to firm performance (...) is that such goals influence value creation rooted in employee motivations*”.

Compensation and recognition systems can be, therefore, considered heavily responsible for shaping individual behaviour, since people tend to act according to the explicit and implicit mechanisms adopted by the company, and according to the pathway signs of their careers within the organisation, that means, their own motivations (Hax and Majluf, 1984; Foss and Lindenberg, 2013). Thus, should there be no alignment and connection between action and

strategy, people will pursue other targets that are more beneficial to them individually, and not those that are related to the search for sustainable competitive differential that only a good strategic management can proportion, a movement that can place at risk the company's existence in the long term (Tibergien, 2014).

Such affirmation is grounded in agency theory, which is one of the approaches most utilized in the research on compensation and recognition (Conyon, 2006). Such a line of study is based on the premise that the principal (the shareholder or the owner) delegates authority to an agent (the executive) and expects him or her to maximize the principal's interests, in accordance with the proposals, among others, of the works produced by Tosi *et al.* (2000) and also by Rossetti *et al.* (2008). According to both of these lines, the principal can incur losses – called “agency costs” - when the agent pursues objectives different from his, in other words, as we argue above, in a manner unaligned with the corporate strategy (Mitnick, 2006).

According to Bloom and Milkovich (1998), the challenge is, therefore, to induce the executive, who is naturally concerned with his or her career and own interests and averse to risk, to act with the end of increasing the value of the company, through the recurring maximization of the strategic corporate performance.

The compensation and recognition systems have, therefore, a relevant role within the strategic management process in mobilizing teams to achieve the strategic outcomes, and in ensuring consistency between corporate and individual objectives and reinforcing the commitment of the teams to the implementation of the plan (Mone *et al.*, 2011; Mu and Jeffrey, 2014).

2.3 Learning networks

The purpose of this section is to present the concepts arising out of several lines of thought and different authors on organisational networks in general and, more specifically, about learning networks. The first part shows how current society, in corporate terms, already shows a tendency to organize companies in networks of all kinds. Later, the emphasis is on learning networks, which is the focus of this research, as well as the strategic behaviour of firms

participating in such networks. Finally, this chapter intends to bring up evidence in the literature on the topic of what is required for such alliances to be successful in the long run.

2.3.1 The networking society

Networks can be seen as entities formed by a diversity of knowledge and critical competences that are fundamental for the participating companies, and which confer on them the competitive skill to obtain, keep and refresh implied knowledge faster and more dynamically. In this way, in order to exploit the competitive edge of a network to a maximum, in such a way that all participants can benefit not only from the common, but also from the specific results, the companies must be capable of instituting processes, which conduct to the conception of a solid identity for the network and provide quick and reliable access of the participants to the implicit knowledge developed in it (Kim and Park, 2010). In fact, according to Lee, Lee and Feiock (2012), *“the motivation to participate in inter-organisational networks primarily comes from an organisation that has the opportunity to accomplish a goal that it otherwise would not be able to achieve on its own”*.

In fact, the growing importance of learning networks in the management field can be noticed when one understands that *“networks have assumed a place of prominence in the literature on public and private governing structures, gradually nudging hierarchies and markets as the foremost means to organize to address complex problems, share scarce resources, and achieve collective goals”* (Weber and Khademian, 2008, p. 334).

In this way, the recognized augmented relevance of networks in the organisational and social field has demanded an increasing interest in the research on the phenomenon of inter-organisational networks in the most varied areas of knowledge, such as economics, sociology, political science and administration. Therefore, the underlying idea of this study is that the configuration in a network promotes a favourable environment for the sharing of information, of knowledge, of abilities and of resources essential for the basic processes of the company, in the search for superior performance (Gulati *et al.*, 2011; Soda and Zaheer, 2012; (Schildt *et al.*, 2012).

2.3.2 Organisational networks

Before detailing the learning networks, one of the final analytical presuppositions of this thesis, it is considered fundamental to identify the main theoretical schools of thought that one currently comes across in the literature and that provide a basis for understanding the existence and configuration of intercompany relationships or alliances, here generically denominated “inter-organisational networks”.

A network, according to Ahuja, Soda, and Zaheer (2012), is a set of interconnected nodes. In organizational terms, simply put, to Weber and Khademian (2008, p. 334), “(...) *in very broad terms, networks are defined by the enduring exchange relations established between organisations, individuals, and groups*”.

But, in the organisational field, the notion of network is applied to an ample variety of forms of relationships between firms, such as joint ventures, strategic alliances, relations of outsourcing and sub-contracting, industrial districts, consortia, social networks, cooperation networks between small and medium enterprises, policy networks, collaborative networks, governance networks among others (Powell, 1987; Oliver, 1990; Nohria and Eccles, 1992; Grandori and Soda, 1995; Gulati and Puranam, 2009; Isett *et al.*, 2011;).

Thus, in spite of the concept of organisational network being, apparently, simple, there are also various theoretical approaches, from which this theme can be studied. In accordance with Oliver and Ebers (1998) and Caglio (1998), cited by Balestrin and Vargas (2002)²⁴, the following can be considered among the principal of them: i) **Industrial economy**, or how the different classes of production costs explain the efficiency of networks, ii) **Strategy**, or how the inter-organisational relationships impact company strategies and how the results of these relations affect the strategic position and their competitive advantage, iii) **Dependence on resources**, or how organisations reduce their environmental dependencies utilizing various strategies to increase their own power within the system, in seeking complementary resources,

²⁴ Oliver, A. and Ebers, M. (1998). Networking network studies: an analysis of conceptual configurations in the study of inter-organizational relationships. *Organization Studies*, 19: 549-583. Caglio, A. (1998). Networks and information technology: competing through extranets. *In: III CEMS - Community of European Management Schools*. Louvain-la-Neuve.

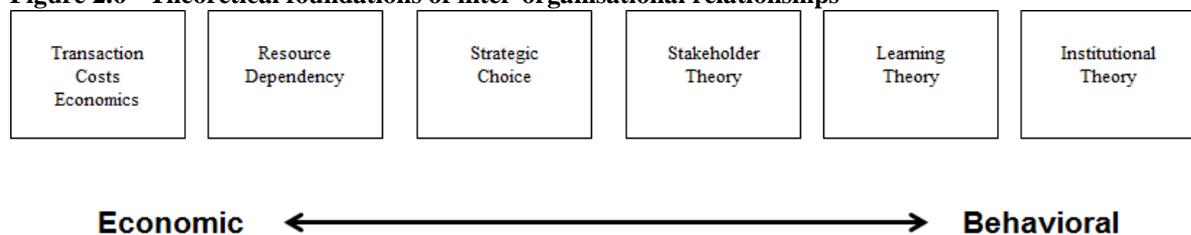
be they tangible (technology, raw materials etc.) or intangible (information, knowledge, abilities etc.), iv) **Social networks**, or how the position of the companies in a determined network may affect them individually, v) **Transaction costs**, or how the networks are viable economically, through the reduction of transaction costs, vi) **Institutional theory**, or how the organisations in a network configuration depend on each other as regards legitimacy, vii) **Organisational behaviour**, or how to obtain the trust and cooperation of the players at the moment when they organize themselves in networks to achieve, in cooperative fashion, mutual benefits, and viii) **Organisational learning**, or how the companies take advantage of learning opportunities, proportioned by the formation and implementation of relationships in network. The rationale here, as a back drop, suggests that the organisations enlarge their competitive position through knowledge, especially the knowledge developed by means of inter-organisational relationships.

For Barringer and Harrison (2000), there would exist six main theoretical perspectives, which are evidently quite similar to the approaches proposed in the previous paragraphs. For them, such approaches would be contained in: a) **Theory of transaction costs**, that deals with how a company should organize its activities and frontiers in order to minimize internal production costs and those of transaction with the market; b) **Theory of dependence on resources**, that points that all corporations should engage in exchange with their environments to obtain resources; c) **Theory of strategic choice**, that studies the factors that proportion opportunities for companies to enlarge their competitiveness or market power. Profits and growth are the main objectives that drive strategic behaviour; d) **Theory of the stakeholder**, in which the organisations are in the centre of an interdependent network of stakeholders and have the responsibility of considering the legitimate interests of their stakeholders when they take decisions and make business transactions; e) **Theory of learning**, that deals with the processes that lead to organisational learning. A key factor is the absorption capacity, which is defined as an ability of the company to recognize the value of a certain piece of knowledge, assimilate it and apply it in a business environment; f) **Institutional theory**, which suggests that institutional environments impose pressures on organisations to confer legitimacy and to be in conformity with the prevailing social regulations.

According to these authors, the six theories described above follow a conceptual *continuum* (see Figure 2.6), which arises out of what can be called the dependence on an economic

rationale for relationships between organisations, and moves towards a dependence on a behavioural logic. **Transaction costs** and **dependence on resources** represent economic explanations for the formation of networks between companies, while **institutional theory** represents the last pole of the behavioural theory that supports the alliance. More to the centre, **Learning Theory**, although it can be adjudged a strongly behavioural discipline, also has an economic side, arising out of the possibility of an organisation using the knowledge acquired to reduce costs or by other means to increase revenues and profitability, a rationale that serves only to illustrate what underlies the figure proposed.

Figure 2.6 - Theoretical foundations of inter-organisational relationships



Source: Barringer and Harrison (2000).

Barringer and Harrison (2000) also explain forms of company networks vary in accordance with the degree of linkage among the companies. For them,

“Tightly coupled forms of organizing, such as joint ventures and network structures, are those in which the participants are linked together by formal structures and may involve joint ownership. In contrast, loosely coupled forms of organizing, such as research consortia and trade associations, involve less structure and joint ownership”. (Barringer and Harrison, 2000, p. 384).

Accordingly, for these authors, although the list is not exhaustive, the inter-organisational relationships could be classified as follows (Barringer and Harrison, 2000, p. 383):

- i) **Joint Venture**, a tightly coupled form, is an entity that is created when two or more companies put together a part of each one’s resources to create a separate organisation, jointly owned;

- ii) **Network**, a tightly coupled form, is a complex configuration of companies, in a hub wheel configuration, with their interdependencies organized by a local organisation in the hub;
- iii) **Consortia**, a tightly coupled form, they are specialized joint ventures, with different arrangements. Consortia are frequently groups of companies focused on the development of technologies and solution of problems.
- iv) **Alliance**, a loosely coupled form, represents an arrangement between two or more companies that establish a relationship of exchange, but where there is no jointly-owned property involved.
- v) **Trade Association**, a loosely coupled form, represents organisations from the same segment, to collect and disseminate business information, technical and legal support, specialized training and to provide a platform for a collective lobby.
- vi) **Interlocking Directorate**, a loosely coupled form, occurs when a manager or executive of a company takes a seat on the Board of a second company, or when two companies have leaders that also act on the Board of a third company. It serves, among other things, as a mechanism for the sharing of information and cooperation between companies.

In short, in the understanding of these authors, the types vary according to the degree to which the participants are united. The tightly coupled forms of organisation, such as joint ventures, networks and R&D consortia, are those in which the participants are joined, linked by formal structures and can involve jointly-owned property. By contrast, the loosely coupled forms of organisation, as alliances, trade associations and interlocking directorates, are those that involve less structure and no jointly-owned property.

As we have been seeing, throughout the preceding paragraphs, there are several existing theoretical approaches on the “inter-organisational networks” theme, as well as the possible typologies of such networks proposed by the different lines of studies being very distinct. Analysing these proposed lines of thinking on the question, it seems evident that the majority of the authors recognize the existence of the **Learning Networks**, which, as argued above,

have as a back drop the idea that the organisations improve their competitive position through knowledge, especially that knowledge developed by means of inter-organisational relationships that foster innovative increased performances (Thorgren *et al.*, 2009), networks which are the object of more detailed analysis in this work.

2.3.3 Learning networks in focus

At this point, it is considered important to stress that, in terms of leaning network types, different scholars make a distinction between information sharing and knowledge co-creation and exchange. In the network type “Information sharing, informational, information diffusion”, the primary focus is on sharing information across organisational boundaries (McGuire, 2006; Milward and Provan, 2006; Mays and Scutchfield, 2010; Isett *et al.*, 2011). On the other hand, in the network type “Knowledge generation and exchange, knowledge management”, the primary focus is the co-creation of new knowledge, as well the dissemination of these new ideas and practices between companies (Carlsson, 2003; Hartley and Benington, 2006; McGuire, 2006; Bell and Zaheer, 2007; Phelps *et al.*, 2012).

But, regardless the type of the learning network, in the learning economy, the ability to seek new knowledge and learning is an essential condition for the economic success of the companies in the construction of new competences (Thomas, Sussman and Henderson, 2001; Berghman, 2006; Tallon, 2008; Hsu and Fang, 2009; Charlotta, 2012; Santos, 2013). It cannot be associated only with the high-technology intensive sectors, but it may be found in traditional sectors. It refers primarily to the ability to learn – searching for what’s new – but also, to forget; that is, to relinquish what has become obsolete, inadequate – an essential capacity in economies marked by major changes, in which it is essential to constantly acquire new proficiencies – much more so than the ability to acquire information.

And, no doubt that organisational learning is a core element in the attainment of competitive edge (Dyer and Nobeoka, 2000; Kim and Miner, 2007, Trainor *et al.*, 2008; Gary, *et al.*, 2012, Routley *et al.*, 2013). However, considering the speed of change, the learning ability of a company extends beyond its capacity as a single agent, as stated above. One must think of learning in the context of the network in which the company resides, where all participants are primary sources of innovation. Hence, the activity involved in searching for knowledge

outside the company becomes essential. Within such an environment, the company must develop the ability of taking a stand as an element of agglutination and coordination, and developing organisational routines that foster the sharing of knowledge, and enable structures that create opportunities for innovation (Brass *et al.*, 2004; Hoberecht *et al.*, 2011; Klijn *et al.*, 2010; Provan and Lemaire, 2012).

In this way, Dyer and Nobeoka (2000) define the learning processes as a usual standard interchange among the firm's employees, which enables the transmission, generation or reconstruction of specialized or comprehensive knowledge. These processes may also be seen as the ability of the network to administrate the flows of implicit knowledge, which is not so easy to carry over and systematize among the network members. Still, if the network is capable of creating a strong identity, with rules for admission and participation, in which the production of knowledge is seen as a joint property and, therefore, shared by all members, then all participants will be able to reach an increasing variety of knowledge and other critical resources, at a considerably lower cost, when compared to singular efforts made within the companies' own individual borders (Singh and Mitchell, 1996; Teixeira *et al.*, 2006).

It is also worth pointing out that, as the networks or alliances comprehend organisations with different objectives, policies, corporate values, cultures, risk taking standards etc., there is a real possibility that management could face different difficulties, especially those connected to communication, trust, conflicts, central coordination and, finally, the sharing of knowledge. Accordingly, for any network to have its end objectives realized, including in this the learning networks which are the object of study of the present work, it is a *sine qua non* condition that a series of requirements or attributes of the network must be observed, with a view to the success of the collective undertaking. We now move on to consider the analysis of such conditioning factors.

2.3.4 Learning networks requirements

As we have seen, from a strategic perspective, the configuration in network can be considered as a means to obtain an end. So that, in participating in a network, the company seeks to attain certain objectives that would rarely be attained in an individualized manner. Nevertheless,

although the companies increasingly concern themselves with their networks and increasingly form cooperative agreements, the number of unsuccessful partnerships presented in the articles dealing with the matter is also surprising (Park and Ungson, 2001). Dyer, Kale and Singh (2004) stated that 48% of partnerships fail in less than 24 months. Arriving at similar figures, Kaplan, Norton, and Rugelsjoen (2010), based on a recent study by McKinsey & Company, argue that only 50% of corporate alliances are successful, while Zineldin and Dodourova (2005) propose in their research that the failure rate of strategic alliances is projected to be as high as 70%.

Many surveys in the area can be found investigating the causes of failure; however, a theme that has still awoken only reduced interest refers to the processes and evolution of partnerships (Rond and Bouchikhi, 2004). It is still necessary to investigate how the organisation of these partnerships is differentiated, how it can contribute to their success and how this capacity can be developed (Heimeriks and Duysters, 2004; Simonin, 2004; Camargo, Verschoore and Padilha, 2013). Perhaps, in this aspect, some important reasons for the numerous undesired break-ups can be encountered, as well as some for the good results achieved by other partnerships. Therefore, one can infer that, in the successful networks, the collaborative relationships should overcome the perception of competitiveness, transforming competitiveness into partnership, introducing new roles and new forms of management (Olave and Amato Neto, 2005).

In this way, Marcon and Moinet (2000) present some attributes that make of networks the appropriate organisational configuration for determined strategic organisational objectives, as follows: i) **Fluidity**, or the capacity of flexibility and adaptability of the networks; ii) **Purpose**, which is the *raison d'être* of the network; iii) **Capacity of making relational savings**, and iv) **Capacity of learning**, considering that learning is not exclusive to networks, but that it is greatly favoured by their nature. In addition, analysing distinct lines of study, one can see that some attributes of successful networks are always present, such as: i) **cooperation**; ii) **flexibility**; iii) **mutual learning**; iv) **trust** and; v) **reputation** (Ebers and Jarillo, 1998; Marcon and Moinet, 2000; Carvalho and Fischer, 2000; Simonin, 2004; Krishnan *et al.*, 2006; Camargo, Verschoore and Padilha, 2013).

Analogously, but, notably more comprehensive, the study of Rosabeth Moss Kanter, published in 1994, presents requirements for a network that follow the line of thinking of the authors previously analysed, but is more wide-ranging. In spite of the conclusions of the surveys being practically 20 years old, the Harvard Business Review on Strategic Alliances, published in 2002, republished Kanter’s classical article (1994) denominated “Collaborative Advantage: The Art of Alliances”, and cites her study as one of the principal guiding lights for forming and sustaining strategic alliances in the present day²⁵.

In her analysis, Kant (1994, 2002) identified the variables present in successful partnerships, which she has called the 8 I’s (Kanter, 1994), summarized in Table 2.2, following:

Table 2.2 – The 8 I’s to create successful networks

CRITERIA	DESCRIPTION
<i>Individual Excellence</i>	Partners must have something of value to contribute to the partnership.
<i>Importance</i>	Partnership should prioritize long-term mutual goals rather than individual goals.
<i>Interdependence</i>	Partners have complementary attributes and need each other.
<i>Investment</i>	Partners must share certain costs and risks and devote financial and other resources to the partnership in the long run.
<i>Information</i>	Partners must share openly their strategic information to make the relationship work.
<i>Integration</i>	The manner of operation should be synchronized. Broad connections in different levels are built.
<i>Institutionalisation</i>	Formalization of the alliance with clear responsibilities and decision-making processes.
<i>Integrity</i>	Partners must trust each other.

Source: Adapted by the author from Kanter, 1994, p. 100.

Finally, entering the line of thinking of Teixeira and Guerra (2002, 2003) in a little more detail, cited in the previous paragraphs, and where the approach already tends to be more related to learning networks, we have identified some points mentioned by them that

²⁵ Harvard Business School Press. Harvard Business Review on Strategic Alliances. Boston: Harvard Business School Press, 2002, p. 97-128.

absolutely must be considered in the conception and operation of a network. According to these authors, the learning of an organisation would result from the opportunity that productive activity offers for experimentation, improvement, the consolidation of procedures and the identification of new methods, over a period of time, “*this learning (...) allows the firm to create competences*” (Teixeira and Guerra, 2002, p. 96).

In this sense, Table 2.3 presents eight processes considered central to the operation of a network and to the creation of these competencies.

Table 2.3 – Processes central to the operation of a network

PROCESSES	PURPOSES
<i>Creation of the Network</i>	Define how the participants will be attracted and how they will be maintained.
<i>Decision Making</i>	Establish how, where, when and who shall be responsible for the decisions.
<i>Conflict Resolution</i>	Establish the conflict resolution mechanisms, who will implement them and how.
<i>Processing of Information</i>	Manage the flow of information to circulate among the participants.
<i>Obtaining Knowledge</i>	Articulate the access and the obtaining of knowledge relevant for the network and make it available to the participants.
<i>Motivation and Commitment</i>	Develop mechanisms that ensure the motivation of the participants and the commitment with its objectives.
<i>Sharing of costs and benefits</i>	Define how the benefits and any costs and risks associated to the functioning of the network will be shared.
<i>Integration</i>	Stipulate how the relationships between the network participants will be built and maintained, in view of the necessary integration between them.

Source: Teixeira and Guerra, 2002, p. 100.

Summarizing the thought of Teixeira and Guerra (2002) on the subject therefore, it is considered of the highest importance, to facilitate the success of the undertaking, that some basic supporting columns are considered in the constitution and operation of a learning network, and they are:

- i) **Clear and executable target.** It is fundamental that the network establish a “finishing point” shared by all the participating links, a target that is also executable. Such a step makes

the work of promotion of the learning more focused, facilitating the measurement of the improvements attained and maintaining the motivation of the participants;

ii) **Clear criteria of participation.** In general, the network should be maintained open to the participation of new members, provided that they conform to the requirements and the established limits, a frontier that helps to focus on the objectives and the learning targets;

iii) **Model of organisational structure.** Such structure depends on the type of network and the flow of information that one wants to establish and emphasize, in view of the fact that, when the flow of information is more complex, involving communication in two or more directions, a distinctly better defined and formalized structure is necessary;

iv) **Role of the coordination.** The definition of the roles to be played by the central coordination of the network is fundamental, as such management shall be responsible for the organisation of events, the publication of bulletins and, above all, for the maintenance of the motivation of the members. For the authors, *“a critical activity is the selection of intermediaries and consultants that will promote the interactive learning of the participants”* (Teixeira and Guerra, 2002, p. 101);

v) **Type of learning.** The definition of the type of learning that is to be promoted possesses serious implications for the functioning of the network. The learning can have different focuses, from the familiarization with a new regulation, through the dissemination of a new technique, to more complex forms, such as the adoption of new managerial philosophies. Operational structures, methods and mechanisms differ in accordance with the type of learning one wishes to promote;

vi) **Content of the learning process.** Each learning process is different from the others and should have its content well defined previously. It is important, accordingly, to establish clearly the plan that will lead to the dissemination of the techniques and of the methods that result in effective improvement of performance. According to the authors, it is not to be recommended that new techniques or methodologies be created, but to select, among those existing, those that will be available for the participants;

vii) **Motivation for joining.** Making clear the reasons that initially led the companies to decide for participation in a determined network is fundamental. Such motivation can arise

out of changes in the environment, like deregulations or regulations in the markets, changes that should be used by the coordination as arguments that justify a collective effort (the creation of a learning network). According to the authors,

“Campaigns of awareness raised on the threat of disappearance of companies due to new conditions of competitiveness, realization of benchmarkings and collective formatting of programmes of industrial promotion to be requested of the government are examples of mechanisms for attracting and maintaining participation”. (Teixeira and Guerra, 2002, p. 101);

viii) **Necessary funds**. The network demands resources to operate and how these assets are going to be mobilized is another important point. The planning should specify the human, financial and technical resources that will be necessary for the network to materialize;

ix) **Learning process**. For the exchange of information to be fruitful, the network coordination should, essentially, try to facilitate the learning process. The network management should not get involved directly with consultancy, or in diagnoses of the participant companies. Its role is to make these companies define their learning needs, as well as making available the means for meeting these needs;

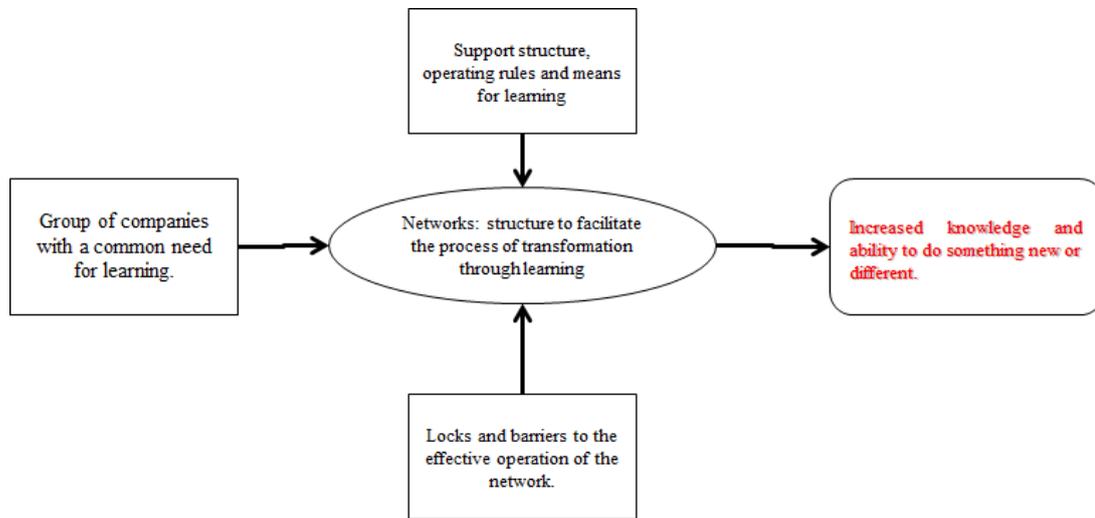
x) **Criteria of measurement of performance**. The manner of monitoring network performance should be established expressly and be known to everyone, which will facilitate the maintenance of motivation and, consequently, of the participation; and

xi) **Blockages and barriers**. Such threats should be identified and avoided throughout the process. Loss of motivation, difficulties of communication, withdrawn behaviour of key individuals and resistance to change are among the more frequent.

According to the authors, “*meeting these requirements is a sine qua non condition for obstacles to the effective operation of the network to be overcome*” (Teixeira and Guerra, 2002, p. 100).

Figure 2.7 sums up, therefore, shortly and graphically, the basic elements of a learning network, in the conception of these authors.

Figure 2.7 - Basic elements of a learning network



Source: Adapted by the author from Teixeira *et al.*, 2006, p. 81

From the bibliographical references fully explored in this section, which seeks to understand the tendencies in the studies of a group of authors who deal with the question, it is possible to see that the performance of organisational networks, notably learning networks, depends on conditioning factors that are central for such alliances to reach the objectives that were laid out when they were formed. Each of those lines of study explored in the preceding paragraphs, without exception, concludes that such factors of success do in fact exist.

Accordingly, to check the presence of the attributes or conditioning factors for the success of the network which is the object of study of this work, and its hypothetical contribution to the development of elements of Strategic Management, as well as its impact on the comprehensive performance of the participant organisations, we will proceed to an understanding of what are the **elements common** to the distinct lines of thinking that have been studied regarding the matter, basing ourselves fundamentally, and using as a starting point, because of the comprehensiveness of the models developed, the work carried out by Kanter (1994, 1997, 2002) and, subsequently, by Teixeira and Guerra (2002).

The result of this comparative study will be summarized in Table 2.4, which will serve as basis for the formulation of the questions to be utilized in the field work.

Table 2.4 – Common elements to successful networks, considering the several lines of thinking studied

VARIABLES	RELATED ISSUES	MAIN REFERENCES
<i>Formalisation and Awareness</i>	<ul style="list-style-type: none"> Rules and procedures are clear and shared Project is formal and widely known 	Kanter (1994, 2002); Marcon and Moinet (2000); Olave and Amato Neto (2005); Teixeira and Guerra (2002); Willem and Buelens (2009); Balestrin; Verschoore and Reys Junior (2010)
<i>Mutual Dependence</i>	<ul style="list-style-type: none"> Knowledge and skills are complementary Interdependence in the development of individual strategy Propensity to share knowledge and competences 	Ebers and Jarillo (1998); Kanter (1994, 2002); Grandori and Soda (1995); Marcon and Moinet (2000); Willem and Buelens (2009)
<i>Ethical Principles and Trust</i>	<ul style="list-style-type: none"> Honest and ethical behaviour Confidential information of the partnership is secure The image of the partnership project is supported externally 	Kanter (1994, 2002); Casarotto Filho and Pires (1998); Carvalho and Fischer (2000); Marcon and Moinet (2000); Teixeira and Guerra (2002); Krishnan <i>et al.</i> , 2006; Teixeira <i>et al.</i> (2006); Chen (2008); Berardo (2009); McGuire and Sylvia (2009); Balestrin; Verschoore and Reys Junior (2010); Kaplan, Norton, and Rugelsjoen (2010); Gulati <i>et al.</i> (2011); Munoz and Lu (2011); Romzek <i>et al.</i> (2012)
<i>Adaptation and Integration</i>	<ul style="list-style-type: none"> Overcoming of cultural differences and natural mistrust Existence of personal connections within the project activities Existence of personal connections outside of project activities 	Kanter (1994, 2002); Ebers and Jarillo (1998); Carvalho and Fischer (2000); Marcon and Moinet (2000); Teixeira and Guerra (2002); Krishnan <i>et al.</i> , 2006;
<i>Individual Value and Contribution</i>	<ul style="list-style-type: none"> There are resources, capabilities and knowledge to be shared There are unique values for collective contribution 	Kanter, (1994, 2002); Marcon and Moinet (2000); Teixeira and Guerra (2002); Olave and Amato Neto (2005); Willem and Buelens (2009); Mitsuhashi, H. and Greve, H. R. (2009)
<i>Strategic Relevance</i>	<ul style="list-style-type: none"> Goals are positive and well intentioned. Goals are aligned to expectations of individual performance Project is considered relevant to the company's success 	Kanter (1994, 2002); Casarotto Filho and Pires (1998); Ebers and Jarillo (1998); Amato Neto (2000); Teixeira and Guerra (2002); Olave and Amato Neto (2005)
<i>Strategic Information and Knowledge</i>	<ul style="list-style-type: none"> Open sharing of knowledge and information on the project. Open sharing of knowledge and information from other unrelated issues to the project 	Kanter (1994, 2002); Casarotto Filho and Pires (1998); Ebers and Jarillo (1998); Carvalho and Fischer (2000); Marcon and Moinet (2000); Teixeira and Guerra (2002); Olave and Amato Neto (2005); Willem and Buelens, 2009; Klijn <i>et al.</i> , 2010; Phelps <i>et al.</i> , 2012).
<i>Involvement and Commitment</i>	<ul style="list-style-type: none"> Interest in staying in the project, in the medium and long term Investment of resources in the partnership (time, personnel etc.) 	Kanter (1994, 2002); Amato Neto (2000); Marcon and Moinet (2000); Teixeira and Guerra (2002); Balestrin; Verschoore and Reys Junior (2010)

Source: Prepared by the author.

2.4 Global corporate performance

The purpose of this section is to present the concepts arising from different and complementary lines of thought of different authors concerning the correlation between market orientation and business performance, and an approach to measure corporate global performance during a certain period, what includes the understanding of what is productivity and corporate performance of SMEs. The first part tries to understand the performance measurement systems on the knowledge economy as whole. Later, the emphasis is on market orientation and corporate global performance: the argument is that firms which are market-oriented, that is, those that seek and respond systematically to customers' needs and preferences can better satisfy these same customers and keep their loyalty, which leads to performance at higher and sustainable levels.

2.4.1 Performance measurement systems on the learning economy

As stated before, the rising competitiveness of global markets has systematically caused the traditional models of Corporate Performance Measurement (CPM) to become limited or insufficient, due to their traditional model for the evaluation of business performance, based only on financial indicators and historically orientated. Neely (1998, 2006) compares the limitations of the traditional systems of evaluation of business performance with the limitations faced by a motorist trying to drive a car looking only at the rear-view mirror, in other words, having as a basis for current decisions the indicators that point only to a result in the past, but that supply no indication about what will happen in the future.

In addition, Neely and Al Najjar (2006) defend the position, accordingly, that the purpose of performance measurement is to provide means for management to learn, and is not only a means to exercise control. According to the authors, the act of deciding on what shall be measured is determinant for clarifying the strategy and obtaining the much desired organisational alignment, in the search for a sustainable competitive differential and the consequent improvement in the results. Spitzer (2007, p. 4) summarized something similar in affirming that "*the major purposes of transformational measurement are improvement and learning*". In other words, the necessary time and effort required for learning are frequently

not given, and much of the potential for improvement in the process of performance measurement will be lost.

Based on these emerging needs, Bourne, Neely, Mills and Platts (2003) recognize the advances in the systems of evaluation of business performance, nevertheless admitting that these systems have not yet succeeded in demonstrating the whole of organisational complexity. Thus, according to Mitchell *et al.* (2013), even considering the whole of this evolution in the measurement of results, the complexity and multidimensionality of what one has tried to characterize here as strategic corporate performance will always make it difficult to select a conceptual scheme to define it, as well as identifying accurate measurements to make it operational.

Even when the scope of the performance is limited to the financial dimensions of performance, such as, for example, profitability, return on assets and value generation, we come up against problems in its measurement, because of unavailability and the confidentiality of this information (Pelham, 2000). Nevertheless some studies have demonstrated that the measurement of performance carried out subjectively, operating via self-assessment, proportions results that have a relation to an objective evaluation of performance, coming both internal and external sources organisations, providing evidence of positive correlations between subjective and objective sources (Perin and Sampaio, 2004; Kumar *et al.*, 2011).

2.4.2 Productivity and performance of SMEs

Considering the SMEs as a central point of this thesis, before detailing the global performance measurement system based on the approach of market oriented companies - one of the main constructs of this study (the dependent variable) -, it is considered fundamental to review the main theoretical literature that provides a basis for understanding what is productivity and performance in the realm of medium-sized companies (SMEs).

In fact, as it was explained in the introduction of this study, small and medium-sized enterprises (SMEs) have been identified as one of the most important growth engines for various countries, in different continents of the world, representing, most of the time, more

than 90 per cent of all enterprises of a country and a great part of its the GDP formation. “Hence, to ensure the sustainability of country's economic growth, it is a need for SMEs to know thoroughly the factors that may influence their performance” (Zakaria *et al.*, 2012).

According to Andersen (2010), from this point, there is no universal definition of performance and no agreement on both academic and management fields on the best productivity measures to access the performance of SMEs (Wiklund, 1999). Chien (2004) and Jarad *et al.* (2010), for example, relate the definition of performance, from the economic perspective, to the efficiency and effectiveness of a company in managing its cost and outcome, while linking its definition, from process perspective, to the actions of transformation from inputs to outputs, as a way to accomplish specific results. But regardless the line of study analysed, the definition of performance of SMEs seems to be linked to the corporate ability to attain its goals by using resources in an efficient and effective manner. In summary, the corporate performance of medium-sized enterprises is related to effectiveness, productivity, growth and efficiency or the excellence in the use of factors of a firm, where these variables are measured against a goal previously established (Lusthaus *et al.*, 2002; Mok Kim Man, 2009; Atristain, 2010; Le, 2012).

To Gunasekaran *et al.* (2000), and also to Antonioli *et al.* (2010), an important issue for any productivity improvement program in SMEs is the management of people, or, in the words of Ioana and Raluca (2011, p. 721), “(...) *one of the least exploited means of increasing work productivity is to improve the human performance*”. In fact, according to Patel and Cardon (2010) and other scholars, adopting human resource management (HRM) practices can improve the competitiveness of SMEs and influence positively on employee productivity of these firms (Fabi *et al.*, 2010; Messersmith and Guthrie, 2010; Yuhee and Takeuchi, 2010; Elorza *et al.*, 2011; Van Landeghem, 2011; Georgiadis and Pitelis, 2012; Macas *et al.*, 2013; Ming-Chu, 2013; Demyen and Popa, 2014).

Considering this broad view, that the productivity of SMEs should be seen in terms human performance, based on the strategic management of the teams, Sousa and Aspinwall (2010) explain that the performance of medium-sized enterprises must also be understood as a way to measure results at **all levels** in an company, such as i) to identify problems and improve the efficiency of specific tasks; ii) to assess customer satisfaction; and iii) to deploy strategic

objectives, as a way of (...) *controlling improvement initiatives and (...) facilitate the decision-making process*” (Sousa and Aspinwall, 2010, p. 480), a statement corroborated by the studies of Neely *et al.* (2002).

In fact, Garengo *et al.* (2005) argue that a performance management system can play a key role in supporting a rational approach to the growing complexity and to quality improvement in SMEs, if these corporate performance indicators are not exclusively based on financial aspects. Actually, to Hvolby and Thorstenson (2000), the question of balancing performance indicators is particularly important when considering the reality of SMEs. According to the authors, these firms focus on operational and financial variables and frequently measure the achievements of single factors such as lead time, delivery precision and quality levels. Additionally, according to Greatbanks and Boaden (1998), SMEs have a general tendency to develop poor strategic management systems and, most of the time, have difficulties to fully understand what their critical success factors are. Consequently, the design of a performance management system to the SMEs “(...) *helps the company set future objectives and plan any necessary improvement processes*” (Garengo *et al.*, 2005, p. 27).

Furthermore, in the business literature in general, it is suggested that the most important strategic objective that a firm should focus is to develop competitive advantage, understood as a unique position that an organization develops in relation to its competitors (Porter, 1986), an advantage that can be considered, then, an important source of differentiated corporate performance. In this way, Atristain (2010), in her research on medium-sized enterprises, define competitive advantage for SMEs as the aptitude for a company to i) develop a unique market position in relation to competitors; ii) get a higher return compared to the average profitability of the sector; and iii) achieve the estimated maximum value of the client (Atristain, 2010, p. 331). Additionally, with a similar view, O’Donnell *et al.* (2002) describe competitive advantage as a superior position (above de industry average) on the estimated maximum value of the client in the possession of lower relative costs in the resulting market-share or performance profitability.

In this way, distinct lines of study demonstrate that performance of SMEs comprises different variables, such as effectiveness, productivity, growth, market shares, customer retention, overall performance and efficiency of factors, among others. Yet, notwithstanding the fact

that balancing measures is fundamental when assessing the performance of SMEs as argued above, Bigliardi (2013), among other scholars (for example, Golaś, 2011; Hsu *et al.*, 2011; Ong and Ismail, 2012, and Yuhee and Takeuchi, 2010, although presenting the importance of financial indicators on the limitations of their study), highlights the importance of the financial indicators to check the productivity of medium-sized enterprises. According to her, “*the financial performances (...) include the profitability (ROI), productivity, market rate, sales growth, operating costs and the return on assets (ROA)*” (Bigliardi, 2013, p. 248).

Nevertheless, in accordance with that anticipated in the previous section in Slater and Narver (1994), Pelham and Wilson (1996) and Pelham, (2000), the great possibility of coming across serious problems concerning the measurement of corporate performance, either because of unavailability, or because of the confidentiality of this information, practically forces studies in this area to seek more effective ways of understanding company results, notably when one is dealing with SMEs, a sector of the economy that suffers more from lack of information when compared to the large companies, which in their majority, are subject to the principles of good corporate governance as a marketing requirement and, accordingly, to the disclosure of reliable and timely data.

In this fashion, researches have been showing the high relevance of studies that seek to understand alternative ways of furnishing information relative to corporate performance for companies of varying size, and operating in distinct sectors. Among the more relevant findings are those that relate the global performance of companies to their market orientation. As fundamental pillars, there are the works proposed primarily by Narver and Slater (1990); Slater and Narver (1994) and by Kohli and Jaworski (1990); Jaworski and Kohli (1993), authors that have subsequently been intensely worked on by other authors, representing what we currently know about the subject, such as Perin and Sampaio (1999, 2002, 2004); Filho (2001); Kirca *et al.* (2005); Gebhardt *et al.* (2006); Filho, Veit and Gonçalves (2007); Filho *et al.* (2012); Filho, Oliveira and Gonçalves (2008); Kumar *et al.* (2011), only to mention a few, a line of study that will be analysed in details in the following section.

2.4.3 Market orientation and global performance

In this context described above, market orientation has received substantial interest from academic and professional marketing personnel in recent years (Kirca *et al.*, 2005; Kumar *et al.*, 2011), the production of works and the theory regarding the matter having developed swiftly. Throughout the last years, a theory of the antecedents and consequences of market orientation was consolidated, measures for the construct were developed and the impact of market orientation on corporate performance was tested, what includes investigations of the longer-term benefits of market orientation, as the one of Gebhardt *et al.* (2006).

For Kirca *et al.* (2005), few themes in the marketing area have assumed a prominent position similar to that attributed to market orientation. Notably, there was a dissemination of studies on the subject, providing evidence of the prominent position given by academia, principally in relation to the investigation of the impact of market orientation on company performance. Thus, the concept of market orientation has played a fundamental role in the discussion of the importance of marketing by bringing out the necessity of greater interaction with the market as leverage in obtaining better corporate performance (Kumar *et al.*, 2011). And, for this to be possible, over the last few years, various studies have been produced, with the intention of observing empirically the impact of market orientation on company performance, based on the proposal of a series of metrics that seek to understand better what is understood by global company performance (Noble, Sinha, and Kumar, 2002; Kumar *et al.*, 2011).

Most of current studies are based Narver and Slater (1990) tested and perfected their theoretical conception of market orientation by means of a study, using a sample of 140 strategic business units of a large North American corporation. Based on this study, they developed a scale of fifteen items denominated MKTOR, that was primarily related to three behavioural components, which are: i) **client orientation**; ii) **competitiveness orientation** and iii) **interfunctional coordination**. Additionally, besides these behavioural components, also placed in evidence by the authors are the **focus on the long-term** and **profitability**.

In this way, based on these proposed variables of market oriented companies, several studies were recently conducted, such as the one of Abbade *et al.* (2012) that recently analysed 123 companies in the southern region of Brazil, using the MARKOR scale of Kohli; Jaworski and Kumar (1993) and the set of performance indicators proposed by Narver and Slater (1990). In

their findings, there was a confirmation of strong positive correlation between market orientation and corporate performance in the sample analysed. Besides this result, it was also verified that the market orientation has an even stronger influence over corporate performance when it is mediated by a learning orientation. One year previously, very close findings to these appeared in the research of Becker and Brettel (2011)²⁶ studying the German market. They also could identify a positive effect, although indirect according to them, between market orientation and learning orientation, which in turn positively impacts the overall company performance. Accordingly, “*it can be assumed that market orientation is most effective, when a strong learning orientation is present*” (Becker and Brettel, 2011, p. 523).

Another interesting piece of academic research was conducted by Olavarrieta and Friedmann (2008), that showed a strong impact of market orientation, market sensing and innovativeness and other related “knowledge-related resources”, called thus by the authors, on the distinct superior performance of a group of Chilean publicly traded companies, using structural equation modelling. In the same year of 2008, Armario *et al.* (2008) analysed a multi-industry sample of Spanish SMEs operating in foreign markets and investigated the relation of market orientation, knowledge acquisition and market commitment. The results, obtained also by structural equation modelling, indicated that there is a significant direct positive relationship within these constructs and the firm’s strategy of internationalization.

Equally, in the last few years, more specifically, during the period of 2012-2013, several field studies were carried out with similar findings. Most of them, corroborating the work of above-mentioned precursor authors (mostly Narver and Slater, 1990; Slater and Narver, 1994; Kohli and Jaworski, 1990; and Jaworski and Kohli, 1993), found, in different degrees, and in different markets, that there is a positive correlation over market oriented measures and corporate performance indicators.

Among these studies, one can refer to that of Eris and Ozmen (2012), which found that the analysed companies in the logistics sector in Turkey showed a positive correlation between the constructs of market orientation, learning orientation, and innovation, and their effectiveness in performance enhancement. In the same year, Micheels and Gow (2012),

²⁶ The sample is from the German Chamber of Industry and Commerce, containing organizations that belong to 12 different industries, as follows: automotive, biotech, electrical, pharmaceuticals and chemicals, engineering, software and IT, construction, telecommunication, energy and commodities, retail, logistics, and services.

studying 269 farm organisations of the beef industry in Illinois, USA, tried to correlate market orientation, relative emphasis, learning orientation, innovativeness, and a cost focus, with corporate performance. The findings, which are slightly different from the previously mentioned cases, suggested that companies should be equally aware of both client demands and competitor movements, instead of focusing on one side alone. As we can see, this paper's conclusions "*corroborate the findings of Slater and Narver (1994), while examining the relationship within a highly competitive, homogeneous market*" (Micheels and Gow, 2012, p. 2).

In a similar way, one can also highlight the findings, with positive correlations between these same constructs, of Valenzuela and Villegas (2013) in Chile; Liu (2013) in China; and Chakravorti (2013), on the global market, that reviewed, from 1995 to 2012, several articles published in academic journals over this same issue. The paper is a comprehensive descriptive review of 35 different country markets, the USA included, and describes, draws comparisons, and integrates the findings on market orientation and its effect on corporate performance. According to the author,

"Market Orientation was found to have a positive effect on both objective and subjective measures of organisational performance (economic, non-economic, and market) in the majority of the studies with some degrees of difference across countries". (Chakravorti, 2013, p. 16).

In very similar fashion, Vieira (2010) had conducted a study in Brazil, analysing a sample of 4,537 companies in 27 different papers, which was compared to 7 similar international studies, relating market orientation and organisational performance. The findings were very close to those of Chakravorti (2013):

"The findings suggest that the relationship between market orientation and business performance is positive and strong ($r = .39$). (...) The results show that there is a positive, strong and consistent international relationship between market orientation and performance across countries ($r = .33$)" (Vieira, 2010, p. 40).

In addition to some of the work mentioned in the previous paragraphs, even before that, the empirical validation of the relationship or connection between market orientation and performance has been a central focus of several other studies, conducted in different

economic sectors, markets and cultural contexts. At the start, the majority of works that dealt with these relations was carried out in the USA. However, various similar research works that verified the relationship between market orientation and performance were carried out in other countries, including Brazil. In general, a positive relation between market orientation and business performance is observed (Perin, 2004).

In this several studies, there were identified the performance measures that should be used to assess a company's global performance, being them the ones that can be confronted with the understanding of the competitors' performance during a same period. Such metrics suggested would be related to the capacity of the organisation in increasing its market share, in other words, measures related to the capacity of the firm to keep customers in its base, avoiding what has come to be called customer churn, as well as the capacity to attract customers from the bases of its competitors. Thus, keeping current customers loyal to the company and attracting new ones, when compared to the same performance of the competitors, can represent an approximation to the capacity of the firm to increase its **Market-share**. Further, in accordance with the above mentioned studies, all analysed by Filho; Oliveira and Gonçalves (2008), it is fundamental that one measure, in the sphere of the Income Statement, movements of increase in **Sales** and **Profitability**; in the sphere of assets, movements of increase in the **Returns** and a measurement of performance compared to the **Competition** in relation to the **Global Performance** of the organisation, all the metrics having to be analysed compared to the market average.

Accordingly, in accordance with the current principal studies prepared that seek to relate market orientation to corporate performance (Kirca *et al.*, 2005; Kumar *et al.*, 2011, for example), Filho *et al.* (2008) argue that there are some metrics that should be considered in different areas, as follows (Filho, Veit and Gonçalves, 2007; Filho *et al.*, 2012):

- i) **Market-Share** (loyalty of current customers and attraction of new);
- ii) **Return on assets** (return on the capital employed in the business, assets or investments);
- iii) **Increase in sales**;
- iv) **Increase in profits**;

- v) **Increase in the competitive standing** compared to the competition and;
- vi) **Increase in Global Performance** compared to the market average.

Table 2.5 – Summary of performance indicators on Market Oriented companies by main references

METRICS	TYPE OF INDICATOR	MAIN REFERENCES
<i>Market-Share (loyalty of current customers and attraction of new)</i>	Subjective, self-assessment.	Jaworski and Kohli (1993); Baker e Sinkula (1999); Kirca <i>et al.</i> (2005); Filho, Veit and Gonçalves (2007); Filho <i>et al.</i> (2008); Vieira (2010); Filho <i>et al.</i> (2012).
<i>Return on assets(return on the capital employed in the business, assets or investments)</i>	Subjective, self-assessment.	Narver e Slater (1990), Slater and Narver (1994); Filho, Veit and Gonçalves (2007); Filho <i>et al.</i> (2008); Vieira (2010); Filho <i>et al.</i> (2012).
<i>Increase in sales</i>	Subjective, self-assessment.	Narver e Slater (1990); Slater and Narver (1994 and 1995); Kirca <i>et al.</i> (2005); Filho, Veit and Gonçalves (2007); Filho <i>et al.</i> (2008); Vieira (2010); Kumar <i>et al.</i> (2011); Filho <i>et al.</i> (2012).
<i>Increase in profits</i>	Subjective, self-assessment.	Kirca <i>et al.</i> (2005); Filho, Veit and Gonçalves (2007); Filho <i>et al.</i> (2008); Vieira (2010); Kumar <i>et al.</i> (2011); Filho <i>et al.</i> (2012).
<i>Increase in the competitive standing</i>	Subjective, self-assessment.	Narver e Slater (1990); Kirca <i>et al.</i> (2005); Filho, Veit and Gonçalves (2007); Filho <i>et al.</i> (2008); Vieira (2010); Kumar <i>et al.</i> (2011); Filho <i>et al.</i> (2012).
<i>Increase in Global Performance</i>	Subjective, self-assessment.	Jaworski and Kohli (1993); Baker e Sinkula (1999); Kirca <i>et al.</i> (2005); Filho, Veit and Gonçalves (2007); Filho <i>et al.</i> (2008); Vieira (2010); Kumar <i>et al.</i> (2011); Filho <i>et al.</i> (2012).

Source: Prepared by the author.

Analysing, therefore, such a proposition, we note that the analysis of the variables listed for the global corporate performances measurement, which have for scientific approach or grounding the studies that sought to show the strict correlation between **Market Orientation** and **Corporate Performance**, bring us close to the studies related to emerging models, such as Balanced Scorecard and Performance Prism, demonstrating that a balanced set of quantitative and qualitative indicators should be measured, coming from various areas of the corporation, and that also contemplate performance with the company stakeholders, to better approach what could be called global corporate performance.

2.5 Summary and outlined knowledge gaps

The literature review proposed in this section discussed the main contribution of the strategy field in a context strongly based on corporate learning, having as a consequence the need of sharing resources –knowledge among them – through the establishment of networks as a way to foster the performance increase of SMEs.

In this way, it is possible to verify that, from one hand, the review on strategy suggests that the hyper rational notions associated with the former concept of “strategic planning” has been proven very reductionist in theory and flawed in practice (Ansoff et al., 1976; Ansoff and Mcdonnell, 2009). The evolution of concepts (from strategy planning to strategy management) is due to the finding that strategy, although duly formulated or conceived, can prove not to materialize. In other words, the main idea is that strategic plan deals only with the planning (strategy formulation) and not with the execution (strategy implementation). Therefore, this amplified vision of the strategic management concept is in accordance with the interpretations of various authors like Mintzberg *et al.* (2002); Wheelen and Hunger (2002); Grant (2005); Certo and Peter (2005); Tavares (2008); Ansoff and Mcdonnell (2009), Kaplan and Norton (1992, 1996, 1997, 2001); Andrews *et al.* (2009); Mendes (2011); Poister *et al.* (2013), among others.

Notwithstanding this fact, literature over this issue seems to not present a consensus among these several authors of what should be considered “formulation” and what should be comprised in the “implementation” group, not to mention the possible existence of a different set of variables that could be considered as “prior” to the “formulation” stage. Additionally, Mintzberg *et al.* (2005), for example, still argue that strategy is a process or a “pattern”, meaning that these two conceptual stages could be seen as an “ongoing” process that never ends, one feeding the other in both directions (the strategy “formation” concept). The proposal of a clear articulation of strategic management into “Basic Strategic Elements”, “Strategy Formulation” and “Strategy Implementation” is, then, one of the knowledge gaps that this study intends to address.

Another obscure point still related to “strategy” stems from its prone relationship with corporate results. In the search for strategy effectiveness, several studies were already carried out in the last decades that aim to correlate positively “strategic planning” and superior performance of organisations. So far, however, over the last decades, there has been comparably less discussions about the effectiveness of strategy execution on corporate results. Our research also addresses this issue, as it seeks to correlate strategic management (planning, and also execution) to corporate performance of SMEs.

From the other hand, the importance of organisational networks, mainly learning networks, was also highlighted in this section. It stems from the basic assumption from the learning school (Mintzberg *et al.*, 2005) that, in an increasingly and turbulent environment, learning to continuously adapt the strategies to new competitive landscapes is a pre-condition for surviving in business. Several lines of study propose that, with the increase of competition, networks have assumed greater importance, as they can act as a bridge to reach and operate in different markets, providing strategic and tactical information that favour the co-creation and dissemination of knowledge, which can generate economies of scale and scope, among others benefits (Gulati *et al.*, 2000; Kale, Dyer and Singh, 2002; Gulati and Puranam, 2009; Gulati *et al.*, 2011; Lee, Lee and Feiock, 2012; Schildt *et al.*, 2012; Soda and Zaheer, 2012; Ozmel, Reuer and Gulati, 2013).

However, little is known about the relation of the participation in organizational networks (more specifically, learning networks), mainly when the SMEs' sector is considered, with performance increase. Different authors studied and proposed the existence of some attributes or conditioning factors that were considered "common" requirements for the success of such alliances, but what is not yet clear is the impact of being in a learning network on the individual corporate results (Kanter, 1994, 2002; Marcon and Moinet, 2000; Teixeira and Guerra, 2002; Olave and Amato Neto, 2005; Krishnan *et al.*, 2006; Teixeira *et al.*, 2006; Chen, 2008; Berardo, 2009; McGuire and Sylvia, 2009; Willem and Buelens, 2009; Balestrin; Verschoore and Reys Junior, 2010; Kaplan, Norton, and Rugelsjoen, 2010; Gulati *et al.*, 2011; Munoz and Lu; 2011; Romzek *et al.*, 2012). Additionally, no research has been found that tried to establish possible correlations of these proposed common elements.

Finally, until recently, there has been no reliable evidence that being part of a learning network also helps the individual participants to better develop their individual strategies, by taking advantage of the knowledge generated and disseminated by the activities of the learning network (Yoshino and Rangan, 1996; Kale *et al.*, 2000; Teixeira and Guerra, 2002, 2003; Scholz and Wang, 2009; Willem and Buelens, 2009; Cullum, 2013). Similarly to the knowledge gap found in the strategy section, this present research proposes to address the literature of uncovered "learning networks" issues described in the previous paragraphs.

CHAPTER III

3.1 The background to the development of the LNC Programme

In recent decades the rising competitiveness of globalized markets has systematically made the traditional measurement systems of strategic performance and variable compensation obsolete. The necessity of adaptation of companies to a more complex and dynamic market is increasingly noticeable. It is an emerging scenario that has resulted in organisations starting to act unorthodoxly, developing competencies to face up to the challenges originating in these swift and constant economic, political, social and technological transformations that Brazil and the world are going through, and which are having a direct and immediate impact on the corporate environment.

And it is precisely in this business context that a growing number of established inter-organisational partnerships has led to the strengthening and expansion of an awareness of the value of networks in the formulation and execution of the individual strategies of the participant companies, resulting in what is being called at present a network society. Among the various emerging forms of corporate alliances, the networks most recently evolved are the learning networks, which have arisen strongly supported by the advances in the means of communication and information technologies, being instruments for the creation and dissemination of generic forms of knowledge that leverage the results of the alliance as a whole.

3.2 The coordinating institution

The coordinating institution of the LNC Programme is a leading Brazilian Business school, with solid connections in the corporate world. The organisation was founded 35 years ago with the mission to develop executives, public sector managers, entrepreneurs and organisations from several industries, in different countries. It has as its objective the search for integrated solutions in management to meet the demands of executives and organisations. It acts, unlike an orthodox management consultancy, in the development of its client's internal

teams, who are going to interact critically and strategically in the organisations they represent and build, with the support of the coordinator, a joint solution for the demands presented. The institution understood, over its recent decades of activities that the philosophy of working WITH the client and not only FOR him respects an organisation's identity, and takes into account the peculiarities of the segments in which it operates and the dynamics of the markets.

It is, therefore, a business school that understands that the solutions for the development of organisations can be found for the most part in the institution itself. And such a joint solution, between the coordinator team and the client company team, derives, fundamentally, from the synergy developed between theory and managerial practice, fostered by its interactive work between the teams of both institutions, as well as by its unceasing attempts to maintain on its staff professionals that have combined in their careers solid academic background with recognized business experience.

Founded in the 70s, in Brazil, an autonomous, non-profit-making institution, considered a public utility, the coordinating entity has been developing solid and constant international relations with other institutions of international renown. Such an initiative, a pioneering one in Brazil, has given it access to large well-known centres all over the planet, initiators of new thinking and corporate and public management technologies, as well as stimulating the development and sharing of cutting edge managerial knowledge with the most modern trends in business thought.

After preparing thousands of executives and public managers in the last 35 years of its existence, this Brazilian business school has become an authority in its sector, not only on the national turf, but also on all the other continents, having participated actively in the refining of the managerial and corporate levels and, consequently, in the regional development of the countries where it operates. Considering both the programmes open to all the executives and those developed within the organisations, as well as its business partnership programmes, something of the order of 40 thousand executives, from medium-sized to large organisations, have passed through its executive and corporate development courses.

3.3 The LNC Programme

The LNC Programme is an alliance between medium-sized companies located in the same geographical region, that have a similar degree of management complexity, that are not competitors, and that have the resources and unique capacities to contribute with experiences and knowledge produced and shared, in addition to being located on a rising growth curve.

In addition, one of the presuppositions of the success of the alliance that it is desired to build, since the formation of the first group in 1992, is that the project should have the assistance of, fundamentally, businessmen willing to really dedicate their own time and that of their employees and teams to the activities proposed by the dynamic of the partnership. As they are eminently family-owned companies, the direct participation of the main executive, as a rule the heir to the business, was considered a crucial factor for success. In addition, the profile sought should be of entrepreneurs that believe in the sharing of experiences and the synergy with leaders of other businesses as a means of promoting the development of their own organisation and who understand that ultimate success resides in the evolution of the group as a whole and not only in the firms seen individually.

In this way, the LNC Programme can be characterized as a Learning Network formed of Small, Medium and “Medium-Large” Brazilian Enterprises²⁷, but extendable to other countries of Latin America, with the fundamental objective of achieving improvement in organisational performance, using an **integrated management model focused on results** and on excellence in the **formulation and implementation of business strategy**.

The **development process** of companies is conducted in an evolutionary way where knowledge, learning and the exchange of experiences guide the practical application of the management methodologies and tools built up by the team of professors and consultants of the business school (coordinating entity), which is the coordinating entity of the project. The implementation of these management tools carried out with the support in person of the professors, who act as **consultants** to the **team of each participating company**.

²⁷ See the classification of companies by size adopted by the Brazilian National Bank for Economic and Social Development (BNDES - Banco Nacional de Desenvolvimento Econômico e Social) that was used in this study in order to classify “SMEs” on section 1.2.

The systematic analysis of organisational performance allows the monthly evaluation of the strategic results of each company, by means of a roll of **strategic, tactical and operational indicators**, related among themselves, that measure the progress of the business monthly and permit the analysis of possible deviations from the strategic path and the consequent corrective action, whenever necessary.

As its main result, the LNC Programme proposes to support each participating company to improve its competitive position and, in consequence, its global results, in its distinct areas, anchored by an integrated management model of performance monitoring, which is always set against strategy as its backdrop.

Based on the accumulated experience of the first five years of the setting up of the first group, in which the dynamic and structure of the alliance evolved as understanding of what turned out right and what needed improvement became apparent, as well as listening to the partner companies of the pilot group of 1992, new groups were formed in distinct regions, based on the same presuppositions. Thus it is that in the last 15 years (1997-2012), the LNC Programme has managed to form groups of companies in practically all the Brazilian states, in addition to having partner companies, from the most diverse branches of activity, in Argentina, Paraguay and Portugal, a total of more than 500 medium-sized organisations at the end of 2012.

3.4 The LNC working dynamics and activities

Methodological Structure

All the activities and working dynamics of the LNC Programme are based on its methodological structure, which relies on two fundamental concepts: i) **On the job training**: where managers, directors and the main leader participate in collective learning in the company itself, when the consultants and professors of the coordinating institution transfer the methodologies and tools adapted to the different management areas, in accordance with the strategic business plan of each company and ii) **Virtual learning environment**: that is a place for the exchange of experiences between the company executives and the team of

consultants and professors of the coordinating institution to obtain the data necessary for the implementation of the structured methodologies of the whole programme, aligned with the strategic business plan.

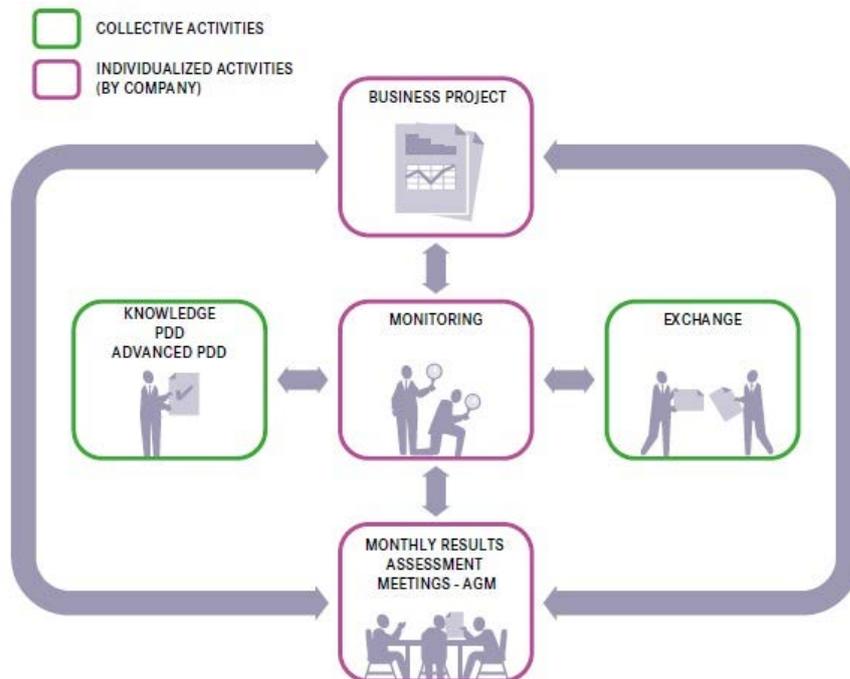
Working dynamics

As presuppositions for the functioning of the programme, the regional groups are formed focused on:

- i) Collective learning, called exchange, by the joint generation and sharing of knowledge between the participants, in the form of:
 - a. systematic forums and platforms for the exchange of experiences;
 - b. implementation of individual managerial methodologies, but that start with collective participation in the theoretical part;
 - c. Interchange of managerial practices in the modules of manager capacitation;
- ii) The development and implementation of methodologies and up-dated managerial tools, in an individualized manner, in the participating companies;
- iii) The capacitation of the group of managers of the participating companies in the “state of the art” corporate management concepts and practices;
- iv) The development of practical projects suitable to the strategic reality of the participant companies;
- v) The generation of business among the participant companies.

The functioning of the LNC Programme is at present groups of activities that represent 400 hours a year more of dedication for the participant companies, and whose work systems can be illustrated by Figure 3.1.

Figure 3.1 – LNC Programme working dynamics



Source: LNC Programme, adapted by the author

As regards the exchange module, knowledge sharing is encouraged by the coordinating institution and happens with the participating companies in special forums:

- **Annual network meeting:** Chairmen and main executives participating in the Network meet to discuss the results obtained during the year, to dialogue with specialists in macroeconomic scenarios, the global economy and emerging themes to help in the preparation and/or the revisiting of the strategic business plan. It is also a forum that opens exchange opportunities with other participating companies, sectors, countries and cultures.
- **CEO’s forum:** A restricted group, formed by the chief executive of each company, to discuss current themes and problems in common and promote integration and development among its members.
- **Executives’ forum:** Top managers discuss emerging themes for the companies, exchange experiences and up-date themselves with the most recent contributions in the

management field. The meetings are thematic, covering different and specific issues of the companies, such as finance, marketing, risk, corporate governance, among others.

With regard to implementing the management methodologies, these tools are developed based on the state of the art management practices discussed in the most prestigious academies in the world, including the coordinating entity of this project. Such action takes place based on the systemic reality of business, meaning, always with a practical look at the market that seeks to identify what really has worked in organisations. Moreover, as the companies are disposed in learning communities, the sharing of the knowledge generated collectively is understood as one of the supporting columns of the Project and, consequently, used as a fundamental instrument for the continual evolution of such managerial methodologies and tools.

Accordingly, having as foundation a Strategic Corporate Model, which follows the principles of Strategic Management (Formulation and Execution), additional managerial methodologies, of a structural character, are implemented as supporting tools, in compliance with the prevailing, previously developed strategy, always from a long-term perspective. Among them, are the marketing, finance, managerial processes, strategic management of people and logistics methodologies, which are applied in an individualized manner in the participant companies, but that start off in a common learning forum that enjoys the participation of all the companies of a group with a specific regional basis. In addition to the fundamental methodologies, other developmental methodologies can be chosen by the groups or individual companies, which may extend the period of participation in the programme, foreseen initially for 36 months.

The methodology of strategic management is, therefore, the cornerstone that serves as a basis for each such project and that provides support for the other managerial tools that are implemented gradually. Accordingly, the comprehensive process of the formulation and implementation of strategies is called strategic management, the backdrop of the LNC Programme, and envisages the conception and adoption of an organisational model adequate for the execution of the strategies conceived. That is, it is the basic methodology that develops, jointly with the participant companies, a set of decisions and strategic actions that aim at proportioning sustainable competitive differential with the consequent improvement of the long-term strategic performance. In summary, it is a type of management that includes

fundamentally a thorough analysis of the internal and external environments, the formulation of strategy (strategic planning, at short, medium and long-term), the creation of its strategic execution model (implementation) and the evaluation and systematic control of what is being executed, vis-à-vis what was planned.

Activities and products of the Learning Network Programme (LNC)

In summary, the LNC Programme presents:

- **Construction of the strategic business plan:** Joint development of the vision of the company's future, formulation of the strategic planning and its respective results indicators. This activity is done individually with each company, but starts within the groups in a collective learning meeting;
- **Performance agreement:** Results contract that reinforces the commitment of the company to produce a feasible strategic business plan with a five-year horizon, revisited annually;
- **Evaluation of monthly performance:** Monitoring of the targets, results and action plans for the evaluation of any diverging indicators;
- **Implementation of managerial methodologies and tools:** Attended meetings with the managers of the companies participating in the network to obtain conceptual input of the methodologies to be applied individually in their organisations. Enjoys the support of the consultants and professors of the coordinating institution on the occasion of the implementation of the respective methodologies and management tools necessary for each company, in the light of the respective strategic business plan;
- **Managers' development programme:** this is a programme of managerial formation aimed yearly at three executives per participating company of the partnership programme, with a duration of approximately 100 hours. It is composed of six modules with emphasis on strategy, marketing, finances, people, processes and projects and that seeks to prepare

managerially the principal managers involved in the LNC programme, with the intention of increasing the possibilities of successfully implementing base and support methodologies;

- **Managers' advanced development programme:** This is a discussion forum that contemplates emerging themes of management and that is aimed at the principal executive of the participating companies or whoever is found undergoing training to assume such function. As a prerequisite, such executives shall necessarily already have participated in the Managers' Development Programme described above.

CHAPTER IV

4. THEORETICAL MODEL AND HYPOTHESES

4.1 Introduction and overall model

According to Sampieri *et al.* (1991), the theoretical models help in the comprehension of the reality under study, to the extent that they relate the constructs involved and proportion a panorama of the antecedents or consequences of the construct that is being analysed.

Schiffman and Kanuk (2000, p. 465) define a Model as being “*a representation of the reality intended to show relationships between various elements of a system or process under investigation*”.

In harmony with the theme, Sutton and Staw (1995), in discussing requirements of scientific publications, recommend special care in the structuring of the basic theory, highlighting the necessity of stressing the relationship between the phenomena being studied through the presentation of the basic assumptions or of the hypotheses that are in the origin of their inquiries, particularly by means of a theoretical model.

For the proposition of such a model to be possible, it is fundamental that the key variables are identified and described, as well as proposing the links existing between these variables. Finally, according to Voss *et al.*, (2002), is important that the reasons for which such relationships between the variables were proposed is demonstrated. Wacker (1998) follows a similar line, in proposing a general procedure for the construction of the theory, as follows: define the variables; limit the domain; propose relations (construction of the model), and provide for the theory. Eisenhardt (1989), points out that the process of testing the theory involves constructions of measurement and checking of the relations.

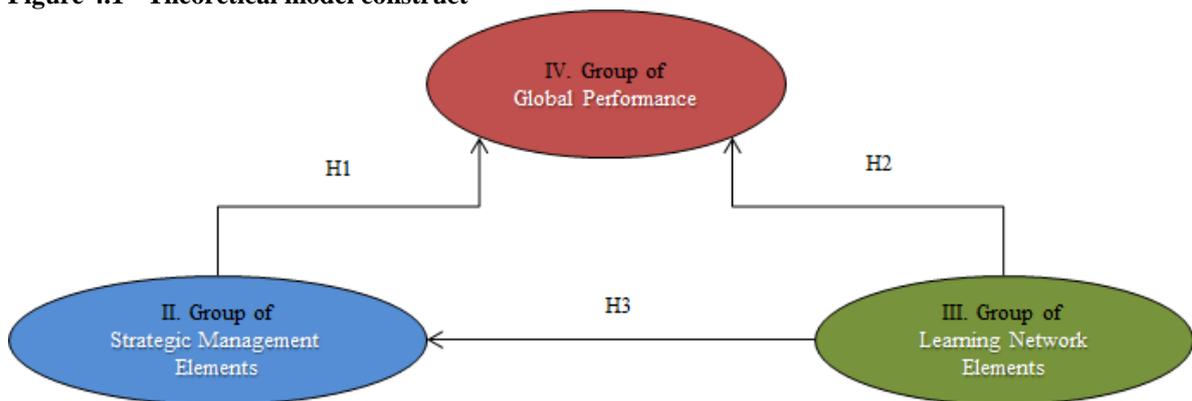
In this sense, the lines followed for the assembly of the theoretical model that served as a basis for this research, as well as the theoretical support for the formulation of the hypotheses

in the model utilized, are presented in the items that follow and will serve to validate the proposition of the model, in the light of the literature on the subject, already discussed and presented in chapter II of the present work and on the arguments presented herein in each subsection.

So, the theoretical model that serves as a basis for the research problem presented herein is, in reality, an interrelationship of constructs presented along the theoretical lines of global performance (dependent variable), based on market orientation, strategic management (dependent variable) and learning networks (independent variable).

So, with reference to the objectives proposed in this paper, the fundamental variables of the research were identified and described so that a hypothesized theoretical model could be proposed, as shown in Figure 4.1 (the number of the groups makes reference to the sequence in which they appear in the final questionnaire sent to the companies). Each of these constructs shown below, and their hypothesized relationships, are elaborated in the subsequent sections.

Figure 4.1 - Theoretical model construct



Source: Prepared by the Author

Part of the overall logic of the empirical model is based on the idea that a company that develops and implements its strategy, impacts positively in its corporate performance. Some theoretical positions show a positive relation of strategic planning and financial results, but

just a few studies tried to correlate strategy planning and its related implementation to and increased performance. The basic idea that underlie our proposition is related to the fact that if strategic planning has a direct impact in a companies' performance, the fact of actually executing the planned strategy could present a more positive or stronger correlation (or predictive power) between the strategic thought and financial results.

Analogously, a company that participates in a leaning network is expected to generate and disseminate relevant knowledge that, in its turn, would impact positively in corporate performance, a knowledge that probably would not be created outside the boundaries of the learning network. In third place, and completing the overall logic of the model, this generated and disseminated relevant and strategic knowledge is intended to improve the capacity of the participating companies of learning networks to better formulate and execute their individual strategy. This is expected while the learning environment created within these networks is believed to foster recurrent strategic thinking over the distinct nodes and within the alliance as a whole.

Some theoretical positions over these learning network issues propose that for a group of companies to transform into a real learning network, stimulating the generation and sharing of knowledge and information between its constituent links, and being considered a generating source of sustainable competitive differentials, it is of fundamental importance the presence of some attributes or conditioning factors (requirements) for the success of such alliances. Notwithstanding this fact, none of the lines of study analysed or theoretical positions present links of cause and effect among these variables. So, besides confirming, through a comparison of the current literature, the existence of such common elements, this study proposes to test the hypothetical relationships between these elements. The rationale under this proposition is based on the idea that there are elements that must "be present before" or precede the others. It means that it was believed that the presence of "preceding network elements" help the development of "subsequent network elements" (dependent variables), once considering these learning network requirements.

4.2 Strategic management elements and corporate performance

The concept Strategic Management arises from the idea that a simple strategic plan has a limited scope (Ansoff *et al.*, 1976; Ansoff and McDonnell, 2009). The main reason is related to the fact that the strategic plan deals only with the planning (strategy formulation) and not with the execution (strategy implementation). Therefore, according to Davous and Deas (1976), strategic management interventions are directed at the promotion of strategic administration, a behavioural phenomenon, and not at the production of a plan or a strategy

In this way, the construct of strategic management elements of the proposed theoretical model above is composed of variables of three main groups: i) those of basic strategic elements; ii) those of strategy formulation; and iii) those of strategy implementation. It is important to stress that the present proposed division refers to an interpretation of the author of this study, which in addition to the Basic Strategic Elements, places in only two other large groups (formulation and implementation) all the other constituent variables.

Thus, analysing the Mendes Model (2011) (Fig. 2.3), once detailing the construct of strategic management elements, the block “formulation” receives the group of “Analysis” and the block “implementation” receives the group “Control and Evaluation”. When we also analyse the flow proposed by Wheelen and Hunger (2002, p. 1), another adaptation occurs: the group number one of analysis denominated by the authors “Environmental Scanning” is inserted in our study in the most comprehensive block denominated previously “Formulation” and, in the light of what was done with the Model proposed by Mendes (2011), the group “Control and Evaluation” was inserted in the block “Implementation”. Having said that, one can conclude that the division of the strategic management into “Strategy Conception” and “Strategy Execution” (formulation and implementation) is in accordance with the interpretations of various authors like Ansoff *et al.*, (1976, 1993) with an understanding similar to that of Davous and Deas (1976); Kaplan and Norton (1992, 1996, 1997, 2001); Mintzberg *et al.* (2002); Wheelen and Hunger (2002); Grant (2005); Certo and Peter (2005); Tavares (2008); Ansoff and McDonnell, (2009), Andrews *et al.* (2009); Mendes (2011); Poister *et al.* (2013), among others.

And, in the search for strategy effectiveness, several studies were already carried out that aim to correlate positively strategy and superior performance of organisations. For their authors,

the conclusions of such studies show, unequivocally, that companies benefit from the planning process, which results in better performance.

With this purpose, Poister *et al.* (2013) recently analysed 104 small and medium-size urban transit agencies in the United States, demonstrating a positive correlation of strategic planning and performance effectiveness and in system productivity measures. Some years before, a study of Andrews *et al.* (2009) presented similar results but in a different way: in their survey, departments of the Welsh Government were analysed and the conclusion was that “(...) *strategy absence have negative consequences for performance while prospecting and defending are strategies that are likely to result in higher levels of organisational performance*” (Andrews *et al.*, 2009, p. 1).

In more recent studies, other scholars followed the same line of research and also demonstrated a positive correlation between the development of strategic management elements and a superior corporate performance (Elbanna and Child, 2007; Sanchez and Robert, 2010; Salleh and Ching Choo, 2011; Gardner *et al.*, 2012; Rose and Cray, 2013).

To the contrary, but in notably fewer cases, some authors have promoted studies that did not find any correlation between strategic planning and superior performance, such as, without exhausting the examples, Cappel (1990); Hahn and Powers (1999); Greenley (1986); Robinson and Pearce (1988). Notwithstanding this fact, in still fewer numbers, there are other researchers that identified a negative correlation between such variables (Schrader, 1969; Leonard-Barton, 1992). Additionally, some studies also alert to possible paradoxes that organisations can face in relation to planning, like the possibility, identified by Slotegraaf and Dickson (2004) of the strategic planning reducing the capacity of the firm to improvise, stamping, as it were, the management process with rigidity and possibly, as a consequence, negatively affecting the corporate performance.

Evidently, the studies listed herein do not exhaust the question. In our bibliographical study, what one can conclude, nevertheless, is that a considerable part of the empirical works shows a close relationship between the development of a strategic management process by the organisations and a corresponding increase in company performance. This is, therefore, one of the relationships that it is sought to examine in the roster of companies analysed in the scope

of this work and which will be part of its set of hypotheses to be tested in the sample obtained in the field work.

In this way, the construct of strategic management elements and its impact in corporate performance to be tested in this study, as exposed before, was detailed on three theoretical major blocks related to the corporate strategic management process: i) Basic Strategic Elements (assumptions); ii) Strategy Formulation; and iii) Strategy Implementation. These major blocks are important parts of our empirical model and will be detailed on section 4.2 below.

Based on these arguments and on the evidence that a developed (and, sometimes, implemented) strategy impacts positively on the superior performance of organisations, it is proposed that,

Hypothesis 1 (H1) – The development of strategic management concepts or elements results in a higher global performance of the company.

4.3 Learning networks' environments and corporate performance

From the theoretical context of the construct of learning networks, we have sought to stress the existence in various lines of thought of the network typologies that contemplate the learning networks. Currently, this theme represents a central question for much research work that attempts to catch the wisdom generated by the relationships between the organisations and to present the complex competitive scenarios of the present times.

As a result of this modern organisational settlement, networks, Gulati *et al.* (2000) stress that the firms who struggle for profit, one versus the others, in a dispassionate, impersonal or cold market, demonstrate increasingly defective behaviour in a new reality in which networking organisations are strengthening professional and there exist ordinary or social relations with other corporative players. The authors propose that networks can act as a bridge to reach and operate in different markets, providing strategic and tactical information, technologies and

other resources; favour the knowledge acquisition that can generate economies of scope and scale, amidst other important advantages.

In fact, with the increase of competition, networks have assumed greater importance. The analysis of business competitiveness, by researching the characteristics of the industry, as the specialized authors do in “Industrial Organisation”, more specifically M. Porter (1986, 1992, 1996, 1998, 1999), or the analysis of competitiveness by the evaluation of internal resources – the authors who support the “Theory of Resources” (or the Resource-Based View, widely known as RBV) like Penrose, (1959), Rumelt (1984) and J. Barney (1986, 1991, 2001), among others, represents a partial analysis. This is because this type of analysis is centred on the company as an isolated element. This isolation can no longer be seen as normal behaviour in several industries²⁸.

According to Gulati *et al.* (2000), such alliances are capable of facilitating the achievement of strategic objectives and of minimizing risks, but may also “bind” the company into poorly productive relationships, create dependence and hindrances to the accomplishment of competitiveness. In fact, Ozmel, Reuer and Gulati (2013) argue that organisations can face several difficulties in forming such relationships. Among the different variables that future associates can face, according to the authors, is the risk of adverse selection, “*which can arise between a new venture and its potential alliance partners when there is information asymmetry regarding the value of the new venture’s resources and its future prospects*”(Ozmel, Reuer and Gulati, 2013, p. 852). However, in spite of these risks, the current economic environment has been causing networks to become an important resource in the strategic design of organisations, in the search for the development of competencies and that help companies to remain competitive (Schildt *et al.*, 2012).

In this way, according to Gulati (1998), strategic alliances have become one of the most common strategies adopted by organisations. In fact, as organisational networks, in large part, create value, in accordance with the analysis of Anand and Khanna (2000), illustrated by the study of Palmer (2006) that states that 20% of the revenue generated by the 2000 largest European and American companies comes from alliances, the search for strategic alliances

²⁸ According to Nijssen *et al.*, (2012, p. 91), quoting an Eurostat (2008) source, “(...) recent statistics show that some 30% of all product and process innovations in Europe are developed in collaboration with customers”.

has been growing, and their use has been naturally justified by a large part of the organisations.

It happens, according to Gulati, Nohria and Zaheer (2000), corroborated by Lee, Lee and Feiock (2012), because, in such environments, firms are easily provided with information, resources, access to other markets and other technologies which favour the learning that can generate economies of scale and scope, among other benefits. They are also capable of generating sustainable competitive advantages as a way achieve individual strategic objectives, minimize risks, and finally increase corporate results (Kale, Dyer and Singh, 2002; Teixeira *et al.*, 2006). Value generation and superior performance are, consequently, the last search of organisations that seek to associate with others in networks, what can be considered a common corporate strategy in recent years (Gulati, 1998; Gulati and Gargiulo; 1999; Gulati and Puranam, 2009; Gulati *et al.*, 2011; Soda and Zaheer, 2012).

And, this is possible because the inter-organisational relationships always form a learning environment through cooperation. These relations are complex, with which the competitor players choose to cooperate in a certain domain. Thus, networks favour the concentration of effort, without depriving their members of their freedom of strategic action.

Dyer and Nobeoka (2000) claim that organisational learning may be the key factor for competitive edge and, thus, the company should develop the capacity to learn, adapt and continuously update its organisational capacities. However, they say that a firm's learning ability goes beyond its capacity as a single, isolated entity and therefore, it needs the evaluation of the network in which the company is integrated. They argue, then, that networks can be an effective means of inter-organisational learning. According to the authors, then, the networks must be understood as knowledge flows that run "across" the companies in order to improve individual strategy implementation, producing in consequence better and more sustained long term global results.

Marcon and Moinet (2000), however, highlight that it is fundamental that each individual organisation presents capacity of learning, because the frequent heterogeneity of the actors in terms of productive, technological and organisational capacitation induces collective learning, as a tool for individual strategy effectiveness and for boosting the joint performance of

companies. In similar way, the research of Dayaram and Fung (2012), well illustrates how organisational learning plays an important role in promoting the impact of individual learning and team learning on team corporate performance, while the findings of Simonin and Özsomer (2009) and of Rose *et al.* (2009) also suggest that organizational learning plays an important role and have positive impact on organisational commitment, job satisfaction, and corporate performance.

From the bibliographical references here explored, that were grounded in several lines of study regarding this subject over the last decades, it is possible to see that the performance of organisational networks, notably learning networks, depends on conditioning factors that are central for such alliances to reach the objectives that were laid out when they were formed. It means that a real learning network to be successful must present some attributes or conditioning factors that were considered “common” requirements, independently of the tendencies of studies or of the authors considered.

Analysing the points in common dealt with, such variables that compose the construct of learning network elements of our theoretical model can be summarized as:

- i) Institutionalisation and awareness related to the partnership, analysing issues such as: whether the network project has clear rules and procedures that can be shared among all participating companies and whether the project is officially formalized and widely known within each participating company (Kanter, 1994, 2002; Marcon and Moinet, 2000; Olave and Amato Neto, 2005; Teixeira and Guerra, 2002; Willem and Buelens, 2009; Balestrin; Verschoore and Reys Junior, 2010);

- ii) Interdependence, analysing issues such as: whether the participating companies have complementary knowledge, skills and competences and whether they are mutually dependent on the development of the individual strategy. Finally, if they demonstrate that they are likely to share knowledge and skills (Mile and Snow, 1986; Ebers and Jarillo, 1998; Kanter, 1994, 2002; Grandori and Soda, 1995; Marcon and Moinet, 2000; Krishnan *et al.*, 2006; Willem and Buelens, 2009);

iii) Integrity, ethical principles and trust, analysing issues such as: whether the participating companies demonstrate that they are honest and behave ethically in the network, whether the confidential information of the partnership is secure and if the image of the network project and of the individual participating companies is supported externally (Powell, 1990; Kanter, 1994, 2002; Casarotto Filho and Pires, 1998; Carvalho and Fischer, 2000; Marcon and Moinet, 2000; Teixeira and Guerra, 2002, 2003; Krishnan *et al.*, 2006; Teixeira *et al.*, 2006; Chen, 2008; Berardo, 2009; McGuire and Sylvia, 2009; Balestrin; Verschoore and Reys Junior 2010; Kaplan, Norton, and Rugelsjoen, 2010; Gulati *et al.*, 2011; Munoz and Lu; 2011; Romzek *et al.*, 2012);

iv) Adaptation and integration, analysing issues such as: whether there is an overcoming of cultural differences and natural mistrust among participants, whether there is a development of personal connections within the project activities and also personal connections outside them (Kanter, 1994, 2002; Ebers and Jarillo, 1998; Carvalho and Fischer, 2000; Marcon and Moinet, 2000; Teixeira and Guerra, 2002, 2003);

v) Individual excellence, value added and contribution, analysing issues such as: whether there are resources, capabilities and knowledge to be shared among the network participants and whether each company has unique values for collective contribution (Mile and Snow, 1986; Kanter, 1994, 2002; Marcon and Moinet, 2000; Teixeira and Guerra, 2002, 2003; Olave and Amato Neto, 2005; Willem and Buelens, 2009; Mitsuhashi and Greve, 2009);

vi) Strategic relevance or importance, analysing issues such as: whether the goals of the participating companies in relation to the partnership project are positive and well intentioned; if the objectives of the partnership project are aligned with the expectations of improved performance of the companies and whether participating companies consider the partnership project relevant to the company's success (Kanter, 1994, 2002; Arruda and Arruda, 1997; Casarotto Filho and Pires, 1998; Ebers and Jarillo, 1998; Amato Neto, 2000; Teixeira and Guerra, 2002; Olave and Amato Neto, 2005);

vii) Strategic information and knowledge, analysing issues such as: how openly participating companies share knowledge and information about what is being developed in the individual company, resulting from the partnership and how openly participating

companies share knowledge and information on other company matters , not related to the partnership (Kanter, 1994, 2002; Casarotto Filho and Pires, 1998; Ebers and Jarillo, 1998; Carvalho and Fischer, 2000; Marcon and Moinet, 2000; Teixeira and Guerra, 2002; Olave and Amato Neto, 2005; Willem and Buelens, 2009; Klijn *et al.*, 2010; Phelps *et al.*, 2012);

viii) Involvement and Commitment, analysing issues such as: whether the participating companies show interest in staying in the project, in the short, medium and long term and if they have an investment of resources in the partnership, such as time, personnel, capital etc., meaning that partners share certain costs and risks and devote financial and other resources to the partnership in the long run. (Kanter, 1994, 2002; Amato Neto, 2000; Marcon and Moinet, 2000; Teixeira and Guerra, 2002; Balestrin; Verschoore and Reys Junior, 2010);

Based on the identification of these “common elements” of successful learning networks and considering the relevant and strategic knowledge as a final objective of a such alliances and a strong competitive advantage on the networking society, and on the arguments that create and disseminate this knowledge within the boundaries of a learning network is easier and more effective than individually, the existence of learning networks impacts positively on financial results, it is proposed that,

Hypothesis 2 (H2) – Being part of a learning network results in a higher global performance of the company.

4.4 Learning networks’ environments and strategic management elements

On the other hand, it is still fundamental to point out that there exist ways of thinking which argue that, also through inter-organisational networks, it is possible to improve the strategic management process and the development of individual strategic competencies. In this context, the need for companies to specialize in specific activities is singled out, such as proposed by Teixeira and Guerra (2002, 2003), referring to the necessity of individual companies to consider the convenience of specializing in some activities and supporting

themselves on the competences of other companies in the search for the development of a sustainable competitive differential.

In this way, the possibility of gaining access to or acquiring vital strategic information, know-how or expertise from the associate is often quoted as one of the biggest reasons for the establishment of alliances (Kale *et al.*, 2000). Alliances can be considered, not only as ways of negotiating access to the different and, sometimes, even interdependent abilities, competences or skills of the other, but also as a mechanism for acquiring or internalizing the techniques and abilities from the partner to be used in a strategic way. To the researchers Yoshino and Rangan (1996), this kind of learning is, with no exception, an implied strategic target to be reached for each firm that composes a given alliance, which can be considered, in some ways, an interpretation close to the study of Willem and Buelens (2009).

For these reasons, learning networks participating companies, together, are able to develop fundamental network attributes such as Interdependency and Individual Excellence, Value Added and Contribution of Each Partner, and also **foster strategy development in general and promote a positive impact on corporate performance** (Mile and Snow, 1986; Ebers and Jarillo, 1998; Kanter, 1994, 2002; Grandori and Soda, 1995; Marcon and Moinet, 2000; Teixeira and Guerra, 2002, 2003; and Teixeira *et al.*, 2006).

In fact, Cullum (2013, p. 61) states that “(...) *learning networks are seen by some to threaten traditional learning approaches while others believe that the rapid rate of change will mean that the industry must move beyond providing content to managing change, strategy and being collaborative through learning networks*”. Scholz and Wang (2009) also found in their study on learning networks and the coevolution of cooperation that inter-organisational learning alliances can be determinant in formulate successful strategies, notably in high cooperative environments.

Therefore, based on arguments of the authors of the preceding paragraphs, one can infer that the generation and dissemination of relevant knowledge within learning networks can be faster and better in quality, when compared to knowledge flows over individual companies, in a high cooperative environment. This is expected while the learning environment created within these networks is believed to better foster recurrent strategic thinking over the distinct

nodes and within the alliance as a whole and, therefore, improve the capacity of the participating companies of his organizational networks to better formulate and implement their individual strategy. It can be proposed, then, that

Hypothesis 3 (H3) – Being part of a learning network helps companies to better develop strategic management concepts or elements and become strategy-focus organisations.

4.5 Expanded hypothesized theoretical model and hypotheses

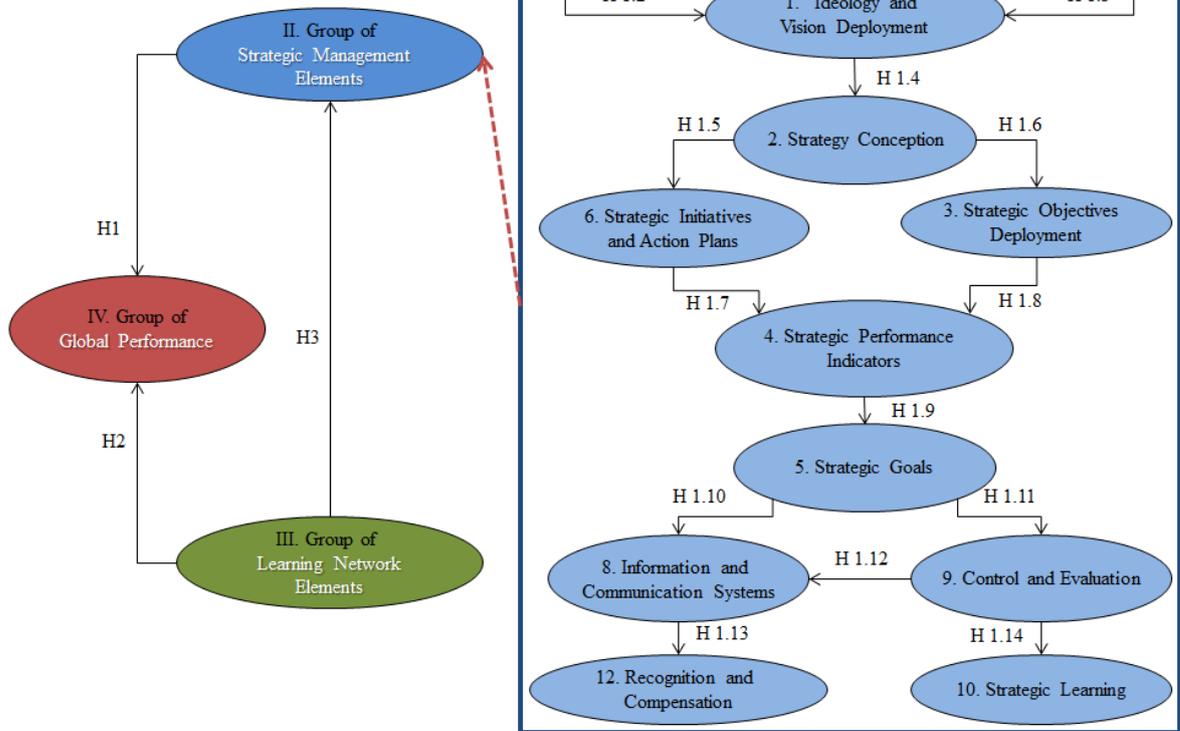
4.5.1 Expanded strategic management elements model

Arising from the main constructs (Strategic Management Elements and Learning Network Elements), the following deployed constructs were proposed (Groups II and III) that emerged from the basic structural literature proposed in Chapter II (sections 2.2 and 2.3).

As stated before, the main idea of the following theoretical model (Expanded Model from group II) is the existence of three theoretical major blocks related to the corporate strategic management process. The hypotheses to be tested were proposed, though, based on the general idea that there are basic strategic elements (leadership culture and related parties and sustainability) that give support to both strategy formulation (firstly) and implementation (secondly). This theoretical model is illustrated below (Fig. 4.2).

Figure 4.2 - Theoretical model construct – Expanded from Group II

Expanded Model – Group II



Source: Prepared by the Author

The deployment of the hypotheses illustrated above, therefore, is grounded on the identification of three different conceptual blocks arising from the Strategic Management literature review (See Figure 2.2, adapted by the author from Grant, 2005, p. 7), which identifies a clear sequence in strategy administration, that is the existence of i) basic strategic elements or assumptions ii) strategy formulation and iii) strategy implementation (Kaplan and Norton, 1992, 1996, 1997, 2001; Mintzberg *et al.*, 2002; Wheelen and Hunger, 2002; Mendes, 2011).

Leadership culture and Related parts and sustainability

From the beginning, it must be understood that, before **strategy formulation** and **implementation**, a senior manager must understand that, currently, there are some factors that must be recognized in order to develop a competitive and sustainable advantage. This

recognition is based on the idea that senior management has a very important role in developing **a strategy founded on sustainability concepts**. After that, leadership involves the influence of the leader on the behaviour of the led, which is also a function of organisational control. And organisational control, according to Hatch (1997), should be understood as a mechanism of implementation of strategy or as a function of the organisational culture and, chronologically, takes place after strategy formulation by senior management (Vera and Crossan; 2004; Theodorakopoulos *et al.*, 2009). It is a theoretical approach that assumes that the individuals have different reasons for participating in an organisation and these have a problem to be confronted, which is not to let these interests jeopardize the organisational objectives and strategies, to that end eliminating what has come to be called agency conflicts (Hatch, 1997; Mitnick, 2006).

In fact, as a competitive advantage essential for the future, the leadership factor will have importance and responsibility for the development of a vision consistent with reality, by the creation of strategies to implement this vision, by the persuasive communication of the vision to conquer adepts for it, by the delegation of power to the people around him or her, and, by depositing confidence in people so that they can create and implement that vision (Garrat, 1995; Stoner and Freeman, 1999). And, for the competitive advantage to be sustainable, a strategic leadership must have in mind to contemplate all related parties²⁹ into the strategy. According to Nonaka and Takeuchi (2011, p. 61)

“Business now demands a different kind of leader - one who will make decisions knowing that the outcomes must be good for society as well as the company. Leaders must keep a higher purpose in mind”.

Also related to the long-term success of strategy (sustainability) is another fundamental basic assumption, quoted by several authors, that is the need to include in a company’s strategy the related parties or stakeholders, or “*how do companies integrate sustainability into their strategy and practices*” (Tollin and Vej, 2012, p. 625). And only a “strategic management leader”, as the one defined by Porter (1996, p. 24), with a broad view of the market, is believed to understand the importance of contemplating the principles of sustainability in long run strategies. According to him,

²⁹ The term “Related Parties” used here is, to some authors, a synonym to “Stakeholders”.

“One of the leader's functions is to teach others in the organisation on strategy to say 'no'. The strategy is fundamental to understand that choices about what not to do are as important as the choices of what to do. Indeed, setting limits is another function of leadership. Deciding which the target groups of consumers are, and which needs of these groups the company must fulfil is crucial to develop the strategy. Also crucial is deciding not to attend other customers or needs and not to offer certain features or services. Thus, the strategy requires constant discipline and clear communication. Indeed, one of the most important functions of an explicit and communicated strategy is to guide employees to make choices that arise because of the trade-offs derived from their individual activities and daily decisions”.

Accordingly, the leader is a servant of the organisation. And this “servant leader”, according to Gill (2006)³⁰, cited by Rupprecht *et al.* (2013, p. 128), must present behaviours, which “(...) include vision and mission; shared values; strategy; empowerment; and influence, motivation, and inspiration”.

Besides, the competency profile desired for strategic leadership represent a very important step to be addressed, as it is related to the capacity of top management to deliver sustained results. The definition of which profile is best suited for leading the organisation requires a thorough analysis of the psychological characteristics of individuals, the duties of the position, and a diagnosis of organisational culture. Notwithstanding this fact, leadership competencies in terms of knowledge, skills and attitudes such as initiative, risk taking, creativity, learning and teamwork can be found in different lines of study (Adizes, 1976; Mintzberg *et al.*, 2005, Nonaka and Takeuchi, 2011; Blettner *et al.*, 2012; Schoemaker, Krupp and Howland, 2013) and considered essential for sustainable results. Rose and Cray (2013, p. 724), “(...) the type of information used during the process, and the managers' personality characteristics can affect strategy formation and implementation”.

Now, in regard to the impact of strategic leadership in related parts long-term relationship, it is valuable to underline that sustainability issues are typically network issues. Companies are nodes of relationship networks, which involve other players in the life of a community. “Stakeholder” is an expression that has been employed to designate such players and is commonly translated as a concerned party. The entry of stakeholders into the planning and decision-making processes of companies has, at times, been the result of legal requirements and, in other instances, has been due to the spontaneous initiative of the companies

³⁰ Gill, R. (2006). Theory and Practice of Leadership. Thousand Oaks, CA: Sage

themselves. It is currently a challenge for companies to establish meaningful dialogue with the concerned parties.

As an illustration, to Kashmartian *et al.* (2011), the strategic elements related to a corporate sustainable strategy must be grouped into certain categories, such as: i) to set strategic direction, in order to align the firm's sustainability issues and ongoing business strategies; ii) to improve the operational performance (value-based financial performance), with the alignment of the firm's managerial systems and social and environmental performance strategies; iii) to improve value chain performance, in order to recognise the reach of the firm's social and environmental footprint in order to establish their related sustainability strategy and iv) keep in touch with both internal and external stakeholders (human capital and customers, for example), in order to recognise that the firm's sustainability strategy will not emerge exclusively from inside.

In order to establish conditions for managing the sustainability of the companies, it is therefore necessary to know the relationship networks to which they belong, with special emphasis on the production flow formed with suppliers and customers. The relationships of companies and their suppliers and customers shape the risks inherent to the processes and these, in turn, shape the relationships (Hollo, Blome and Foerstl, 2012)³¹. A sustainable productive chain, which fosters sustainability, balances the economic, social and environmental risks (Milne and Gray, 2013).

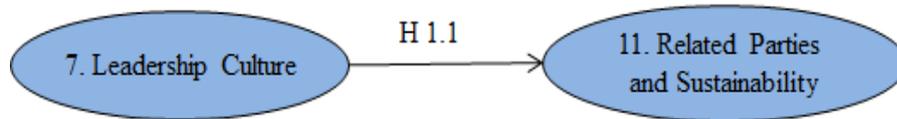
So, from the standpoint of sustainability, in addition to the 1) economic risks (financial performance), the 2) social (that includes employees) and 3) environmental risks of a company's operations must be balanced and properly taken into account, defining what is known as the "Triple Bottom Line" (Wheelen and Hunger, 2002; Johnson, Scholes and Whittington, 2005; Rogers and Hudson, 2011; Merriman and Sen, 2012;).

Based on the indication that a strategic leader, with a desired profile and in real team delegation process, is responsible for long-term strategy and company perpetuity, which

³¹ According to the authors, "(...) firms increasingly respond to the need for sustainability in their upstream supply chain" (Hollo, Blome and Foerstl, 2012, p. 2968)

seems to be closely related to the corporate capability of including all related parties in its organisational strategic cycle, it is, therefore, argued that:

Figure 4.3 – Highlighted hypothesis 1.1



Source: Prepared by the Author

Hypothesis 1.1 (H 1.1) – The greater the development of strategic leadership culture, the greater are the results perceived by the stakeholders in the direction of, and favouring, sustainability.

Leadership culture and Ideology and vision deployment

The previously mentioned understanding that a senior manager and leaders have a very important role in developing a competitive and sustainable advantage leads us to propose that a real leader has a very important duty in both formulation and strategy implementation (Minnis, 2011). In fact, Rose and Cray (2013, p. 724), argued that “(...) *the type of information used during the process, and the managers’ personality characteristics can affect strategy formation and implementation*”. In fact, the work of Matos (1988) tries to summarize the most important characteristics of a strategic leadership, stating that the leaders must:

- i) Be aware of the overall goals and how to make them compatible with the teams and individual goals. To do so, he must be made aware of the philosophy and institutional policies, as well as strategy formulation and execution processes
- ii) Know the members of the group, meaning, what knowledge, skills, experiences, attitudes and aspirations each member has. This means, having and using organisational diagnosis tools to describe objectively (in writing) the competency profile desired and its consistency with company strategy;

iii) Develop a way to motivate, integrate and act, which involves knowing how to create an environment of participation, teamwork and involvement in decision making. Therefore, it is necessary to employ delegation of authority, technology of meetings and action plans;

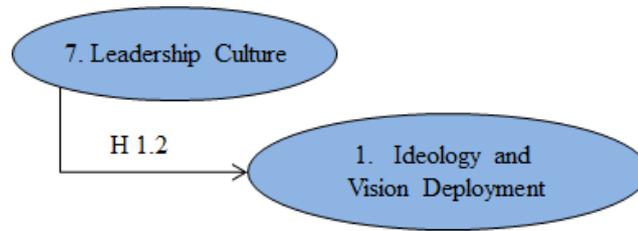
iv) Develop ways to increase the professional capacity of each one and discover how to develop their potential. Therefore, it is necessary to know how to evaluate performance, encourage the pursuit of targets and the assumption of greater responsibilities, with initiative, risk-taking and creativity. This, in turn, implies the effectiveness of the evaluation and promotion of performance systems;

v) Finally, know the information and cyclical trends and their effects on the group. So he must know how to prevent, interpret and promote innovative changes to his team, which involves knowing how to create organisational scenarios, strategic planning and on-going renovation programmes and team-working.

As ideology development (vision, mission and values) is the first step in strategy formulation (see Fig. 2.3 and 2.4 of Chapter II), it naturally results that a strategic leader that participates in the long-term strategy formulation and execution processes, that possesses strategic competencies in terms of knowledge, skills and attitudes, that knows how to empower the team in an official delegation process of tasks and the one that fosters creativity, learning, teamwork, risk-taking and initiative is ready to conduct the development of corporate ideology. It is understood, therefore, that a strategic leader must be able not only to develop corporate ideology (vision, mission and values), but also to guarantee the consistence of these elements along with the recurrent communication of the existence each of these variables within the company in a clear and simple way.

In this way, the importance of strategic leadership in ideology development and in the consistence of its elements results in the proposition that:

Figure 4.4 - Highlighted hypothesis 1.2



Source: Prepared by the Author

Hypothesis 1.2 (H 1.2) – The greater the development of leadership culture, the greater are the results in the development of corporate ideology and deploying corporate vision, mission and values.

Related parts and sustainability and Ideology and vision deployment

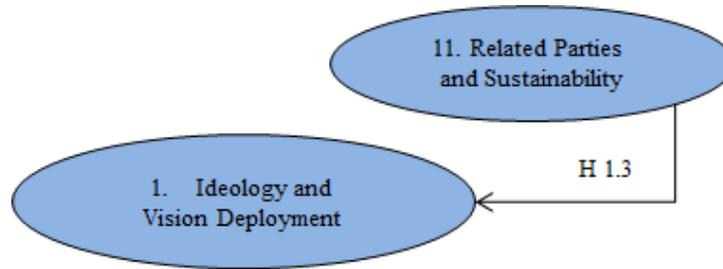
As argued in the previous paragraphs, sustainability concepts are core issues in developing a competitive and sustainable advantage when formulating the strategy, meaning that all related parties or stakeholders must be included in a company’s path to a successful strategy, notably and first of all in its ideology, as it represents the first step in strategy formulation.

So, as corporate ideology (vision, mission and values) demonstrates an “strategic intent” of the company in the long run, a desired future state, based on rules of “how to play the game” and also on the “reasons to exist of a company”, it can be considered that the strategic leader will be, in most of the time, concerned about on how to develop grounded sustainability concepts in the company’s strategy (triple bottom line) (Mirvis *et al.* 2010). When this long-term core issues are discussed, it is easier develop a firm’s corporate ideology that seeks perpetuity. According to Grant (2005),

“The evidence from research is that companies that adhere to strong ethical principles, that support sustainable development, and engage in corporate philanthropy are also those that are the most capable in building capabilities, adapting to new external circumstances, and – ultimately – delivering the strongest financial performance” (Grant, 2005, p. 41).

This discussed ideas lead to the following hypothesis:

Figure 4.5 - Highlighted hypothesis 1.3



Source: Prepared by the Author

Hypothesis 1.3 (H 1.3) – The greater the development of sustainability principles, the easier it is to develop long-term corporate ideology and to deploy corporate vision, mission and values.

Ideology and vision deployment and Strategy conception

As discussed before, the principal business scholars divide strategy, more specifically, strategic management, into two large groups: 1) strategy formulation and ii) strategy implementation. As the definition of a company’s ideology, including corporate vision can be considered as a base to conceive the whole strategy – corporate, business and functional – defining beforehand where to go and the “rules of the game”, one can argue that the “where to go” is the first step of strategy formulation. In fact, the world organisations that consider their visions, missions, creeds, principles, values etc. a result of an initial stage of their strategic formulation process are numerous (Mendes, 2011).

Notwithstanding this fact, the positive impact and the real importance that such elements have in the success of an organisation seem not to be understood yet by the majority. On the contrary, for many, it seems like a step that frequently does not have its connection with strategic formulation identified. It is that many of these organisations perceive only the “ideological” nature of these elements, not understanding their effect on the successive decision-making events, at all levels, in the daily routine of a corporation (Gómez, 2013). In addition to few understanding their importance, fewer still are the number of organisations that incorporate such elements into their daily practice, taking them over as guiding

instruments and hallmarks of the boundary conditions of business practice. Besides the misunderstanding of the importance of corporate ideology, Jha *et al.* (2013, p. 50), regarding the use of corporate vision, mission and values, argue that managers often and wrongly interpret that “*sometimes the unstated is more powerful than what is expressed*”.

Nevertheless, any strategic management system must have as a starting point the identification of what are the desired outcomes, and the strategic horizon within which it intends to achieve them. According to Mendes (2011), this identification is included in a concept that can be called “Corporate Ideology” that defines basically the rules under which the company will operate, including the goals to be achieved and the pathway used to achieve them. In this category are included, mainly, the Corporate Vision, that must be seen as a **final goal to be achieved** at the end of the strategic cycle or is the point of arrival within this established horizon, the Corporate Mission and Values and the **consistence of its elements**.

This is in accordance with Collins and Porras (1996), that propose that the definition of the vision, the central values of an organisation, together with the mission, define its basic ideology which should, inexorably, orientate the remainder of the strategic formulation. The argument is also similar to the ideas of Grant (2005), who argues that these three concepts are (...) *extremely useful in helping companies think about their identity, their purpose, and the fundamental elements of their strategy* (Grant, 2005, p. 59). It means that these authors, among many others in literature, considered that the success of strategy could be jeopardized whether strategic leaders do not define the core issues of a company’s ideology or its identity before the strategy conception itself.

Thus, focus and alignment are intimately linked and constitute characteristics of the vision that are strongly backed by the establishment of a desired future state that breaks with the *status quo*, in the continued guidance by the mission and the central values of the organisation and in the clear understanding of the vision, especially by means of images shared by all, that generates a desired power of alignment (Collins and Porras, 1996).

So, corporate ideology can be considered in fact the first step of strategy as a whole. And the following step understood as strategic conception or formulation, to Hax and Majluf (1984, p. 1) is

“A basic capability developed by an organisation to adapt to the movements of the environment. This adaptability is not a passive response to external forces, but an active, creative and decisive searching to ensure conditions to gain a profitable niche for the company's business. This answer is given in terms of a clear definition of a set of actions inside the organisation with the objective of improving its both current and long-term position vis-à-vis its competitors”.

At that time, they defined the essence of strategic planning as to organize, in a disciplined manner, the main actions that the company has to undertake to remain operationally efficient within its current business and guide it to a new and better future and must be develop by both top and second level managers.

After that, in a study years later, the authors argued that, “*strategy can be seen as a multidimensional concept that embraces all the critical activities of the firm, providing it with a sense of unity, direction and purpose, as well as facilitating the necessary changes induced by its environment*” (Hax and Majluf, 1996, p. 2).

They thus identified, reviewing several important studies in the field of strategy, different critical dimensions to contribute to a unifying definition of the concept of strategy, as follows:

“i) Strategy as a means of establishing the organisational purpose in terms of its long-term objectives, actions programmes, and resource allocation priorities; (...) ii) Strategy as a definition of competitive domain of the firm; (...) iii) Strategy as a response to external opportunities and threats, and internal strengths and weaknesses, in order to achieve a sustainable competitive advantage; (...) iv) Strategy as a way to define managerial tasks with corporate, business, and functional perspectives; (...) strategy as coherent, unifying, and integrative pattern of decisions; (...) vi) strategy as definition of the economic and noneconomic contribution the firm intends to make to its stakeholders; (...) Strategy as an expression of strategic intent: stretching the organisation; (...) Strategy as a means to develop the core competencies of the organisation; and (...) ix) Strategy as a means of investing in tangible and intangible resources to develop the capabilities that assure a sustainable advantage”. (Hax and Majluf, 1996, p. 2-12).

Following on, in seeking a unifying definition based on these dimensions, the authors, trying to address the controversy between “the industrial structure positioning” (outside-in) paradigm and the “resource-based view” of the firm (inside-out), proposed that all the critical dimensions of strategy should be considered, bridged by the firm’s mission, to formulate an

integrating end comprehensive concept of strategy and, because of that, conclude what should be considered during strategy formulation, as illustrated on Table 4.1

Table 4.1 – Integrated and comprehensive definition of strategy

1. Determines and reveals the organisational purpose in terms of long-term objectives, action programmes, and resource allocation priorities;
2. Selects the businesses the organisation is in, or is to be in;
3. Attempts to achieve a long-term, sustainable advantage in each of its businesses by responding appropriately to the opportunities and threats in the firm’s environment, and the strengths and weaknesses of the organisation;
4. Identifies the distinct managerial tasks at the corporate, business, and functional levels;
5. Is a coherent, unifying, and integrative pattern of decisions;
6. Defines the nature of economic and noneconomic contributions it intends to make to its stakeholders;
7. Is an expression of strategic intent of the organisation;
8. Is aimed at developing and nurturing the core competencies of the firm;
9. Is a means for investing selectively in tangible and intangible resources to develop the capabilities that ensure a sustainable competitive advantage.

Source: Prepared by the author, based on Hax and Majluf (1996, p. 14).

In similar way, Wheelen and Hunger (2002, p.10) define strategy formulation as

“the development of long-range plans for the effective management of environmental opportunities and threats, in light of corporate strengths and weaknesses. It includes defining the corporate mission, specification achievable objectives, developing strategies and setting policies guidelines”.

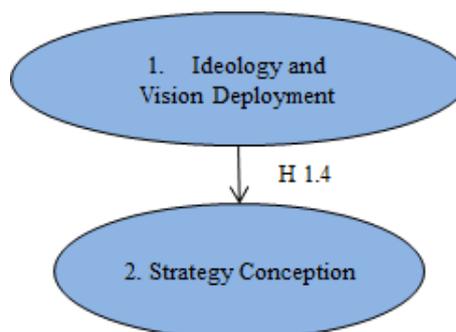
Other important point of the “outside-in” approach is interpreting scenarios, and involves mental preparation for some possible futures. The process consists in describing different future environments in which companies may find themselves. Each scenario describes, taking into account what people perceive to be reasonable, when and where the factors are beyond the control of the organisation. Collectively, it indicates the extent of our uncertainty about the future in a structured and credible way (Garratt, 1995).

Tavares (2008) also includes in his definition the importance of building alternatives scenarios to give basis to strategy. He suggests that the strategy formulation results from inferences from the executives that are related to the perspectives presented by the existing macro environmental scenarios, the performance analysis of its business sector and its internal configuration. And, concerning the environmental analysis concept, the author (2008, p. 146) defines scenarios as the “*elaboration and systematization of the hypotheses of possible events that may have negative or positive impacts on an organisation’s performance*”. In the same way, Garratt (1995) stated that the greater the long term uncertainty and diversity of future possibilities, the greater is the usefulness of working with planning through scenarios.

So, from these previous analyses, one can understand that the process of conceiving strategy by both top and second level management (a consensus) contemplates the analyses of different scenarios that can impact on the firm’s performance. These scenarios are built by analysing the external environment (opportunities and threats) and also the internal environment (strengths and weaknesses) and the corporate vision is expected to be achieved by measuring long-term different goals set to different areas of result or perspectives, developed under a consensus between top management and the teams that are expected to perform.

Based on this discussion that lead us to understand that the company’s ideology, including corporate vision, mission and values, can be considered as a base or the first step to formulate the whole strategy by defining previously the “rules of the game” and the “where to go”, one can propose that:

Figure 4.6 - Highlighted hypothesis 1.4



Source: Prepared by the Author

Hypothesis 1.4 (H 1.4) – The clearer the pathway to the future translated by corporate vision (desired future state), mission and values, the easier is the corporate and business strategy formulation.

Strategy conception and Strategic initiatives and action plans

Following on, from this discussion, we can propose that these analyses are able to develop two known products, in the strategy unfolding process, that are the identification of “**what to do**”, represented by the development of Strategic Objectives that can be illustrated by a Strategic Map, and the identification of “**how to do it**”, represented by the development of Strategic Initiatives and Action Plans.

In other words, associated to the strategic objectives disposed on the strategic map, action plans and projects or strategic initiatives should be established with the purpose of making its attainment possible. They are “actions of intervention” to make the targets or desired objectives capable of being reached, what include actions to be accomplished related to new opportunities identified (Kaplan and Norton, 1992, 1996, 1997, 2001; Mintzberg *et al.*, 2002; Niven, 2002; Bitner and Myers, 2010; Jayashree and Hussain, 2011).

Hunger and Wheelen (2002, p. 192), point out that “*strategy implementation is the total sum of the activities and choices required for the execution of a strategic plan*”. It is a process, then, that establishes programmes to create a set of new organisational actions, budgets to duly allocate funds to these new actions and procedures to deal with day to day details. Nevertheless, they warn that “*before plans can lead to actual performance, a corporation should be appropriately organised, programmes should be adequately staffed, and activities should be directed toward achieving desired objectives.*” In other words, these strategic actions must give support to the achievement of the strategic objectives, and must be monitored as “strategic projects”, containing: critical stages, allocation of resources, identification of responsible employees and the definition of the strategic budget (Hunger and Wheelen, 2002, p. 197).

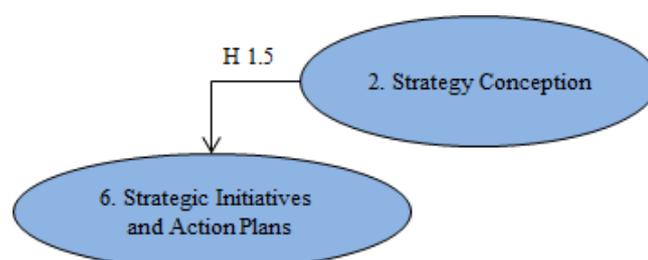
In fact, Kaplan and Norton (2001, p. 291) call attention to the fact as follows “*the integration of the balanced scorecard with the planning and budget is critical to the creation of a Strategy-Focused Organisation*”. Most organisations use the budget as a basic management system for setting goals, resources allocation and performance evaluation. However, many companies develop their budget systems apart from the strategic planning process, which would lead managers to focus on short-term financial results only.

Having this in mind, they propose the conversion of business planning into a strategic budget, under the following sequence:

- i) Translate strategy into a scorecard, detailing the objectives and strategic indicators;
- ii) Set expanded goals for each indicator, referring to specific future time. Identify gaps in planning to motivate and stimulate creativity;
- iii) Identify strategic initiatives and resource requirements for closing gaps in planning, enabling the achievement of expanded goals, which includes actions to profit from new opportunities identified during the strategic cycle;
- iv) Approve financial and human resources for strategic initiatives. Integrate resource needs into the annual budget, which includes two components: a) a strategic budget, to manage discretionary programmes, and b) an operating budget, to manage the efficiency of departments, functions and line items.

Based on arguments that the strategy conception, in its unfolding process, generates two “products”: i) the identification of “**what to do**”, represented by the development of Strategic Objectives and ii) the identification of “**how to do**”, represented by the development of Strategic Initiatives and Action Plans, it is possible to propose the following:

Figure 4.7 - Highlighted hypothesis 1.5



Source: Prepared by the Author

Hypothesis 1.5 (H 1.5) – The systematic development of strategic planning and its formalisation as a consensus between top management and employees foster the development of strategic initiatives and action plans for executing strategy.

Strategy conception and Strategic objectives deployment

In the same way, as discussed on the preceding paragraphs, considering that the Strategic Objectives also emerge from the conceiving of strategy and represent “**what to do**”, this sequence or process can lead us to suggest that strategy formulation is a very important previous step to the development of strategic objectives that represent the deployment of this strategy previously conceived.

In fact, According to Niven (2002), in the centre, between strategy, which defines the activities and strategic choices you make, and the performance indicators you choose to use in order to measure your global performance, there is a need to establish a set of strategic objectives that describe what the company needs to do well in order to execute the previously formulated strategy.

According to Filho (2005), the definition of such objectives can also be adjudged a learning process because, in addition to making explicit the tacit knowledge of the managers’ team, “*it makes possible a full discussion on the presuppositions assumed in the strategy. Another point to be emphasized is that the objectives need to be consistent among themselves, and cannot be in conflict with one another*” (Filho, 2005, p. 206).

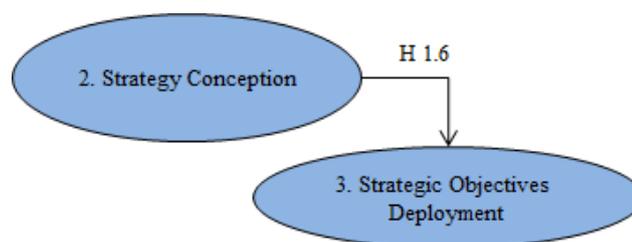
So, besides the necessary reconciliation of conflicting strategic objectives (Lindenberg, 2001), it is very important to deploy these objectives by business units (BUs) and services areas (SUs) and, in some cases, by operational teams or the individual. The model of objectives deployment in which the sector (unit or area) identifies goals that directly support corporate goals is what is recommended for business units (BUs) by Kaplan and Norton (2001, p. 175) and they argue that: “*for maximum efficacy, strategies and scorecards of all units must be aligned and connected to each other*”.

The corporate scorecard and those of the BUs should also be deployed to support functional areas or service units (SUs) in developing their own strategy, aligning them to corporate value creation. The most usual model is the one identified by Kaplan and Norton (2001, p. 205) as a model of strategic partnership in which *“the business units develop balanced scorecards reflecting the corporate strategies and priorities. The shared service units are partners in this process”*.

This model assumes that the corporate strategic objects are deployed initially for the BUs that sell products and services directly to external customers. Then, scorecards are built for its service units. Kaplan and Norton (2001, p. 206) recommend that this sequence is preferable because it *“allows the strategy of business units that create external value for the company to be explained and clearly understood”*. So, according to the authors, only after the deployment of corporate strategic objectives for BUs, the Services Units (SUs) are able to develop strategies for their (internal) customers, or the business units that directly face the market.

Based on arguments above that one of the “products” of strategy formulation, before defining the metrics or indicators, is the identification of **“what to do”**, represented by the development of Strategic Objectives, one can argue that:

Figure 4.8 - Highlighted hypothesis 1.6



Source: Prepared by the Author

Hypothesis 1.6 (H 1.6) – The systematic development of strategic planning and its formalisation as a consensus between top management and employees facilitates the unfolding of strategic objectives into business units and corporate staff areas for executing strategy.

Strategic initiatives and action plans and Strategic performance indicators

The deployment of the conceived strategy – corporate, business and functional – in actions that represent both “**what to do**” (strategic objectives) and “**how to do**” (strategic initiatives and action plans), must be followed by the development of metrics or strategic indicators that function as a means of checking whether strategic objectives are being met and strategic initiatives taken during the strategy implementation phase.

Without a measurement system, it would be almost impossible to monitor the benefits of the executed strategic plans, so that, a key task is to select the appropriate strategic indicators to inform managers about the progress in its strategic plan. In this way, to Sanchez and Robert (2010), there is a clear relation between strategic objectives and initiatives, and the development of key performance indicators (KPIs), linked to strategy, a common point with Rodriguez *et al.* (2009). Actually, to Sanchez and Robert (2010, p. 65), “*KPIs use a metric for quantitatively assessing performance regarding the needs and expectations of stakeholders, the achievement of goals, and reflecting the critical success factors*”.

According to different scholars, the indicators, besides being measurable and having sole responsible, should also be defined regarding their type (Kaplan and Norton, 1996, 2001; Niven, 2002; Tavares, 2008). As prescribed by these authors, lag indicators represent the effects or the consequences of strategic movements or actions previously taken, while lead indicators represent the cause of results or performance found within the lagging indicators. For both types of indicators, a frequency of measurement must be defined, as well as a formula or a measurement operational definition, besides the source of the data (real *versus* target).

The lines of research also argue that your translated strategy into your performance management system should combine the use of Leading and Lagging Indicators (also known as “Performance Drivers” and “Outcome Measures”), in order to contemplate all the companies current strategic cycle. As argued by Kaplan and Norton (2001), the sole use of financial lag indicators “*does not communicate the drivers of future performance, as they do*

not measure the ways to create new value, by means of investing in customers, suppliers, employees, technology and innovation” (Kaplan and Norton, 2001, p. 33-34).

Finally, as the indicators (and the strategic objectives they represent) are supposed to be set in cause and effect relation, this developed “strategic hypotheses” must be tested by the use simulation models as a methodology to support the quality of the proposed relations among the various metrics.

The possibility of simulating what will happen to the various strategic indicators over time should be considered as a means of stimulating discussion and consensus on the basic central assumptions. According to the FNQ (2001), these correlation methods are of three types:

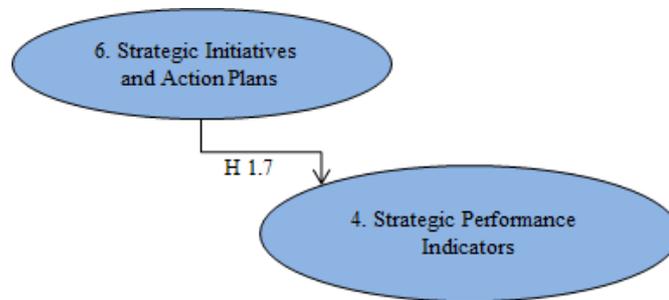
i) **Visual correlation**, through the experience and human ability to integrate information, the managers can simply look at the tables of indicators and to the data related to them, and analyse, in a tacit way, all the degrees of influence they see in a qualitative and subjective way;

2) **Statistical correlation**, through the application of statistical models and software, for example, Multi-Correlation Regression, managers can obtain the degrees of influence in a numeric way, but still have to interpret the data as above; and

3) **Dynamic simulation**: through specialized models and software, using, for example, Structural Equations and Evolutionary Algorithms, managers can use hypothetical combinations of indicators to predict the possible consequences of future scenarios, in order to compare them with actual data and identify patterns of behaviour of proposed indicators.

So, having discussed that the strategic initiatives and action plans derive from strategy formulation and represents the “**how to do**” of a given strategy, the compliance of such actions need to be measured. Otherwise, a manager would never know whether the company is in the right pathway towards the corporate vision. In this way, having the actions clear can be considered a basic step to create related indicators. In this way, this discussion leads to the following proposal:

Figure 4.9 - Highlighted hypothesis 1.7



Source: Prepared by the Author

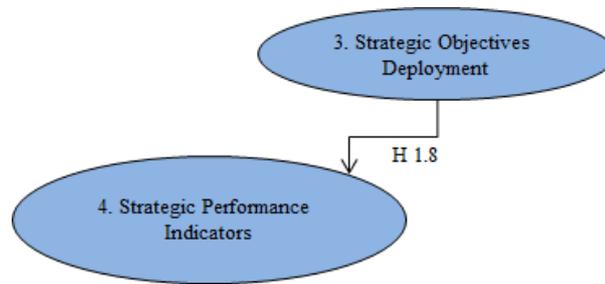
Hypothesis 1.7 (H 1.7) – The systematic development of strategic initiatives and action plans facilitates the development of measurable strategic lead and lag performance indicators that represent the formulated strategy.

Strategic objectives deployment and Strategic performance indicators

As argued in the previous paragraphs, the set of strategic objectives that describe what the company needs are in the centre, between strategy, which defines the activities and strategic choices you make, and the performance indicators one must choose to use in order to measure your global performance. So, the deployment of the conceived strategy – corporate, business and functional – in actions that represent both “what” and “how” to do it, makes easier the development of metrics that function as a means of checking whether strategic objectives are being met (Niven, 2002).

In other words, like discussed in the hypothesis 1.7, strategy formulation also produces a set of strategic objectives, that represent the “**what to do**” of a given strategy. In the same way, the compliance of such objectives must be measured. In this way, defining strategic objectives to achieve can be also considered a precedent step or an enabling action to propose the development related strategic indicators. Therefore, this discussion suggests that:

Figure 4.10 - Highlighted hypothesis 1.8



Source: Prepared by the Author

Hypothesis 1.8 (H 1.8) – The process of unfolding strategic objectives into business units and corporate staff areas facilitates the development of measurable strategic lead and lag performance indicators that represent the formulated strategy.

Strategic performance indicators and Strategic goals

Besides this, to each action arising from strategy (both strategic objectives and strategic initiatives), there is, at least, one indicator that must have a target level to be attained in both the short and the long run. In fact, a measure with no target level has no use.

Targets are, then, points or positions to be attained in a desired future, or simply a quantification of a strategic objective. This is the challenge proposed for the period, in other words, how much it is intended to obtain in each of the indicators designed, which represent the strategy. They constitute, therefore, the thrusters of management, in view of the fact that managing consists of developing actions that aim at the achievement of such targets. For this reason, it is highly desirable that the different teams know exactly what the corporate targets are (awareness degree) and understand the impact of their actions and own goals have on corporate performance (Kaplan and Norton, 1997; Tavares, 2008).

The authors also argue that a measurement system can come to be a factor of competitive advantage in an environment of uncertainties, in view of the fact that it has as a premise to improve the performance of the organisation, what is possible only if it is clear the commitment of the teams with the results. According to their analysis, a system of targets can

be defined as the way in which an organisation measures the variables judged important for its business.

Yearta *et al.* (1995), by means of a field survey, found that, in various organisations that utilized a system of targets with the objective of motivating employees and, consequently, increasing corporate results, there existed a positive correlation between the participation of the employee in the definition of targets and the improvement of the performance, corroborating the idea that targets motivate people (level of commitment), if based on the concept of being challenging but feasible. Principally, when whoever is going to be responsible for achieving a determined target participated in the establishment process of such target, considering the degree of difficulty of such intent and the available resources for the actions (negotiation process, between management levels).

In a similar way, with a view to proposing a system of targets that effectively results in an increase of corporate results, studies such as those of Tosi (1991) and also by Locke and Latham (1990; 2006) propose that the setting of targets should follow some guidelines, like: i) **challenging targets**, which encourage improvements in the system; ii) **specific targets**, meaning that the targets should be easily identified, avoiding confusion or ambiguous analyses; and iii) **reachable targets**, meaning that the targets must be able to be reached, otherwise discouraging people.

Another aspect considered relevant for those that conduct studies related to corporate goals is the set of references, internal and external, used to establish the level of targets to be pursued. Different lines of study state the importance of the use of benchmarks when establishing the level of the goals the company wants to achieve, regardless of whether they are from the market, from competitors, from inside the organisation itself or from any other comparable source. To the FNQ (2001), there are four types of benchmarks: i) **of a competitor**; ii) **of a peer**; iii) **of excellence** (outstanding company); and iv) **of a pool** (group of different companies). In this way, the FNQ (2001, p. 27) suggests that “*the goals for the lag indicators must come from the analysis of relevant external sources whenever possible. For the lead indicators, it is common that targets only result from projections or estimates*”.

So, having discussed that a metric has a fragile use whether a level of achievement to be measured is not defined in a feasible way, based on the use of internal and external benchmarks (strategic goal to each indicator), it is possible the following formulation:

Figure 4.11 - Highlighted hypothesis 1.9



Source: Prepared by the Author

Hypothesis 1.9 (H 1.9) – The greater the development of measurable strategic lead and lag performance indicators that represent the formulated strategy, the easier is the proposal of strategic goals.

Strategic goals and Information and communication systems

Also, in the strategic flow, strategic measures or indicators and their target levels to be reached (short and long run goals) are the best way to communicate whether the previously conceived strategy is actually being implemented. In fact, only if managers know what they need to deliver and at what level, they actually act in this direction. One can only manage what he/she is aware of.

Actually, with development of concept of strategic management, considering that the strategy execution process must be followed online, it is clearer that this strategic process must be communicated internally (and sometimes also externally, to some stakeholders) in order to be successful. In this way, McLaren *et al.* (2011) recognize the recent evolution of “Information Systems” and explain that “(...) *Strategic planning for IS has evolved from a focus on IS*

functionality, to IS architecture, and to IS strategic alignment.” (McLaren *et al.*, 2011, p. 910).

In a general sense, regarding “Information Systems”, Tavares (2008, p. 415) draws attention to the importance of information as being “*one of the main inputs to guide the decision-making process*”, a position corroborated by Pavlou and El Sawy (2006) and by Drnevich and Kriauciunas (2011), that sustained that strategic information technology has a positive correlation on competitive advantage. The more accurate and meaningful the information (especially target levels or goals to be achieved), the more it will contribute to the commitment and involvement of all organisational levels toward a better and sustained result. For that reason, a firm’s information systems must be appropriate and sufficient for determining and communicating the results in time, in order to make possible a fast decision-making process (Drnevich and Croson, 2013). And, by results, one must take not only the economic and financial data, but also the strategic information from other sources that have a target to be reached.

To Chen *et al.* (2010), the information systems of a corporation comprise the information technology infrastructure, data, application systems, and IT staff that apply technology to deliver agreed information and communications services in an organisation. According to the authors, the expression “information systems” also contemplates the management of “*planning, designing, developing, implementing, and operating the systems and providing services*”, then combining both the technical components and human activities (Chen *et al.*, 2010, p. 234).

For O’Brien (2002), an information system is characterized by an organized set of people, hardware, software, communication networks and data resources that gather, store, transform and transmit information in an organisation, and must be widely used in order to internally communicate to the teams the corporate pathway for a successful strategy (like Ideology, Formulated Strategy, Deployed Objectives, Metrics, Goals, Projects and Actions). According to Kaplan and Norton (1996, 2001), besides the explained communication of the above-mentioned strategic variables, is very important to use the information and communication system to disseminate, among all the teams, the impact of each area strategy on corporate

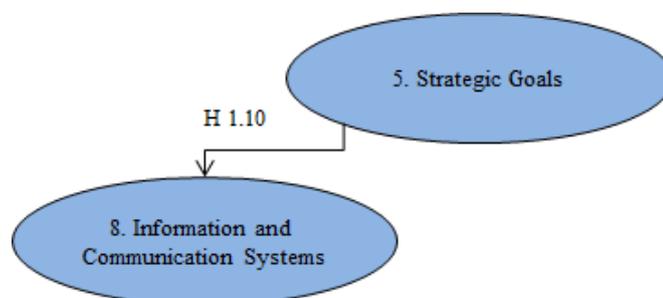
strategy (For example, strategic maps or impact maps), an action that enables the understanding of the contribution of each area to the general performance.

Finally, Kaplan and Norton (2001) suggest some mechanisms for communicating the strategy and its implementation, such as:

- i) Quarterly meetings open to all employees to comment on the recent performance of the organisation and promote sessions of questions and answers about the future;
- ii) Bulletins: one-page document that describes the strategic objectives and how they will be evaluated;
- iii) Monthly newsletters: provide regular reports on indicators and narrate cases of employees' initiatives which resulted in improved performance;
- iv) Education programmes: incorporating the strategy implementation movements (scorecard performance) into all education and training reinforces the message that strategic performance measurement is a new way of doing business;
- v) The company intranet: the strategic performance measurement system is posted on the intranet, with voice and video segments of executives, describing the overall strategy and explaining the different objectives, indicators, targets and actions.

So, understanding the discussion above where the strategic indicators and their target levels to be reached (short and long run goals) can be considered the best way to communicate whether the previously conceived strategy is actually being implemented, one can argue that:

Figure 4.12 - Highlighted hypothesis 1.10



Source: Prepared by the Author

Hypothesis 1.10 (H 1.10) – The greater the number and quality of strategic goals proposed, the easier is the functioning of the information and communication systems to support strategic decisions at all management levels.

Strategic goals and Control and Evaluation

Similarly, besides communicating, the agreed level of performance must be evaluated and controlled systematically, in order to allow corrective measures, if necessary. In fact, strategic management can only be effectively implemented if the organisation is capable of developing a continual process of evaluation, control and measurement. It can be stated, unequivocally, that the result of the evaluation process is the input that makes viable strategic management itself. Evaluation should be considered a continuous process and whose result, instead of punishing error, should be used for the improvement of the organisational processes.

In this way, for the evaluation and control to be successful, it is extremely important that the organisation define clearly the main indicators and targets that will be sought, in accordance with that explained in previous paragraphs. It is the control of the performance of these indicators that will guarantee that the organisation knows itself more objectively and succeeds in accompanying the process of implementation of the strategy clearly and openly, and above-board (Christ *et al.*, 2008; Christ *et al.*, 2012). Thus, it can be affirmed that the control consists in the set of indicators and targets relative both to the strategic objectives as to the strategic initiatives, as well as in the monitoring process, considering that the control and evaluation system foster managers' decision-making by translating strategy into performance measures (Choi *et al.*, 2012). In fact, to Kumari and Malhotra (2012, p. 78), "*the overall aim of performance management is to establish a high performance culture in which individuals and teams take responsibility for the continuous improvement of business processes*".

In this way, Koontz and O'Donnell (1959, p. 703) define control "*as the measurement of performance in relation to a standard, and the correction of deviations to ensure the achievement of objectives in a plan*". The authors also explain that

“Corrective action may involve simple measures such as small change in direction. In other cases, adequate control may mean setting new goals, formulating new plans, changes in organisational structure, improvements in filling positions and making changes in the major driving techniques”.

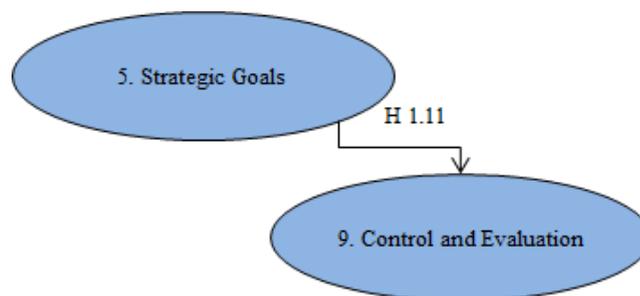
So, it is agreed that the objectives and targets linked to financial, market, processes and teams (people) indicators established in the strategic planning process should be periodically evaluated and controlled at all levels of the organisation. *“It is through this type of procedure that any deviations between what was planned and what was effectively executed and their causes may eventually be identified and, then, properly corrected”*, teaches Tavares (2008, p. 338). According to the author, the control and evaluation mechanisms must, then, present problems (Ex: delays) in strategic initiatives or actions and also the related corrective action (or actions) to be taken. A good analysis should also anticipate possible impacts on corporate goals (Romney and Steinbart, 2009).

Besides, according to Johnson, Scholes and Whittington (2005), control mechanisms that contemplate feedback systems must always be in place, with a similar view of Christ *et al.* (2012). To Grant (2005), the information feedback to the individual on job performance is also very important and must be a common practice in the organisation. According to him, it must happen in different organisational levels (both horizontal and vertical) on not only on the original vertical flows, where there was only the upward flow of information to the manager and the downward flow of instructions to the employee.

Finally, with a developed control and evaluation process, the delegation of power or simply “empowerment” is considered strategic (Kumari and Malhotra, 2012). Delegation increases the speed and quality of decisions, the sense of responsibility of the team, unleashes creativity, increases the commitment and promotes a clearer and faster view of the facts by the followers (Garratt, 1995; Stoner and Freeman, 1999; Rupperecht *et al.*, 2013). And, when the control and evaluation process is developed, the leaders can benefit from all these advantages that arise, as they have an “online” access to team performance and can act as soon as it is necessary. In this described situation, levels of delegated responsibility and authority can be respected and the strategic leaders can only act correctively on the results of the team when the delegation limits are exceeded.

In this way, the analyses of the preceding paragraphs, with the proposition that the establishment of strategic measures and their short and long run goals to be achieved can be considered fundamental information be evaluated and controlled systematically, in order to allow corrective measures, if necessary, it can be argued that:

Figure 4.13 - Highlighted hypothesis 1.11



Source: Prepared by the Author

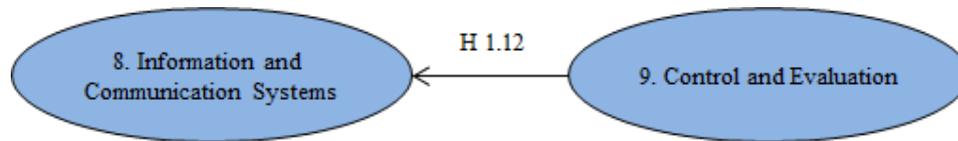
Hypothesis 1.11 (H 1.11) – The greater the number and quality of strategic goals proposed, the easier it is to systematically control and evaluate corporate results.

Control and Evaluation and Information and communication systems

In a complementary way, a systematic evaluation and control process of the level of performance agreed for each strategic indicator can refine the whole communication system in order to align the different teams and individuals to accomplish the proposed corporate vision. In fact, when you control “online” target deviations or delays in strategic actions that should be taken of an empowered team and give workers feedbacks regarding their expected performance compared to reality, you have, in your hands, critical information to be communicated internally that can and should be used in the decision making process of every single corporative area that impact in strategy execution.

This idea, and the arguments presented in the preceding paragraphs (hypotheses 1.10 and 1.11) allows the following additional hypothesis to be formulated:

Figure 4.14 - Highlighted hypothesis 1.12



Source: Prepared by the Author

Hypothesis 1.12 (H 1.12) – The more developed the control and evaluation of the corporate results system, the easier is the functioning of the information and communication systems to support strategic decisions at all management levels.

Information and communication systems and Recognition and compensation

And, if the targets are clear, agreed between management levels, and systematically communicated in order to facilitate the decision making process and align personal and corporate goals, an attempt to recognize positive employee performance (Mone *et al.*, 2011; Mu and Jeffrey, 2014), is expected for the company to propose a fair recognition and compensation plan attached to agreed performance levels assessed by performance indicators.

In fact, it is precisely the recognition and compensation system that is the most efficient mechanism for aligning the interests of shareholders and executives (Aggarwal and Samwick, 1999; Tosi *et al.*, 2000; Shim and Lee, 2003; Devers *et al.*, 2007). According to Devers *et al.* (2007), the argument of alignment presupposes that remuneration influences the behaviour and commitment of the various teams which, in its turn, has direct correlation with company both financial and other organisational performances or non-financial results related to strategy and corporate goals (Devers *et al.*, 2007).

In this way, in a new organisational environment that focuses on aspects such as decentralization of decision-making, results orientation including corporate, business units, services areas, teams and individual performance, and a greater autonomy and teamwork, the system adopted should be designed on the basis of these same assumptions, so as to have fair reward practices that do not become inadequate or conflicting, jeopardizing the desired process of change.

To Wood Jr. and Picarelli Filho (2004), the concept of strategic remuneration can be seen as a bridge that links individuals and the new reality of organisations. It first considers the entire organisational context including corporate strategy, structure and management style. In addition, not only the current situation of the company must be considered, but also that expected for the future. Secondly, individuals must be paid according to a set of variables, such as the development of personal skills that contribute to the success of the organisation as a whole. Thus, to these authors, a strategic compensation project should cover aspects such as knowledge, skills, competence, performance and results and must be compatible with the reality of the region in which the company operates.

According to Dutra (2002), the greatest difficulty in creating an adequate system of compensation is in the definition of criteria that differentiate people in accordance with their contribution to the company. For the author, the two principal sets of criteria for the determination of remuneration are i) that which has as reference the job market (region and economic sector where the company operates), and ii) that which has as reference the internal patterns of equity. The former utilizes information external to the company, principally salary surveys, and has a more competitive remuneration system as its object, while the latter utilizes internal company information and has as its object to guarantee a secure and just environment.

In addition, even considering that the system of recognition and compensation can be structured in many ways³², to Graham (2013), and also to Wood Jr. and Picarelli Filho (2004), transparency, simplicity and justice should be the guiding principles. Complicated methodologies can deflect attention from the system, diverting energy that should be directed to meeting strategic goals. It means that the adopted recognition and compensation system should be based on meritocracy.

The strategic remuneration system should consider, therefore, a balanced combination of variables. As Conyon (2006) tells us, an executive remuneration package that aims at such an alignment should be composed of four basic components, which are i) basic salary, generally equal to that of competitor companies; ii) annual bonus, normally pegged to the measures of corporate performance; iii) stock options, which represent a right, but not an obligation to buy

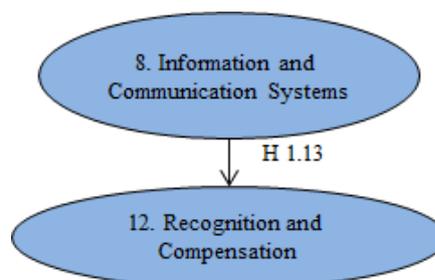
³² According to the author, “to determine the optimal approach to the ‘money, mix, messages and management’ of components”. Graham (2013, p. 69).

shares in the future, at a predetermined exercise price; and iv) plans of long-term incentives, that could also be based on non-financial ways to recognize superior performance, such as promotions, award travels, post-graduation courses etc. (Carlon *et al.*, 2006). In fact, to Mu and Jeffrey (2014) and also to Jeffrey (2009), non-cash incentives, such as vacation travel and valuable or unique products, can serve as better reward and recognition vehicles than an equivalent amount of cash in certain situations, as cash payment is often viewed as simply more cash, and is likely to be categorized as additional income (Heath and Soll, 1996). Additionally, to some authors like Tibergien (2014, p. 41), using money as a single incentive boost performance is not a sustainable strategy, “*particularly with disillusioned employees*”. According to the author, different people are motivated by different incentives, including management recognition, flexible work arrangements, career advancement and stretch assignments.

Analogously, Carlon *et al.* (2006) also observe the existence different forms of non-financial rewards into their remuneration packages. According to them, this is the case, for example, of aspects relating to careers and personal/professional development, such as the planning and offer of professional careers steps, and of further education plans for distinct organisational levels, besides rewards that are focused on the development of business, such as visiting clients abroad, participating in trade fairs and congresses

So, based mainly on transparency and systematic communication of corporate results and on the need of developing fair recognition and compensation plan related to this performance increase in different levels, one can argue that:

Figure 4.15 - Highlighted hypothesis 1.13



Source: Prepared by the Author

Hypothesis 1.13 (H 1.13) – The easier the functioning of the information and communication systems to support strategic decisions at all management levels, the easier it is to implement and use a comprehensive recognition and compensation corporate plan.

Control and evaluation and Strategic Learning

Finally, only if the organisation is capable of developing a continual process of analyses of the performance achieved, in each corporate level, it is possible to verify what is being accomplished and what is not. With the feedback provided by this systematic evaluation, it is possible for a company to interpret whether strategy is grounded in a solid base, with robust assumptions or not. In this way, this systematic thinking and analysis can provide a fertile environment for strategic learning.

In fact, as stated above (H. 1.11), strategic management can only be effectively implemented if the organisation develops a continuous process of evaluation, control and measurement that can be used for the improvement of the organisational as a whole. And it becomes a process of a continuous improvement when companies take into account the lessons learned in the previous strategic cycles, or developing a mechanism for reviewing the past as a way to consider expected implications for the future in similar situations (Kim and Miner, 2007, Trainor *et al.*, 2008; Gary *et al.*, 2012, Routley *et al.*, 2013). In a general view, it is what can be called “strategic learning”.

Accordingly, Huber (1996) synthesizes that the organisation learns through i) its own experiences; ii) the inspection and interaction with its environment and iii) the purchase of information itself, either by the formation of an alliance with another organisation that holds the knowledge, or by the contracting of personnel with mastery of the knowledge desired or developing their own teams.

To the author, it means that, at the end of each annual strategic cycle, an organisation should use all these learning sources as a way to reflect on the assumptions made at the time of strategy formulation, what can end up in eventual changes in the strategy pathway during the implementation phase. In other words, the companies should understand strategy as an

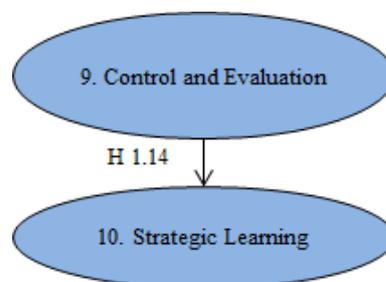
“ongoing process” and the strategy formulation phase must take into account the lessons learned in previous strategic cycles (Trainor *et al.*, 2008; Routley *et al.*, 2013).

Analogously, for Thomas, Sussman and Henderson (2001), strategic learning is defined as a process that fosters innovation in the long-term and generates a type of learning that will provide support for future strategic initiatives that will encourage knowledge asymmetry between companies, which will lead to differences in organisational performance (Berghman, 2006). In fact, Hsu and Fang (2009), in a broader view, pointed out that strategic learning is a competence that is put into practice to help companies formulate strategies and achieve their objectives through its implementation.

In a complementary fashion, Charlotta (2012, p. 500) argues that strategic learning is a strategic process focused on “(...) *strategic implications of learning process related to an organisation’s understanding of external environment*”, and respond to changes in their working environment, according to Tallon (2008). The authors argue that a reflection on strategy must be done when management perceives that the corporate strategic goals could not be achieved in the face of significant changes in the external environment (Ex: new opportunities or threats).

In other words, the process of strategic planning and execution, based on a systematic control and evaluation of strategy evolution, is optimized from positive experiences, failures and internal or external benchmarks, what includes team development as a way to fill the gaps on strategy performance. These arguments allow us to formulate the following hypothesis:

Figure 4.16 - Highlighted hypothesis 1.14



Source: Prepared by the Author

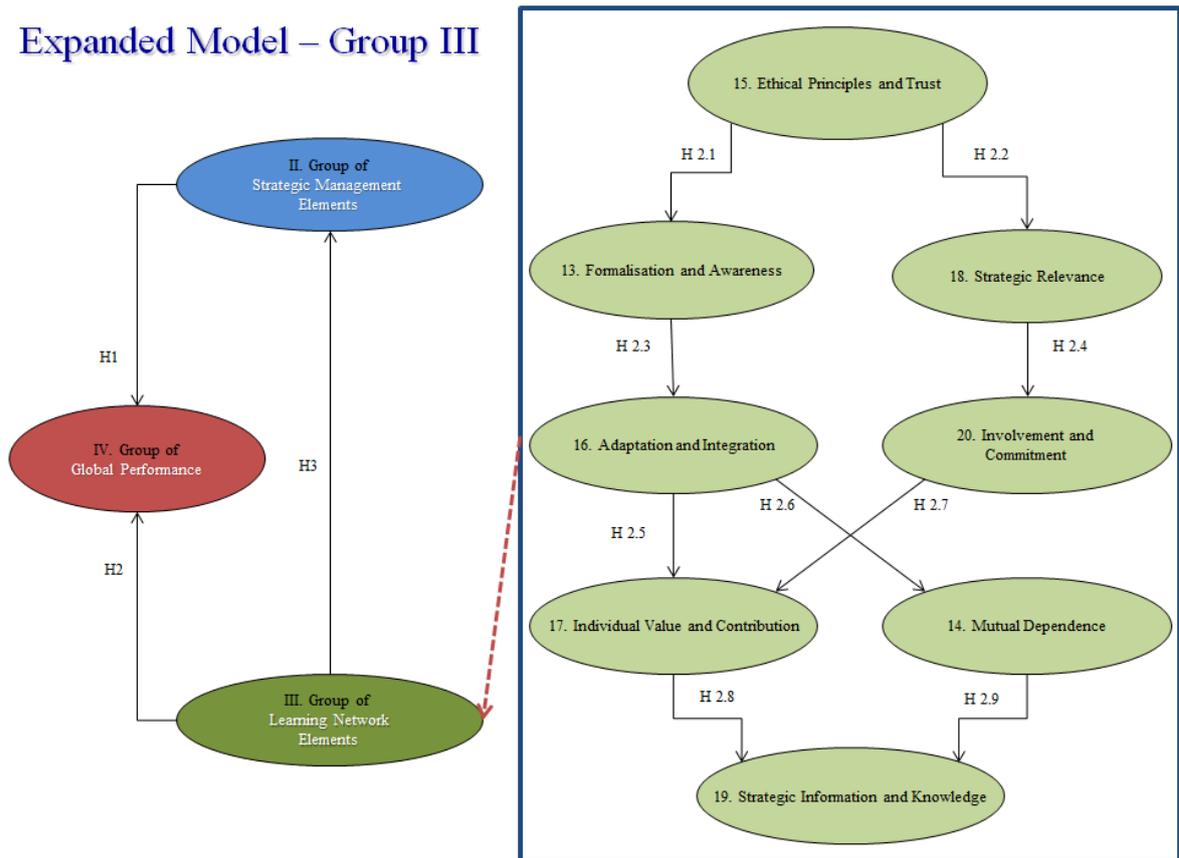
Hypothesis 1.14 (H 1.14) – The more developed the control and evaluation system of corporate results is, including providing feed-back, the easier it is to become a strategic learning organisation.

4.5.2 Expanded learning network elements model

Following on, the hypothetical model proposed hereunder (Expanded Model – Group III) was developed considering the common attributes or requirements for the success of inter-organisational networks, more specifically, learning networks.

Figure 4.17 - Theoretical model construct – Expanded from Group III

Expanded Model – Group III



Source: Prepared by the Author

Ethical principles and trust and Formalisation and Awareness

Before the institutionalisation of the partnership, with clear and formalised rules and procedures that can be shared among all participating companies, the members must develop a mutual trust, showing ethical principles and adequate behaviour in the network.

In fact, in spite of the risks related to a network with doors opened to implicit knowledge, Dyer (1996) affirms that confidence between the components, based on integrity and honesty behaviour, is an intangible asset and, at the same time, a competitive factor that is hard to be imitated, since confidence generates an interdependence that is unique between the participating elements, considering that investments are made for the construction of the relationships, for development of specialized assets and in the very physical configuration of the network. Actually, lack of trust is one of the reasons also quoted by Krishnan *et al.* (2006); by Teixeira *et al.* (2006) and by Kaplan, Norton, and Rugelsjoen (2010) of why organizational networks fail.

Analogously, for Casarotto Filho and Pires (1998) and other scholars, the birth and survival of networks depends on the existence of trust between the parties, an attribute that refers to the conviction that one partner will not exploit the vulnerabilities of the other, consequently resulting in lasting competitive advantages (Chen, 2008; Berardo, 2009; McGuire and Sylvia, 2009; Gulati *et al.*, 2011; Munoz and Lu; 2011; Romzek *et al.*, 2012). The possibility of trust increases when there is similarity between the companies' processes, resulting in the partners being able to share and discuss, in a more assertive and productive manner, information about products, markets, technologies and profitability, also the search for competitive individual advantages.

The fundamental point is that the trust can be seen as the security of the continuity of the satisfaction between the partners, promoting flexibility in the relationship and can be described as critical to successful collaboration. The role of social ties is emphasized, which have the capacity of diminishing the uncertainty and promoting trust. Additionally, Camargo, Verschoore and Padilha (2013, p. 45) explain that “*trust is understood here in a relational concept, in which it is necessary not only to trust, but also to believe it is in possession of the trust of others*”.

Moreover, for Teixeira and Guerra (2002, 2003) and also Teixeira *et al.* (2006), the diffusion of standards of mutual trust would be demonstrated by the existence of the following factors:

“Minimization of behavioural uncertainty associated with opportunistic practices; elimination of contractual costs connected to the assembly of arrangements incorporating defensive mechanisms for the monitoring of conduct; optimization of the division of labour in the ambit of the network, making the scales of production appropriate and avoiding the duplication of effort; and the viabilization of information transfers of a tacit nature”. (Teixeira and Guerra, 2002, p. 95).

In this way, then, the partners are motivated by sentiments of trust and also, by the need to maintain their reputations among their peers. A good reputation indicates a good name and recognition (Carvalho and Fischer, 2000). The reputation comprises a good portion of information with respect to a determined company, taking time to be built up, but possibly destroyed easily, according to Powell (1990). Accordingly, reputation discourages the opportunistic actions and facilitates the development of trust between the partners.

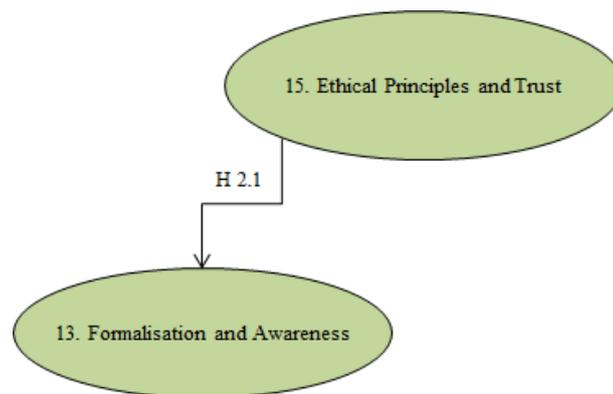
On the other hand, according to Cohen and Levinthal (1989) and also Britto (2008), the development and formalization of clear network management processes and operating rules contribute to the creation of continuous relationships among the organisations, which strengthens their knowledge assimilation ability, in comparison to the volume of internal investments made. In a similar view, Teixeira *et al.* (2006) explain, for such learning process in network to be effective, even counting on the existence of a possible network coordinator, it is necessary that its individual members, or links of the network, make specific investments, like the establishment of a common language, of communication means or flows and of assemblies for the mediation of conflicts, and the development of procedures, rules and codes that enable the generation and circulation of knowledge. In the same way, the authors argue that the existence of the network project must be expressly formalised internally, in the same way it happens with these operating rules and procedures. Besides, the formalisation of each network component role is very important (Amato Neto, 2000, Teixeira and Guerra, 2002, 2003; Marcum *et al.*, 2012; Camargo, Verschoore and Padilha, 2013).

For this to happen, Balestrin; Verschoore and Reys Junior (2010) and also Teixeira *et al.* (2006) call the attention that cooperation requires coordination, as independent players possess distinct behaviour and priorities, different motivations and perceptions of the

environment they are inserted in, showing that such management is necessary to avert the anarchy and the inefficiency in complying with the individual and collective objectives proposed. Such coordination is, accordingly, responsible for the formalization of the network and for the wide disclosure of the existence of such alliance, with articles of incorporation, board of executive officers and code of ethics, rules, responsibilities procedures, an institutionalization that should focus on the collective interest of the actors in the network, and thus obtain competitive advantage for its individual members.

Having in mind these arguments that the network participants will be naturally willing formalise the existence of the alliance, with common procedures, rules and codes, once they trust the participating companies that demonstrate ethical behaviour, it is argued that:

Figure 4.18 - Highlighted hypothesis 2.1



Source: Prepared by the Author

Hypothesis 2.1 (H 2.1) – The greater the development of the ethical principles and the trust among participating companies, the greater is the level of formalisation and awareness of the partnership between them.

Ethical principles and Strategic Relevance

In a similar way, before developing cooperation and related positive, common goals for the participating companies in relation to the partnership, as well as aligning the expectations of

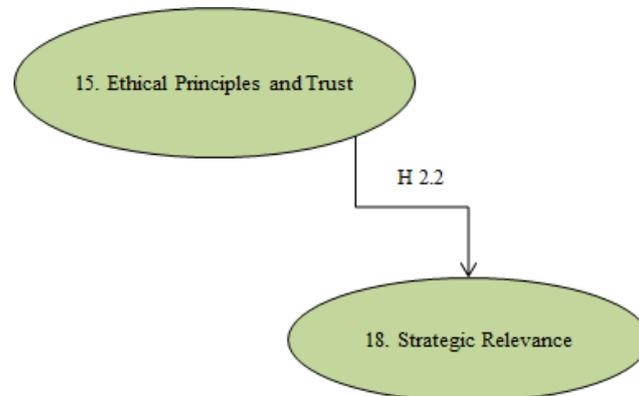
improved performance, and considering the partnership project relevant to the company's success, the members must develop mutual trust, showing ethical principles and adequate behaviour in the network.

In fact, according to Casarotto Filho and Pires (1998), the main cause of the low competitiveness of companies could be related to the lack of cooperation. For Amato Neto (2000), cooperation occurs in networks, for the most part, between companies of a same production chain, when the organisations feel the necessity to get together to seek sustainable competitive advantage. Accordingly, even in competition, the organisations can coexist and even opt to coordinate certain activities conjointly in the same environment, cooperating rationally and keeping their independence (Marcon and Moinet, 2000). The search for the successful partnership, in which the integration of cooperation and competitiveness brings its rewards, will surely try to obtain more value from the cooperative task, which it would be difficult to do in an isolated manner (Arruda and Arruda, 1997).

In this way, cooperation, based on mutual trust as defined in the preceding paragraphs, can be considered a basic step to identify and profit from the strategic relevance or importance of each participating company (Kanter, 1994, 2002). So, mutual trust is believed to foster the development of relevance topics such as whether the goals of the participating companies in relation to the partnership project are positive and well intentioned; if the objectives of the partnership project are aligned with the expectations of improved performance of the companies and whether participating companies consider the partnership project relevant to the company's success (Arruda and Arruda, 1997; Casarotto Filho and Pires, 1998; Ebers and Jarillo, 1998; Amato Neto, 2000; Teixeira and Guerra, 2002; Olave and Amato Neto, 2005).

In other words, if the participating companies trust each other, based on integrity and ethical principles, demonstrating that they are honest and behave ethically in the network, showing that the confidential information and the image of the network project is secure and supported externally, it is created a fruitful environment for the participating companies to understand the alliance as strategic relevant to their individual performance increase. In this way, it is possible to propose that:

Figure 4.19 - Highlighted hypothesis 2.2



Source: Prepared by the Author

Hypothesis 2.2 (H 2.2) – The greater the development of ethical principles and the trust among participating companies, the greater is the strategic relevance and importance of the partnership to the participating companies individually.

Formalisation and awareness and adaptation and integration

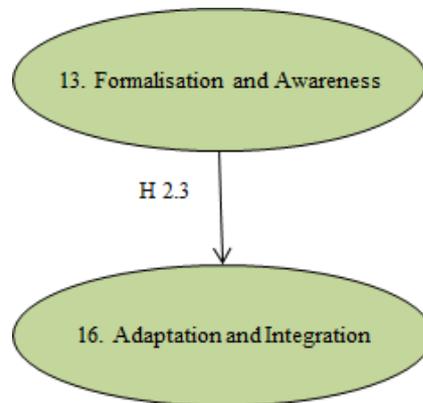
Besides that, before overcoming cultural differences and natural mistrust, and developing personal connections within the project activities and also personal connections outside of it, the institutionalisation of the partnership must be effected, with clear, formalised rules and procedures that can be shared among all participating companies. It is, therefore, argued that:

In fact, the flexibility to adapt to new scenarios (problems) that could emerge from the network activities is of fundamental importance (Arruda and Arruda, 1997). Teixeira *et al.* (2006) also argue that the development of rules and codes, the establishment of a common language, of communication means or flows and of procedure for the mediation of conflicts are of great relevance to the network success.

In this way, the formalisation of the existence of the alliance, with common procedures, rules and codes, can be considered an important step to the overcoming of cultural differences and natural mistrust among participants, to development of personal connections within the project activities and also personal connections outside them (Kanter, 1994, 2002; Ebers and

Jarillo, 1998; Carvalho and Fischer, 2000; Marcon and Moinet, 2000; Teixeira and Guerra, 2002, 2003). It is argued, then, that:

Figure 4.20 - Highlighted hypothesis 2.3



Source: Prepared by the Author

Hypothesis 2.3 (H 2.3) – The greater the level of formalisation and awareness of the partnership among the participating companies, the easier is their adaptation and integration into the partnership project.

Strategic relevance and Involvement and commitment

The fact of participating members developing positive, common goals in relation to the partnership, as well as aligning their expectations of improved performance, and considering the partnership project relevant to the company's success, can be considered leverage to improve the involvement with, and commitment to, the partnership activities and common results.

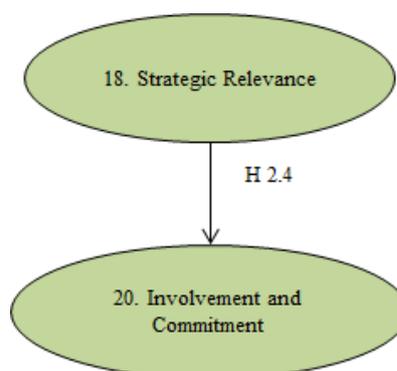
In fact, according Teixeira and Guerra (2002, 2003) and also to Kanter (1994, 2002), as argued before, when the goals of the participating companies in relation to the partnership project are positive aligned with the expectations of improved performance of the individual organisations that consider the partnership project relevant to its own success, it is developed an environment that foster the involvement and commitment of the members, which demonstrate interest in staying in the project, in the short, medium and long term, even when there is a need to invest resources in the alliance, such as time, personnel and capital, meaning

that partners are sharing certain costs and risks and devoting financial and other resources to the partnership in the long run (Teixeira and Guerra, 2002; Balestrin; Verschoore and Reys Junior, 2010).

Actually, among Kanter's (1997) reasons for the sources of the vulnerability of partnerships, one can identify problems of strategic relevance and also of involvement and commitment in more than one item, underlined as follows: i) strategic changes; ii) different levels of commitment between the partners (**Involvement and Commitment**); iii) power imbalance as regards resources and information; iv) imbalance in the benefits perceived by the partners (**Strategic Relevance**); v) premature trust and without institutional safeguards; vi) divided loyalties; vi) undermanagement; vii) lack of commitment to the allocation of resources (**Involvement and Commitment**); viii) conflicts about the scope; ix) insufficient integration and absence of a common structure; and x) attachment to the internal corporate policies of the individual partners.

Based on these arguments, that participating companies must, beforehand, understand that the alliance is strategically relevant to individual performance in order to get really involved and committed to the partnership overall goals, it is possible to propose that:

Figure 4.21 - Highlighted hypothesis 2.4



Source: Prepared by the Author

Hypothesis 2.4 (H 2.4) – The greater the strategic relevance and importance of the partnership to the participating companies individually, the deeper are the involvement and commitment of each element in the network to the project activities and results.

Adaptation and integration and Individual value and contribution

In addition, before becoming clear that each company has resources, capabilities and knowledge to be shared among the network participants and as well as unique values for collective contribution, the members must overcome cultural differences and natural mistrust, and develop personal connections within the project activities and also outside them.

Actually, according to Kanter (1994, 2002) and also, in a certain way, to Soda and Zaheer (2012), when there is an overcoming of cultural differences and natural mistrust among participants of a network, with a consequent development of personal connections within the project activities and also personal connections outside them, representing what Gulati and Puranam (2009, p. 427) called “*the emergent patterns of individual behaviour and interactions between individuals*”, there is an environment that foster the rising of individual excellence and value added contributions, based on the idea that each participating company has resources, skills, competencies and knowledge to be shared among the network participants, and also unique values for collective contribution (Mile and Snow, 1986; Willem and Buelens, 2009). In fact, this idea can be summarized in Mitsuhashi and Greve, (2009, p. 977), when they propose that “(...) *the logic of matching theory is that organizations form alliances with a mutual fit of resources*”, consistent with the concepts of “market complementarity” and “resource compatibility”.

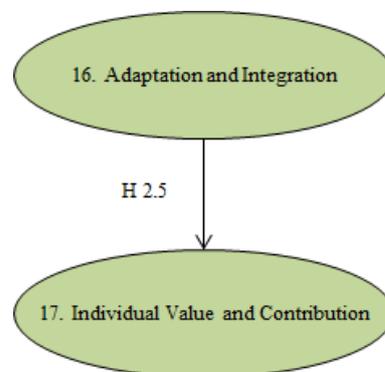
And, it is also the idea of Marcon and Moinet (2000), to whom, for a network to occur in practice, three elements should be combined: a) resources to exchange, which constitutes the basis of the network, such as information, knowledge and inputs of unique value. In this sense, a set of players that has nothing to exchange will rarely constitute a network; b) info-structure, which designates the set of rules of functioning and ethics that must be observed among the members, as addressed before; and, c) infrastructure, which comprises the practical means of action, such as: estimates, locale, material, communication, electronic connection etc.

The idea that each participating company have resources, skills, competencies and knowledge to be shared among the network participants is understood by some scholars as a

“specialization” of the individual company. Under this concept, each organisation has a well-defined function in the network and something to share as there is, most of the time, a division of labour among them. From the point of view of Miles and Snow (1986), it is exactly in the specialization that resides the opportunity for each link of the network to exercise its particular competence to contribute to overall goal of the alliance. For Kanter (1994, 2002), it can happen when the partners possess unique values for collective contribution.

In this way, the arguments of the preceding paragraphs propose that the network members must overcome cultural differences and natural mistrust, and develop personal connections within the project activities and also outside them before each company can feel comfortable to present its valuable resources, capabilities and knowledge to be shared among the network participants and as well as its unique values for collective contribution. Based on this idea, one can propose the following:

Figure 4.22 - Highlighted hypothesis 2.5



Source: Prepared by the Author

Hypothesis 2.5 (H 2.5) – The easier the adaptation and integration of participating companies in the partnership project, the more valuable are the individual contributions of resources and unique values of each company to the network.

Adaptation and integration and Mutual dependence

In very similar fashion, before becoming clear that the participating companies have complementary knowledge, skills and competences and they are mutually dependent on the development of the individual strategy, as well as demonstrating that they are likely to share knowledge and skills, the members must overcome cultural differences and natural mistrust, and develop personal connections within the project activities and also outside them.

In fact, the enabling environment to act collectively explained in the preceding paragraphs (Kanter, 1994, 2002; Gulati and Puranam, 2009), that emerges from the overcoming of cultural differences and natural mistrust among participants of a network, with a consequent development of personal connections within the project activities and also personal connections outside them (“the emergent patterns of individual behaviour”), can be also considered a rich soil to the usage of complementary knowledge, skills and competences. This created positive scenario foster the participating companies to demonstrate they are likely to share knowledge and skills and to act with the intention to help each other on the development of the individual strategies (Mile and Snow, 1986; Ebers and Jarillo, 1998; Kanter, 1994, 2002; Grandori and Soda, 1995; Marcon and Moinet, 2000; Willem and Buelens, 2009).

In a complementary way, Teixeira and Guerra (2002) argue that, in the search for growth, no company dominates the totality of knowledge necessary for the performance of the set of activities over the whole of its production chain. All of them should, at least, consider “*the convenience of specializing in some activities and support themselves on the competences of other companies*” (Teixeira and Guerra, 2002, p. 96). It is in this context that, for the authors, the vital importance of the **interdependence** and **cooperation** between companies is emphasized, by strengthening their ties with suppliers, distributors and even with competitors. To the authors, this scenario can, in one hand, reduce the repertoire of actions of the individual company, but, on the other, result in the firm gaining in flexibility. This is because

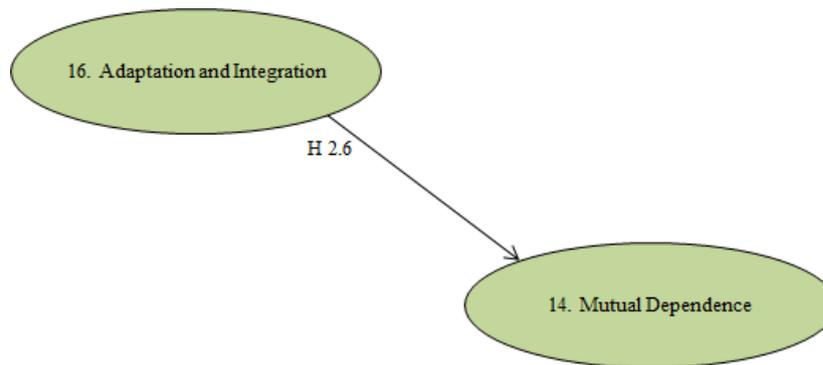
“The strong specialization of the several agents making up their network of firms increases the complementarity between them, attenuating or eliminating potential rivalry. The reduction of risks of rivalry and the strengthening of complementarity specialise the partners inside the network, reinforcing their consistency and guaranteeing their stability”. (Teixeira and Guerra, 2002, p. 97).

Mutual dependence or interdependence, then, can be understood as what some scholars call “complementarity” or “specialization”, when the activities of each player of the network complement each other, allowing the creation of networks designed to deal with complex situations that could not be dealt with by a simple organisation (Mile and Snow, 1986; Krishnan *et al.*, 2006; Mitsuhashi and Greve, 2009). In other words, interdependence can be identified when the organisations maintain a reciprocal dependence among themselves. In the conception of Ebers and Jarillo (1998), the companies present ties when they serve a particular market, but Grandori and Soda (1995) consider that the network is the manner of regulating the interdependence among the companies. For Kanter (1994, 2002), the mutual dependence in partnerships is characterised when the partners possess complementary attributes to be shared and need each other, even for conceiving and carrying through their individual strategies.

But, Singh and Mitchell (1996) advise that the interdependence, generated by the sharing of routines, makes independent action of the partners almost impossible. According to them, this scenario may occur by the sharing of key manpower resources, marketing systems, development of abilities etc., causing each one to rely on the core competences of the other. In a general manner, the higher the interdependence, the more effective is the relationship. However, when a partnership ends, the company loses access to the core abilities that were the reason for the partnership and it must be in condition to maintain performance of the business by forming a new partnership (Singh and Mitchell, 1996).

This discussion lead us to understand that, on a network, the idea that the participating companies should demonstrate that they are likely to share knowledge and skills, after overcoming cultural differences and mistrust, is fundamental to the natural use of complementary knowledge and skills of each node of the alliance, an action that helps both the individual and the group. In this way, it is believed that:

Figure 4.23 - Highlighted hypothesis 2.6



Source: Prepared by the Author

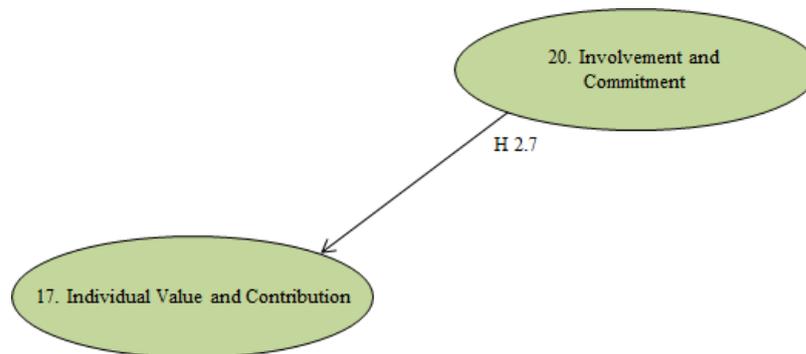
Hypothesis 2.6 (H 2.6) – The easier the adaptation and integration of participating companies in the partnership project, the easier is the collective use of complementary skills and knowledge of each company, and individual strategy formulation.

Involvement and Commitment and Individual value and contribution

Also, in a similar way, before becoming clear that each company has resources, capabilities and knowledge to be shared among the network participants as well as unique values for collective contribution, the members must improve commitment to the partnership activities and common results. This leads to the proposition that:

Actually, the interest of the companies in staying in the project, in the short, medium and long term, demonstrated by the investment of resources in the network, such as time, personnel and capital (Teixeira and Guerra, 2002; Balestrin; Verschoore and Reys Junior, 2010) can also create an environment where the nodes are available to share their individual competences and unique values with the group. In this way, it is proposed that:

Figure 4.24 - Highlighted hypothesis 2.7



Source: Prepared by the Author

Hypothesis 2.7 (H 2.7) – The deeper the involvement with, and commitment of each element in the network to the project activities and results, the more valuable are the individual contributions of resources and unique values of each company to it.

Individual value and contribution and Strategic Information and Knowledge

In addition, before sharing knowledge and information openly about what is being developed in each individual company and also matters not related to the partnership, it must become clear that each company has resources, capabilities and knowledge to be shared among the network participants as well as unique values for collective contribution.

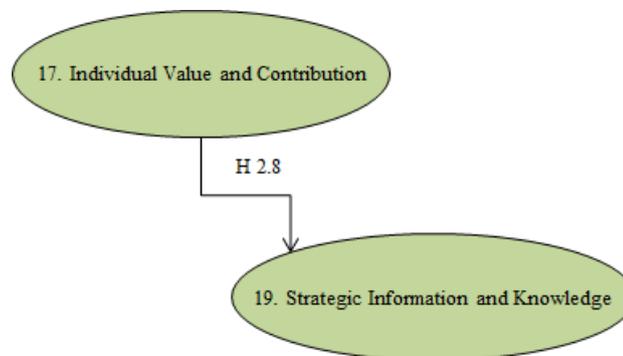
This idea is related to what Marcon and Moinet (2000) and also Simonin (2004) understand as the capacity of learning. According to them, considering a learning network environment, the frequent heterogeneity of the actors in terms of productive, technological and organisational capacitation induces collective learning, which can be considered an instrument for leveraging the performance of a set of companies. Although the individual is the central subject of the learning, to the organisations falls the task of developing mechanisms that facilitate the interactive process that leads to knowledge (Teixeira and Guerra, 2002, 2003). Accordingly, the organisations have to facilitate intentionally the co-creation and exchange of knowledge and routines between the partners of the relationship. In fact, Ebers and Jarillo (1998) state that, by means of inter-organisational networks, companies can achieve and maintain

competitive advantage from mutual learning, leading to better support for the development of products, services and processes.

With a complementary view, Schulz and Geithner (2010) characterize organisational learning through an inter-firm alliance or network that operates at two different levels: i) the platform level, where the members of the participating companies collectively discuss issues, develop new ideas and ways of thinking and arrive at a shared or common understanding; and ii) the operational practice, where the platform level learning is incorporated into practice.

But, considering this idea of knowledge co-creation and dissemination within the boundaries of a learning network, a knowledge that is fruit of collective learning and that would be used for both individual and collective purposes, it is reasonable to propose that the shared knowledge would be richer as long as the individual companies has valuable skills and unique values to be shared. Based on these arguments, the following hypothesis can be formulated:

Figure 4.25 - **Highlighted hypothesis 2.8**



Source: Prepared by the Author

Hypothesis 2.8 (H 2.8) – The greater the individual contributions of resources and unique values of each company to the network, the greater are the development and share of information and knowledge, related or not to the learning network issues, among all participating companies.

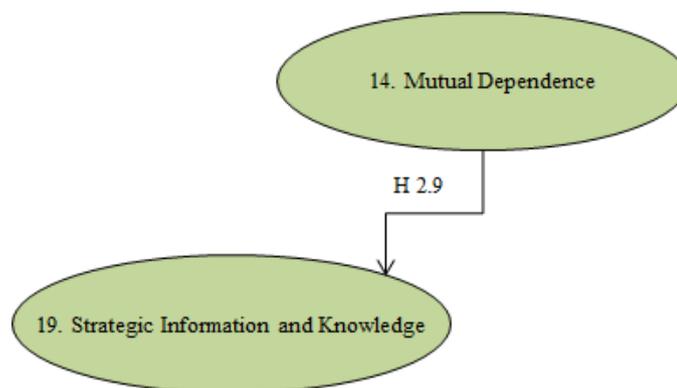
Mutual dependence and Strategic Information and Knowledge

In a complementary way, before sharing knowledge and information openly about what is being developed in each individual company, and also matters not related to the partnership, it must become clear that the participating companies have complementary knowledge, skills and competences and they are mutually dependent on the development of the individual strategy, as well as demonstrating that they are likely to share knowledge and skills.

In this way, as argued above (hypothesis 2.8), considering this idea of knowledge co-creation and dissemination within the boundaries of a learning network for the use of both the individual and the group, it is also reasonable to propose that shared knowledge would be richer once the individual companies are “specialized”, meaning that they possess complementary attributes to be shared and need each other, even for conceiving and carrying through their individual strategies (Mile and Snow, 1986; Kanter, 1994, 2002; Grandori and Soda, 1995; Ebers and Jarillo, 1998; Mitsuhashi and Greve, 2009; Soda and Zaheer, 2012).

Based on this proposition, this final hypothesis can be formulated:

Figure 4.26 - Highlighted hypothesis 2.9



Source: Prepared by the Author

Hypothesis 2.9 (H 2.9) – The easier the collective use of complementary skills and knowledge of each participating company, including in facilitating individual strategy formulation, the greater is the development and sharing of information and knowledge, related or not to the learning network issues among all participating companies.

In order to summarize the hypotheses of this study (main hypotheses and also the unfolded ones, related to the former), Table 4.2 was created as an illustration, as follows:

Table 4.2 – Summary of main and expanded hypotheses

HYPOTHESES	DESCRIPTION
<i>Hypothesis 1 (H1)</i>	The development of strategic management concepts or elements results in a higher global performance of the company.
<i>Hypothesis 2 (H2)</i>	Being part of a learning network results in a higher global performance of the company.
<i>Hypothesis 3 (H3)</i>	Being part of a learning network helps companies to better develop strategic management concepts or elements and become strategy-focus organisations.
<i>Hypothesis 1.1 (H 1.1)</i>	The greater the development of strategic leadership culture, the greater are the results perceived by the stakeholders in the direction of, and favouring, sustainability.
<i>Hypothesis 1.2 (H 1.2)</i>	The greater the development of strategic leadership culture, the greater are the results in the development of corporate ideology and deploying corporate vision, mission and values.
<i>Hypothesis 1.3 (H 1.3)</i>	The greater the development of sustainability principles, the easier it is to develop long-term corporate ideology and to deploy corporate vision, mission and values.
<i>Hypothesis 1.4 (H 1.4)</i>	The clearer the pathway to the future translated by corporate vision (desired future state), mission and values, the easier is the corporate and business strategy formulation.
<i>Hypothesis 1.5 (H 1.5)</i>	The systematic development of strategic planning and its formalisation as a consensus between top management and employees foster the development of strategic initiatives and action plans for executing strategy.
<i>Hypothesis 1.6 (H 1.6)</i>	The systematic development of strategic planning and its formalisation as a consensus between top management and employees facilitates the unfolding of strategic objectives into business units and corporate staff areas for executing strategy.
<i>Hypothesis 1.7 (H 1.7)</i>	The systematic development of strategic initiatives and action plans facilitates the development of measurable strategic lead and lag performance indicators that represent the formulated strategy.
<i>Hypothesis 1.8 (H 1.8)</i>	The process of unfolding strategic objectives into business units and corporate staff areas facilitates the development of measurable strategic lead and lag performance indicators that represent the formulated strategy.
<i>Hypothesis 1.9 (H 1.9)</i>	The greater the development of measurable strategic lead and lag performance indicators that represent the formulated strategy, the easier is the proposal of strategic goals.
<i>Hypothesis 1.10 (H 1.10)</i>	The greater the number and quality of strategic goals proposed, the easier is the functioning of the information and communication systems to support strategic decisions at all management levels.
<i>Hypothesis 1.11 (H 1.11)</i>	The greater the number and quality of strategic goals proposed, the easier it is to systematically control and evaluate corporate results.
<i>Hypothesis 1.12 (H 1.12)</i>	The more developed the control and evaluation of the corporate results system, the easier is the functioning of the information and communication systems to support strategic decisions at all management levels.

<i>Hypothesis 1.13 (H 1.13)</i>	The easier the functioning of the information and communication systems to support strategic decisions at all management levels, the easier it is to implement and use a comprehensive recognition and compensation corporative plan.
<i>Hypothesis 1.14 (H 1.14)</i>	The more developed the control and evaluation system of corporate results is, including providing feed-back, the easier it is to become a strategic learning organisation.
<i>Hypothesis 2.1 (H 2.1)</i>	The greater the development of the ethical principles and the trust among participating companies, the greater is the level of formalisation and awareness of the partnership between them.
<i>Hypothesis 2.2 (H 2.2)</i>	The greater the development of ethical principles and the trust among participating companies, the greater is the strategic relevance and importance of the partnership to the participating companies individually.
<i>Hypothesis 2.3 (H 2.3)</i>	The greater the level of formalisation and awareness of the partnership among the participating companies, the easier is their adaptation and integration into the partnership project.
<i>Hypothesis 2.4 (H 2.4)</i>	The greater the strategic relevance and importance of the partnership to the participating companies individually, the deeper are the involvement and commitment of each element in the network to the project activities and results.
<i>Hypothesis 2.5 (H 2.5)</i>	The easier the adaptation and integration of participating companies in the partnership project, the more valuable are the individual contributions of resources and unique values of each company to the network.
<i>Hypothesis 2.6 (H 2.6)</i>	The easier the adaptation and integration of participating companies in the partnership project, the easier is the collective use of complementary skills and knowledge of each company, and individual strategy formulation.
<i>Hypothesis 2.7 (H 2.7)</i>	The deeper the involvement with, and commitment of each element in the network to the project activities and results, the more valuable are the individual contributions of resources and unique values of each company to it.
<i>Hypothesis 2.8 (H 2.8)</i>	The greater the individual contributions of resources and unique values of each company to the network, the greater are the development and share of information and knowledge, related or not to the learning network issues, among all participating companies.
<i>Hypothesis 2.9 (H 2.9)</i>	The easier the collective use of complementary skills and knowledge of each participating company, including in facilitating individual strategy formulation, the greater is the development and sharing of information and knowledge, related or not to the learning network issues among all participating companies.

Source: Prepared by the author.

CHAPTER V

5. RESEARCH METHODOLOGY

This chapter describes the method used in the research, with its basic characteristics, such as the population being investigated, the techniques, the instruments created to collect the data (pilot test questionnaire and final version questionnaire) and strategies adopted for collecting data, as well as the procedures for preparing the information base and the statistical treatment of this collected information. The variables employed for the measurement of the phenomena being studied are also defined, as well as the theoretical model assumed and the assumptions that guided the execution of this work.

5.1 Introduction

The method used for conducting the research and reaching its goals is based mainly on the propositions made by Churchill (1999, 2001), Malhotra (2001), Hair Jr. *et al.* (2005) and Cooper and Schindler (2011), with regard to the various stages of the method of identifying the variables in a descriptive study, such as the research conducted here, as well as on those contained in Hair Jr. *et al.* (2010), regarding the use of the technique of structural equation modelling to assess the relationship between variables, more specifically, the lessons for the use of PLS (Partial Least Squares).

According to Churchill (2001), research can be divided into three different categories: i) **exploratory research**, where the emphasis is on discovering new ideas and exploration of phenomena not yet revealed, ii) **descriptive research**, that seeks to answer the objective questions in relation to a phenomenon, highlighting what, how much, when, how or where a certain phenomenon manifests itself, and iii) **causal research**, which seeks to answer all the points of descriptive research, besides trying to identify the why of a phenomenon.

Based on this subdivision of Churchill's, descriptive studies are therefore applied, among other reasons, to determine the degree of association between variables and to make specific predictions, based on the hypotheses previously established on a theoretical model (Churchill, 1999; Malhotra, 2001; Hair Jr. *et al.*, 2005 and Cooper and Schindler, 2011). Therefore, in regard to the objectives of this study, the research can be assumed to be a descriptive one, since it aims at the description of the characteristics of a given phenomenon, establishing the relationships between the variables affecting it. Regarding the technical procedures adopted, it can be characterized as a case study carried out by means of surveys, using questionnaires, direct questioning of people whose opinions one wants to learn about, and a study about the operation of the LNC Programme, in relation to another set of companies not related to this programme, or any other with the same objectives.

The target public of this research can be considered, specifically therefore, a set of companies participating in the LNC Programme in Brazil, geographically dispersed throughout the country, during a specific period and with a timeframe of not less than 2 years (representing 66% of the entire programme), compared, for the same period, to another set of companies that have never undergone a similar programme of being part of a firms' learning network, and considered, though, a multiple case study.

This study, therefore, sought to establish the relationship between the development of the two strategic management elements, formulation and execution, as well as that between the presence of a learning network for success and the possibly superior performance of organisations. It is, consequently, based on both quantitative and descriptive types of research.

5.2 Justification of methodology

The determination of the type of research is a relatively controversial issue in the literature, since each author usually employs a different terminology for classifying scientific studies. Thus, it seems important to attempt to define more precisely the characteristics of the investigation, since that helps the researcher to have a clearer idea of the limits of his work.

In this sense, among the various exploratory research methods available, case study methodology can be considered very important. Yin (2009) defines case study as the method that examines the phenomenon of interest in its natural element, by the application of various methods of data collection, with the aim of obtaining information from multiple entities. In a similar way, Thomas (2011, p. 23) points out that “(...) *a case study is about seeing things in its completeness, looking at it from many angles*”. For different reasons that he explains in his studies, the author summarizes the concept of case study, as Yin (2009) did before, as the

“(…) analysis of persons, events, decisions, periods, projects, policies, institutions, or other systems which are studied holistically by one or more methods. The case that is the subject of the inquiry will be an instance of a class of phenomena that provides an analytical frame – an object – within which the study is conducted and which the case illuminates and explicates”. (Thomas, 2011, p. 23).

Dul and Hak (2008, p. 4) distinguish two main types of case studies: i) the single case study, in which data from just one instance is enough to achieve the research objective and ii) the comparative case study, in which data from two or more instances is required.

This is the same position as Yin’s (2009), to whom it is also essential for the researcher to make a choice between the use of one single case or of multiple cases. He suggests that one single case is suitable when it is considered revealing; that is, when one is dealing with a single situation, inaccessible for scientific work, when one is dealing with a critical case for testing a well-formulated theory; or even, when the case is extreme or unique.

On the other hand, the multi-case study is recommended when the objective of the research is to describe a phenomenon, to build up or test a theory. Multi-case studies increase external validity and help to protect against potential biases of the researcher. One of the most frequent concerns about the use such a technique, however, lies in the validity of generalizing the results. According to Dul and Hak (2008) and also to Yin (2009), the results achieved may be utilized for generalization of theoretical propositions; namely, they must be used for expanding knowledge and theories, not for performing statistical generalizations. To Dul and Hak (2008), the difference between a case study and an experiment is that the experiment manipulates the environment analysed, which does not happen with case studies.

Going back to the propositions of Yin (2009), he argues that, in a case study, the ideal is the collection of data from two or more sources, which can converge and provide a stronger support to the discoveries of the research. According to the author, useful sources for data collection are: i) documentation: written material, from memos to formal reports; ii) recorded files: charts of the organisational, financial, personal and service records; iii) interviews: open or focused; iv) direct observation: observations and detailed notes, actions and subtleties of the environment; and v) physical equipment: mechanisms and tools.

From another point of view, according to Silva and Menezes (2000), research can be classified by means of four criteria: i) as to its nature: basic or applied; ii) as to the form of approaching the problem: quantitative or qualitative; iii) as to objectives: exploratory, descriptive or explicative and iv) as to the technical procedures: bibliographic, documental, experimental, survey, case study or ex-post facto.

In accordance, therefore, with the classification arrangement of Silva and Menezes (2000) and that of Yin (2009), the research conducted for this thesis is a case study, the analysis unit of which is a SME Brazilian company, and which is divided into two different groups: 1) those participating in the LNC Programme and 2) those that do not participate, the programme being considered the only one in Brazil with the desired characteristics of an operating Learning Network, as amply described in section 2.3 of the present thesis. The analysis was based on data and quantitative analysis techniques, with the following features:

- i) As to the nature of the research: it is applied research, because it is aimed at the production of knowledge for practical application, and gearing such knowledge to the solution of specific problems;
- ii) As to the form of approaching the problem in this research: it is quantitative, as it considers the possibility of quantification of the phenomenon being studied, transforming its variables into numbers, that will enable it to be classified and analysed;
- iii) As to the research objectives: it is descriptive, because it is intended for describing the characteristics of a given phenomenon, by establishing relationships between the variables affecting it;

iv) As to the technical procedures adopted in the research: it consists of a case study performed by means of survey, involving documental study and direct interrogation of the people whose opinions one wants to know.

It is also very important to remark that the research design always depends on the nature of the research question(s), or in what kind of information the study would collect, in the light of the intended contributions it presents.

The present study intent is to verify whether a group of companies could have presented an increased corporate performance during a certain period of time, and if this supposed superior results could have been positively related to the fact that these companies have developed and implemented their strategy within a learning network programme, when compared to another group of firms that had never passed to a programme with similar characteristics (learning networks).

In this way, a cross-sectional approach, that enables us to compare different population groups at a single point in time,³³ was considered the best study design. In this approach that better fits our research questions, the researcher collects data from the sample on the independent variable(s) and the dependent variable and looks at the correlation to determine what the relationship is, if any, between these variables.

The possibility of a longitudinal study, where researchers conduct several observations of the same subjects (both independent and the dependent variables) over a period of time, sometimes lasting many years, would not fit better when one analyses the research questions of this thesis that intends exactly to compare performances of two groups of companies, in a single field research, and not to compare variables of the same group over time. Besides the clear benefits of cross-sectional approach in the light of the research questions, a longitudinal study would not be possible due to resource limitations of studying, for example, only the LNC Group for a considerable larger period of time.

³³ Although respondents were clearly asked to analyse the variables in the light of a short period of time (2005-2010), the field research was only made once, at a single point in time, or in a single observation.

In other words, the cross-sectional research design is considered a more adequate way to compare different population groups and monitor the evolution of a substantial number of variables, within an also substantial number of respondents that belong, in our study, to two different sample groups.

5.3 Data collection

Taking into account the main characteristics of the present study, the proper survey was the natural next step. For the operationalization of such a study, the basic instrument of data collection used was a questionnaire, composed basically of questions measured by Likert scales, to appropriately collect the data needed and test the proposed hypotheses and the theoretical model. The choice of the questionnaire was due to the geographical dispersion of the respondent companies throughout all regions of Brazil, a country of continental dimensions, and to the need of a large sample of valid responses for statistical treatment. Moreover, according to Selltiz *et al.* (1972), the questionnaire is able to generate answers which are more easily compared and to ensure uniformity in the measuring process.

Considering the huge importance of the research instrument to the success of the research, Bagozzi's (1994) approach related to this question was considered. To the author, there are 5 (five) different steps to be considered when developing a questionnaire, topics that were taken into account in this study. They are: i) problem definition; ii) questionnaire draft development; iii) pre-test stage and evaluation of the results; iv) final revision; and v) application of questionnaire's final version.

5.3.1 Draft questionnaire

As discussed above, this research used a structured questionnaire as an instrument for data collection, drawn from the assemblage, in a single instrument, of the constructs related to the **Strategic Management Elements**, the **Learning Networks Elements** and the Elements that affect the **Global Performance of Companies**, all these constructs and it's measures (survey items, in the form of "statements") having emerged not only from the literature review conducted in Chapter II, but also, and mainly, from the detailed discussion carried on in the

theoretical chapter that gave basis to the hypotheses' propositions, and compose, jointly, the body of literature that should be used to compose the questionnaire statements.

In addition, questions concerning the characterization of the company and the respondent were also used. Therefore, as an overview, the pilot questionnaire was divided as follows:

i) SECTION I – Items that describe the companies' and respondents' profile, or simply "The Identification Section";

ii) SECTION II – Questions that aim to measure the degree of development of Strategic Management Elements in the companies analysed. They were divided into 12 (twelve) categories, which were inserted also into three sub-areas: a) Basic Strategic Elements (BSE); b) Strategic Formulation Elements (SFE) and c) Strategic Implementation Elements (SIE), as outlined in section 2.3 of chapter II (Literature Review), containing 58 (fifty-eight) questions expressed in the form of statements. In the pilot questionnaire, the abovementioned 12 categories were:

- 1) Leadership Culture (BSE);
- 2) Related Parties and Sustainability (BSE);
- 3) Ideology and Vision Deployment (SFE);
- 4) Strategy Conception (SFE);
- 5) Strategic Objectives Deployment (SFE);
- 6) Strategic Performance Indicators (SFE);
- 7) Strategic Goals (SFE);
- 8) Strategic Initiatives and Action Plans (SIE);
- 9) Information and Communication Systems (SIE);
- 10) Control and Evaluation (SIE);
- 11) Strategic Learning (SIE);
- 12) Recognition and Compensation (SIE).

iii) SECTION III – Questions that aim to measure the degree of development of Learning Networks Elements in the analysed companies. They were divided into 8 (eight) categories, as considered in the literature review, in section 2.4 of chapter II. In total, these 8 categories

contemplated initially 20 questions, also expressed in the form of statements. These categories, arranged in the pilot questionnaire, were:

- 1) Formalisation and Awareness
- 2) Mutual Dependence
- 3) Ethical Principles and Trust
- 4) Adaptation and Integration
- 5) Individual Value and Contribution
- 6) Strategic Relevance
- 7) Strategic Information and Knowledge
- 8) Involvement and Commitment

iv) SECTION IV – contained a table where the respondent was invited to fill out with the data related to the company's KPIs (Key Performance indicators), according to the duly approved Financial Statements of the period 2005-2010. The measures were (in R\$ thousands): A) Gross Operating Revenues; B) Net Profit and C) Net Margin, this one being automatically calculated by the questionnaire instrument.

According to Hair Jr. *et al.* (2010), by selecting measurement scales for each item, the researcher can operationalize the constructs previously mentioned in the first paragraph of this section. The measuring scales, with several indicators (questions) for each construct, were defined, as the constructs were considered of a multidimensional nature. This process was conducted by analysing the theory previously expounded developed by leading authors or scholars of each subject: i) Strategic Management Elements (section 2.3); ii) Learning Network Elements (section 2.4); and iii) Global Performance (section, 2.5), all from chapter II.

The next step was to define the scale type. The Likert scale of seven possible choices was chosen due to the possibility of including a neutral central point and an equal pair of polarities (Totally agree and totally disagree, for example) that facilitate the understanding and, consequently, filling in the questionnaire (De Vellis, 2003).

Before its application, the questionnaire needed to be validated. The instrument was therefore given a pilot-test, in order to verify big issues such as form and content. It is necessary because, according to Oppenheim (1972, p. 47), “*questionnaires do not emerge fully, (...) they have to be created or adapted, fashioned, and developed to maturity*”, this same procedure also being recommended by Hair Jr. *et al.* (2010) and Coopers and Schindler (2011). In a similar way, Easterby-Smith *et al.* (1991) also affirmed that the pilot questionnaire can be considered essential as it allows you to check, *a priori*, whether the questions are understandable, whether the overall time needed to answer all the questions is appropriate, and whether the question sequence is well designed.

5.3.2 Pilot test

In order to conduct the pre-test, 38 questionnaires were applied to business executives, who were also students of the reputable MBA course at the Getulio Vargas Foundation (FGV) in Rio de Janeiro, Brazil. The following step was to proceed to a qualitative and quantitative evaluation of the results by statistically analysing the responses to each of the questions, as well as interpreting the suggestions written in the proper space (open text) provided at the end of the instrument.

It was initially observed that the original question format was too long. Another comment often found in the suggestions field (open text) was that the section “Strategic Management Elements” (II), divided into three other subsections (Basic Strategic Elements - BSE; Strategic Formulation Elements – SFE; and Strategic Implementation Elements - SIE), could be considered very confusing. In fact, as such additional subdivision was of no interest to the respondent, making sense only in the argument that stemmed from the literature review, this format was changed after the pilot test and the 12 categories were placed without any subdivision on the questionnaire. Furthermore, the order of two questions was changed to a more adequate position, taking into account the content of the previous and subsequent categories (Leadership Culture and Related Parties and Sustainability).

In addition, the format employed caused a significant number of unanswered questions regarding some variables, particularly those relating to the financial performance, originally placed in SECTION IV, in the pilot-questionnaire. This fact proved to be a particularly

significant problem, which, if repeated in the field research, would invalidate any conclusions about hypotheses H1 and H2 of this study and, consequently, about the hypothesized model, due to the lack of significant data in SECTION IV – KPIs (Key Performance indicators) from the field research.

As the above-mentioned field for comments and observations (open text) had been provided in the pilot-questionnaire, it was not difficult to realize what was already tacitly known about Brazilian culture: companies do not like to provide financial or performance data for publications, studies and other purposes, for various reasons. Almost only those listed on the stock exchanges, that are required to follow the principles of corporate governance, such as transparency, routinely publish their information. Among the others, the majority is not open enough to provide their data; even if a confidentiality agreement is proposed, stating that the published data is of purely statistical interest, with no identification of the individual companies. Among the main reasons for the absence of such information in the pilot test are that the executive had no access to the financial numbers or did not have permission to disclose it.

Anticipating, therefore, possible very serious problems in obtaining the data related to the dependent variables (financial performance), it was decided to address again the literature review of global corporative performance, which resulted in the proposal of a completely reformulated section (section 2.5), strongly based on the relation between Corporate Performance and Market Orientation, which proposes an alternative way of analysing company performance. This formulation is based, initially, on the work of Narver and Slater (1990); Slater and Narver (1994) and by Kohli and Jaworski (1990); Jaworski and Kohli (1993), and, later, on the studies proposed by several other authors who have researched systematically on the subject since the 1990s.

Thus, based on this reformulated section 2.5, which makes clear the strong positive correlation between corporate performance metrics (financial results) and performance indicators used by market oriented companies, proposed by several lines of study, an entire new section in the data collection instrument was created (SECTION IV of the final version of the questionnaire). It is also worth mentioning that, during the new literature review, the

possibility of not being able to collect corporate financial data from the sample was highlighted in the studies of some authors, due to its unavailability or its confidentiality³⁴.

We also analysed the mean and standard deviation of the variables to identify those with a high degree of agreement or disagreement, as well as those with high variability. The comparison was conducted using the degree of dispersion of these measures, with the aid of percentiles of averages and standard deviations of variables, identifying the extremes in both cases. At this stage, similar treatment was accorded to the percentage of missing data.

A general overhaul of the instrument was, therefore, based on a consideration of both qualitative comments and the discrepancies in terms of mean and standard deviation. To minimize problems related to variables with a large amount of missing data, some questions were reformulated in order to make them more generic and clear, associating them less with technical terms that could be difficult to understand for certain respondents.

Based on the application of the pilot questionnaire, the most significant change was the inclusion of a new section in the collection instrument, to which also a Likert scale 1-7 was applied. The objective of this new section was to measure the global performance of the respondents' businesses from both groups of companies, through the replies to 7 questions that link market orientation and corporate global performance, according to the studies cited in the preceding paragraphs and expressed in section 2.5 of chapter II.

In addition, it was decided to keep in the questionnaire the section that requests the financial data from three different KPIs, expressed in R\$ thousand, for the period 2005-2010: Net Operating Income and Net Profit, with the automatic calculation of Net Margin (%). The content of the final version of the instrument is described in the following section.

5.3.3 Final questionnaire

Based on the findings of the pilot-test, several adjustments were made to the questionnaire to improve it. Notwithstanding these changes, it is understood that the fundamental structure of

³⁴ Refer to section 2.5, of chapter II, in Slater and Narver (1994); Pelham and Wilson (1996) and Pelham (2000).

the questionnaire was not changed, even considering that another section (Global Corporate Performance, based on Market Orientation) was inserted.

The final sections and categories of the version of the questionnaire considered ready to be used in the field research are listed below. The related questions of each section can be better analysed in Appendix A, in its respective sections.

i) SECTION I – Items that describe the companies’ and respondents’ profile, or simply "The Identification Section";

ii) SECTION II – Strategic Management Elements:

- 1) Ideology and Vision Deployment;
- 2) Strategy Conception;
- 3) Strategic Objectives Deployment;
- 4) Strategic Performance Indicators;
- 5) Strategic Goals;
- 6) Strategic Initiatives and Action Plans;
- 7) Leadership Culture;
- 8) Information and Communication Systems;
- 9) Control and Evaluation;
- 10) Strategic Learning;
- 11) Related Parties and Sustainability;
- 12) Recognition and Compensation.

iii) SECTION III – Learning Networks Elements:

- 1) Formalisation and Awareness;
- 2) Mutual Dependence;
- 3) Ethical Principles and Trust;
- 4) Adaptation and Integration;
- 5) Individual Value and Contribution;
- 6) Strategic Relevance;

- 7) Strategic Information and Knowledge;
- 8) Involvement and Commitment.

iv) SECTION IV – Global Performance

- 1) Loyalty of current customers;
- 2) Attraction of new customers;
- 3) Return on assets (capital employed in the business);
- 4) Increase in sales;
- 5) Increase in profits;
- 6) Increase in the competitive standing compared to the competition and;
- 7) Increase in Global Performance compared to the market average.

5.3.4 Data collection procedure

Once the questionnaire had been reconsidered, taking into account all the aspects described in the “pilot test” above, the natural next step in the research process was to define the population from which the data was to be gathered. As the author of this thesis is a partner of the company that provides the SIS (Strategic Information System) for the LNC Programme, the database of around 500 active companies was immediately available, including the information relative to the chief executive or the senior manager to be a candidate as respondent. In addition, the manager of the coordinating entity of the LNC Programme provided an extensive list of companies that were part of the project, for a minimum period of two years (out of the three of the entire project) in the period 2005 to 2010. Thus, the final list of possible LNC respondents to the research questionnaire accounted for around one thousand companies, either operative, or that have passed through the programme in the above-mentioned period.

Now, with regard to the second group, composed of companies that do not participated in the LNC Programme, two main sources were used: i) a list of customers from a law firm with national coverage, specializing in SMEs, and; ii) a list of customers from a sustainability consulting firm, with more than five thousand active clients, also with national coverage. This

second list was previously analysed and only potential SMEs were finally included, as large companies were excluded from the population. For this second group, a top manager contact was also provided to answer the questionnaire.

Also related to the second group (non-LNC), it is considered valuable to remark that a possible sample selection effect could arise, related to the inference that the companies seeking to participate in the LNC Programme, even before the project, already have structural, managerial and strategic features, in terms of performance and management practices, which differentiate them from the sample of companies of the non-LNC group. If this is possibly true, one could also infer that the companies of group 01 (LNC) could present, beforehand, developed strategic management elements, a scenario that should be considered a limitation of the findings here presented.

Besides, another possible sample selection effect, which arises from this first one, is the possibility of, on a self-reported research like this one, the normal distribution be shifted to the right in the LNC-Group, representing a possible tendency of the respondent of this group to “answer more positively than the average” to the questions, once the he/she subliminally understands that the company is already taking advantage from the LNC programme. Actually, different deviations from normality were found in both groups, a situation that was not considered a threat to the study's findings, as it would be explained in details in the section 5.4.1 (Exploratory data analysis) of chapter 5.

Following on, after the definition of the population, the questionnaire was sent by a research assistant by e-mail and the follow up was made systematically by phone, during a period of 9 months (2011-2012). Initially, 150 questionnaires were considered valid for LNC companies, while the sample of the second group accounted for 174 questionnaires. After a final revision, 24 non-LNC companies were discarded, as they were considered too large and outside the definition of an SME used in this thesis, their precise annual revenue not having been known beforehand. Finally, 300 companies (150 to each group) were used for statistical analysis.

5.4 Data analysis

This part of the thesis is dedicated to the analysis of the data and concepts necessary to purify the information, the evaluation of the quality of the measurements, and to testing the effect of the hypothetical research model. First of all, a descriptive analysis of the sample was carried out. Secondly, an evaluation of the statistical assumptions was made, together with an analysis of the quality of the measurement. The final step was testing the proposed theoretical model.

To enable all this statistical analysis, different software were used, in addition to the Microsoft Excel that served as the initial database containing all the answers provided for the 300 companies of the sample (the two groups). One of the software, SPSS 15, is an instrument that provides a wide variety of statistical methods for analysing data, and was used for the initial statistical analysis. SmartPLS 2.0, the second software used, is a tool for path modelling with latent variables, that uses the partial least squares (PLS) method, and was used to build, run, and validate the theoretical model.

5.4.1 Exploratory data analysis

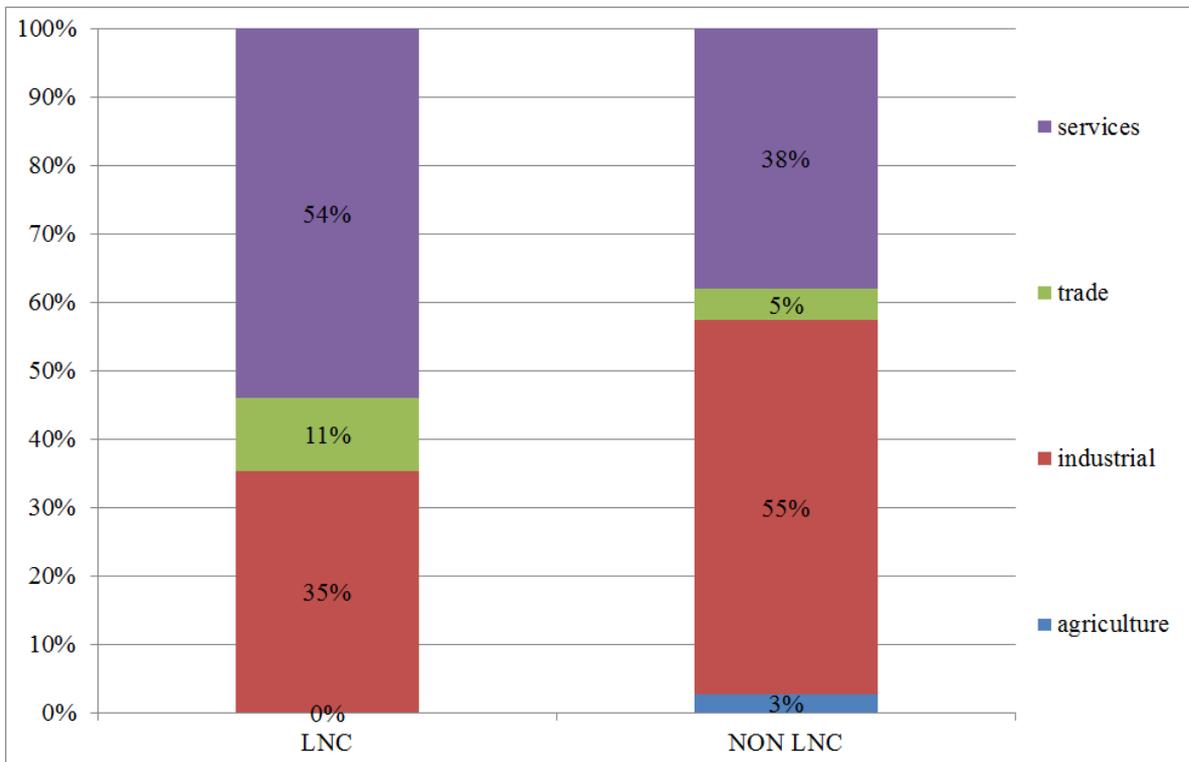
As suggested by Tabachnick and Fidell (2007), before starting the analysis and the tests of the hypotheses underlying this thesis, it is essential to check the quality of the data through a systematic evaluation of the assumptions of the multivariate techniques employed in the study. Therefore, we sought to identify, explain and remedy potential problems that could jeopardize the conclusions of this work (Hair *et al.*, 2010). It is noteworthy that, as suggested by Tabachnick and Fidell (2007), a disaggregated analysis was conducted during this phase, allowing comparison of the results in each of the groups (LNC and non-LNC). The procedures adopted in this stage can be seen in the subsection that follows.

Description of the sample

In this topic the analysis sample is described in outline and a comparison made of the profile of the sub-samples used in the study. The following charts characterize the 300 respondents who form the basis of the valid questionnaires used, and represent the first section of the questionnaire: I. IDENTIFICATION.

Profile of the respondent's companies

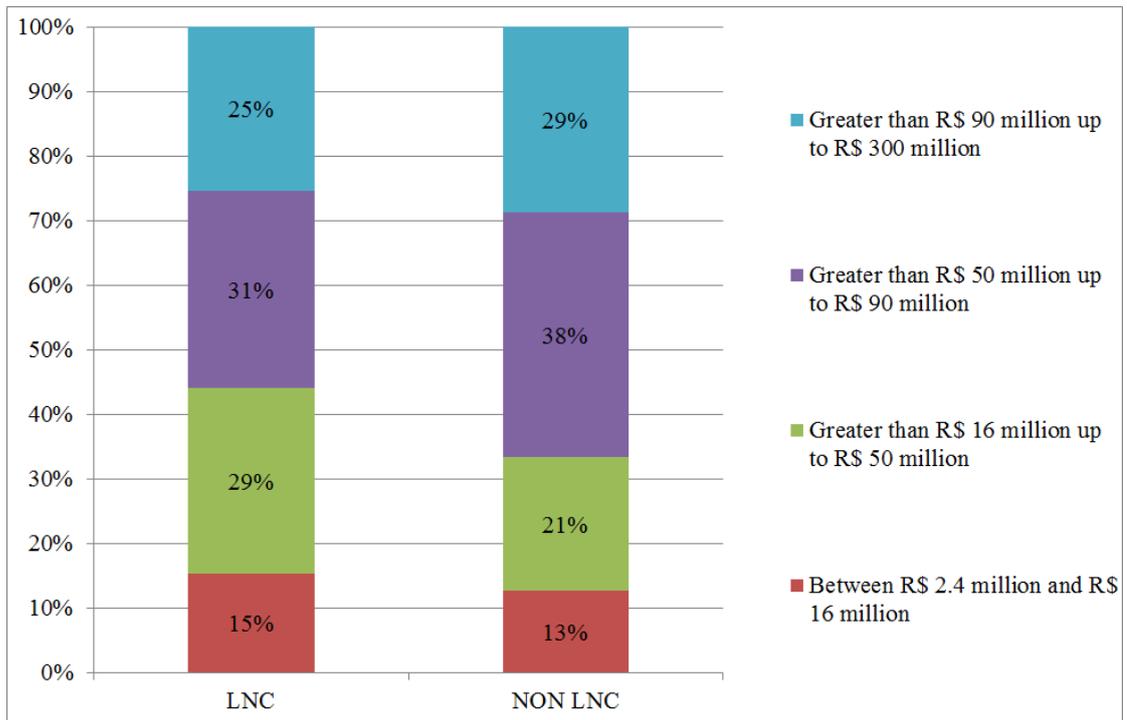
Figure 5.1 - Business sector



Source: Research data

PS: There are differences between the proportions of groups ($\chi^2=17.92$; $df=3$ $p < 0.01$). The differences between the percentages of “industrial” and “services” are significant, based on Z tests for proportions with 5% of significance and the Bonferroni correction.

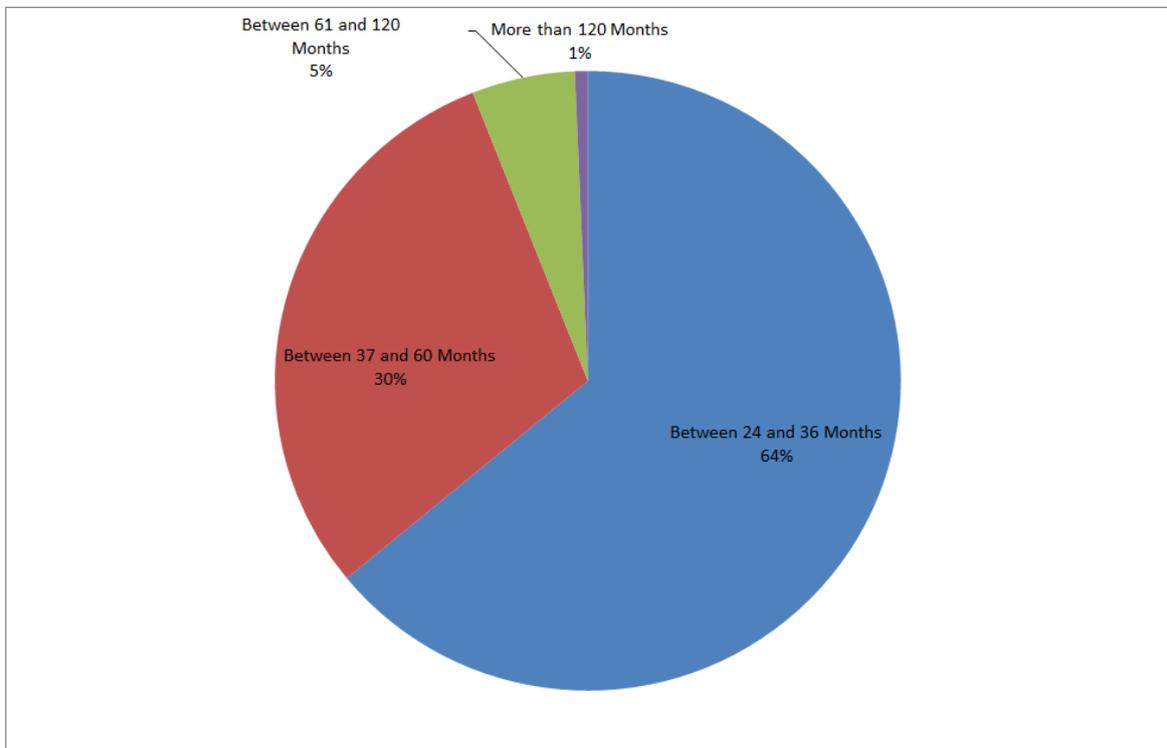
Figure 5.2 - Range of annual revenues of the company



Source: Research data

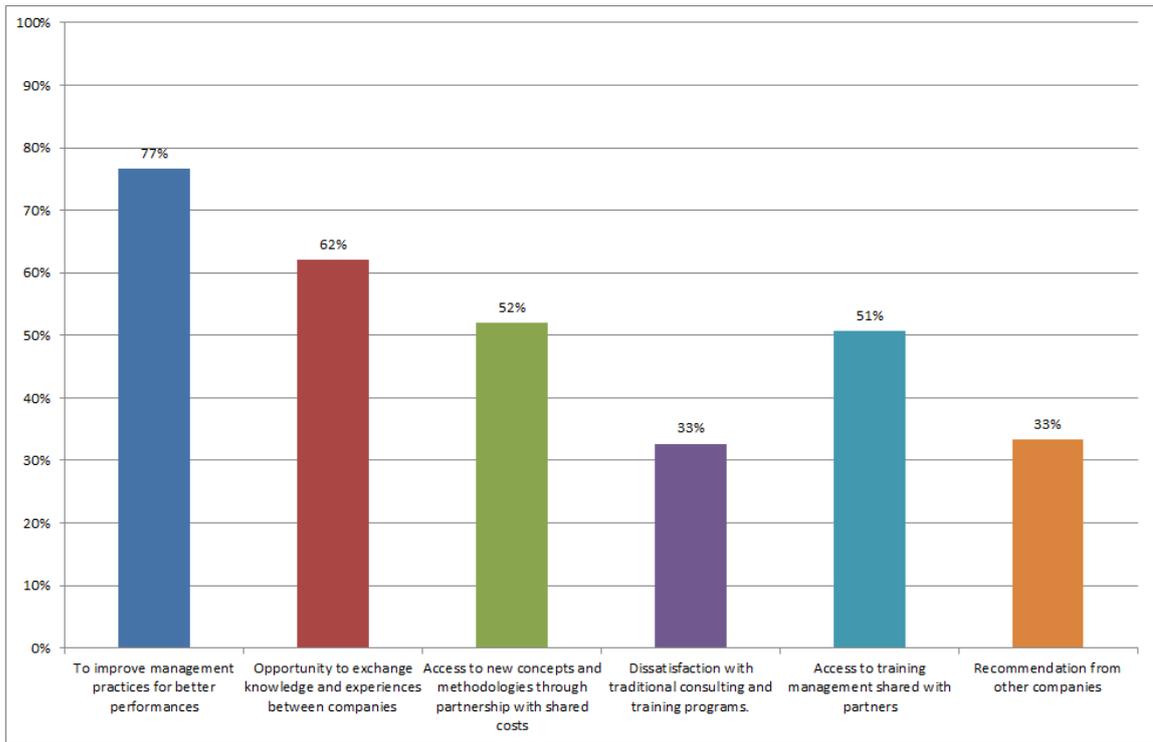
PS: There are no differences in the medians of the groups according to the test of Mann-Whitney ($Z=-1,462$; $p=0,144$).

Figure 5.3 - Length of participation in the LNC Programme



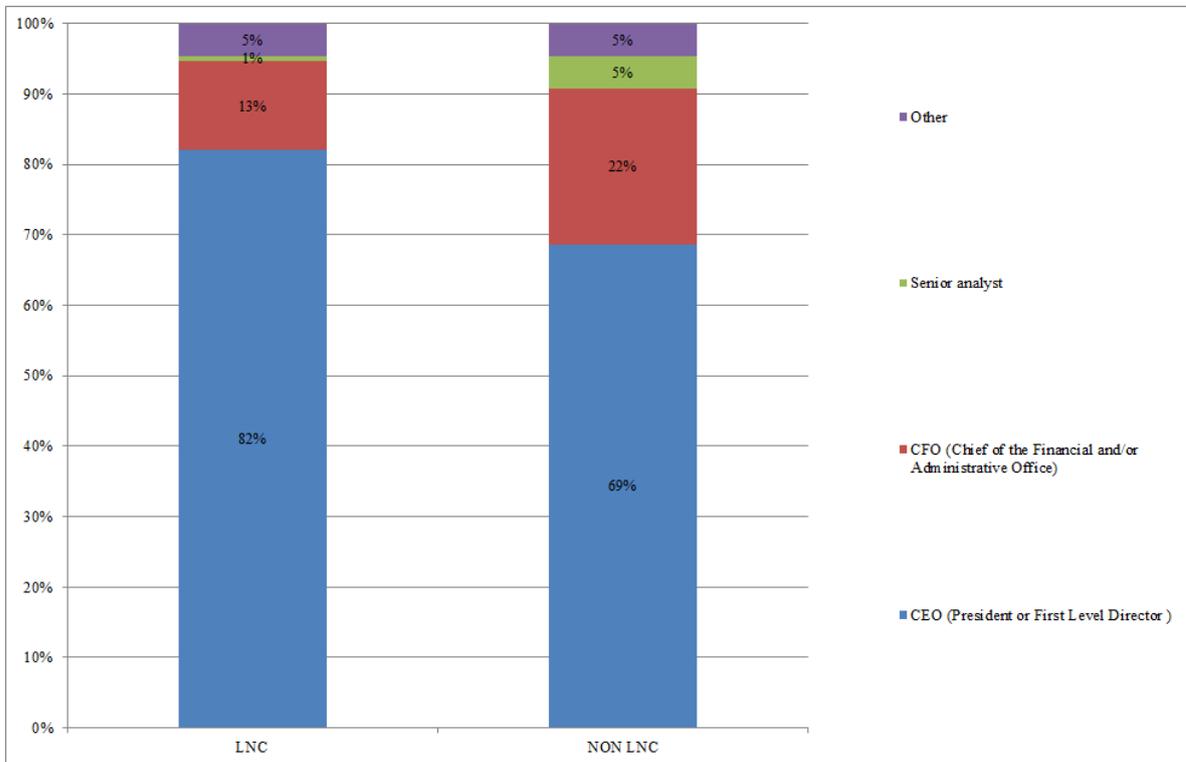
Source: Research data

Figure 5.4 - Reasons which led to participation in the LNC Programme



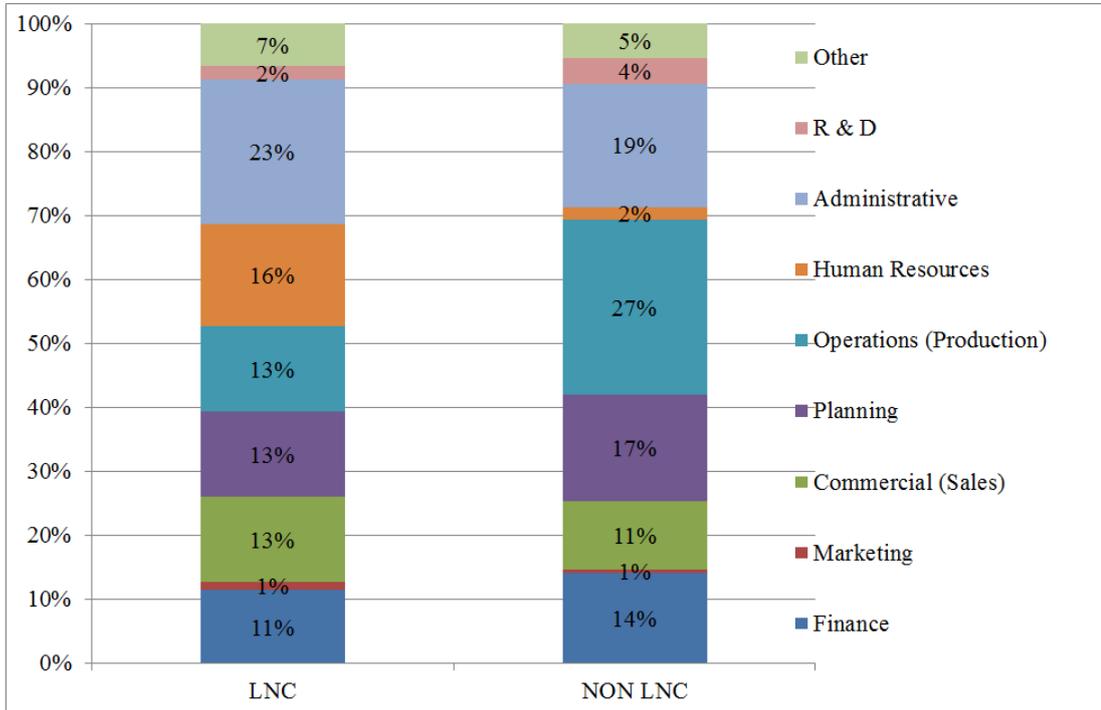
Source: Research data

Figure 5.5 - Profile by position held in the company



Source: Research data

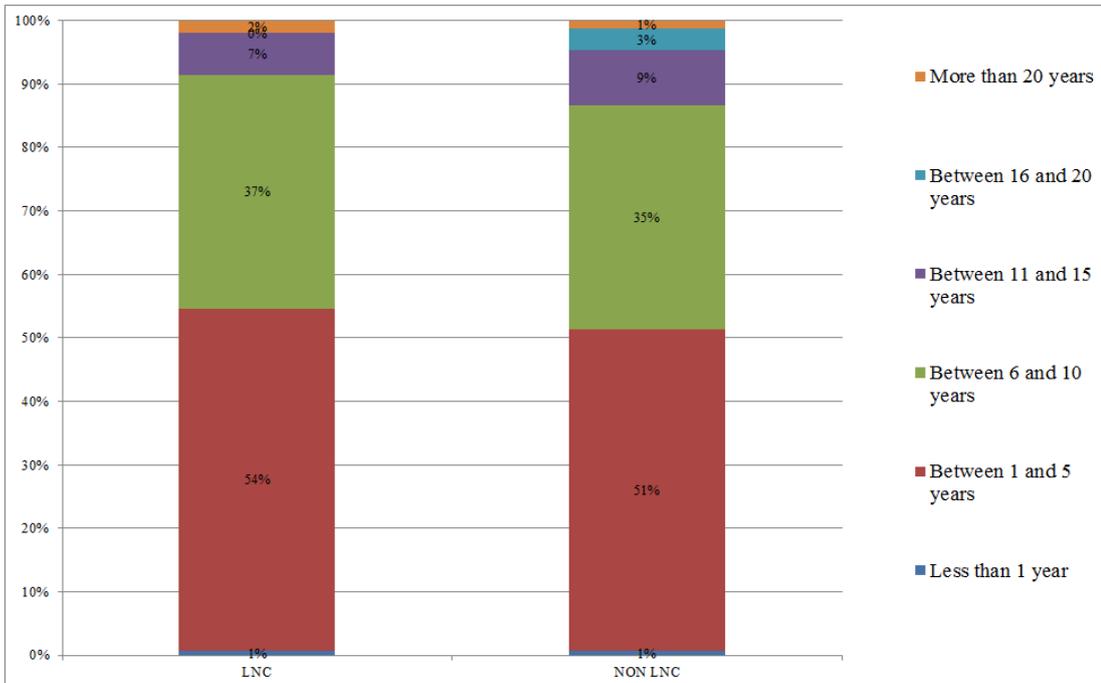
Figure 5.6 - Functional area of the respondent in the company



Source: Research data

PS: There are differences between the proportions of groups ($\chi^2= 26.94$; $df=8$ $p < 0.01$). The differences between the percentages of “production” and “HR” are significant, based on Z tests for proportions with 5% of significance and the Bonferroni correction.

Figure 5.7 – Number of years respondent working in company



Source: Research data

PS: There are no differences between the ranks of the groups (Mann-Whitney $Z= -0,867$; $p = 0.386$).

Descriptive analysis

The first procedure was to verify the basic statistics applied to the sample used in the study. The consolidated results for the comparative tables can be seen in the tables (Table 5.1 and Table 5.2) that follow:

Table 5.1 - Data descriptive analysis per Group

OBSERVED VARIABLES	GROUP								
	LNC			NON LNC			TOTAL		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
1.1	6.43	(0.87)	150	6.08	(1.20)	150	6.26	(1.06)	300
1.2	6.51	(0.77)	150	6.15	(1.18)	150	6.33	(1.01)	300
1.3	6.46	(0.83)	150	6.03	(1.12)	150	6.24	(1.01)	300
1.4	6.39	(0.83)	150	6.01	(1.16)	150	6.20	(1.03)	300
1.5	6.23	(0.91)	150	6.07	(1.24)	150	6.15	(1.09)	300
2.1	6.52	(0.79)	150	6.06	(1.08)	150	6.29	(0.97)	300
2.2	6.26	(0.94)	150	5.73	(1.30)	150	5.99	(1.17)	300
2.3	6.44	(0.87)	150	5.85	(1.10)	150	6.14	(1.04)	300
2.4	6.55	(0.69)	150	5.84	(1.22)	150	6.20	(1.05)	300
2.5	6.31	(0.99)	150	5.88	(1.24)	150	6.10	(1.14)	300
2.6	6.27	(1.04)	150	5.95	(1.29)	150	6.11	(1.18)	300
3.1	6.14	(1.05)	150	5.58	(1.27)	150	5.86	(1.20)	300
3.2	6.18	(0.91)	150	5.60	(1.23)	150	5.89	(1.11)	300
3.3	5.89	(1.11)	150	5.61	(1.31)	150	5.75	(1.22)	300
3.4	5.90	(1.35)	150	5.79	(1.35)	150	5.84	(1.35)	300
4.1	6.23	(1.03)	150	5.75	(1.31)	150	5.99	(1.20)	300
4.2	6.31	(0.98)	150	5.71	(1.20)	150	6.01	(1.14)	300
4.3	6.05	(0.94)	150	5.39	(1.29)	150	5.72	(1.18)	300
4.4	6.30	(0.90)	150	5.73	(1.46)	150	6.01	(1.24)	300
4.5	6.03	(1.37)	150	5.63	(1.39)	150	5.83	(1.39)	300
5.1	5.93	(1.19)	150	5.79	(1.42)	150	5.86	(1.31)	300
5.2	6.20	(1.10)	150	5.95	(1.39)	150	6.08	(1.26)	300
5.3	6.12	(0.93)	150	5.81	(1.36)	150	5.96	(1.17)	300

5.4	6.03	(1.16)	150	5.89	(1.37)	150	5.96	(1.27)	300
5.5	6.15	(1.17)	150	5.66	(1.46)	150	5.90	(1.35)	300
6.1	6.13	(1.11)	149	5.75	(1.36)	150	5.94	(1.26)	299
6.2	5.97	(1.24)	149	5.70	(1.45)	150	5.84	(1.35)	299
6.3	5.91	(0.98)	149	5.28	(1.74)	149	5.59	(1.44)	298
6.4	5.66	(1.29)	149	5.46	(1.52)	150	5.56	(1.41)	299
6.5	5.91	(1.32)	149	5.05	(1.48)	150	5.48	(1.46)	299
6.6	5.88	(1.32)	149	5.75	(1.33)	150	5.81	(1.33)	299
7.1	6.71	(0.54)	150	5.85	(1.34)	150	6.28	(1.11)	300
7.2	6.28	(1.20)	150	5.29	(1.83)	150	5.79	(1.62)	300
7.3	6.25	(1.21)	150	6.04	(1.12)	150	6.14	(1.17)	300
7.4	6.43	(1.14)	150	6.27	(1.10)	150	6.35	(1.13)	300
8.1	6.53	(0.95)	150	6.23	(1.14)	150	6.38	(1.06)	300
8.2	5.49	(1.18)	150	5.71	(1.28)	150	5.60	(1.23)	300
8.3	5.68	(1.23)	150	5.85	(1.27)	150	5.76	(1.25)	300
8.4	5.83	(1.34)	150	5.73	(1.33)	150	5.78	(1.33)	300
9.1	6.01	(1.30)	150	5.71	(1.45)	150	5.86	(1.39)	300
9.2	5.81	(1.39)	150	5.83	(1.37)	150	5.82	(1.38)	300
9.3	5.97	(1.36)	150	5.75	(1.32)	150	5.86	(1.34)	300
9.4	5.89	(1.30)	150	5.62	(1.25)	150	5.76	(1.28)	300
10.1	6.29	(1.05)	150	5.67	(1.34)	150	5.98	(1.24)	300
10.2	6.15	(1.04)	150	5.53	(1.41)	150	5.84	(1.28)	300
10.3	6.18	(1.12)	150	5.66	(1.33)	150	5.92	(1.25)	300
10.4	5.98	(0.99)	150	5.66	(1.27)	150	5.82	(1.15)	300
10.5	5.81	(1.11)	150	5.41	(1.42)	150	5.61	(1.29)	300
11.1	5.75	(1.22)	150	5.52	(1.46)	150	5.63	(1.35)	300
11.2	6.03	(1.16)	150	5.69	(1.36)	150	5.86	(1.27)	300
11.3	6.44	(0.99)	150	5.72	(1.34)	150	6.08	(1.23)	300
11.4	6.42	(1.18)	150	6.09	(1.32)	150	6.26	(1.26)	300
11.5	6.47	(0.97)	150	5.93	(1.38)	150	6.20	(1.22)	300
12.1	6.35	(0.78)	150	5.99	(1.33)	150	6.17	(1.10)	300
12.2	5.71	(1.22)	150	5.39	(1.43)	150	5.55	(1.33)	300

12.3	6.21	(0.95)	150	5.63	(1.40)	150	5.92	(1.23)	300
12.4	5.69	(1.29)	150	5.39	(1.47)	150	5.54	(1.39)	300
12.5	3.01	(1.75)	150	4.53	(2.09)	150	3.77	(2.07)	300
13.1	6.47	(0.73)	150	.	(.)	N=0	6.47	(0.73)	150
13.2	6.41	(0.86)	150	.	(.)	N=0	6.41	(0.86)	150
14.1	6.25	(0.83)	150	.	(.)	N=0	6.25	(0.83)	150
14.2	5.89	(1.13)	150	.	(.)	N=0	5.89	(1.13)	150
14.3	6.37	(0.79)	150	.	(.)	N=0	6.37	(0.79)	150
15.1	6.77	(0.48)	150	.	(.)	N=0	6.77	(0.48)	150
15.2	6.72	(0.51)	150	.	(.)	N=0	6.72	(0.51)	150
15.3	6.58	(0.66)	150	.	(.)	N=0	6.58	(0.66)	150
16.1	6.23	(0.87)	150	.	(.)	N=0	6.23	(0.87)	150
16.2	5.60	(0.84)	150	.	(.)	N=0	5.60	(0.84)	150
16.3	5.48	(0.96)	150	.	(.)	N=0	5.48	(0.96)	150
17.1	5.45	(1.23)	150	.	(.)	N=0	5.45	(1.23)	150
17.2	6.53	(0.75)	150	.	(.)	N=0	6.53	(0.75)	150
18.1	6.73	(0.58)	150	.	(.)	N=0	6.73	(0.58)	150
18.2	6.69	(0.60)	150	.	(.)	N=0	6.69	(0.60)	150
18.3	6.71	(0.59)	150	.	(.)	N=0	6.71	(0.59)	150
19.1	5.87	(0.94)	150	.	(.)	N=0	5.87	(0.94)	150
19.2	5.52	(1.06)	150	.	(.)	N=0	5.52	(1.06)	150
20.1	5.79	(0.81)	150	.	(.)	N=0	5.79	(0.81)	150
20.2	6.47	(0.69)	150	.	(.)	N=0	6.47	(0.69)	150
21.1	6.58	(0.63)	150	6.27	(0.91)	150	6.43	(0.80)	300
21.2	6.34	(0.89)	150	6.05	(1.05)	150	6.20	(0.98)	300
21.3	6.19	(1.05)	150	6.04	(1.18)	150	6.11	(1.11)	300
21.4	6.48	(0.65)	150	6.13	(1.00)	150	6.31	(0.86)	300
21.5	6.32	(0.94)	150	6.09	(1.06)	150	6.21	(1.01)	300
21.6	6.53	(0.78)	150	6.19	(1.03)	150	6.36	(0.93)	300
21.7	6.45	(0.89)	150	6.14	(1.07)	150	6.29	(0.99)	300

Source: Research data.

PS: OBSERVED VARIABLES correspond to each question of the questionnaire (85 indicators).

Initially, Table 5.1 describes the results of basic statistics applied in the samples of the two different groups. Simple arithmetic averages of each factor, using only the

indicators that were considered valid in both groups, were calculated. Results show that virtually all items of strategy formulation, implementation and global performance have higher averages in the LNC Group in relation to other companies (non-LNC Group). While the simple arithmetic average of the LNC Group was 6.14 (with 85 variables), the non-LNC Group presented a result equal to 5.77 (with 65 variables), in a Likert scale of 1 to 7. This shows a higher average performance of around 5.17% of the variables of the LNC Group. When considering the individual constructs, even higher differences in the averages, above 8%, were found (Strategy Conception: 8.36%; Strategic Performance Indicators: 8.32% and Strategic Learning: 8.00%).

Notwithstanding this fact, a note of caution in interpreting these initial statistics should be sounded, as one has to bear in mind that these data refer to a description obtained from non-experimental data. Thus, despite the observance of a correlation between the data, it is not possible to infer that participation in an LNC Programme effectively increases levels in the studied variables, meaning that the correlation cannot be taken for causality (Hair Jr. *et al.*, 2003).

Table 5.2 – Financial indicators per Group

ITEMS	GROUP								
	LNC			NON LNC			TOTAL		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
Net Operating Revenue (R\$ in 2005)	46478679.92	(99683629.35)	N=6	146853.67	(237003.46)	N=4	27945949.42	(78057122.82)	N=10
Net Operating Revenue (R\$ in 2006)	50948519.20	(112255235.00)	N=6	202638.27	(342130.21)	N=4	30650166.83	(87678000.99)	N=10
Net Operating Revenue (R\$ in 2007)	87741124.00	(141837699.96)	N=7	177503.88	(277136.90)	N=5	51256282.28	(114045891.77)	N=12
Net Operating Revenue (R\$ in 2008)	98925278.40	(161164450.41)	N=7	1541960.35	(3418601.47)	N=6	53979131.61	(124680040.17)	N=13
Net Operating Revenue (R\$ in 2009)	98744398.86	(161538778.49)	N=7	1387313.15	(2697043.34)	N=6	53810359.30	(124909154.30)	N=13
Net Operating Revenue (R\$ in 2010)	54878845.85	(112603505.46)	N=7	3199085.03	(6313684.61)	N=6	31026648.55	(84115664.75)	N=13
Net Profit (R\$ in 2005)	2465908.19	(5018532.14)	N=6	18329.91	(29657.49)	N=4	1486876.88	(3948396.27)	N=10
Net Profit (R\$ in 2006)	1885474.49	(3637043.88)	N=6	34191.49	(59671.63)	N=4	1144961.29	(2874727.43)	N=10
Net Profit (R\$ in 2007)	1135771.37	(2569990.74)	N=7	29505.39	(53262.59)	N=5	674827.21	(1981962.98)	N=12
Net Profit (R\$ in 2008)	1183633.33	(1449340.57)	N=7	108997.87	(190878.04)	N=6	687647.74	(1173198.14)	N=13
Net Profit (R\$ in 2009)	1490176.60	(1536762.06)	N=7	38579.74	(80786.77)	N=6	820208.82	(1323194.37)	N=13
Net Profit (R\$ in 2010)	3049211.34	(4147661.64)	N=7	198801.72	(340880.62)	N=6	1733637.67	(3292023.79)	N=13

Source: Research data

Missing data

There are no missing data when considering the variables under analysis and relevant within each group. The absence of missing data was due to the exhaustive work of the research assistant who, for nine months, upon receiving the completed questionnaires, and on the observation of missing data, obtained the information from the respondents through personal scheduled interviews by phone.

On the other hand, the financial performance data (SECTION V. KPIs - Key Performance indicators, of the final version of the questionnaire) are present in less than 7 of the 150 cases studied in each analysis group. This percentage makes any previous treatment to replace and use these data impractical, in accordance with the standards suggested by Hair Jr. *et al.* (2010) and also by Tabachnick and Fidell (2007). Therefore, throughout the analysis the emphasis was given to the global performance data (SECTION IV. Global Performance), that presented complete and relevant information to be statistically analysed.

Outliers

According to Hair Jr. *et al.* (2010), outliers are respondents with answers that deviate from the norm, both in terms of scores valued at the average, and in terms of their coherence. The authors affirm that the existence of a large number of outliers can affect the overall quality of the analysis. In order to identify univariate outliers, therefore, the criterion of the number of standard deviations from the mean was employed (Hair *et al.*, 2010). The univariate outliers were identified by the criterion of 2.58 standard deviations from the mean ($|Z| > 2.58$).

In the Group of LNC companies, 444 responses were observed (3.48% of a total base with 150 observations and 85 variables), characterized as univariate outliers, but their values were kept for comparison purposes, as suggested by Kline (2011).

On the other hand, in the Group of Non-LNC companies, 379 answers were detected (3.89% of a total base with 150 observations and 65 variables), and were also retained for comparison purposes. The detected multivariate outliers, based on the Mahalanobis distance (D^2), with degrees of freedom equal to the number of variables were also analyzed, finding, respectively,

3 and 5 multivariate outliers (Tabachnick and Fidell, 2007). After the retention of such cases in the sample, it was possible to observe that the changes in the model's results were basically a slight reduction in the R² value of the constructs, which did not significantly affect any of the hypotheses' tests carried out.

Normality test

The determination of the distribution of a statistical data set from field research is an important step in the statistical analyses as conducted in this study. It is important, therefore, to perform a distribution analysis in order to understand the dispersion of the investigated population, coupled with the fact that several other statistical methods are dependent on the distribution represented by the data set. The normal distribution is the most common and well-known and many other statistical methods depend on an assumption of normality.

So taking into account that the procedures employed have an assumed normality, this stage contemplates a test for normality through univariate and multivariate analysis of Z for Skewness³⁵ and Kurtosis. The results are shown in Table 5.3.

Table 5.3 – Skewness and Kurtosis analysis of the variables for both Groups

VARIABLES (Questions)	SKEWNESS						KURTOSIS					
	LNC		NON LNC		TOTAL		LNC		NON LNC		TOTAL	
	Stat.	Z	Stat.	Z	Stat.	Z	Stat.	Z	Stat.	Z	Stat.	Z
1.1	-1.01	-5.11	-0.86	-4.36	-0.29	-7.49	-0.37	-0.95	-0.37	-0.95	0.16	0.57
1.2	-1.18	-5.98	-0.89	-4.48	0.15	-8.02	-0.40	-1.01	-0.40	-1.01	0.26	0.93
1.3	-1.09	-5.49	-0.67	-3.39	-0.24	-6.62	-0.64	-1.64	-0.64	-1.64	-0.20	-0.70
1.4	-0.85	-4.29	-0.73	-3.67	-0.55	-6.32	-0.42	-1.07	-0.42	-1.07	-0.06	-0.22
1.5	-0.55	-2.76	-0.91	-4.60	-1.06	-6.25	-0.37	-0.95	-0.37	-0.95	-0.19	-0.69
2.1	-1.19	-6.02	-0.71	-3.61	0.25	-7.36	-0.51	-1.28	-0.51	-1.28	0.19	0.66
2.2	-0.62	-3.15	-0.70	-3.53	-0.99	-7.08	-0.40	-1.02	-0.40	-1.02	0.50	1.77
2.3	-1.02	-5.18	-0.41	-2.08	-0.19	-5.75	-0.94	-2.39	-0.94	-2.39	-0.37	-1.31
2.4	-1.15	-5.82	-0.97	-4.89	0.28	-9.97	0.36	0.91	0.36	0.91	1.85	6.58
2.5	-0.77	-3.87	-0.92	-4.65	-0.65	-8.60	0.14	0.35	0.14	0.35	1.24	4.42
2.6	-0.70	-3.52	-1.19	-6.03	-0.78	-9.79	0.66	1.68	0.66	1.68	1.80	6.40
3.1	-0.93	-4.67	-0.61	-3.06	0.01	-6.08	-0.50	-1.27	-0.50	-1.27	0.00	-0.01
3.2	-0.39	-1.96	-0.57	-2.88	-0.93	-6.23	-0.27	-0.68	-0.27	-0.68	0.59	2.11
3.3	-0.54	-2.71	-0.77	-3.89	-0.64	-5.36	0.05	0.12	0.05	0.12	0.10	0.36

³⁵ Z values are obtained by dividing its statistics by its standard errors. $Z = \text{skewness}/\sqrt{(6/N)}$; and $Z = \text{kurtosis}/\sqrt{(24/N)}$; where N is the sample size (Hair Jr. *et al.*, 2010, p. 81).

3.4	-1.21	-6.10	-1.09	-5.50	0.65	-8.07	0.56	1.42	0.56	1.42	0.56	1.99
4.1	-1.09	-5.50	-0.38	-1.92	0.17	-4.89	-0.83	-2.11	-0.83	-2.11	-0.59	-2.10
4.2	-0.80	-4.02	-0.19	-0.94	-0.88	-3.55	-0.91	-2.31	-0.91	-2.31	-0.90	-3.20
4.3	-0.54	-2.71	-0.50	-2.50	-0.78	-4.45	-0.20	-0.52	-0.20	-0.52	-0.08	-0.29
4.4	-0.69	-3.49	-1.05	-5.29	-0.81	-9.67	0.09	0.22	0.09	0.22	1.51	5.38
4.5	-1.03	-5.18	-0.81	-4.09	-0.11	-6.49	0.21	0.55	0.21	0.55	0.15	0.52
5.1	-0.90	-4.56	-0.97	-4.89	-0.11	-6.62	0.18	0.46	0.18	0.46	0.04	0.12
5.2	-1.10	-5.54	-0.79	-4.00	0.31	-6.64	-0.55	-1.39	-0.55	-1.39	-0.19	-0.69
5.3	-0.66	-3.33	-0.93	-4.70	-0.42	-6.94	0.13	0.33	0.13	0.33	0.52	1.86
5.4	-0.78	-3.94	-1.08	-5.47	-0.42	-7.40	0.26	0.66	0.26	0.66	0.37	1.30
5.5	-1.07	-5.39	-0.87	-4.37	0.28	-7.74	-0.26	-0.66	-0.26	-0.66	0.43	1.54
6.1	-0.93	-4.68	-0.94	-4.75	-0.41	-6.66	0.34	0.86	0.34	0.86	0.11	0.38
6.2	-0.96	-4.87	-0.83	-4.21	0.09	-6.24	-0.15	-0.39	-0.15	-0.39	-0.08	-0.27
6.3	-0.38	-1.91	-0.90	-4.53	-0.68	-8.58	0.06	0.14	0.06	0.14	1.51	5.36
6.4	-0.70	-3.52	-0.86	-4.35	-0.29	-5.97	-0.16	-0.40	-0.16	-0.40	-0.03	-0.11
6.5	-0.91	-4.61	-0.65	-3.30	-0.12	-4.99	-0.19	-0.48	-0.19	-0.48	-0.24	-0.86
6.6	-0.87	-4.40	-0.96	-4.83	0.13	-6.35	0.24	0.61	0.24	0.61	0.16	0.57
7.1	-1.19	-6.00	-0.92	-4.63	-0.60	-11.75	-0.02	-0.06	-0.02	-0.06	2.39	8.50
7.2	-1.49	-7.53	-0.99	-5.01	1.25	-10.73	-0.17	-0.43	-0.17	-0.43	1.58	5.63
7.3	-1.45	-7.33	-0.69	-3.50	1.09	-7.43	-0.56	-1.42	-0.56	-1.42	0.07	0.25
7.4	-1.43	-7.21	-1.22	-6.14	0.57	-10.05	0.25	0.63	0.25	0.63	0.93	3.29
8.1	-1.50	-7.57	-1.10	-5.57	0.52	-9.47	-0.05	-0.12	-0.05	-0.12	0.52	1.83
8.2	-0.42	-2.10	-0.66	-3.31	-0.54	-3.69	-0.43	-1.09	-0.43	-1.09	-0.54	-1.92
8.3	-0.97	-4.92	-0.86	-4.34	0.34	-6.38	-0.14	-0.35	-0.14	-0.35	0.08	0.28
8.4	-0.93	-4.71	-0.92	-4.63	-0.01	-6.49	0.06	0.15	0.06	0.15	0.00	-0.01
9.1	-1.07	-5.39	-0.95	-4.81	0.04	-7.09	0.03	0.08	0.03	0.08	0.03	0.09
9.2	-0.84	-4.23	-1.06	-5.36	-0.52	-6.65	0.47	1.19	0.47	1.19	-0.10	-0.36
9.3	-0.86	-4.33	-0.87	-4.40	-0.66	-5.93	0.05	0.14	0.05	0.14	-0.37	-1.32
9.4	-0.94	-4.74	-0.60	-3.05	0.01	-5.30	-0.18	-0.46	-0.18	-0.46	-0.19	-0.68
10.1	-1.23	-6.20	-0.89	-4.50	0.52	-7.86	0.09	0.22	0.09	0.22	0.58	2.06
10.2	-0.59	-2.97	-0.72	-3.63	-1.09	-5.74	-0.17	-0.42	-0.17	-0.42	0.08	0.27
10.3	-0.97	-4.91	-0.71	-3.59	-0.06	-6.17	0.09	0.23	0.09	0.23	0.20	0.72
10.4	-0.46	-2.32	-0.80	-4.02	-0.75	-5.25	0.37	0.93	0.37	0.93	0.30	1.05
10.5	-0.59	-2.97	-0.91	-4.61	-0.44	-7.14	0.39	0.99	0.39	0.99	0.95	3.38
11.1	-0.60	-3.02	-0.87	-4.39	-0.67	-5.54	0.04	0.10	0.04	0.10	-0.12	-0.42
11.2	-0.82	-4.14	-0.85	-4.30	-0.18	-6.62	0.19	0.48	0.19	0.48	0.42	1.49
11.3	-1.19	-6.03	-0.71	-3.59	0.08	-8.18	-0.13	-0.33	-0.13	-0.33	0.88	3.12
11.4	-1.39	-7.04	-1.02	-5.13	0.40	-8.94	-0.08	-0.21	-0.08	-0.21	0.52	1.84
11.5	-1.33	-6.71	-1.05	-5.32	0.29	-10.26	0.22	0.56	0.22	0.56	1.57	5.59
12.1	-0.71	-3.59	-1.17	-5.93	-0.80	-9.62	0.48	1.21	0.48	1.21	1.55	5.53
12.2	-0.82	-4.13	-0.56	-2.82	0.18	-5.11	-0.49	-1.25	-0.49	-1.25	-0.14	-0.50
12.3	-0.73	-3.71	-0.80	-4.02	-0.66	-6.78	-0.14	-0.37	-0.14	-0.37	0.37	1.30
12.4	-0.73	-3.67	-0.74	-3.75	-0.25	-5.55	-0.03	-0.07	-0.03	-0.07	0.04	0.15
12.5	0.55	2.79	-0.34	-1.70	-1.02	1.16	-1.28	-3.25	-1.28	-3.25	-1.38	-4.92
13.1	-0.83	-4.21	---	---	-0.29	-4.21	---	---	---	---	-0.29	-0.73
13.2	-0.95	-4.80	---	---	-0.46	-4.80	---	---	---	---	-0.46	-1.15
14.1	-0.53	-2.67	---	---	-1.06	-2.68	---	---	---	---	-1.06	-2.69
14.2	-0.70	-3.54	---	---	-0.40	-3.55	---	---	---	---	-0.40	-1.02
14.3	-0.75	-3.79	---	---	-0.59	-3.79	---	---	---	---	-0.59	-1.51
15.1	-1.41	-7.14	---	---	0.00	-7.14	---	---	---	---	0.00	-0.01
15.2	-1.11	-5.58	---	---	-0.79	-5.58	---	---	---	---	-0.79	-2.00
15.3	-1.28	-6.46	---	---	0.49	-6.46	---	---	---	---	0.49	1.25
16.1	-0.58	-2.95	---	---	-1.09	-2.94	---	---	---	---	-1.10	-2.78
16.2	0.26	1.31	---	---	-0.73	1.30	---	---	---	---	-0.73	-1.85

16.3	0.06	0.29	---	---	-0.93	0.29	---	---	---	---	-0.93	-2.36
17.1	-0.33	-1.67	---	---	-0.85	-1.67	---	---	---	---	-0.85	-2.15
17.2	-0.59	-2.98	---	---	-1.68	-2.97	---	---	---	---	-1.68	-4.25
18.1	-1.41	-7.14	---	---	0.00	-7.14	---	---	---	---	0.00	-0.01
18.2	-1.23	-6.21	---	---	-0.49	-6.21	---	---	---	---	-0.49	-1.25
18.3	-1.27	-6.43	---	---	-0.38	-6.43	---	---	---	---	-0.38	-0.97
19.1	-0.33	-1.65	---	---	-0.89	-1.65	---	---	---	---	-0.89	-2.27
19.2	-0.11	-0.55	---	---	-0.87	-0.55	---	---	---	---	-0.87	-2.20
20.1	-0.21	-1.07	---	---	-0.45	-1.07	---	---	---	---	-0.45	-1.13
20.2	-0.86	-4.36	---	---	-0.28	-4.36	---	---	---	---	-0.28	-0.71
21.1	-1.22	-6.15	-0.62	-3.11	0.39	-6.38	-1.03	-2.61	-1.03	-2.61	-0.50	-1.77
21.2	-0.73	-3.68	-0.74	-3.72	-0.65	-6.27	-0.48	-1.21	-0.48	-1.21	-0.03	-0.11
21.3	-0.96	-4.85	-0.78	-3.96	-0.07	-6.15	-0.43	-1.10	-0.43	-1.10	-0.28	-1.00
21.4	-0.73	-3.70	-0.86	-4.35	-0.42	-7.18	0.11	0.29	0.11	0.29	0.69	2.47
21.5	-1.27	-6.39	-0.90	-4.56	0.54	-7.54	-0.20	-0.51	-0.20	-0.51	0.07	0.26
21.6	-1.25	-6.31	-0.98	-4.96	0.37	-8.54	0.15	0.38	0.15	0.38	0.74	2.62
21.7	-1.12	-5.68	-0.97	-4.89	-0.01	-8.21	0.03	0.07	0.03	0.07	0.56	2.00

Source: Research data

Observing the distribution of the variables in both groups and assuming a conservative level (standard) of significance for tests of skewness and kurtosis ($|Z|>2.58$) (1% significance level), 75 and 8 variables with skewness and kurtosis different from 0 (zero) in the LNC Group could be identified; and 60 and 2 variables in the Non-LNC Group. In other words, there were significant deviations from normality in almost all variables. Even taking into account the suggested limits for normal parameters (± 1 , for both skewness and kurtosis) by Muthén and Kaplan (1985), it was also possible to identify threatening deviations from normality in some variables (Muthén and Kaplan, 1992). Global deviations from normality for all variables and groups were also found, as demonstrated in Table 5.4, using the normality tests of Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW).

Table 5.4 – Normality test of the variables for both Groups

Variables	LNC				NON LNC				TOTAL			
	K-S		S-W		K-S		S-W		K-S		S-W	
	EST.	SIG.	EST.	SIG.	EST.	SIG.	EST.	SIG.	EST.	SIG.	EST.	SIG.
1.1	0.37	0.00	0.70	0.00	0.29	0.00	0.79	0.00	0.33	0.00	0.75	0.00
1.2	0.40	0.00	0.67	0.00	0.31	0.00	0.77	0.00	0.35	0.00	0.73	0.00
1.3	0.39	0.00	0.68	0.00	0.26	0.00	0.82	0.00	0.32	0.00	0.76	0.00
1.4	0.35	0.00	0.73	0.00	0.24	0.00	0.82	0.00	0.29	0.00	0.78	0.00
1.5	0.30	0.00	0.77	0.00	0.29	0.00	0.78	0.00	0.29	0.00	0.79	0.00
2.1	0.40	0.00	0.67	0.00	0.26	0.00	0.82	0.00	0.32	0.00	0.75	0.00
2.2	0.31	0.00	0.76	0.00	0.22	0.00	0.85	0.00	0.25	0.00	0.81	0.00
2.3	0.37	0.00	0.70	0.00	0.21	0.00	0.85	0.00	0.29	0.00	0.79	0.00
2.4	0.40	0.00	0.67	0.00	0.24	0.00	0.83	0.00	0.28	0.00	0.76	0.00

2.5	0.33	0.00	0.74	0.00	0.24	0.00	0.82	0.00	0.27	0.00	0.78	0.00
2.6	0.32	0.00	0.75	0.00	0.24	0.00	0.79	0.00	0.27	0.00	0.76	0.00
3.1	0.27	0.00	0.79	0.00	0.21	0.00	0.88	0.00	0.23	0.00	0.84	0.00
3.2	0.26	0.00	0.79	0.00	0.18	0.00	0.88	0.00	0.23	0.00	0.84	0.00
3.3	0.23	0.00	0.85	0.00	0.22	0.00	0.86	0.00	0.23	0.00	0.86	0.00
3.4	0.27	0.00	0.78	0.00	0.26	0.00	0.81	0.00	0.26	0.00	0.80	0.00
4.1	0.31	0.00	0.75	0.00	0.21	0.00	0.86	0.00	0.25	0.00	0.82	0.00
4.2	0.35	0.00	0.72	0.00	0.20	0.00	0.86	0.00	0.26	0.00	0.82	0.00
4.3	0.25	0.00	0.83	0.00	0.20	0.00	0.88	0.00	0.19	0.00	0.87	0.00
4.4	0.32	0.00	0.75	0.00	0.27	0.00	0.80	0.00	0.25	0.00	0.77	0.00
4.5	0.28	0.00	0.76	0.00	0.20	0.00	0.85	0.00	0.22	0.00	0.83	0.00
5.1	0.24	0.00	0.82	0.00	0.22	0.00	0.82	0.00	0.23	0.00	0.82	0.00
5.2	0.30	0.00	0.76	0.00	0.27	0.00	0.80	0.00	0.29	0.00	0.78	0.00
5.3	0.25	0.00	0.82	0.00	0.22	0.00	0.83	0.00	0.22	0.00	0.82	0.00
5.4	0.25	0.00	0.81	0.00	0.25	0.00	0.79	0.00	0.25	0.00	0.81	0.00
5.5	0.29	0.00	0.77	0.00	0.24	0.00	0.83	0.00	0.24	0.00	0.80	0.00
6.1	0.30	0.00	0.77	0.00	0.22	0.00	0.83	0.00	0.25	0.00	0.83	0.00
6.2	0.25	0.00	0.81	0.00	0.21	0.00	0.84	0.00	0.23	0.00	0.83	0.00
6.3	0.21	0.00	0.87	0.00	0.19	0.00	0.87	0.00	0.22	0.00	0.85	0.00
6.4	0.21	0.00	0.87	0.00	0.23	0.00	0.86	0.00	0.22	0.00	0.87	0.00
6.5	0.26	0.00	0.81	0.00	0.21	0.00	0.90	0.00	0.20	0.00	0.88	0.00
6.6	0.24	0.00	0.83	0.00	0.24	0.00	0.83	0.00	0.22	0.00	0.84	0.00
7.1	0.47	0.00	0.54	0.00	0.25	0.00	0.82	0.00	0.34	0.00	0.70	0.00
7.2	0.34	0.00	0.68	0.00	0.24	0.00	0.83	0.00	0.27	0.00	0.75	0.00
7.3	0.33	0.00	0.68	0.00	0.26	0.00	0.82	0.00	0.29	0.00	0.76	0.00
7.4	0.43	0.00	0.61	0.00	0.36	0.00	0.71	0.00	0.39	0.00	0.67	0.00
8.1	0.46	0.00	0.56	0.00	0.35	0.00	0.73	0.00	0.40	0.00	0.66	0.00
8.2	0.18	0.00	0.89	0.00	0.21	0.00	0.85	0.00	0.18	0.00	0.88	0.00
8.3	0.25	0.00	0.83	0.00	0.24	0.00	0.82	0.00	0.22	0.00	0.84	0.00
8.4	0.25	0.00	0.80	0.00	0.24	0.00	0.84	0.00	0.21	0.00	0.82	0.00
9.1	0.30	0.00	0.77	0.00	0.23	0.00	0.82	0.00	0.25	0.00	0.80	0.00
9.2	0.24	0.00	0.81	0.00	0.24	0.00	0.82	0.00	0.24	0.00	0.82	0.00
9.3	0.33	0.00	0.76	0.00	0.22	0.00	0.84	0.00	0.26	0.00	0.82	0.00
9.4	0.24	0.00	0.82	0.00	0.19	0.00	0.87	0.00	0.20	0.00	0.85	0.00
10.1	0.34	0.00	0.73	0.00	0.24	0.00	0.84	0.00	0.24	0.00	0.80	0.00
10.2	0.32	0.00	0.77	0.00	0.22	0.00	0.86	0.00	0.22	0.00	0.83	0.00
10.3	0.30	0.00	0.77	0.00	0.19	0.00	0.86	0.00	0.23	0.00	0.83	0.00
10.4	0.22	0.00	0.84	0.00	0.21	0.00	0.85	0.00	0.21	0.00	0.85	0.00
10.5	0.27	0.00	0.84	0.00	0.21	0.00	0.86	0.00	0.24	0.00	0.86	0.00
11.1	0.22	0.00	0.85	0.00	0.20	0.00	0.86	0.00	0.19	0.00	0.86	0.00
11.2	0.24	0.00	0.81	0.00	0.21	0.00	0.84	0.00	0.23	0.00	0.84	0.00
11.3	0.40	0.00	0.66	0.00	0.21	0.00	0.84	0.00	0.30	0.00	0.77	0.00
11.4	0.43	0.00	0.60	0.00	0.30	0.00	0.76	0.00	0.37	0.00	0.70	0.00
11.5	0.42	0.00	0.63	0.00	0.28	0.00	0.78	0.00	0.34	0.00	0.71	0.00
12.1	0.33	0.00	0.75	0.00	0.27	0.00	0.78	0.00	0.29	0.00	0.76	0.00
12.2	0.24	0.00	0.86	0.00	0.17	0.00	0.89	0.00	0.21	0.00	0.88	0.00

12.3	0.31	0.00	0.78	0.00	0.22	0.00	0.85	0.00	0.23	0.00	0.82	0.00
12.4	0.23	0.00	0.86	0.00	0.18	0.00	0.88	0.00	0.21	0.00	0.88	0.00
12.5	0.22	0.00	0.87	0.00	0.17	0.00	0.88	0.00	0.18	0.00	0.90	0.00
13.1	0.36	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.71	0.00
13.2	0.37	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.71	0.00
14.1	0.29	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.77	0.00
14.2	0.24	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.84	0.00
14.3	0.33	0.00	0.74	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.74	0.00
15.1	0.48	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.50	0.00
15.2	0.46	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.55	0.00
15.3	0.41	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.65	0.00
16.1	0.31	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.77	0.00
16.2	0.27	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.85	0.00
16.3	0.21	0.00	0.88	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.88	0.00
17.1	0.17	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.89	0.00
17.2	0.41	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.61	0.00
18.1	0.48	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.50	0.00
18.2	0.47	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.53	0.00
18.3	0.48	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.52	0.00
19.1	0.20	0.00	0.86	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.86	0.00
19.2	0.19	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.89	0.00
20.1	0.26	0.00	0.86	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.86	0.00
20.2	0.36	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.71	0.00
21.1	0.40	0.00	0.66	0.00	0.31	0.00	0.76	0.00	0.36	0.00	0.72	0.00
21.2	0.33	0.00	0.75	0.00	0.25	0.00	0.82	0.00	0.28	0.00	0.79	0.00
21.3	0.30	0.00	0.78	0.00	0.26	0.00	0.81	0.00	0.28	0.00	0.79	0.00
21.4	0.35	0.00	0.71	0.00	0.25	0.00	0.80	0.00	0.29	0.00	0.77	0.00
21.5	0.34	0.00	0.72	0.00	0.26	0.00	0.79	0.00	0.30	0.00	0.76	0.00
21.6	0.40	0.00	0.66	0.00	0.28	0.00	0.78	0.00	0.34	0.00	0.73	0.00
21.7	0.39	0.00	0.68	0.00	0.27	0.00	0.79	0.00	0.33	0.00	0.74	0.00

Source: Research data

PS: The table presents the normality tests of Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW).

Considering that a robust analysis technique to deal with deviations from normality was employed, capable of working with smaller samples, such deviations did not appear as threats to the study's findings. In this case, the estimation method of PLS - Partial Least Squares (Haenlein and Kaplan, 2004) was used in further analysis of this study.

Linearity Analysis

Considering that most of the multivariate techniques used in this study are based on the Pearson correlation coefficient, it is necessary to make an implicit assumption that there is a linear relationship between the indicators that comprise the scales designed in this study (Hair Jr. *et al.*, 2010). In this sense, it becomes imperative to check whether a linear fit between variables is an appropriate measure of association between them (Norusis, 1999). For this purpose, the correlation matrix between the data was evaluated, in order to show the extent and magnitude of the correlation coefficients between the variables. Initially, 2,737 significant correlations were identified in the LNC Group (76.67% of the base, with 3,570 non-redundant elements = $85 \times 84 / 2$), besides 1,676 significant correlations also identified in the non-LNC Group (80.57% of the base, with 2,080 non-redundant elements = $65 \times 64 / 2$), given a significance level of 5% and two-tailed *t* tests. The average absolute (ignoring the sign) correlation in the LNC Group was of 0.300 and of 0.296 in non-LNC Group, values that demonstrate moderate correlations between variables (Pestana and Gageiro, 2005).

Multicollinearity Analysis

Although a moderate degree of correlation is desirable in scales, strong correlations can represent threats, since they may contain biases that artificially inflate the correlations within and between indicators of constructs, overestimating the reliability and jeopardizing the validity of the study (Meade *et al.*, 2007; Podsakoff *et al.*, 2003). This means that a high level of correlation between the variables can be harmful as it can be representing redundancy or common methods errors (Common Method Bias) in the measurement.

Normally, this fact is related to problems of multicollinearity in the data, which can be especially harmful when highly correlated independent variables are used in predictive models, making it impractical to define the isolated effect of the variables under analysis (Tabachnick and Fidell, 2007).

In bivariate analysis, a correlation coefficient not within the limits of ± 0.90 can represent a suspicious degree of collinearity (Kline, 2011). In both samples, this problem was minimal

and focused on indicators of the same construct. In the LNC Group, the correlations of all indicators of "Strategic Relevance" (factor or category 18) were above the limit of 0.90 and the correlation between variables 21.6 and 21.7 exceeded the previous limits in both groups.

Since these are considered isolated problems within the same construct, with estimates very close to the suggested levels, the analysis indicates that this represents no threat to subsequent analyses. The decision was therefore made to keep all the indicators in order to determine the expression of the collinearity problem as a whole.

Thus, to assess the presence of multicollinearity on the scale as a whole, the VIF (Variance Inflation Factor) measurements were employed, considering the adjusted R^2 value for the variables, since the number of variables can be considered significant in view of the size of the sample used (85 variables to the LNC Group and 65 to the non-LNC Group, for a sample of 300 companies for both groups). The results show that there is a high multicollinearity between the indicators of the same constructs in the LNC Group. Several VIF measures were above the suggested limits of 10 (Kline, 2011), especially those relating to the evaluation of the "Learning Network Elements" construct. Notably, as will be shown below, the correlations between different constructs are at acceptable levels, which do not threaten the discriminant validity of scales (Netemeyer *et al.*, 2003). Given this scenario, it is therefore accepted that the degree of multicollinearity does not represent a violation of the quality of the data obtained.

5.5 Analysis of the quality of the measurement

When designing a survey instrument, it is necessary to make an effort to check the overall consistency of the underlying theory, the empirical operationalization of the questions, as well as the interpretation of respondents in specific publics, in the search for evidence of reliability and validity of measurement (Nunnally and Bernstein, 1994; Malhotra, 2001; Netemeyer *et al.*, 2003). Whether the questionnaire developed to test the model gave effective results, meaning whether the instrument was valid from a scientific point of view, was, therefore, a point analysed. Procedures relative to this stage can be seen in the topics that follow and comprise the analysis of dimensionality, reliability and validity of measurements.

5.5.1 Analysis of the dimensionality

Unidimensionality is a term that reflects the degree to which a set of variables can be assigned to a single common cause or latent construct (Netemeyer *et al.*, 2003). For a set of indicators to be unidimensional, therefore, it should share only a common cause, meaning that the observed correlations between these variables must be assigned to a single latent factor. Thus, the dimensionality is achieved when the correlation matrix is relatively homogeneous and can be represented by only one form factor.

The Exploratory Factor Analysis (EFA), by the extraction method of PCA (Principal Component Analysis), has been suggested as a means to ascertain the dimensionality of each scale (Anderson and Gerbing, 1988; Dunn *et al.*, 1994). According to the criteria suggested by the authors, one should retain the factors that explain the variance of at least one variable, that is, the factors extracted with *eigenvalues* superior to 1 must be kept, which is known as the Kaiser criterion (Mingoti, 2005). In this case, the number of extracted factors corresponds to the number of latent dimensions of the data set.

To evaluate the overall quality of the factor solutions, the Kaiser-Meyer-Olkin measure (KMO) was applied, which represents the sampling adequacy and the data variability attributed to common factors, and the Explained Variance. The KMO measure may be considered adequate when it indicates that over 70% of data variability can be attributed to common factors (Mingoti, 2005). Further, with respect to the explained variance, the criterion of adherence proposed by Hair Jr. *et al.* (2010) was adopted, in which a percentage above 60% is considered good, and results greater than 50% acceptable.

Based on these criteria, the dimensionality of each scale separately was evaluated, and also by group (LNC and non-LNC). The reason for this is that the number of variables in the analysis would require a sample size beyond that obtained in the study. If we take the criterion of 05 (five) observations in the sample for each variable used in the factor analysis (Hair Jr. *et al.*, 2010), more than 325 observations for the non-LNC Group and 425 for the LNC Group would be needed.

Moreover, it is arguable that different scales naturally have a high degree of correlation, some of which can even be considered as part of a process of causal relationships. This implies that

high correlations between scales are to be expected, even if this does not determine the existence of a single or a few common factors. So combined, these elements determine that the application of a single EFA, to assess the dimensionality of the scale as a whole, becomes inappropriate to the objectives of this study.

In this way, it was necessary to proceed to the EFA for each group of variables separately, also taking into account the differences between the LNC and non-LNC Groups. After this analysis, the indicators 6.6 and 12.5 were excluded in order to determine the unidimensionality of each scale designed. The results of the factor analyses of these groups are presented in greater detail, as follows.

Table 5.5 – Explanatory Factor Analysis (EFA) of variables of block 06

INDICATORS	LNC		NON LNC		
	FACTOR 1	COMMUNALITIES	FACTOR 1	FACTOR 2	COMMUNALITIES
6.1	0.76	0.58	0.64		0.64
6.2	0.89	0.78	0.83		0.79
6.3	0.69	0.47	0.90		0.78
6.4	0.80	0.64	0.88		0.76
6.5	0.80	0.63	0.58		0.51
6.6	0.77	0.60		0.93	0.88
Auto Value	3.71		3.33	1.03	
Variance Explained	61.79%		55.48%	17.08%	

Source: Extracted data

PS: the KMO measures were 0.835 (LNC) and 0.775 (Non-LNC).

It can be seen that, in the LNC Group, there was a second factor that loaded only the variable 6.6, leading to the need for exclusion of this variable to keep a solution with only one factor in both groups. In the case of variable 12.5, it was observed that, in both groups, it loaded in the second factor, besides the fact that it is also one of the variables with lower communalities. Therefore, in order to maintain a unidimensional solution, the exclusion of this variable was also a natural choice.

Table 5.6 - Component Matrix(a,b) - LNC

	Component	
	1	2
Q12.2	.804	
Q12.3	.754	
Q12.1	.721	-.502
Q12.4	.670	.649
Q12.5		.763

Extraction Method: Principal Component Analysis.

a 2 components extracted.

b GROUP = LNC

Table 5.7 - Component Matrix(a,b) – Non-LNC

	Component	
	1	2
Q12.2	.880	
Q12.4	.836	
Q12.3	.798	
Q12.5	.678	-.583
Q12.1	.547	.773

Extraction Method: Principal Component Analysis.

a 2 components extracted.

b GROUP = NON LNC

In both tables listed above, it was observed that the indicator 12.5 loaded on the second factor. When testing different situations of variables exclusion, it was found that by eliminating this indicator it was possible to find a stable solution with only one dimension. What can be inferred is that, since the question that refers to the indicator 12.5 is related to non-financial types of remuneration, whose interpretation can be wide when considering different organisations with different cultures and unique managerial models, its interpretation can be ambiguous or context-dependent, and may have defined the reasons for its detachment from the other questions.

Finally, most probably the questions that loaded on the second factor are those related to indicators that show greater complexity in understanding or were considered ambiguous by the respondents. This is especially apparent due to the absence of groups of questions in the second factor analysis, determining an isolation of the excluded variables, when compared to the others.

5.5.2 Reliability analysis and measurement quality

When evaluating the reliability of a scale, an effort is made to identify the extent to which measurements are free from random errors (Hair Jr., Bush, and Ortinau, 2003; Malhotra, 2001; Cooper and Schindler, 2011). Also, according to Nunnally and Bernstein (1994), the reliability can be understood as the correlation between the scale and the true score of the measure. In studies of consumer behaviour, as well as in the majority of social sciences, the *Cronbach's Alpha Coefficient* is normally used as a measure for assessing the reliability of scales or a reliability estimator for composite measures with multiple components. It can be said that, for most investigators or researchers, the *Cronbach's Alpha* can be considered the universal reliability coefficient recommended for the analysis of a metric scale, regardless of its characteristics, with the exception of those researchers engaged in psychometric studies. (Maroco and Garcia-Marques, 2006).

Notwithstanding its omnipresent use due to its flexibility (Osburn, 2000), different researchers have realized that a coefficient of internal consistency reliability, such as the *Cronbach's Alpha*, based on a single administration of a test, may magnify reliability, as such coefficients can present transient errors due to possible different situations in test administration, temporary changes in the respondent, and so on (Guion, 1965; Hunter and Schmidt, 1996), meaning that there is no evaluation of the temporal stability of the constructs (Netemeyer *et al.*, 2003). Besides that, if the errors made when answering the questionnaire are positively correlated, the alpha coefficient may be inflated (Komaroff, 1997).

Therefore, even though coefficient alpha is extensively employed in practical work, in an attempt to reduce the underestimation of reliability, more than one reliability test was adopted in this study, as proposed by Maroco and Garcia-Marques (2006). Besides the *Cronbach's Alpha* (ALPHA), the other reliability measures used were the Average Variance Extracted (AVE) and Composite Reliability (CR).

Regarding the ALPHA, usually, values above 0.8 (80%) are suggested as a suitable limit of the scale or consistency reliability criterion (Netemeyer *et al.*, 2003), realizing, however, that the redundancy of the items may indicate high values for the alpha coefficient, without representing a real increase in the reliability of the scales (Nunnally and Bernstein, 1994). On

the other hand, in applications in which the scale is created specifically for a new study, values around 70% or even a minimum of 60% are acceptable (Malhotra, 2001).

The AVE is the arithmetic mean of the reliability of the indicators (Kline, 2011), meaning that it represents the average reliability of the indicators of a construct. Scholars suggest that this measure should be greater than 0.50 (Fornell and Larcker, 1981; Chin, 1998), although values of 0.40 and above are accepted (Bollen, 1989).

The CR measure is an alternative to Cronbach's alpha, as it is considered more robust to restrictions on the homogeneity and number of items in the scale (Cortina, 1993). Similarly, it is a more robust measure with respect to the assumption of equal weights for a factor structure (Schmitt, 1996). As a measure of reliability for a construct, it is suggested that this indicator presents values greater than 0.70 (Nunnally, 1978; Hair Jr. *et al.*, 2010), although levels of 0.60 are accepted for the validation of new instruments (McDaniel and Gates, 2003). The results of these indexes for the scales analyzed are presented in the following table.

Table 5.8 – Quality of the measurement of scales

SCALES	AVE		CR		ALPHA	
	LNC	NON LNC	LNC	NON LNC	LNC	NON LNC
1. Ideology and Vision Deployment	0.72	0.58	0.93	0.84	0.91	0.88
2. Strategy Conception	0.67	0.53	0.92	0.86	0.90	0.84
3. Strategic Objectives Deployment	0.71	0.66	0.91	0.88	0.87	0.83
4. Strategic Performance Indicators	0.59	0.50	0.88	0.82	0.84	0.84
5. Strategic Goals	0.66	0.68	0.90	0.91	0.87	0.89
6. Strategic Initiatives and Action Plans	0.62	0.60	0.89	0.88	0.85	0.85
7. Leadership Culture	0.75	0.58	0.92	0.78	0.89	0.69
8. Information and Communication Systems	0.65	0.62	0.88	0.87	0.82	0.81
9. Control and Evaluation	0.84	0.70	0.96	0.90	0.94	0.86
10. Strategic Learning	0.71	0.64	0.93	0.90	0.90	0.87
11. Related Parties and Sustainability	0.66	0.57	0.91	0.87	0.87	0.82
12. Recognition and Compensation	0.51	0.62	0.79	0.86	0.73	0.80
13. Formalisation and Awareness	0.94		0.97		0.94	
14. Mutual Dependence	0.65		0.84		0.78	
15. Ethical Principles and Trust	0.78		0.91		0.86	
16. Adaptation and Integration	0.64		0.84		0.77	
17. Individual Value and Contribution	0.64		0.78		0.51	
18. Strategic Relevance	0.94		0.98		0.97	
19. Strategic Information and Knowledge	0.70		0.82		0.60	
20. Involvement and Commitment	1.00		1.00		1.00	
21. Global Performance	0.78	0.85	0.96	0.98	0.95	0.97

Source: Research data

PS: AVE - Average Variance Extracted; CR - Composite Reliability and ALPHA - Cronbach's Alpha.

In the preceding table, it is possible to observe indexes of the quality of the measurement within the levels accepted in the literature. Despite some Alpha measures being below the suggested standards (factor 17 for the LNC group, for example), the measure of Composite Reliability (CR) presents results far superior to that determined by the literature, which may indicate limitations of the first index (ALPHA) *vis a vis* the assumptions outlined and discussed in the previous paragraphs (Cortina, 1993; Schmitt, 1996; Cronbach, 2004). Therefore, it is considered that these results are consistent with the intended purpose of this study, all the constructs being considered reliable.

5.5.3 Convergent and discriminant validity

According to Malhotra (2001) and also to Hair Jr. *et al.* (2005) and Cooper and Schindler (2011), the validity indicates the extent to which measurements are free of errors that affect all measurements uniformly (systematic errors). A usual way to assess the validity of a study is to verify the construct validity, which means to examine the extent to which the developed indicators can measure the theoretical constructs of interest (Cooper and Schindler, 2011). For Netemeyer *et al.* (2003), the convergent validity is one of the components of the construct validity and verifies whether the indicators considered unidimensional of a construct are sufficiently correlated to justify such indicators being considered valid measurements of the same object.

Usually, the Confirmatory Factor Analysis is employed to check the convergent validity of the constructs (Bagozzi, Yi and Philips, 1991). The criterion suggested by the authors is to verify the significance of the factor loadings of the constructs at 1% or 5% levels, using one-tailed *t* tests, where the critical *t* corresponds to approximately 2.33 ($\alpha=0.01$) or 1.65 ($\alpha=0.05$), considering 148 degrees of freedom ($df = n-2$).

In this study, as already mentioned, the size of the sample obtained is relatively lower than that required for the use of traditional structural equations modeling (based on covariance matrix structure). Adding to this the fact that there have been deviations from normality, the method PLS - Partial Least Squares was considered a more appropriate alternative for analysis, given that it is considered more robust in the face of such violations (Fornell and

Bookstein, 1982; Haenlein and Kaplan, 2004). As also pointed out by Hair Jr. *et al.* (2010), samples of inadequate size and the complexity of models can be considered as the main reasons for choosing the PLS method. To make possible the application of the PLS model, a structural model was used in which the global performance construct was treated as a dependent variable of the constructs associated with the strategic management elements, as well as to the learning network elements (independent). Full results can be seen in Table 5.9.

Table 5.9 – Convergent validity tests: LNC Group

INDICATORS AND CONSTRUCTS RELATIONSHIP	ORIGINAL SAMPLE (O)	STANDARD ERROR (STERR)	T STATISTICS ((O/STERR))	SIGNIFICANCE
Q1.1 <- 1. Ideology and Vision Deployment	0.83	0.06	13.55	0.00
Q1.2 <- 1. Ideology and Vision Deployment	0.79	0.08	10.43	0.00
Q1.3 <- 1. Ideology and Vision Deployment	0.83	0.06	13.19	0.00
Q1.4 <- 1. Ideology and Vision Deployment	0.88	0.03	32.62	0.00
Q1.5 <- 1. Ideology and Vision Deployment	0.90	0.02	36.41	0.00
Q10.1 <- 10. Strategic Learning	0.88	0.02	47.36	0.00
Q10.2 <- 10. Strategic Learning	0.82	0.04	21.79	0.00
Q10.3 <- 10. Strategic Learning	0.91	0.02	52.42	0.00
Q10.4 <- 10. Strategic Learning	0.86	0.03	27.72	0.00
Q10.5 <- 10. Strategic Learning	0.74	0.05	14.34	0.00
Q11.1 <- 11. Related Parties and Sustainability	0.78	0.04	18.55	0.00
Q11.2 <- 11. Related Parties and Sustainability	0.83	0.03	24.39	0.00
Q11.3 <- 11. Related Parties and Sustainability	0.85	0.03	25.72	0.00
Q11.4 <- 11. Related Parties and Sustainability	0.76	0.05	14.70	0.00
Q11.5 <- 11. Related Parties and Sustainability	0.83	0.03	27.94	0.00
Q12.1 <- 12. Recognition and Compensation	0.87	0.03	27.85	0.00
Q12.2 <- 12. Recognition and Compensation	0.60	0.11	5.24	0.00
Q12.3 <- 12. Recognition and Compensation	0.85	0.03	27.17	0.00
Q12.4 <- 12. Recognition and Compensation	0.43	0.14	3.13	0.00
Q13.1 <- 13. Formalisation and Awareness	0.98	0.00	247.64	0.00
Q13.2 <- 13. Formalisation and Awareness	0.96	0.01	108.41	0.00
Q14.1 <- 14. Mutual Dependence	0.88	0.05	18.36	0.00
Q14.2 <- 14. Mutual Dependence	0.55	0.11	4.86	0.00
Q14.3 <- 14. Mutual Dependence	0.94	0.02	61.87	0.00
Q15.1 <- 15. Ethical Principles and Trust	0.94	0.01	84.71	0.00
Q15.2 <- 15. Ethical Principles and Trust	0.94	0.02	56.61	0.00
Q15.3 <- 15. Ethical Principles and Trust	0.75	0.06	12.29	0.00
Q16.1 <- 16. Adaptation and Integration	0.86	0.09	9.66	0.00
Q16.2 <- 16. Adaptation and Integration	0.79	0.16	5.01	0.00
Q16.3 <- 16. Adaptation and Integration	0.74	0.16	4.54	0.00
Q17.1 <- 17. Individual Value and Contribution	0.62	0.11	5.52	0.00
Q17.2 <- 17. Individual Value and Contribution	0.95	0.03	36.51	0.00
Q18.1 <- 18. Strategic Relevance	0.97	0.01	79.00	0.00
Q18.2 <- 18. Strategic Relevance	0.97	0.01	71.21	0.00
Q18.3 <- 18. Strategic Relevance	0.97	0.02	59.25	0.00
Q19.1 <- 19. Strategic Information and Knowledge	0.92	0.03	27.29	0.00
Q19.2 <- 19. Strategic Information and Knowledge	0.74	0.09	7.94	0.00
Q2.1 <- 2. Strategy Conception	0.74	0.07	10.94	0.00
Q2.2 <- 2. Strategy Conception	0.89	0.01	60.00	0.00

Q2.3 <- 2. Strategy Conception	0.85	0.03	28.87	0.00
Q2.4 <- 2. Strategy Conception	0.80	0.04	18.53	0.00
Q2.5 <- 2. Strategy Conception	0.83	0.04	20.71	0.00
Q2.6 <- 2. Strategy Conception	0.80	0.04	20.35	0.00
Q20.1 <- 20. Involvement and Commitment	0.20	0.18	1.10	0.14
Q20.2 <- 20. Involvement and Commitment	0.99	0.04	25.66	0.00
Q21.1 <- Global Performance	0.87	0.03	29.66	0.00
Q21.2 <- Global Performance	0.90	0.02	44.60	0.00
Q21.3 <- Global Performance	0.85	0.03	30.67	0.00
Q21.4 <- Global Performance	0.79	0.04	21.03	0.00
Q21.5 <- Global Performance	0.87	0.03	29.95	0.00
Q21.6 <- Global Performance	0.93	0.02	53.76	0.00
Q21.7 <- Global Performance	0.95	0.01	70.66	0.00
Q3.1 <- 3. Strategic Objectives Deployment	0.91	0.02	39.72	0.00
Q3.2 <- 3. Strategic Objectives Deployment	0.85	0.04	20.78	0.00
Q3.3 <- 3. Strategic Objectives Deployment	0.73	0.07	10.14	0.00
Q3.4 <- 3. Strategic Objectives Deployment	0.88	0.03	29.41	0.00
Q4.1 <- 4. Strategic Performance Indicators	0.82	0.07	11.62	0.00
Q4.2 <- 4. Strategic Performance Indicators	0.77	0.09	8.97	0.00
Q4.3 <- 4. Strategic Performance Indicators	0.55	0.13	4.32	0.00
Q4.4 <- 4. Strategic Performance Indicators	0.82	0.07	11.39	0.00
Q4.5 <- 4. Strategic Performance Indicators	0.86	0.05	16.71	0.00
Q5.1 <- 5. Strategic Goals	0.59	0.09	6.39	0.00
Q5.2 <- 5. Strategic Goals	0.87	0.03	33.57	0.00
Q5.3 <- 5. Strategic Goals	0.80	0.05	17.31	0.00
Q5.4 <- 5. Strategic Goals	0.91	0.02	48.06	0.00
Q5.5 <- 5. Strategic Goals	0.83	0.05	16.80	0.00
Q6.1 <- 6. Strategic Initiatives and Action Plans	0.79	0.05	15.47	0.00
Q6.2 <- 6. Strategic Initiatives and Action Plans	0.90	0.01	60.58	0.00
Q6.3 <- 6. Strategic Initiatives and Action Plans	0.62	0.08	7.55	0.00
Q6.4 <- 6. Strategic Initiatives and Action Plans	0.78	0.05	15.79	0.00
Q6.5 <- 6. Strategic Initiatives and Action Plans	0.83	0.03	30.08	0.00
Q7.1 <- 7. Leadership Culture	0.84	0.03	26.87	0.00
Q7.2 <- 7. Leadership Culture	0.90	0.02	36.24	0.00
Q7.3 <- 7. Leadership Culture	0.91	0.02	55.15	0.00
Q7.4 <- 7. Leadership Culture	0.81	0.04	20.55	0.00
Q8.1 <- 8. Information and Communication Systems	0.88	0.02	40.59	0.00
Q8.2 <- 8. Information and Communication Systems	0.63	0.08	8.33	0.00
Q8.3 <- 8. Information and Communication Systems	0.84	0.04	22.16	0.00
Q8.4 <- 8. Information and Communication Systems	0.85	0.02	37.35	0.00
Q9.1 <- 9. Control and Evaluation	0.91	0.02	58.64	0.00
Q9.2 <- 9. Control and Evaluation	0.94	0.01	64.82	0.00
Q9.3 <- 9. Control and Evaluation	0.93	0.01	75.58	0.00
Q9.4 <- 9. Control and Evaluation	0.89	0.02	52.45	0.00

Source: Research data

PS: ORIGINAL SAMPLE (O) is the standard factorial loads of the sample, which means the correlation between the indicator and the latent construct. STANDARD ERROR (STERR) is estimated standard error; T STATISTICS (O/STERR) is the proportion between the loading and its standard error; and SIGNIFICANCE is the statistical significance of the load, meaning the chance of the relation between the indicator and the category being null or inexistent.

Table 5.10 – Convergent validity tests: Non-LNC Group

INDICATORS AND CONSTRUCTS RELATIONSHIP	ORIGINAL SAMPLE (O)	STANDARD ERROR (STERR)	T STATISTICS (O/STERR)	SIGNIFICANCE
Q1.1 <- 1. Ideology and Vision Deployment	0.10	0.26	0.39	0.35
Q1.2 <- 1. Ideology and Vision Deployment	0.43	0.25	1.71	0.04
Q1.3 <- 1. Ideology and Vision Deployment	0.46	0.23	1.97	0.03
Q1.4 <- 1. Ideology and Vision Deployment	0.64	0.25	2.53	0.01
Q1.5 <- 1. Ideology and Vision Deployment	0.91	0.29	3.08	0.00
Q10.1 <- 10. Strategic Learning	0.77	0.18	4.20	0.00
Q10.2 <- 10. Strategic Learning	0.74	0.17	4.31	0.00
Q10.3 <- 10. Strategic Learning	0.80	0.16	4.96	0.00
Q10.4 <- 10. Strategic Learning	0.86	0.16	5.51	0.00
Q10.5 <- 10. Strategic Learning	0.84	0.13	6.52	0.00
Q11.1 <- 11. Related Parties and Sustainability	0.80	0.09	8.52	0.00
Q11.2 <- 11. Related Parties and Sustainability	0.71	0.12	5.69	0.00
Q11.3 <- 11. Related Parties and Sustainability	0.68	0.13	5.23	0.00
Q11.4 <- 11. Related Parties and Sustainability	0.83	0.11	7.36	0.00
Q11.5 <- 11. Related Parties and Sustainability	0.75	0.13	5.64	0.00
Q12.1 <- 12. Recognition and Compensation	0.55	0.19	2.93	0.00
Q12.2 <- 12. Recognition and Compensation	0.85	0.17	5.09	0.00
Q12.3 <- 12. Recognition and Compensation	0.87	0.14	6.17	0.00
Q12.4 <- 12. Recognition and Compensation	0.84	0.15	5.74	0.00
Q2.1 <- 2. Strategy Conception	0.38	0.14	2.76	0.00
Q2.2 <- 2. Strategy Conception	0.71	0.11	6.70	0.00
Q2.3 <- 2. Strategy Conception	0.69	0.14	5.03	0.00
Q2.4 <- 2. Strategy Conception	0.71	0.14	5.14	0.00
Q2.5 <- 2. Strategy Conception	0.89	0.05	18.73	0.00
Q2.6 <- 2. Strategy Conception	0.87	0.06	14.80	0.00
Q21.1 <- Global Performance	0.90	0.02	53.12	0.00
Q21.2 <- Global Performance	0.94	0.01	92.64	0.00
Q21.3 <- Global Performance	0.93	0.01	62.45	0.00
Q21.4 <- Global Performance	0.90	0.02	37.62	0.00
Q21.5 <- Global Performance	0.91	0.02	49.30	0.00
Q21.6 <- Global Performance	0.94	0.01	74.06	0.00
Q21.7 <- Global Performance	0.94	0.01	70.60	0.00
Q3.1 <- 3. Strategic Objectives Deployment	0.81	0.07	11.25	0.00
Q3.2 <- 3. Strategic Objectives Deployment	0.76	0.09	8.85	0.00
Q3.3 <- 3. Strategic Objectives Deployment	0.83	0.06	14.43	0.00
Q3.4 <- 3. Strategic Objectives Deployment	0.84	0.06	14.68	0.00
Q4.1 <- 4. Strategic Performance Indicators	0.93	0.25	3.68	0.00
Q4.2 <- 4. Strategic Performance Indicators	0.83	0.23	3.64	0.00
Q4.3 <- 4. Strategic Performance Indicators	0.56	0.23	2.47	0.01
Q4.4 <- 4. Strategic Performance Indicators	0.42	0.24	1.73	0.04
Q4.5 <- 4. Strategic Performance Indicators	0.65	0.23	2.84	0.00
Q5.1 <- 5. Strategic Goals	0.77	0.12	6.39	0.00
Q5.2 <- 5. Strategic Goals	0.81	0.10	7.88	0.00
Q5.3 <- 5. Strategic Goals	0.87	0.08	10.99	0.00
Q5.4 <- 5. Strategic Goals	0.88	0.08	10.44	0.00
Q5.5 <- 5. Strategic Goals	0.79	0.10	8.04	0.00
Q6.1 <- 6. Strategic Initiatives and Action Plans	0.75	0.16	4.75	0.00
Q6.2 <- 6. Strategic Initiatives and Action Plans	0.92	0.14	6.53	0.00
Q6.3 <- 6. Strategic Initiatives and Action Plans	0.58	0.18	3.25	0.00

Q6.4 <- 6. Strategic Initiatives and Action Plans	0.86	0.15	5.56	0.00
Q6.5 <- 6. Strategic Initiatives and Action Plans	0.71	0.15	4.59	0.00
Q7.1 <- 7. Leadership Culture	0.33	0.20	1.66	0.05
Q7.2 <- 7. Leadership Culture	0.26	0.19	1.39	0.08
Q7.3 <- 7. Leadership Culture	0.95	0.09	10.15	0.00
Q7.4 <- 7. Leadership Culture	0.86	0.13	6.44	0.00
Q8.1 <- 8. Information and Communication Systems	0.62	0.14	4.51	0.00
Q8.2 <- 8. Information and Communication Systems	0.83	0.09	9.17	0.00
Q8.3 <- 8. Information and Communication Systems	0.86	0.09	9.78	0.00
Q8.4 <- 8. Information and Communication Systems	0.83	0.09	8.88	0.00
Q9.1 <- 9. Control and Evaluation	0.81	0.07	11.88	0.00
Q9.2 <- 9. Control and Evaluation	0.85	0.06	15.03	0.00
Q9.3 <- 9. Control and Evaluation	0.88	0.04	19.66	0.00
Q9.4 <- 9. Control and Evaluation	0.81	0.05	16.32	0.00

Source: Research data

PS: ORIGINAL SAMPLE (O) is the standard factorial loads of the sample, which means the correlation between the indicator and the latent construct. STANDARD ERROR (STERR) is estimated standard error; T STATISTICS (|O/STERR|) is the proportion between the loading and its standard error; and SIGNIFICANCE is the statistical significance of the load, meaning the chance of the relation between the indicator and the category being null or inexistent.

In the preceding tables, it is possible to observe that most of the indicators presented convergent validity using the pre-established criteria, with significance lower than 1% ($p < 0.01$). The highlighted cases could not have had their convergent validity confirmed and were, thereby, excluded from further analysis.

According to Malhotra (2001), the second component of construct validity corresponds to the discriminant validity, which indicates the extent to which the constructs actually measure different factors. To some extent, the discriminant validity also indicates whether the respondents evaluated the constructs differently and if the interpretation of the questions is also distinctive (Netemeyer *et al.*, 2003). The procedure used to evaluate the discriminant validity of the constructs was suggested by Fornell and Larcker (1981), and consists of comparing the shared variance between two constructs with the variance that each construct shares with its indicators. This procedure is to calculate the square of the correlation coefficient between the constructs and compare it to the Average Variance Extracted for each scale.

If a construct's measures shares more variance with another construct than with its own indicators, evidence would thereby be provided of violations of discriminant validity between

scales. Typically, such results are presented in symmetrical tables, similar to a correlation matrix, in which the values on the main diagonal represent the average variance extracted (AVE) of the constructs and the values below the diagonal are the square of the correlation coefficient between the scales, and indicate the percentage of variance shared between constructs. Therefore, every time the square of the correlation is greater than the values of the AVE of the column or row of reference, there is a violation of discriminant validity.

Table 5.11 – Discriminant validity test: LNC Group

CONSTRUCTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
1. Ideology and Vision Deployment	1	0.72																				
2. Strategy Conception	2	0.41	0.67																			
3. Strategic Objectives Deployment	3	0.24	0.45	0.71																		
4. Strategic Performance Indicators	4	0.20	0.24	0.24	0.60																	
5. Strategic Goals	5	0.17	0.31	0.44	0.33	0.65																
6. Strategic Initiatives and Action Plans	6	0.13	0.21	0.16	0.23	0.24	0.63															
7. Leadership Culture	7	0.14	0.16	0.15	0.15	0.24	0.37	0.75														
8. Information and Communication Systems	8	0.15	0.24	0.22	0.17	0.21	0.39	0.63	0.65													
9. Control and Evaluation	9	0.10	0.19	0.32	0.08	0.24	0.29	0.44	0.62	0.84												
10. Strategic Learning	10	0.09	0.14	0.11	0.14	0.22	0.44	0.62	0.57	0.36	0.71											
11. Related Parties and Sustainability	11	0.14	0.21	0.16	0.17	0.23	0.32	0.56	0.49	0.30	0.48	0.66										
12. Recognition and Compensation	12	0.15	0.19	0.23	0.12	0.22	0.26	0.36	0.56	0.57	0.36	0.30	0.54									
13. Formalisation and Awareness	13	0.08	0.08	0.08	0.04	0.06	0.20	0.35	0.30	0.29	0.28	0.33	0.26	0.94								
14. Mutual Dependence	14	0.02	0.07	0.04	0.09	0.06	0.10	0.24	0.27	0.10	0.24	0.27	0.13	0.38	0.68							
15. Ethical Principles and Trust	15	0.09	0.04	0.03	0.06	0.10	0.28	0.31	0.31	0.29	0.41	0.23	0.27	0.32	0.08	0.78						
16. Adaptation and Integration	16	0.03	0.07	0.04	0.05	0.06	0.04	0.06	0.08	0.06	0.05	0.07	0.06	0.07	0.18	0.01	0.65					
17. Individual Value and Contribution	17	0.04	0.06	0.03	0.05	0.09	0.17	0.18	0.17	0.14	0.25	0.30	0.12	0.05	0.02	0.29	0.23	0.66				
18. Strategic Relevance	18	0.11	0.07	0.06	0.12	0.17	0.33	0.40	0.32	0.19	0.45	0.37	0.21	0.21	0.07	0.78	0.01	0.38	0.94			
19. Strategic Information and Knowledge	19	0.06	0.02	0.00	0.01	0.02	0.07	0.07	0.02	0.00	0.17	0.09	0.01	0.17	0.08	0.20	0.09	0.18	0.16	0.72		
20. Involvement and Commitment	20	0.09	0.12	0.11	0.06	0.14	0.15	0.15	0.12	0.19	0.24	0.22	0.23	0.22	0.16	0.21	0.04	0.11	0.19	0.14	0.48	
21. Global Performance	21	0.13	0.16	0.10	0.11	0.20	0.37	0.51	0.53	0.38	0.54	0.46	0.32	0.24	0.15	0.39	0.06	0.29	0.48	0.11	0.16	0.78

Source: Research data

Table 5.12 – Discriminant validity test: Non-LNC Group

CONSTRUCTS	1	2	3	4	5	6	7	8	9	10	11	12	13	
1. Ideology and Vision Deployment	1	0.69												
2. Strategy Conception	2	0.35	0.56											
3. Strategic Objectives Deployment	3	0.25	0.47	0.66										
4. Strategic Performance Indicators	4	0.27	0.48	0.45	0.61									
5. Strategic Goals	5	0.37	0.35	0.42	0.36	0.69								
6. Strategic Initiatives and Action Plans	6	0.18	0.32	0.21	0.33	0.29	0.63							
7. Leadership Culture	7	0.26	0.20	0.26	0.19	0.28	0.22	0.54						
8. Information and Communication Systems	8	0.13	0.22	0.28	0.19	0.23	0.22	0.38	0.63					
9. Control and Evaluation	9	0.18	0.18	0.28	0.22	0.26	0.29	0.38	0.52	0.71				
10. Strategic Learning	10	0.18	0.25	0.19	0.18	0.19	0.21	0.40	0.42	0.43	0.67			
11. Related Parties and Sustainability	11	0.28	0.21	0.24	0.16	0.28	0.21	0.53	0.37	0.42	0.58	0.59		
12. Recognition and Compensation	12	0.13	0.27	0.35	0.18	0.19	0.18	0.20	0.31	0.24	0.34	0.30	0.63	
21. Global Performance	13	0.00	0.05	0.07	0.00	0.04	0.02	0.04	0.06	0.08	0.02	0.05	0.02	0.85

Source: Research data

One can observe that, according to the abovementioned criteria, there were violations of discriminant validity in the LNC Group. However, it is valuable to note that the proposed method is strongly dependent on the quality of measurements (AVE), which is particularly difficult to achieve in a new scale. Therefore, an alternative was sought to assess the significance of the discriminant validity between the scales studied.

Such alternative method is to check if the confidence interval of the correlations between the constructs has the value 1, indicating that, in the population, the correlation between the constructs could be perfect, which would indicate violations of discriminant validity (Netemeyer *et al.*, 2003). The method consists in calculating the confidence interval of the correlations, which can be done by the linear transformation of Fisher (Fisher Z). Then, the correction factor for disattenuation between these measures is applied (Nunnally and Bernstein, 1994), generating the confidence interval that would be expected if measures were perfectly reliable.

For the variables "Strategic Relevance" and "Ethical Principles and Trust" of the LNC Group, the observed correlation was of 0.9047 (high), with a confidence interval of 95%, already disattenuated varying between 0.92 and 0.98. Since this interval does not present the value 1, the discriminant validity of these constructs can be demonstrated, with a significance of 5%.

For the variables "Information and Communication Systems" and "Recognition and Compensation", also of the LNC Group, the observed correlation was of 0.7600, with a confidence interval of 95%, already disattenuated varying between 0.82 and 0.98. Since this interval also does not present the value 1, the discriminant validity of these constructs can be demonstrated, with a significance of 5%.

Finally, for the variables "Control and Evaluation" and "Recognition and Compensation", also from the LNC Group, the observed correlation was of 0.7500, also with a confidence interval of 95%, already disattenuated varying between 0.77 e 0.93. Since this interval also does not present the value 1, the discriminant validity of these constructs can be demonstrated, with a significance of 5%. As can be seen in Tables 5.9 and 5.10, there had been no other previous violations.

5.6 Global quantitative results

To answer the research question and hypotheses, two complementary procedures were used. Initially, the averages of the LNC and non-LNC groups were compared, for all the constructs that make up the scales studied, including the global performance construct. To this end, we calculated the simple arithmetic averages of each factor, using only the indicators that were considered valid in both groups. Valid indicators for both groups were applied to allow a direct comparison of equivalent scales.

To verify differences between groups, the independent samples *t* test was employed. As argued by Pestana and Gageiro (2005), this procedure can be applied with relative precision, independently of the original data distribution, when the samples in each group exceed 30 units and the groups have a unimodal distribution. Since this condition obtained in the data in the study, it is accepted that the use of this tool is appropriate. The results are presented in the table below.

Table 5.13 – Comparison of averages of the LNC and non-LNC Groups

FACTORS	GROUP		
	LNC	Non-LNC	DIF %
	MEAN	MEAN	(LNC-Non LNC)/LNC
1. Ideology and Vision Deployment	6.44	6.14	-4.66%
2. Strategy Conception	6.46	5.92	-8.36%
3. Strategic Objectives Deployment	6.09	5.69	-6.57%
4. Strategic Performance Indicators	6.25	5.73	-8.32%
5. Strategic Goals	6.13	5.90	-3.75%
6. Strategic Initiatives and Action Plans	5.94	5.49	-7.58%
7. Leadership Culture	6.56	6.11	-6.86%
8. Information and Communication Systems	5.91	5.91	0.00%
9. Control and Evaluation	5.96	5.78	-3.02%
10. Strategic Learning	6.13	5.64	-7.99%
11. Related Parties and Sustainability	6.31	5.85	-7.29%
12. Recognition and Compensation	6.02	5.64	-6.31%
13. Formalisation and Awareness	6.48	.	.
14. Mutual Dependence	6.20	.	.
15. Ethical Principles and Trust	6.70	.	.
16. Adaptation and Integration	5.77	.	.
17. Individual Value and Contribution	6.05	.	.
18. Strategic Relevance	6.77	.	.
19. Strategic Information and Knowledge	5.70	.	.
20. Involvement and Commitment	6.49	.	.
21. Global Performance	6.45	6.17	-4.34%

Source: Research data

PS: All differences between groups are significant, based on two-tailed t tests with 95% confidence, except for the factors 8 and 9 (highlighted in bold).

Table 5.11 shows that virtually all items of strategy formulation, implementation and global performance have higher averages in the LNC Group in relation to other companies (non-LNC Group). Notwithstanding this fact, a note of caution in interpreting these indices should be sounded, as one has to bear in mind that these data refer to a description obtained from non-experimental data. Thus, despite the observance of a correlation between the data, it is not possible to infer that participation in a LNC Programme effectively increases levels in the studied variables, meaning that the correlation cannot be taken for causality (Hair Jr. *et al.*, 2003). As an illustration, one might infer that companies seeking to participate in the LNC Programme, even before the project, already have structural, managerial and strategic features, in terms of performance and management practices, which differentiate them from the other companies of the sample.

A second analysis of the effect of the model variables on performance was carried out from the structural model tested via PLS. In this case, each independent variable was tested as an antecedent to the global performance construct and the results were compared using, as a basis, the proposed study by Chin (2000). The proposition of the author is to assume an approximately normal distribution for the parameters under test and calculate t tests for the difference between the groups. In this way, re-sampling should be performed for groups and the grouped standard error for the two sub-samples estimated. Assuming the existence of significant differences between the standard errors of the groups, the test of Smith-Satterthwaite was applied.

With the application of this test, it is possible to estimate the weight of each independent variable in global performance by checking the statistical significance of the weights in each group. It is also possible to compare the groups, testing whether the estimates differ. The results are presented in Table 5.14.

Table 5.14 – Structural relationships between the constructs per group of companies

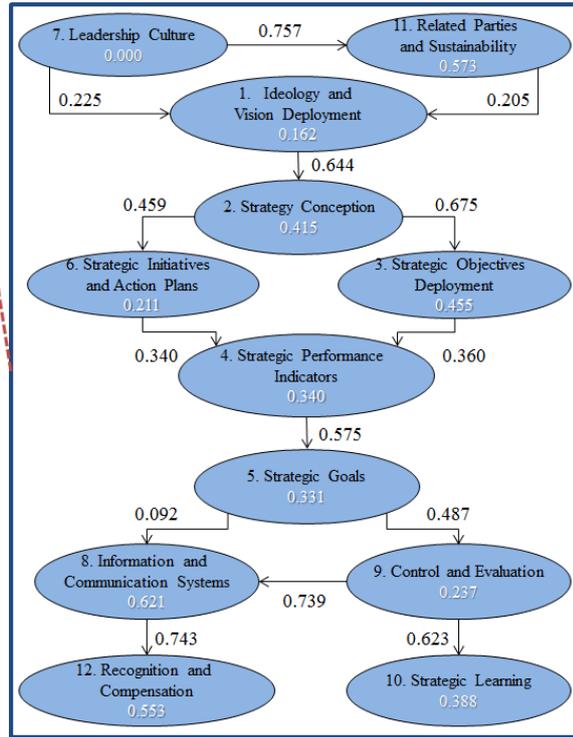
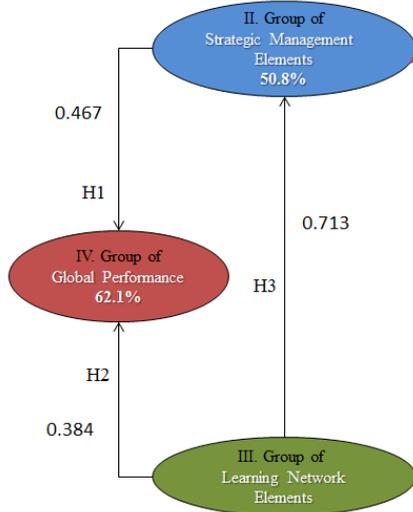
HYPOTHESES	STRUCTURAL RELATIONS	LNC			NON-LNC			SMITH-SATTERTHWAITE		
		WEIGHT	ERROR	T VALUE	WEIGHT	ERROR	T VALUE	DIF	DF	SIG
H 1.4	01. Ideology and Vision Deployment -> 02. Strategy Conception	0.644	0.069	9.353	0.594	0.051	11.641	0.586	272	0.559
H 1.6	02. Strategy Conception -> 03. Strategic Objectives Deployment	0.675	0.046	14.551	0.686	0.043	16.040	0.179	264	0.858
H 1.5	02. Strategy Conception -> 06. Strategic Initiatives and Action Plans	0.459	0.075	6.142	0.579	0.065	8.899	1.207	266	0.228
H 1.8	03. Strategic Objectives Deployment -> 04. Strategic Performance Indicators	0.360	0.068	5.332	0.502	0.075	6.717	1.412	257	0.159
H 1.9	04. Strategic Performance Indicators -> 05. Strategic Goals	0.575	0.049	11.799	0.602	0.064	9.411	0.326	251	0.745
H 1.10	05. Strategic Goals -> 08. Information and Communication Systems	0.092	0.062	1.484	0.163	0.070	2.326	0.763	256	0.446
H 1.11	05. Strategic Goals -> 09. Control and Evaluation	0.487	0.071	6.846	0.514	0.071	7.229	0.266	261	0.790
H 1.7	06. Strategic Initiatives and Action Plans -> 04. Strategic Performance Indicators	0.340	0.069	4.927	0.362	0.066	5.456	0.220	263	0.826
H 1.2	07. Leadership Culture -> 01. Ideology and Vision Deployment	0.225	0.122	1.849	0.306	0.086	3.561	0.547	274	0.585
H 1.1	07. Leadership Culture -> 11. Related Parties and Sustainability	0.757	0.037	20.483	0.731	0.043	17.022	0.448	255	0.654
H 1.13	08. Information and Communication Systems -> 12. Recognition and Compensation	0.743	0.036	20.661	0.563	0.060	9.311	2.571	244	0.011
H 1.12	09. Control and Evaluation -> 08. Information and Communication Systems	0.739	0.057	12.996	0.638	0.067	9.549	1.157	255	0.248
H 1.14	09. Control and Evaluation -> 10. Strategic Learning	0.623	0.050	12.498	0.660	0.055	11.996	0.504	257	0.615
H 1.3	11. Related Parties and Sustainability -> 01. Ideology and Vision Deployment	0.205	0.108	1.898	0.318	0.091	3.419	0.761	267	0.448

Source: Data from the survey.

PS: WEIGHT is the standard weight obtained for the full sample or the structural relationship evaluated in the model; ERROR is the standard deviation of the estimate (weight); T VALUE is the ratio of the standardized weight and its standard error. Relationships with *t values* greater than 1.980 $p < 0.05$, assuming a two-sided t-test and 1.658 $p < 0.05$ (or $p < 0.1$ assuming a two-sided t-test), assuming a one-sided t-test are considered significant (DF=148 = n-2). DIF is the difference of *t-test* from *Smith-Satterthwaite test* (SS); DF represents the degrees of freedom; and SIG is the significance level of the test.

Figure 5.8 – Strategic Management Elements Comparative Models: LNC Group

**Expanded Model - Group II
LNC Group**

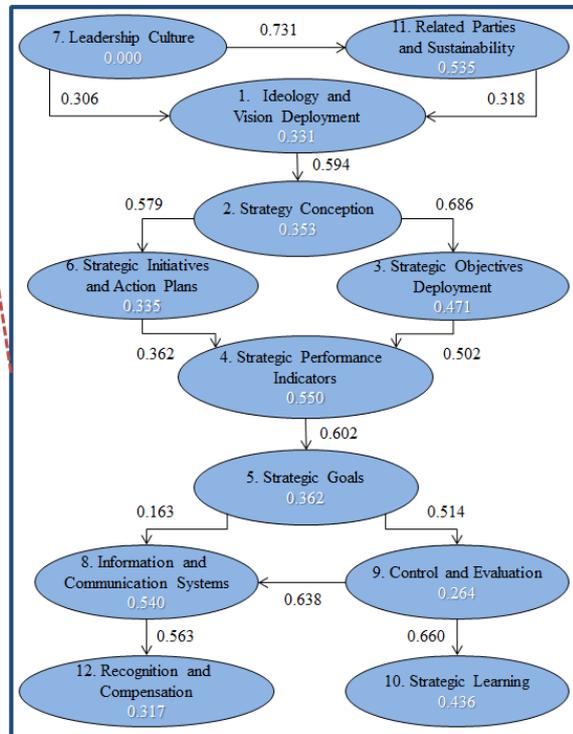
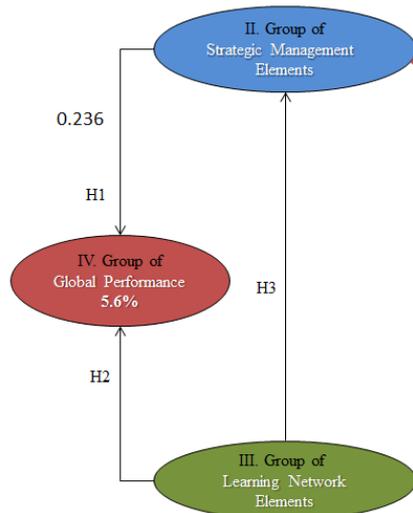


Source: Research data

PS: The values expressed with each arrow indicate the estimated standard weights. The values located inside the ovals represent the R² (the percentage of variance explained by the structural model).

Figure 5.9 – Strategic Management Elements Comparative Models: NON LNC

**Expanded Model – Group II
Non LNC Group**



Source: Research data

PS: The values expressed with each arrow indicate the estimated standard weights. The values located inside the ovals represent the R² (the percentage of variance explained by the structural model).

In the non-LNC Group, all relationships were significant at a 5% two-tailed level, while in the LNC Group only the relationship 05. Strategic Goals -> 08. Information and Communication Systems was not considered significant at this same level. Besides that, the relationships 07. Leadership Culture -> 01. Ideology and Vision Deployment; and 11. Related Parties and Sustainability -> 01. Ideology and Vision Deployment can also be considered significant with 10% of probability, assuming a two-sided t-test of (*t* values of respectively 1.849 and 1.898).

Regarding the differences in the relations between the groups, only the relationship “08. Information and Communication Systems -> 12. Recognition and Compensation” was significantly different between groups, with a higher weight for the LNC Group. Following the analysis, the construct of the Learning Network Elements, which is only valid for the LNC Group, was tested.

Table 5.15 – Structural relationships between the constructs: Learning Network Elements

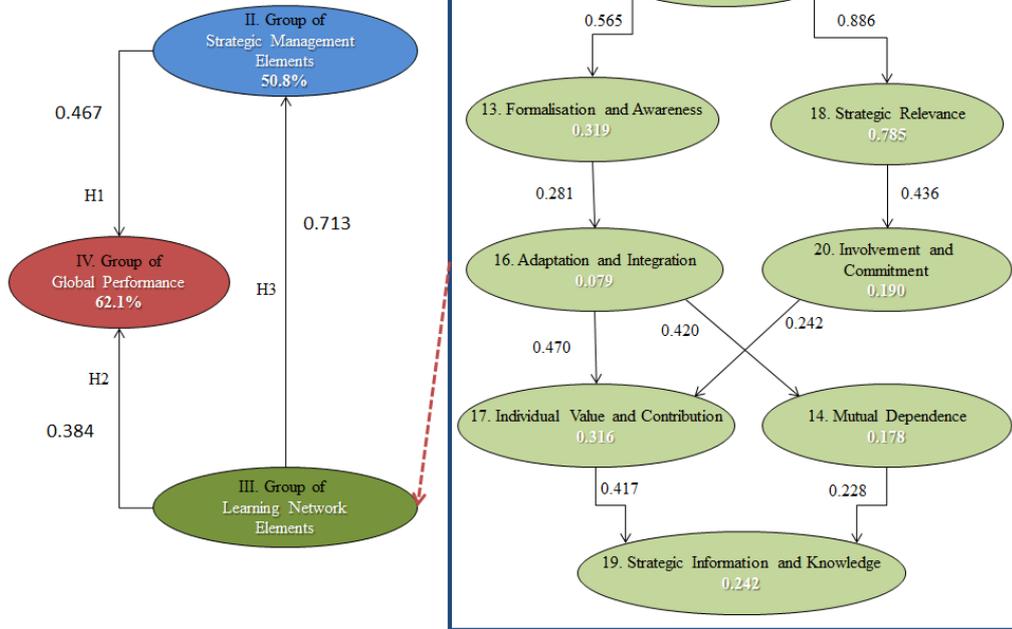
HYPOTHESES	STRUCTURAL RELATIONS	LNC		
		WEIGHT	ERROR	T VALUE
H 2.3	13. Formalisation and Awareness -> 16. Adaptation and Integration	0.281	0.068	4.132
H 2.9	14. Mutual Dependence -> 19. Strategic Information and Knowledge	0.228	0.071	3.211
H 2.1	15. Ethical Principles and Trust -> 13. Formalisation and Awareness	0.565	0.073	7.740
H 2.2	15. Ethical Principles and Trust -> 18. Strategic Relevance	0.886	0.030	29.533
H 2.6	16. Adaptation and Integration -> 14. Mutual Dependence	0.420	0.069	6.087
H 2.5	16. Adaptation and Integration -> 17. Individual Value and Contribution	0.470	0.079	5.949
H 2.8	17. Individual Value and Contribution -> 19. Strategic Information and Knowledge	0.417	0.073	5.712
H 2.4	18. Strategic Relevance -> 20. Involvement and Commitment	0.436	0.091	4.791
H 2.7	20. Involvement and Commitment -> 17. Individual Value and Contribution	0.242	0.088	2.750

Source: Data from the survey.

PS: WEIGHT is the standard weight obtained for the full sample or the structural relationship evaluated in the model; ERROR is the standard deviation of the estimate (weight); T VALUE is the ratio of the standardized weight and its standard error. Relationships with *t values* greater than 1.980 $p < 0.05$, assuming a two-sided t-test and 1.658 $p < 0.05$ (or $p < 0.1$ assuming a two-sided t-test), assuming a one-sided t-test are considered significant (DF=148 = n-2).

Figure 5.10 – Learning Networks Elements Model: LNC Group

**Expanded Model – Group III
LNC Group**



Source: Research data

PS: The values expressed with each arrow indicate the estimated standard weights. The values located inside the ovals represent the R² (the percentage of variance explained by the structural model).

It is possible to observe that all relationships were also significant, and that the percentage of variance explained was moderate to high in these constructs. Finally, the model of structural relations for the strategic management and learning networks elements as a whole is presented, a model that was tested using the proceeding of second-order constructs proposed by Ciavolino and Nitti (2010). In this methodology, the first order factors of the strategic management and learning networks elements are used as reflexive factors for the second order factors, when including all first-order indicators also as indicators of the second order factors of both strategic management and learning networks elements. This can be viewed in Table 5.14, as follows

Table 5.16 –Factorial relations of second-order: Strategic Management and Learning Network Elements

STRUCTURAL RELATIONS	LNC		
	WEIGHT	ERROR	T VALUE
Strategic Management Elements -> 01. Ideology and Vision Deployment	0.605	0.061	9.918
Strategic Management Elements -> 02. Strategy Conception	0.723	0.051	14.176
Strategic Management Elements -> 03. Strategic Objectives Deployment	0.694	0.059	11.763
Strategic Management Elements -> 04. Strategic Performance Indicators	0.624	0.048	13.000
Strategic Management Elements -> 05. Strategic Goals	0.729	0.052	14.019
Strategic Management Elements -> 06. Strategic Initiatives and Action Plans	0.756	0.040	18.900
Strategic Management Elements -> 07. Leadership Culture	0.824	0.028	29.429
Strategic Management Elements -> 08. Information and Communication Systems	0.857	0.018	47.611
Strategic Management Elements -> 09. Control and Evaluation	0.771	0.036	21.417
Strategic Management Elements -> 10. Strategic Learning	0.795	0.031	25.645
Strategic Management Elements -> 11. Related Parties and Sustainability	0.791	0.028	28.250
Strategic Management Elements -> 12. Recognition and Compensation	0.752	0.034	22.118
Learning Network Elements -> 13. Formalisation and Awareness	0.742	0.060	12.367
Learning Network Elements -> 14. Mutual Dependence	0.583	0.071	8.211
Learning Network Elements -> 15. Ethical Principles and Trust	0.869	0.023	37.783
Learning Network Elements -> 16. Adaptation and Integration	0.426	0.072	5.917
Learning Network Elements -> 17. Individual Value and Contribution	0.666	0.046	14.478
Learning Network Elements -> 18. Strategic Relevance	0.855	0.028	30.536
Learning Network Elements -> 19. Strategic Information and Knowledge	0.616	0.062	9.935
Learning Network Elements -> 20. Involvement and Commitment	0.613	0.079	7.759
Strategic Management Elements -> Global Performance	0.467	0.087	5.368
Learning Network Elements -> Strategic Management Elements	0.713	0.045	15.844
Learning Network Elements -> Global Performance	0.384	0.089	4.315

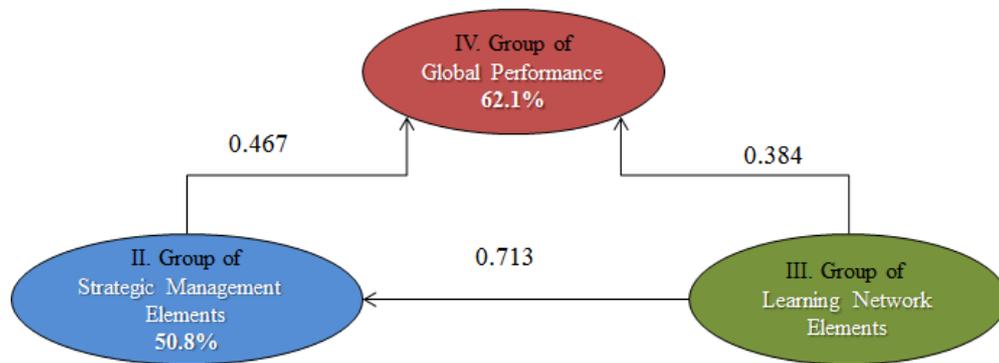
Source: Data from the survey.

PS: WEIGHT is the standard weight obtained for the full sample or the structural relationship evaluated in the model; ERROR is the standard deviation of the estimate (weight); T VALUE is the ratio of the standardized weight and its standard error. Relationships with t values greater than 1.980 $p < 0.05$, assuming a two-sided t-test and 1.658 $p < 0.05$ (or $p < 0.1$ assuming a two-sided t-test), assuming a one-sided t-test are considered significant (DF=148 = n-2).

The testing of the model demonstrated that the relationship between the first and second order factors are significant, and with acceptable measurement quality (psychometrics properties) for both Strategic Management Elements (AVE = 0.3663; CR = 0.9677; ALPHA = 0.9654) and Learning Network Elements (AVE = 0.3663; CR = 0.9027; ALPHA = 0.8788). The model explained 62% of the variance in global performance, with the greatest impact caused by the Strategic Management Elements (B = 0.467), when compared to the impact of the

Learning Network Elements ($B = 0.384$). However, as the Learning Network Elements are strong predictors of the Strategic Management Elements ($B = 0.713$), the overall effect of the “partnership group” on the Global Performance (total $B = 0.717$) is higher than that observed for the “strategy group” (B total = 0.467). In addition, the exclusion of the Learning Network Elements reduces the variance explained to 54.5% in the LNC Group, revealing that the “partnership group” seems to be important in explaining the Global Performance regardless of the Strategic Management Elements. Finally, in the non-LNC Group, only 5.6% of the Global Performance was explained by the Strategic Management Elements, demonstrating that, in this study, the Learning Network Elements seem to accrue high predictive power of strategy on performance. Figures 5.11 and 5.12 illustrate this situation:

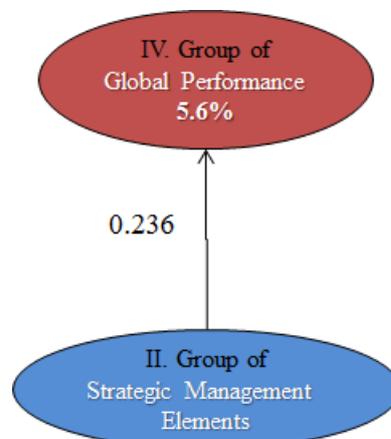
Figure 5.11 – Main Research Model tested via PLS: LNC Group



Source: Research data

PS: The values expressed with each arrow indicate the estimated standard weights. The values located inside the ovals represent the R^2 (the percentage of variance explained by the structural model).

Figure 5.12 – Main Research Model tested via PLS: Non-LNC Group



Source: Research data

PS: The values expressed with each arrow indicate the estimated standard weights. The values located inside the ovals represent the R^2 (the percentage of variance explained by the structural model).

CHAPTER VI

6. THEORETICAL MODEL AND HYPOTHESES VERIFICATION

6.1 Findings

6.1.1 Theoretical model analysis

As already illustrated in the previous section, first, it is important to evaluate the variance explained (R^2) of the constructs, analysing whether the theoretical model shows adequate predictive power.

Regarding the Global Performance construct, the R^2 observed of 62% is considered a fairly representative value for studies in the field of applied social sciences. For the purposes of comparison, the correlation (R) around 0.300 may be considered moderate, and values of 0.500 represent a high level of correlation, corresponding approximately to an R^2 value of 9% and 25% respectively of the dependent construct and its independent variables (Cohen *et al.* 2003). Based on their proposition, one can observe that, among the general hypotheses illustrated in the previous section (see Figure 5.11), both of the dependent constructs of the LNC Group, Global Performance and Strategic Management Elements, presented a high percentage of variance explained: i) Global Performance (62.1%) and ii) Strategic Management Elements (50.8%). When considering the non-LNC Group, the percentage of variance explained of the Global Performance construct by the only independent variable (the Strategic Management Elements construct) was considerably lower (only 5.6%).

Concerning the expanded model, that is, the model unfolded from both the Strategic Management Elements and Learning Network Elements constructs (only the first one, for the non-LNC Group), also according to the criterion of Cohen *et al.* (2003), several constructs presented a moderate to high percentage of variance explained³⁶, divided by Group, as follows:

³⁶ Only high proportions of variance explained for the Strategic Management Elements of the Non-LNC Group.

i) LNC Group.

i.1) Strategic Management Elements (12 constructs, “Leadership Culture” being independent):

- a. Related Parties and Sustainability: 0.573 (57.3%) – *High*;
- b. Strategy Conception: 0.415 (41.5%) – *High*;
- c. Strategic Objectives Deployment: 0.455 (45.5%) – *High*;
- d. Strategic Performance Indicators: 0.340 (34.0%) – *High*;
- e. Strategic Goals: 0.331 (33.1%) – *High*;
- f. Information and Communication Systems: 0.621 (62.1%) – *High*;
- g. Recognition and Compensation: 0.553 (55.3%) – *High*;
- h. Strategic Learning: 0.388 (38.8%) – *High*;
- i. Ideology and Vision Deployment: 0.162 (16.2%) – *Moderate*;
- j. Strategic Initiatives and Action Plans: 0.211 (21.1%) – *Moderate*;
- k. Control and Evaluation: 0.237 (23.7%) – *Moderate*.

i.2) Learning Network Elements (8 constructs, being “Ethical Principles and Trust” independent):

- a. Formalisation and Awareness 0.319 (31.9%) – *High*;
- b. Strategic Relevance: 0.785 (78.5%) – *High*;
- c. Individual Value and Contribution: 0.316 (31.6%) – *High*;
- d. Involvement and Commitment: 0.190 (19.0%) – *Moderate*;
- e. Mutual Dependence: 0.178 (17.8%) – *Moderate*;
- f. Strategic Information and Knowledge: 0.242 (24.2%) – *Moderate*;
- g. Adaptation and Integration: 0.079 (7.9%) – *Low*;

ii) Non-LNC Group.

i.1) Strategic Management Elements (12 constructs, being “Leadership Culture” independent):

- a. Related Parties and Sustainability: 0.535 (53.5%) – *High*;
- b. Strategy Conception: 0.353 (35.5%) – *High*;
- c. Strategic Objectives Deployment: 0.471 (47.1%) – *High*;
- d. Strategic Performance Indicators: 0.550 (55.0%) – *High*;
- e. Strategic Goals: 0.362 (36.2%) – *High*;

- f. Information and Communication Systems: 0.540 (54.0%) – *High*;
- g. Recognition and Compensation: 0.317 (31.7%) – *High*;
- h. Strategic Learning: 0.436 (43.6%) – *High*;
- i. Ideology and Vision Deployment: 0.331 (33.1%) – *High*;
- j. Strategic Initiatives and Action Plans: 0.335 (33.5%) – *High*;
- k. Control and Evaluation: 0.264 (26.4%) – *High*.

As can be noted, for the LNC Group, for both Strategic Management Elements and Learning Network Elements constructs, there are some expanded constructs at levels lower than 25%, but still showing moderate proportions of variance explained, in relation to their coefficients of determination. The lower explanatory power of such items indicates that the variables of the model are able to explain only part of the variability of these constructs. Determining, therefore, new endogenous constructs and/or making an effort to improve the reliability/validity numbers of the statistics may be a pathway for a better understanding of the relations of these variables with the other constructs of the model.

From an ample perspective, as can be seen from the previous section, the great majority of the correlations were supported by the multivariate analysis, based on the criterion that a *t value* greater than 1.658 supports the relation in a one-tailed test with 5% of significance. In complementary fashion, it can be seen that, using a criterion of the *t values* greater than 1.980 ($p < 0.05$, assuming a two-sided t-test), in an even more rigorous significance scenario, virtually all the relations are supported (with the exception of H 1.2 and H1.3, besides the previous said H 1.10, already rejected with a *t value* parameter of 1.658, all of them in the LNC Group).

6.1.2 Hypotheses verification

This previous chapter has presented the empirical study carried out into the hypothesized relationships among the constructs, with its global results. Table 6.1 and 6.2 summarize both the general and the expanded hypotheses verification. From a general viewpoint, the hypotheses were well supported in the empirical tests, as follows:

Table 6.1 – General hypotheses verification

HYPOTHESES	DESCRIPTION	VERIFICATION
<i>H1</i>	The development of strategic management concepts or elements results in a higher global performance of the company.	Supported (t = 5.368)
<i>H2</i>	Being part of a learning network results in a higher global performance of the company.	Supported (t = 4.315)
<i>H3</i>	Being part of a learning network helps companies to better develop strategic management concepts or elements and become strategy-focus organisations.	Supported (t = 15.844)

Source: Research data.

Table 6.2 – Expanded hypotheses verification: LNC and non-LNC Groups

HYPOTHESES	DESCRIPTION	VERIFICATION
<i>H 1.1</i>	The greater the development of leadership culture, the greater are the results perceived by the stakeholders in the direction of, and favouring, sustainability.	Supported (t = 20.483 LNC and t = 17.022 non-LNC)
<i>H 1.2</i>	The greater the development of leadership culture, the greater are the results in the development of corporate ideology and deploying corporate vision, mission and values.	Supported (t = 1.849 LNC and t = 3.561 non-LNC)
<i>H 1.3</i>	The greater the development of sustainability principles, the easier it is to develop long-term corporate ideology and to deploy corporate vision, mission and values.	Supported (t = 1.898 LNC and t = 3.419 non-LNC)
<i>H 1.4</i>	The clearer the pathway to the future translated by corporate vision (desired future state), mission and values, the easier is the corporate and business strategy formulation.	Supported (t = 9.353 LNC and t = 11.641 non-LNC)
<i>H 1.5</i>	The systematic development of strategic planning and its formalisation as a consensus between top management and employees foster the development of strategic initiatives and action plans for executing strategy.	Supported (t = 6.142 LNC and t = 8.899 non-LNC)
<i>H 1.6</i>	The systematic development of strategic planning and its formalisation as a consensus between top management and employees facilitates the unfolding of strategic objectives into business units and corporate staff areas for executing strategy.	Supported (t = 14.551 LNC and t = 16.040 non-LNC)
<i>H 1.7</i>	The systematic development of strategic initiatives and action plans facilitates the development of measurable strategic lead and lag performance indicators that represent the formulated strategy.	Supported (t = 4.927 LNC and t = 5.456 non-LNC)
<i>H 1.8</i>	The process of unfolding strategic objectives into business units and corporate staff areas facilitates the development of measurable strategic lead and lag performance indicators that represent the formulated strategy.	Supported (t = 5.332 LNC and t = 6.717 non-LNC)
<i>H 1.9</i>	The greater the development of measurable strategic lead and lag performance indicators that represent the formulated strategy, the easier is the proposal of strategic goals.	Supported (t = 11.799 LNC and t = 9.411 non-LNC)
<i>H 1.10</i>	The greater the number and quality of strategic goals proposed, the easier is the functioning of the information and communication systems to support strategic decisions at all management levels.	Not supported* (t = 1.484 LNC) Supported (t = 2.326 non-LNC)
<i>H 1.11</i>	The greater the number and quality of strategic goals proposed, the easier it is to systematically control and evaluate corporate results.	Supported (t = 6.846 LNC and t = 7.229 non-LNC)

<i>H 1.12</i>	The more developed the control and evaluation of the corporate results system, the easier is the functioning of the information and communication systems to support strategic decisions at all management levels.	Supported (t = 12.996 LNC and t = 9.549 non-LNC)
<i>H 1.13</i>	The easier the functioning of the information and communication systems to support strategic decisions at all management levels, the easier it is to implement and use a comprehensive recognition and compensation corporative plan.	Supported (t = 20.661 LNC and t = 9.311 non-LNC)
<i>H 1.14</i>	The more developed the control and evaluation system of corporate results is, including providing feed-back, the easier it is to become a strategic learning organisation.	Supported (t = 12.498 LNC and t = 11.996 non-LNC)
<i>H 2.1</i>	The greater the development of the ethical principles and the trust among participating companies, the greater is the level of formalisation and awareness of the partnership between them.	Supported (t = 7.740 LNC)
<i>H 2.2</i>	The greater the development of ethical principles and the trust among participating companies, the greater is the strategic relevance and importance of the partnership to the participating companies individually.	Supported (t = 29.533 LNC)
<i>H 2.3</i>	The greater the level of formalisation and awareness of the partnership among the participating companies, the easier is their adaptation and integration into the partnership project.	Supported (t = 4.132 LNC)
<i>H 2.4</i>	The greater the strategic relevance and importance of the partnership to the participating companies individually, the deeper are the involvement and commitment of each element in the network to the project activities and results.	Supported (t = 4.791 LNC)
<i>H 2.5</i>	The easier the adaptation and integration of participating companies in the partnership project, the more valuable are the individual contributions of resources and unique values of each company to the network.	Supported (t = 5.949 LNC)
<i>H 2.6</i>	The easier the adaptation and integration of participating companies in the partnership project, the easier is the collective use of complementary skills and knowledge of each company, and individual strategy formulation.	Supported (t = 6.087 LNC)
<i>H 2.7</i>	The deeper the involvement with, and commitment of each element in the network to, the project activities and results, the more valuable are the individual contributions of resources and unique values of each company to it.	Supported (t = 2.750 LNC)
<i>H 2.8</i>	The greater the individual contributions of resources and unique values of each company to the network, the greater are the development and share of information and knowledge, related or not to the learning network issues, among all participating companies.	Supported (t = 5.712 LNC)
<i>H 2.9</i>	The easier the collective use of complementary skills and knowledge of each participating company, including in facilitating individual strategy formulation, the greater is the development and sharing of information and knowledge, related or not to the learning network issues among all participating companies.	Supported (t = 3.211 LNC)

Source: Research data.

PS: * H 1.10 was the only one not supported on the LNC Group, but was supported on the non-LNC Group. All the hypotheses of the non-LNC Group were supported. Probably, this happened because the LNC Programme always reinforces the fact that the Strategic Indicators and their level of performances are the most important variable to be systematically communicated to support strategic decisions at all management levels. Strategic goals are, then, considered “**part**” of Strategic Indicators” and should not be communicated “alone”.

These results and their interpretations, contrasted with the theoretical framework proposed here, are considered from a broader viewpoint in the following section.

CHAPTER VII

7. CONCLUSIONS AND FINAL REMARKS

In this chapter, we seek to provide a summary of the findings and conclusions of this study, its main contributions and limitations, as well as recommendations for future research on the topic.

7.1 Summary of results and conclusions

This study sought to examine the relationship between the development of strategic management elements in SMEs and a possible increase in the global performance of these organisations, by comparing these constructs with the presence of learning network elements. That meant verifying whether, for a specific group of companies ($n = 150$), the fact of being part of an alliance of firms that has the generation and sharing of knowledge as its final objective helps in the development of such strategic management elements and also has a positive impact on the global performance of the participating companies. And this, compared to a control group, formed by companies that have not gone through any similar programme.

The concept of learning networks was discussed, having as a background the understanding of how organisational networks in general are formed, leading to the more restricted definition of “knowledge alliances” required for this study (Learning Networks). Following this, we sought to identify, based on the wide literature that exists on the subject, what were the key elements that should be developed for the learning networks to be successful, resulting in a set of basic attributes that were common and present in several lines of studies on the topic.

Regarding the dependent construct, the global result of the companies, the theoretical study was conducted based on literature that shows a positive correlation between market orientation and corporate performance. This focus was due, primarily, to the conclusion that arose from the survey pilot test of the questionnaire, that companies are not truly willing to reveal their financial data, or that the respondent did not have access to such information.

Thus, in the final questionnaire, it was decided to develop a whole section that succeeded in measuring the performance of companies participating in the survey, although indirectly, based on several scientific works that show the positive relationship between market oriented indicators and corporate performance.

With respect to strategic management, one of the independent constructs, the line of study followed the theoretical proposition of several authors that divide organisational strategy into: i) Strategy Formulation and ii) Strategic Execution. This was followed by the identification of the existence of a third basic block that emerged from the literature on the subject. The new basic elements to be considered in long-run strategies, even before the strategy formulation, were related to the organisation's ability to develop a *culture of leadership for strategy*, a leadership that should be aware that it seems to be mandatory to consider *sustainability concepts* in the long term strategy; including in it all related parties. These elements were considered the block of “Strategic Basic Elements”.

The hypothetical model designed, which asked whether the existence of strategic management and also learning networks elements, somehow leveraged the global results of the company has been tested in practice, through a field survey which lasted nine months, conducted with a broad universe of mid-sized companies which operate in all regions of Brazil. This research produced a sample of 300 companies with valid answers, that was divided into two different groups: i) companies that have gone through the Learning Network Programme (LNC Group), which was managed for over 20 years by a business school with an international reputation in Brazil; and ii) companies that have not gone through this programme, nor any similar one, given that, it was previously found that, to date, no similar programme has been operating in the country. This sample was then used to develop a theoretical model that aimed to identify the main inducers of corporate performance, based on the concepts of strategy and learning networks, which was the main objective of this work.

In general, the field research validates virtually all proposed hypotheses, not only the general hypotheses but also the extended, that arose from the general, showing that the inclusion of such companies in this programme not only leverages the global results of the organisation, but also highlights the fact that being part of a learning network strongly favours the development of strategic management elements. The procedure adopted for the verification of hypothesized relationships in the structural model was the analysis of the regression

coefficients (parameters) estimated by the technique of structural equation modelling via PLS, for each of the relationships proposed (Hair Jr. *et al.*, 2010).

This analysis showed that both independent constructs (Strategic Management Elements and Learning Network Elements) demonstrate a strong predictive power relative to the Global Performance (62.1%). Likewise, it was found that the ability to explain the result of the Global Performance construct falls to 5.6% when only analysing the control group of companies that do not participate in the LNC Programme and therefore have only one independent construct on their hypothesized model (Elements of Strategic Management) to explain Global Performance (the dependent construct) of the companies.

Therefore, based on the results found in the evaluation of the structural model, in general, the initial expectations of the research have been proved. Synthetically, we can describe the evaluation results of the structural model by the following findings:

- i) The development of strategic management concepts or elements results in a higher global performance of the company;
- ii) Being part of a learning network results in a higher global performance of the company; and
- iii) Being part of a learning network helps companies to better develop strategic management concepts or elements and become strategy-focus organisations.

The above findings, described in the final model, enhance consideration of their nomological validity, in that the relationships between the constructs of the model behaved as provided in existing theory (Churchill, 1999, 2001; Hair Jr. *et al.*, 2005; Cooper and Schindler, 2011).

7.2 Contribution of this thesis

The identification of factors that are correlated with performance in organisations is of great importance and has become a recurring theme of research in strategic management. Furthermore, although the literature on the subject is comprehensive, there is still no

consensus on the benefits of adopting a strategic management model, here understood as the act of formulating and also of implementing or executing this same strategy, on the causes that lead an organisation to achieve better performance.

One of the greatest challenges facing managers today is to ensure that the strategic pathway defined, glimpsed in the strategic conception, is actually implemented, generating the benefits initially imagined. For this to happen, it is necessary that the strategic hypotheses, translated in the form of strategic objectives, initiatives, indicators and goals are widespread, permeating all organisational levels and in ways that can be understood by all staff at all levels. Also, it became clear that a developed and operative system of evaluation and control, capable of signalling fulfilment of the strategy through results that are being achieved, becomes a great advantage in managing the company on a daily basis. Therefore, as argued before, both the theoretical and the findings of field research endorse the importance of developing a strategic process comprising the formulation of strategies, the agenda for strategy execution, and the online use of an evaluation and control system, for monitoring any course corrections needed.

The bibliographic research, supported by the findings arising from the field research, makes clear that the existence of a strategic management system, tailored to the needs of the organisation, has become even more necessary from the moment the classic strategy formulation gives place to a logic based on an organisational learning, which emphasizes a more dynamic and circular process, rather than the classic static strategic planning. It happens because the stage of strategic implementation forces the organisation to be more attuned to the constant changes of the environment and highlights the need for more flexibility and rapid responses. Thus, the act of strategically planning and implementing these plans starts to be considered a single process, associated to the generation of a sustainable competitive advantage and, consequently, to better results when compared to competitors or to average market performance .

In this way, the findings of this research helped to deepen the understanding of this issue, confirming the relationship between the development of strategic management elements in organisations and corporate performance. Furthermore, the main characteristics of learning networks for SMEs were studied and it was found that a similar development of learning network elements also has a positive effect on the global performance of the companies participating in this kind of programme, as shown in the bibliographic research and also

corroborated by the field research. As argued before, learning networks may be seen as entities formed by a diversity of knowledge and critical competences, fundamental for the participating companies, which confers on them a competitive skill in obtaining, maintaining and refreshing implied knowledge in a speedier and more dynamic form.

Actually, with the increase of competition, this thesis shows that networks, in general, have assumed greater importance. The analysis of business competitiveness (both the *outside-in* and the *inside-out* approaches) now represents a partial analysis. It happens because this type of analysis is centred on the company as an isolated element, and the isolation can no longer be seen as normal behaviour in several industries. As shown both theoretically and practically, networks can act as a bridge to reach and operate in different markets, providing strategic and tactical information, technologies and other resources; to favour knowledge acquisition that can generate economies of scope and scale, amidst other important things and, finally to facilitate the formulation and achievement of the individual strategic objectives of the participating companies. A learning network thus impacts positively, and directly, not only companies' global performance, but also the strategy formulation and implementation of the individual participating firms and, consequently, also impacting, this time indirectly, the previously mentioned corporate performance via strategy success (strategic management elements).

In this way, the present study reinforced the idea in the literature of strategic management that an effective strategy formulation and implementation has a strong probability of conducting an organisation to sustainable competitive position and, consequently, to a superior performance level. Therefore, recognising the relevance to society as a whole, the normative implications of our findings demonstrate that, ultimately, the development and operationalization of a strategic management recurring process can effectively reduce the identified productivity gaps in SEMs of developing counties. In addition, other important contribution to knowledge of this present thesis is the conclusion that strategy, in general sense, has a greater effect in long-term performance (productivity) when it is conceived and executed within the boundaries of a Learning Network. In other words, our findings demonstrated that the fact of being part of a Learning Network can effectively help SMEs to, together, produce and share knowledge that foster and increasing performances.

In addition, the ultimate academic contribution of this study can be considered the development of two new scales to measure the development or existence of variables of the strategic management and learning network constructs. These are measures that still need a wider field validation process, especially for its replication and comparison of results, but that can be already considered a starting point for the improvement of other scales that aim to measure similar constructs.

Finally, the present study could be of remarkable value, when considering public policies to the SMEs sector. The findings presented can guide governments when proposing long-term formulation and implementation strategies to enhance the development of SMEs, not only of emerging countries, but also from developed economies.

In this context, in summary, the result of this work has as its main contributions to both the theory and to companies and the economy as a whole:

- i) To demonstrate the fundamental elements that comprise a system of strategic management;
- ii) To demonstrate that there are basic elements of strategic management to be considered even before the strategy formulation;
- iii) To demonstrate major gains in the adoption of a strategic management system;
- iv) To discuss the relationship of each of these elements to each other, demonstrating a principle of cause and effect between them, and to define the role of these elements, individually and jointly, in business success;
- v) To provide companies with a tool to evaluate their stage in the implementation of their strategic management systems;
- vi) To demonstrate the existence of learning networks requirements, considered fundamental elements in the establishment of successful partnerships;
- vii) To demonstrate that being part of a learning network contributes directly to the development of elements of Strategic Management of SMEs;
- viii) To demonstrate that the good functioning of SMEs learning networks contributes directly to better global performance of the participating companies;
- ix) To demonstrate that corporate global performances can be assessed based on market-oriented indicators and not only on financial data, when demonstrating the existence of

positive correlations between subjective and objective measurements based on several lines of study.

7.3 Study limitations and future research

The first limitation of this study is related to the differences between the proportions of groups of respondents, in relation to the business sector. The differences between the percentages of “industrial” and “services” were considered significant, based on Z tests for proportions with 5% of significance and correction of *Bonferroni* ($x^2=17.92$; $df=3$ $p < 0.01$) (see Figure 5.1). A similar limitation could be also identified when analysing the functional area of the respondent in the company ($x^2=26.94$; $df=8$ $p < 0.01$) (see Figure 5.6). The differences between the percentages of “production” and “HR” are also considered significant, based on Z tests for proportions with 5% of significance and correction of *Bonferroni*.

Probably, this is due to one of the data sources, which was the largest consultant firm in sustainability issues in Brazil. This firm, which provided the list of target companies, with contact names of executives to be interviewed, has a huge number of clients belonging to the industrial sector, as they represent a type of organisation with a greater power of environmental impact. This fact can also explain the second limitation, where the numbers of respondents that belong to the “production” department were considerably greater in the non-LNC Group. Executives from the production departments were naturally the contacts of this list to answer the questionnaire. Notwithstanding this, if we interpret that those executives, who were the principals of the “production” departments of those companies that belong to the industrial sector, due to their responsibilities, have a broader view of corporate strategy as a whole, one can infer that this limitation may have not represented a bias in the answers. Despite this possibility, it would have been ideal to collect data from different sources within the companies, in order to minimize the risk of some bias in the questionnaire responses, when comparing both groups (LNC and non-LNC).

Another point to be analysed is that the average responses of the LNC group were significantly higher than the averages observed in the non-LNC Group. Actually, Table 5.11 shows that virtually all items of strategy formulation, implementation and global performance have higher averages in the LNC Group in relation to other companies (non-LNC Group).

Notwithstanding this fact, a note of caution in interpreting these indices should be sounded, as one has to bear in mind that these data refer to a description obtained from non-experimental data. Thus, despite the observance of a correlation between the data, it is not possible to infer that participation in LNC Programme effectively increases levels in the studied variables, meaning that the correlation cannot be taken for causality (Hair Jr. *et al.*, 2003). As an illustration, one might infer that companies seeking to participate in the LNC Programme, even before the project, already have structural, management and strategic features, in terms of performance and managerial practices, which differ from the other companies of the sample.

It is also worth discussing the relatively small size of the sample. If we take the criterion of 05 (five) observations in the sample for each variable used in the factor analysis (Hair Jr. *et al.*, 2010), more than 325 observations for non-LNC Group would be needed and 425 for the LNC Group. In order to minimize problems arising from sample size, the estimation method of partial least squares (Partial Least Squares - PLS) (Haenlein and Kaplan, 2004) was used in this study, which is considered a robust analysis technique capable of working with smaller samples. However, one can consider that the restriction of using conventional methods of structural equation, which could have been used for overall adjustment of the model, could also be considered another limitation. Therefore, future field surveys using this scale should work with a larger sample in order to deal with the robustness of the hypotheses proposed in this thesis.

In addition, the fact that the sample used in the field research, for both groups analysed, is based entirely on Brazilian companies can also be considered a limitation for the generalization of results. Different from countries with more transaction-oriented cultures, Brazilian culture can be considered remarkably relational. This native characteristic could possibly influence the way executives behave within the groups that were part of the Learning Network Programme, when compared to the behaviour, for example, of executives of hypothetical groups created in Anglo-Saxon regions. In addition, with the decision to use the classification of companies by size adopted by BNDES (Brazilian National Bank for Economic and Social Development), the category of “Medium to Large” companies was included in the samples, because of this containing organisations with annual gross revenues between R\$ 90 million and R\$ 300 million. This type of classifying can be considered

different from other countries' definitions of SMEs, which could also be understood as a limitation for the generalisation of the results

Finally, the Strategic Management Elements construct was built up considering the elements of the individual companies that were part of the LNC Programme. In this way, the scales address the individual performance of the participating companies, instead of measuring the strategic performance of the group as a whole. Future studies should, in this way, make an effort to understand what could be considered the strategic management elements of the group itself; going beyond the individual strategies and creating what might be called the "strategic governance of the alliance", what, in general terms, should represent the strategic formulation and implementation for the group and not for the individuals, with collective objectives, indicators and goals. A successful strategy for the group would thus be far more than the sum of the individual increased performances of the participating companies.

Regardless of the limitations here described and the proposition of complementary studies described above, it is believed that this thesis represents a step forward in relation to previous research that sought to elucidate phenomena in the field of strategic management and learning networks, and in the relationship of these variables with the global corporate performance of SMEs. The study conducted here, proposed and validated in the form of this thesis, provides some insights as well as empirical support for theoretical propositions in the literature, and may represent a useful basis for further research in this field.

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APPENDIX A

**THE RELATION OF STRATEGIC MANAGEMENT MODELS
AND LEARNING NETWORKS TO PERFORMANCE
INCREASE**

Lessons from a Brazilian Learning Network of SMEs

This research is part of the development of a doctoral thesis in Management, at the University of Birmingham, UK.

PhD Student
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“This survey takes approximately 25 minutes to be completed”

RESEARCH: "THE RELATION OF STRATEGIC MANAGEMENT MODELS AND LEARNING NETWORKS TO PERFORMANCE INCREASE: Lessons from a Brazilian Learning Network of SMEs"

Dear Mr. / Ms.,

The attached questionnaire is intended for the development of the research conducted by the PhD student Guilherme Costa Valle Dornas, from the University of Birmingham, England. This study aims to analyse "THE RELATION OF STRATEGIC MANAGEMENT MODELS AND LEARNING NETWORKS TO PERFORMANCE INCREASE: Lessons from a Brazilian Learning Network of SMEs", using the information of a group of private mid-sized Brazilian companies, participants and non-participants in the "Brazilian Learning Network Programme (LNC Programme)", coordinated by a leading Brazilian Business school, with solid connections and partnerships worldwide, and is being held with the support of the answers given by the executives of these companies.

Such research will not need more than 25 minutes to be completed.

Please make your assessment of the proposed questions based on your current reality and not based on what you imagine to be the ideal stage of your company to be reached in the future.

Finally, please do not leave any question blank.

IMPORTANT: The researcher guarantees total confidentiality in handling your information. No one will have individual access to the questionnaire, and the researcher is only interested in the statistical treatment of the data of the sample as a whole. Finally, you are kindly asked to be totally sincere in your answers, in order to ensure the technical validity of this research.

Please save this file on your computer and forward it to coliveira@controlcorp.com.br. Or simply use the "Send Form" button.

Sincerely,

Guilherme Costa Valle Dornas
PhD Student of Corporate Strategy
University of Birmingham, UK

I. IDENTIFICATION

This section of the questionnaire is intended to establish a profile of the group of research participants. Please select the option that best fits your case.

Company Data

A. Business sector

1. Agriculture 2. Industrial 3. Trade 4. Services

B. Range of annual revenues (Gross Revenue):

1. Between R\$ 2.4 million and R\$ 16 million 2. Greater than R\$ 16 million up to R\$ 50 million
3. Greater than R\$ 50 million up to R\$ 90 million 4. Greater than R\$ 90 million up to R\$ 300 million
5. Over R\$ 300 million

C. Is your company a participant in the LNC Programme?

1. Yes 2. No

C.1. If so, for how long has the company been participating, or for how long did it participate, in the LNC Programme?

1. Between 24 and 36 Months 2. Between 37 and 60 Months 3. Between 61 and 120 Months 4. More than 120 Months

D. What factors led the company to participate in the LNC Programme?

1. To improve management practices for better performances.
 2. Opportunity to exchange knowledge and experiences between companies.
 3. Access to new concepts and methodologies through partnership with shared costs.
 4. Dissatisfaction with traditional consulting and training programmes.
 5. Access to management training shared with partners.
 6. Recommendation from other companies

Information on the Official Responsible for Completing the Questionnaire

E. Position held in the company:

1. CEO (President or First Level Director) 2. CFO (Chief of the Financial and/or Administrative Office)
 3. Senior analyst 4. Other. Specify:

F. Functional area of the respondent in the company:

1. Finance 2. Marketing 3. Commercial (Sales) 4. Planning
 5. Operations (Production) 6. Human Resources 7. Administrative 8. R & D
 9. Other. Specify:

G. Years of work of the respondent in company:

1. Less than 1 year 2. Between 1 and 5 years 3. Between 6 and 10 years 4. Between 11 and 15 years
 5. Between 16 and 20 years 6. More than 20 years

Other Data

Company:

Official Responsible for Completing the Questionnaire:

E-mail:

Phone Number:

These data are confidential and will only be used for clarification in completing the questionnaire, particularly in relation to KPIs, key point for a conclusive result in the study. THANK YOU FOR PARTICIPATING IN THIS RESEARCH!

II. STRATEGIC MANAGEMENT ELEMENTS

In this section, most of the issues appear as statements. These are Elements of Strategic Management developed or otherwise or even only partially developed in your company. You must always choose a single number within the range of 1 to 7, according to the following format:



Note: Avoid evaluating each question, as if answering a question with a simple "yes" or "no". Opt for polarity 1 and 7 only when you have full agreement or disagreement with the statement. Any exceptions lead you to analyse better the other options of the proposed scale.

1. Ideology and Vision Deployment

- | | Disagree
Completely | ←-----→ | | | | | | Agree
Completely |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|
| 1.1 The Corporate Vision is in an explicit way (written), in clear language that can be understood by everyone in the organization. | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |
| 1.2 The Corporate Vision is consistent with both Mission and Corporate Values. | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |
| 1.3 The Corporate Vision indicates the desired future state, clearly showing where the company wants to get to and when. | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |
| 1.4 The principle of sharing Corporate Vision and Strategy with employees is a belief of senior management. | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |
| 1.5 The employees know and understand the meaning of Corporate Vision, Mission and Values and realize how their daily tasks are linked to them. | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |

2. Strategy Conception

- | | Disagree
Completely | ←-----→ | | | | | | Agree
Completely |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|
| 2.1 The strategic planning process seeks the active participation of both senior management and the managerial group and happens every year. | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |
| 2.2 In the process of strategic planning, the company builds alternative scenarios and analyses the likely developments in each of them (Ex: pessimistic, expected and optimistic scenarios). | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |
| 2.3 In the strategic planning process, the external environment (Ex: market and competition) is monitored to identify opportunities and threats, trends and events that may affect the company's business (External Analysis). | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |
| 2.4 In the process of strategic planning, the company identifies the core competencies, and conducts analysis of its supply chain (culture, people, technology and processes, resources and internal environment), mapping the current and potential driving forces and weaknesses (Internal Analysis). | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |
| 2.5 Long-term goals for different perspectives or performance fields are defined (Ex: Financial, Customer, Process and People). | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |
| 2.6 The main strategic guidelines are derived from a consensus of the senior management and such fact is perceived by all employees. | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> NA |

3. Strategic Objectives Deployment

- 3.1 The main strategic objectives (corporate) are deployed by areas or business units transformed into other related objectives.
- 3.2 The deployment of strategic objectives includes services and support areas or units (Ex: HR, Accounting etc.).
- 3.3 The company fosters the reconciliation of goals that may be conflicting or complementary between areas.
- 3.4 The strategic objectives are deployed to operational teams and, in some cases, down to the individual level.

Disagree Completely ←————→ Agree Completely

<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA

4. Strategic Performance Indicators

- 4.1 The company uses a set of indicators linked to strategy: Lag indicators, associated with actual achievements and Lead indicators, which anticipate future performances.
- 4.2 These indicators are always related to strategic objectives and divided by different perspectives or performance fields (Ex: Financial, Customer, Process and People).
- 4.3 The indicators chosen are measurable and, to each one of them, a guardian or responsible party is assigned.
- 4.4 The operational definition of each indicator is clear and precise, as well as its measurement frequency and origin of the data.
- 4.5 Simulations are used to evaluate how each indicator impacts the other indicators of the Corporate Strategic Map.

Disagree Completely ←————→ Agree Completely

<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA

5. Strategic Goals

- 5.1 The Corporate Goals were defined according to the concept of being challenging but feasible.
- 5.2 The Corporate Goals are elaborated in a participatory way, from a negotiation process that relates the degree of difficulty to the existence of resources and support for their compliance.
- 5.3 The negotiation process to define Corporate Goals is driven based on internal and external historical benchmarks (Ex: best areas of the company, the most important competitors etc.).
- 5.4 The degree of awareness regarding the agreed Corporate Goals is high at all levels of the company.
- 5.5 There is clear evidence of the commitment of all employees to the goals.

Disagree Completely ←————→ Agree Completely

<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA
<input type="radio"/> 01	<input type="radio"/> 02	<input type="radio"/> 03	<input type="radio"/> 04	<input type="radio"/> 05	<input type="radio"/> 06	<input type="radio"/> 07	<input type="radio"/> 0NA

6. Strategic Initiatives and Action Plans

	Disagree Completely	←————→							Agree Completely
6.1 In order to achieve each strategic objective, one or more strategic actions that support such objectives are identified.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
6.2 The critical stages of each strategic action are defined (stages of a project), as well as the intermediate control milestones and the way of monitoring its compliance.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
6.3 A responsible official for each strategic action is formally designated, with clear limits of authority and of resources to implement the action.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
6.4 The financial and human resources are properly dimensioned for the development of the strategic actions over a pre-set period (people and resource allocation in different projects).	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
6.5 A formal procedure is adopted to analyse opportunity actions, additional to previously formulated strategy.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
6.6 The annual budget is only established after the deployment of strategic objectives in different areas or units and reflects the investments that support the strategic plan.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	

7. Leadership Culture

	Disagree Completely	←————→							Agree Completely
7.1 The involvement of senior management in the strategic management process occurs through the formulation of strategies, their disclosure, the negotiation of goals, and the monitoring of results.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
7.2 The competency profile desired for leadership (knowledge, skills and attitudes) is objectively described (in writing) and demonstrates consistency with company strategy.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
7.3 The adopted delegation process uses concrete instruments of outcome agreements and assignment of responsibilities, regarding the decision and execution of activities and tasks.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
7.4 The company culture fosters initiative, risk-taking, creativity, learning and teamwork.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	

8. Information and Communication Systems

	Disagree Completely	←————→							Agree Completely
8.1 The information systems used are appropriate and sufficient for determining the results in time to make decisions.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
8.2 Reports and specific information channels used allow interested parties to access results that are not only from the economic and financial fields.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
8.3 The internal communication systems (newsletters, bulletin boards, intranet etc.) are widely used for the dissemination of Corporate Vision, Values, Strategies, Indicators and Actions.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	
8.4 The strategy is disseminated throughout the organization through an instrument (Ex: strategy maps) that enables the understanding of the contribution of each area to the	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA	

Corporate Goals of the organization.

9. Control and Evaluation

- 9.1 The results are monitored at all levels of the company, which monitoring includes the analysis of the causes of deviations from targets.
- 9.2 When monitoring mechanisms show delays in strategic actions (projects), analysis of the impacts on the primary goals of the company are prepared and corrective actions are taken.
- 9.3 Levels of responsibility and authority are respected and the leaders only act correctively on the results of their subordinates when the delegation limits are exceeded.
- 9.4 The horizontal and vertical feedback between different organizational levels, mainly in regard to the previously agreed performance, is a common practice in the organization.

Disagree Completely ← → Agree Completely

01 02 03 04 05 06 07 0NA

10. Strategic Learning

- 10.1 At the end of each annual strategic cycle, a reflection on the assumptions made at the time of strategy formulation is conducted, in a process that contemplates eventual changes in the strategy pathway.
- 10.2 Strategy formulation takes into account the lessons learned in previous strategic cycles (Ex: what went right and what went wrong).
- 10.3 Strategy is reviewed when the team perceives a tendency to not achieve the primary goals of the company or in the face of significant changes in the external environment (Ex: new opportunities or threats).
- 10.4 The process of strategic planning and control is optimized, from positive experiences, failures and internal or external references (Ex: the best areas of the company, the best competitors etc.).
- 10.5 There is an ongoing concern in linking strategy and team development, so that they evolve in parallel.

Disagree Completely ← → Agree Completely

01 02 03 04 05 06 07 0NA

11. Related Parties and Sustainability

- 11.1 The financial results are analysed with emphasis on maximizing the value of the company and not just on profit increase (Ex: increase in Share Value, Discounted Cash Flow).
- 11.2 There are strategies, indicators and concrete actions that involve everyone in the production chain (from supplier to customer).

Disagree Completely ← → Agree Completely

01 02 03 04 05 06 07 0NA

01 02 03 04 05 06 07 0NA

11.3 The processes of customer satisfaction survey, new product development and after-sales services are aligned to customer needs, to foster customer loyalty.

1 2 3 4 5 6 7 NA

11.4 The company adopts a proactive posture in the community in which it operates, effectively demonstrating environmental and social responsibilities.

1 2 3 4 5 6 7 NA

11.5 The strategic management of individuals and teams is conducted in order to promote an organizational climate favourable to action and innovation.

1 2 3 4 5 6 7 NA

12. Recognition and Compensation

Disagree Completely ← → Agree Completely

12.1 The remuneration system (wages and additional benefits) is compatible with the reality of the region in which the company operates and / or its economic sector and promotes, at each level, the commitment of the various teams.

1 2 3 4 5 6 7 NA

12.2 The adopted system of recognition / reward favours both financial and other organizational performances, according to their contribution to the achievement of Corporate Goals.

1 2 3 4 5 6 7 NA

12.3 The adopted system uses criteria based on simplicity and justice, facilitating the understanding of the resource allocation process and recognizing merit.

1 2 3 4 5 6 7 NA

12.4 The targets used for variable compensation take into account both the results of corporate and business units, service areas, teams and individuals.

1 2 3 4 5 6 7 NA

12.5 The company adopts non-financial ways to recognize superior performance (Ex: promotion, award travels etc.).

1 2 3 4 5 6 7 NA

III. LEARNING NETWORK ELEMENTS

In this section, most of the issues appear as statements. These are Elements of Learning Networks developed or otherwise or even only partially developed in your company. You must always choose a single number within the range of 1 to 7, according to the following format:

Disagree Completely ← → Agree Completely

1 I disagree completely with the statement	2 I largely disagree with the statement	3 I somewhat disagree with the statement	4 I have an indifferent opinion is about the statement	5 I somewhat agree with the statement	6 I largely agree with the statement	7 I agree completely with the statement	NA The statement does not apply to your situation or you do not have enough information to assess it.
---	--	---	---	--	---	--	--

Note: Avoid evaluating each question, as if answering a question with a simple "yes" or "no". Opt for polarity 1 and 7 only when you have full agreement or disagreement with the statement. Any exceptions lead you to analyse better the other options of the proposed scale.

13. Formalisation and Awareness

Disagree Completely ← → Agree Completely

13.1 The Network Project has clear rules and procedures that are shared among all participating companies.

1 2 3 4 5 6 7 NA

13.2 The Network Project is expressly formalized and is widely known within each participating company.

1 2 3 4 5 6 7 NA

14. Mutual Dependence

14.1 The Network Project participating companies have complementary knowledge and skills.

Disagree Completely ← → Agree Completely

1 2 3 4 5 6 7 NA

14.2 The Network Project participating companies need each other to develop the elements of strategic management contained in the previous section.

1 2 3 4 5 6 7 NA

14.3 The Network Project participating companies are likely to share knowledge and skills.

1 2 3 4 5 6 7 NA

15. Ethical Principles and Trust

15.1 The Network Project participating companies behave with integrity and honesty.

Disagree Completely ← → Agree Completely

1 2 3 4 5 6 7 NA

15.2 The Network Project participating companies know how to keep confidential information obtained in the partnership project.

1 2 3 4 5 6 7 NA

15.3 The Network Project participating companies support externally the image of the project and of the other partnership members.

1 2 3 4 5 6 7 NA

16. Adaptation and Integration

16.1 The employees of the Network Project participating companies demonstrate ability to overcome the natural cultural differences and mistrust and to establish a favourable environment for collaboration and learning.

Disagree Completely ← → Agree Completely

1 2 3 4 5 6 7 NA

16.2 The employees of the Network Project participating companies demonstrate ability to develop personal connections within the activities of the partnership project.

1 2 3 4 5 6 7 NA

16.3 Individuals working in Network Project continue with personal connections outside the activities of the partnership.

1 2 3 4 5 6 7 NA

17. Individual Value and Contribution

17.1 The Network Project participating companies have resources, skills, competencies and knowledge to be shared.

Disagree Completely ← → Agree Completely

1 2 3 4 5 6 7 NA

17.2 Each Network Project participating company has unique values to contribute to the other partners.

1 2 3 4 5 6 7 NA

18. Strategic Relevance

Disagree Completely ← → Agree Completely

18.1 The ultimate objectives of the Network Project participating companies in relation to the partnership are positive and well intentioned.

1 2 3 4 5 6 7 NA

18.2 The ultimate objectives of the Network Project participating companies are aligned with the expectations of improved (superior) performance of individual members.

1 2 3 4 5 6 7 NA

18.3 The Network Project participating companies consider the partnership activities relevant to the company's success or superior individual performance.

1 2 3 4 5 6 7 NA

19. Strategic Information and Knowledge

Disagree Completely ← → Agree Completely

19.1 The Network Project participating companies openly share information and knowledge about what is being developed in the company's general management, resulting from the partnership.

1 2 3 4 5 6 7 NA

19.2 The Network Project participating companies openly share information and knowledge about other matters of company's general management, not related to the partnership.

1 2 3 4 5 6 7 NA

20. Involvement and Commitment

Disagree Completely ← → Agree Completely

20.1 The Network Project participating companies demonstrate visible signs of interest in staying in the partnership, in the medium and long term.

1 2 3 4 5 6 7 NA

20.2 The Network Project participating companies invest resources in the partnership (Ex: staff dedication, money etc.).

1 2 3 4 5 6 7 NA

IV. GLOBAL PERFORMANCE

In this last section (Please, also see Section V. hereunder), the questions also appear as affirmatives. It seeks to measure the Global Performance of the Company over a certain period of time (horizon between the years of 2005 and 2010); using what is called "Market Orientation". You are asked to support your answers with your company's Financial Reports of this period and other available marketing studies, when the statement is not directly related to the financial results. Again, you must always choose a single number within the range of 1 to 7, according to the following format:

Disagree Completely ← → Agree Completely

1 I disagree completely with the statement	2 I largely disagree with the statement	3 I somewhat disagree with the statement	4 I have an indifferent opinion is about the statement	5 I somewhat agree with the statement	6 I largely agree with the statement	7 I agree completely with the statement	NA The statement does not apply to your situation or you do not have enough information to assess it.
---	--	---	---	--	---	--	--

Note: Avoid evaluating each question, as if answering a question with a simple "yes" or "no". Opt for polarity 1 and 7 only when you have full agreement or disagreement with the statement. Any exceptions lead you to analyse better the other options of the proposed scale.

21. Global Performance between the years of 2005 and 2010

	Disagree Completely	←————→	Agree Completely					
21.1 The Company has demonstrated, above the industry average, ability to keep customers loyal and faithful.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA
21.2 The Company has demonstrated, above the industry average, ability to attract new customers.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA
21.3 The Company has presented, above the industry average, return on capital or resources invested in the business.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA
21.4 The Company has presented, above the industry average, growth on profits.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA
21.5 The Company has presented, above the industry average, growth on Sales (Gross Revenues).	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA
21.6 The Company has presented, above the industry average, improved competitive position against competition.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA
21.7 The Company has presented, above the industry average, improved global performance.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> NA

V. KPI's (Key Performance indicators)

The indicators below should be filled in according to the duly approved Financial Statements of the years 2005-2010. Please inform in R\$ thousands. Item C (Net Margin) will be calculated automatically and should not be filled in.

Formula	KPI's (R\$ thousands)	2005	2006	2007	2008	2009	2010
A	Gross Operating Revenues (R\$)	R\$ <input type="text"/>					
B	Net Profit (R\$)	R\$ <input type="text"/>					
c = b/a	Net Margin (%)	<input type="text"/> %					

Kindly save the file to your computer and then
forward it as soon as possible to coliveira@controlcorp.com.br.
Or just click on "SEND FORM" button

Any doubts, please contact:

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Thank you for participating in this survey!

SEND FORM