

**ARE START-UPS READY TO ADOPT A
BALANCED SCORECARD?**

Elisabete Andreia Pinto Castro

Master Dissertation

Master of Science in Business Administration

Supervisor:

MSc. Ana Margarida Madureira Simaens, ISCTE Business School, Department of Marketing,
Operations and Management

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“Start by doing what's necessary; then do what's possible; and suddenly you are doing the impossible.”

Francis of Assisi

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Acknowledgement

I would like to start by thanking my family for all their support, especially to my mother, father, brother and grandmother, for all their love and understanding. I have to offer a special word of gratitude and appreciation to my boyfriend who gave me a huge support in all the stages of this project by discussing with me several topics and helping me to make important decisions.

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Abstract

Balanced Scorecard (the BSC) is recognized as one of the most powerful strategic management tools due to its ability to translate the long-term strategy into short-term goals and in financial and non-financial indicators. Considering the Portuguese business context in which the number of start-ups has increased significantly, this constitute a relevant study universe to relate the BSC with companies in the initial phase of the business life-cycle. For this, it was applied an interview to 9 start-ups to determine the level of willingness to adopt the BSC by considering their organizational characteristics.

The main conclusion is that it seems to be a pattern that relates the business life-cycle stage in which a company is, with the willingness to adopt the BSC. Indeed, 8 over the 9 start-ups studied revealed not being willing to adopt the BSC in their companies due to their organizational characteristics that are inherent to the birth stage of the business life-cycle to which they belong and that constitute themselves obstacles to implement this tool. These start-ups attribute several advantages to the BSC by considering it is a very well designed tool but those are lessened by the obstacles found such as the scarcity of resources and the need to constantly change. Furthermore, the strategic management practices seem to be related to the willingness to adopt the BSC because this tool requires a long-term strategy and start-ups are short-term focused. To finalize, the willingness to adopt the BSC is higher from the birth stage to the growth stage as a result of the need to adapt internally to the increasing complexity of the company.

Keywords: Balanced Scorecard, Start-ups, Business Life-cycle, Strategic Management Practices

JEL Classification System: M130 New Firms; Start-ups

M190 Business Administration: Other

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Resumo

O Balanced Scorecard (BSC) é reconhecido como uma das mais poderosas ferramentas de gestão estratégica devido à sua habilidade em traduzir a estratégia de longo-prazo em objetivos de curto-prazo e em indicadores financeiros e não-financeiros. Considerando o contexto empresarial português onde o número de start-ups tem aumentado significativamente, é este o universo de estudo encontrado como relevante para relacionar o BSC com empresas que estão na fase inicial do ciclo-de-vida empresarial. Neste sentido, foi aplicada uma entrevista a 9 start-ups para averiguar a sua vontade em adotar o BSC considerando as suas características organizacionais.

A principal conclusão é a de que parece existir um padrão que relaciona a fase do ciclo-de-vida empresarial, na qual a empresa se encontra, com a vontade em adotar o BSC. De facto, 8 das 9 start-ups estudadas revelaram não ter vontade de adotar o BSC devido às suas características organizacionais que são inerentes à fase inicial do ciclo-de-vida empresarial à qual estas pertencem, e que constituem por si só obstáculos à implementação desta ferramenta. Estas start-ups atribuem várias vantagens ao BSC considerando-o uma ferramenta muito bem desenhada, mas que são minimizadas pelos obstáculos encontrados como a escassez de recursos e a necessidade constante de mudança. Além disto, foi verificado que as práticas de gestão estratégica parecem estar relacionadas com a vontade em adotar o BSC porque esta ferramenta requiere uma estratégia a longo-prazo e as start-ups são focadas no curto-prazo. Para finalizar, a vontade em adotar o BSC é maior da fase inicial para a fase de crescimento, sendo este o resultado da necessidade da empresa em se adaptar internamente à crescente complexidade da organização.

Palavras-chave: Balanced Scorecard, Start-ups, Ciclo-de-vida Empresarial, Práticas de Gestão Estratégica

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Glossary

API – Advanced Performance Institute

BSC – Balanced Scorecard

CIMA – Chartered Institute of Management Accounting

CSFs – Critical Success Factors

ERP – Enterprise Resource Planning

GEM – Global Entrepreneurship Monitor

HRM – Human Resources Management

IAPMEI – Instituto de Apoio às Pequenas e Médias Empresas e à Inovação

IJC – ISCTE Junior Consulting

INE – Instituto Nacional de Estatística

MAS – Management Accounting Systems

MCSs – Management Control Systems

OTD – On-time Delivery

PMS – Performance Measurement System

ROCE – Return on Capital Employed

SME – Small and Medium Enterprise

SWOT – Strengths, Weaknesses, Opportunities and Threats

TEA – Total Early-Stage Entrepreneurship Activity

USA – United States of America

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1. Introduction

The business world has been growing and is currently extremely competitive which influences the position that companies should take. Companies have to make several efforts to define the strategy that allows them to achieve the success (Santos, 2006; Brews and Purohit, 2007). There are constantly different and new challenges to face and companies have to adapt themselves by using new management methods to cope with the increasing competitiveness and give even more attention to their business strategies (Kaplan and Norton, 1992).

Considering the current business environment and the growing necessity of companies in having a performance appraisal system of their business, the traditional measures systems are no more enough to deal with business challenges. It was in this context that the Balanced Scorecard (BSC) was created to support companies in the definition and implementation of their strategy by linking the long-term strategy with medium and short-term goals and respective indicators (Kaplan and Norton, 1992). The BSC's greatest strength comes from its innate ability to integrate financial and non-financial indicators by measuring both strategic and business performance across four interrelated perspectives. The concept has evolved throughout time and it has suffered several improvements meaning that nowadays it is more than a simple performance measurement tool and it became a strategic management tool (Kaplan and Norton, 1996b). It is a fact that, according to studies of Bain & Company (2013), the BSC was considered, in 2013, the fifth most popular management tool used in companies.

The BSC was designed with large companies in mind. But the business world is not only composed by large companies and several studies were also developed to evaluate the implementation of the BSC in small companies. It is verified that the BSC is generally used by large companies rather than small ones, even if there are evidences that it could be beneficial for small businesses. In this sense, besides looking at large and small companies it became relevant to look in specific to start-ups due to the current business context and author's personal and professional motivations as member of entities related with entrepreneurial initiatives. Start-ups are companies that are in the initial stage of the business life-cycle and exist to create new products and services (Moore and Yuen, 2001; Ries, 2011). These firms constitute an interesting scope for this study because the number of entrepreneurs and start-ups has increased significantly during the last years. Considering that the BSC could be a beneficial tool for small

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businesses how is the scenario for companies that started recently their activity? As a starting point, both dimensions are related: the BSC supports companies to become better succeeded and start-ups have to be well succeeded to survive and grow.

In line with this, it became relevant to understand whether start-ups were aware of the BSC as a strategic management tool and in which extent they were willing to adopt it and in which circumstances. The relevance of this theme was sustained by the analysis of the extent to which the level of willingness to adopt the BSC relates with the stage of the business life-cycle in which a company is. To understand this, a qualitative methodology was used through a multiple-case study approach. To collect all the data from those case studies, an in-depth, an interview was applied to 9 start-ups in order to explore all the information needed about their characteristics and opinions about BSC.

For this purpose, the present report is divided in three main sections. The first is the literature review where the generic concepts of strategic management and the BSC are approached to familiarize the reader with such concept. Also in the literature review it is observed the strategic management process in start-ups, the usage of tools similar to the BSC in start-ups and, due to the lack of information, at our best knowledge, relating the BSC and start-ups, it is analyzed the usage of the BSC by small companies since they share similar characteristics with start-ups. The second part describes the methodology and the framework of analysis followed to answer the research questions of the study. Finally, the third part presents the conclusions of the study regarding the willingness of start-ups to adopt a tool as the BSC by summarizing start-ups' organizational characteristics and the main advantages and obstacles attributed to this tool.

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2. Definition of the problem context

To explain the relevance of the theme of this dissertation, it is crucial to present the international and Portuguese context regarding the usage of the BSC and its importance and the characteristics and trends of the Portuguese enterprise sector.

The Portuguese enterprise context is characterized by the predominance of Small and Medium Enterprises (SMEs) as the last study of IAPMEI (*Instituto de Apoio às Pequenas e Médias Empresas e à Inovação*) reveals: 99,6% of national enterprises are SMEs (Machado, 2013; IAPMEI, 2008).

Moreover, in the Portuguese context, it is possible to see that the number of entrepreneurs has been increasing as well as the number of start-ups. According to the report of GEM Portugal (Global Entrepreneurship Monitor) about a study on **entrepreneurship**, in 2010 the TEA¹ rate (Total Early-Stage Entrepreneurship Activity) was 4,5% meaning that existed in Portugal 4 to 5 early-stage entrepreneurs per 100 individuals in adult age. The fact is that the last study of GEM (2012) revealed that since 2010 until 2012 the TEA rate increased 71% since the TEA in this year was 7,7% (there are 7 to 8 early-stage entrepreneurs per 100 individuals in adult age) in comparison with the 4,5% of 2010. According with the GEM's report (2012), despite the difficult economic, financial and social situation of Portugal, the entrepreneurial initiative has increased.

This data allows looking at statistics about the evolution of the **number of start-ups** in Portugal. According to the data of Informa D&B, every year around 30481 new companies are formed and 74% of them effectively begin their activity meaning they are able to be successful. Thus, they concluded that between 2006 and 2011 it was founded, on average, 22 thousand start-ups² in Portugal every year. Even more and according with the studies of INE (*Instituto Nacional de Estatística*) called *Empresas em Portugal*, in 2011, 12,3% of the total of companies in Portugal represented new companies, but in 2012 this number has diminished 4,4% in comparison to the previous year as a result of a decrease in economic activity between 2008 and 2012.

¹TEA rate shows the proportion of individuals in adult age (between 18 and 64 years) involved in start-ups (fledgling business) or in the management of new and growing businesses

²For Informa D&B, start-ups are companies in the first year of its life; For Informa D&B, companies that are 5 or less years old are designated as young companies

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Despite this, more recent data of Informa D&B revealed that 35296 new companies were created in 2013 which represent an increase of 12,8% relative to 2012 and an involvement of more 10,2% entrepreneurs than in that year. Furthermore, the last data of May of 2014 divulged by Informa D&B showed that over the same period of last year (May of 2013), the number of creation of new businesses has increased 0, 2%. This difference was even greater in February of 2014 when this growth corresponded to 3%. These statistics are presented on a monthly basis meaning it varies a lot between months, but the trend is the increase of the number of new companies (start-ups) in Portugal.

In order to support this growth of the number of start-ups and according with the first survey applied to start-ups in Lisbon in 2013, there are also an increasing number of incubators which are places of co-working and incubation of start-ups and this allows reducing the costs for entrepreneurs in the launch of their business. In Lisbon, the incubators network is composed by 11 incubators that host around 200 start-ups and 800 workplaces. This bet in supporting start-ups reveals the importance they have in the economy of Portugal once they represent 6, 5% of the Portuguese enterprise sector and 18% of new jobs as Informa D&B reveals.

To add more information to this analysis and in order to justify the relevance of the study, it is now important to focus on the importance that **the BSC** has in companies. According to Bain & Company Guide (2013), it is recognized that the BSC is considered a useful tool for articulating the business's vision and strategy, establishing objectives to support it, developing effective measures and ensuring its acceptance, creating proper budgeting, communication, and reward systems and collecting and analyzing performance data in order to compare results with desired performance.

Taking this into account, some statistic data collected from BSC Designer's website, the use of the BSC brings several advantages since 80% of organizations using the BSC had improvements in operating performance and 66% of those organizations reported an increase in profits. According to the BSC Usage Survey developed by 2GC regarding 2013, the BSC was considered extremely or very valuable by 75% of the companies interviewed. The study also concluded that the most significant impacts of the BSC implementation were found in business actions (86%), behaviours (64%) and appraisal (46%).

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This analysis leads to another topic. Since the creation of the BSC, its potential has been recognized in several forms and it received distinctions as the best theoretical framework in 1997 by the American Accounting Association (Norreklit, 2003). Moreover, the Harvard Business Review considered the BSC as one of the most influential ideas of the twentieth century (Bible, Kerr and Zanini, 2006). These distinctions given to the BSC had impact on the increase of its usage. Indeed, according to Bain & Company by 2002 the BSC was already used by half of the Global 1000 companies (Calabro, 2001 apud Crabtree and DeBusk, 2008).

Moreover, according with the studies of the Advanced Performance Institute (API) about the number of companies using the BSC, it is used by about half of major companies in the USA (United States of America), Europe and Asia. Other studies approached by API reveals that over 50% of large USA firms had adopted the BSC by the end of 2000; in Germany, Switzerland, and Austria, 26% of firms use the BSC. They concluded that the broadest use of the BSC is found in USA, United Kingdom, Northern Europe and Japan.

Giannopoulos et al. (2013) revealed a study applied in 2009 by the CIMA (Chartered Institute of Management Accounting) to 439 respondents about the usage of more than 100 management accounting and related tools. According with it, the BSC is one of the most popular management tools and the most likely to be adopted by companies, namely the large ones. Indeed, the BSC is generally used by large companies rather than small since only 25% of the small entities use the BSC.

More recently, a survey of management tools and techniques conducted by Bain & Company (Rigby and Bilodeau, 2013) about the popularity and use of the BSC found that it was the fifth most popular management tool used in companies. They also concluded that the level of usage of the BSC was approximately 40% in 2013 and it decreased in comparison with 2011 (Rigby and Bilodeau, 2011) when the level of usage of the BSC was 50%. However, note that the overall usage of management tools decreased. Moreover, according to the same survey in 2013, the overall satisfaction was almost 4 out of 5 which corresponded to the highest satisfaction level (Rigby and Bilodeau, 2013). Despite this decrease, the BSC continuous to be one of the most popular and used management tools which evidence its importance for companies strategy.

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Regarding Portugal, Quesado and Rodrigues (2009) have explored the role of the BSC in large Portuguese companies and the conclusions were that the level of the BSC implementation in Portugal is extremely low. Moreover, also Machado (2013) studied the applicability of the tool in Portuguese industrial SMEs classified as excellence industry³ and he concluded that the use of performance evaluation tools such as the BSC are very low. To corroborate the information stated above and taking into account the study of Quidgest (2009), it is confirmed that the BSC is more used by large companies than by small ones. 22% of Portuguese SMEs use the tool and 50% of the Portuguese large companies use the BSC. Only 35% of the overall respondents use or are implementing the BSC and they recognize the positive impacts this tool has in terms of strategic alignment, internal communication and control of strategy.

The motivation for this study lies on the fact that if the number of start-ups and the TEA rate in Portugal has increased and the BSC is one of the most useful and used strategic management tool, thus it became relevant to study the role of the BSC in the context of start-ups. Additionally, the studies that have already been developed were mainly focused on SMEs and in large companies, not in start-ups which can constitute an important contribution towards this study. The next section presents the literature review developed about the generic concepts of strategic management and the BSC, as well as, the strategic management process in start-ups, the usage of similar tools to the BSC in start-ups and the usage of the BSC by small companies since they are similar to start-ups.

³Excellence Industry – “They represent a group of companies that were selected using goals aligned with those of this paper; mentioned classification assesses the economic, financial, and management performances of applicant enterprises (IAPMEI, 2002)”, mentioned by Machado (2013)

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3. Literature Review

3.1. Strategic Management Process

Companies face very competitive and unstable environments (Santos, 2006; Brews and Purohit, 2007) and many of them are worried about defining the path to achieve the goals and mission and to surpass the predicted difficulties (Santos, 2006).

In this sense, companies want to design the image of success. They want to achieve in the future through the definition of the organizational vision and for this they develop the strategy that determines the procedures to follow in order to attain the desired mission and vision (Santos, 2006). But what is strategy? The strategy of a company is defined on the set of rules and guidelines to make decisions that guide the development process of an organization into the future. It is consistent over time (Mintzberg, 1978; 2000) and it establishes the purpose of the company in terms of goals, action plans and resources allocation (Hax and Majluf, 1988). The strategy has the role to respond to external environment's opportunities and threats by matching organization's skills and resources with the environment's demands, in order to achieve organization's goals (Chrisman, Hofer and Boulton, 1988; Steiner and Miner, 1977 apud Hax and Majluf, 1988).

The development of a strategy depends on a process of strategic management that, according with Miller and Dess (1996), has the role of organizing the different areas of the company and to integrate all the efforts around the strategy defined to ensure its accomplishment. Nag et al. (2007) defined strategic management as the initiatives taken by managers that involves the maximization of the resources used and the focus on improving the performance taking always into account the external environment in which the companies are inserted on. According to Jasper and Crossan (2012), strategic management intends to involve the workforce to attain the strategic goals through an adequate leadership style, to facilitate the match of the firm to the external environment, to anticipate the future by forecasting what can happen, to define the processes that contributes to organizational development and achievement of the company's strategic objectives and, finally, to facilitate the decision-making process, as well as, the communication throughout the organization.

The strategic management process is approached by several authors and there are four basic steps in this process: the strategic analysis, the strategy formulation, the strategy

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implementation and the strategic control (Miller and Dess, 1996; Johnson et al, 2008 apud Jasper and Crossan, 2012; Pearce and Robinson, 2000; BSC Institute’s website).

The **strategic analysis** concerns with company’s understanding of the strategic position by making an internal and external analysis of the organization to evaluate the business environment and the firm itself (Johnson et al, 2008 apud Jasper and Crossan, 2012). This analysis is called the SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) that supports the establishment of strategic objectives (Miller and Dess, 1996). Thus, this is all about the analyzing the strength of business's position and understanding the relevant external factors that may influence that position.

The **strategy formulation** follows the strategic analysis and is the basis on the implement the designed strategy. This process is not equal for all the organizations and it depends on company’s characteristics and the environment’s conditions in which the company is inserted in (Hax and Majluf, 1988; Nicolau, 2001). Thus, there are three main strategy formulation processes similar across the methodologies approached by different authors but with different designations (Table 1).

Table 1 – Synthesis of Strategy Formulation Models: matching of concepts of different authors

Mintzberg (1978)	Nicolau (2001)	Hart (1992)	Chaffee (1985)
Adaptive Mode	Permanently Construction Process	Transactive Mode	Adaptive Model
Planning Mode	Rational and Formal Process	Rational Mode	Linear Model
-	Negotiated Process	Symbolic Mode	Interpretive Model
Entrepreneurial Mode	-	-	-

The ones in which this study centres its attention was: a rational and formal process, a permanently construction process and a negotiated process (Nicolau, 2001).

The process to formulate a strategy is seen as rational and formal when the strategy emerges through sequential, rational and analytical steps that origin a strategic plan deployed in an analytical way (Christensen et al., 1978), which is more likely to happen when the company is inserted in a stable or at least predictable environment (Mintzberg, 1978). Chaffee (1985) corroborates this with the linear model in which the strategy is constructed based on a systematic and direct process in which the top managers follow a decision-making rational process that results on integrated decisions, actions and plans that supports the strategy in order to achieve the organizational goals. It is also recognized in the literature that planning is important to achieve long-term goals

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through short-term goals (Katz, 1970 apud Nicolau, 2001) and the firm is able to better coordinate and integrate the activities and to align all the organization for the goals achievement (Hart, 1992; Mintzberg, 2000). Even more, the rational process is associated to the elaboration of a strategic plan since this is an output from a rational decision-making process (Murray, 1978). By having a strategic plan, a company is able to anticipate future actions (Christensen et al., 1978) and to standardize the strategy across the entire organization giving insights about what, when and how they have to act and who will act according to the situation (Steiner et al., 1989). These plans are designed to guarantee the achievement of objectives through the correct allocation of resources to seize opportunities (Murray, 1978).

On the other hand, the strategy can be formulated through a permanently construction process. There are circumstances in which the unstable, unpredictable and complex environment prevents a company to develop clear, ordered and controlled processes to formalize a strategy in a document (Chaffe, 1985; Nicolau, 2001). According to Chaffee (1985), companies inserted in this type of contexts are less able to predict the future events and eventual actions to take which makes them responsive to the environmental events. The strategy is formulated through the linkage between the company's internal capabilities and the adaptation to the external environment, thus the company must change with the environment instead of just dealing with it. As Steiner et al. (1989) explains larger companies are more used to use formal strategic planning systems than small firms. Smaller companies instead of formalizing their strategic planning, they do an intuitive-anticipatory planning that results on short-time reactions and decisions. These companies formulate their strategy based on the convergence of the day-to-day activities and the impact they have for company's performance because this match translates the strategy the company is following.

Finally, the negotiated process considers that the strategy formulation depends on the negotiation between the groups that constitute the company (Nicolau, 2001) meaning that the strategy is defined step-by-step based on discussion of ideas (Chaffee, 1985). If on one hand, the rational process presented is focused on a strict analysis of internal capacities and external factors, only after, do they think about values systems, the negotiation process is much less rational because the internal and external systems of values are the basis for the formulation of the strategy (Hofer and Schendel, 1979 apud Nicolau, 2001). By following a negotiation process, organizations are focused on

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sharing values by negotiating together which increases involvement of the organizational members (Hart, 1992). Chaffee (1985) also recognized that in this type of process, companies deal with the environment through an effective internal communication that takes into account the culture and relationships inside the company. It is a fact that companies are not only affected by internal agents but also by external social and political forces. Those forces are also considered in the strategy formulation meaning that the strategy or plans of strategic significance are negotiated with those external parties (Murray, 1978).

The **strategy implementation** comes after the strategy being formulated and it consists on moving efforts inside the organization to transform the intended strategies into realized ones through integration, organizational structure, control and leadership (Miller and Dess, 1996). Moreover, Pearce and Robinson (2000) refer that after the definition of long-term objectives and the respective strategy, this strategy has to be implemented through short-term objectives, functional actions and employees' empowerment and rewards. For them, short-term goals are the ones that translate long-term aspirations, which make possible defining the actions to implement the strategy thought. According to Pearce and Robinson (2000), implementing a strategy depends on translating it into daily activities, empowering desired behaviours and applying reward systems that align actions and results with organizational objectives.

The **strategic control** exists to assess the performance of the company in the pursuit of the strategy implemented by detecting possible problems or changes and acting according to it by making necessary adjustments (Pearce and Robinson, 2000). For these authors, strategic control relates to the analysis of company's direction – if they are moving in the right direction – and company's performance – if they are performing well or if they need adjustments. Strategic control is relevant to guide the company in order to adjust its strategic actions and directions according to the changes and challenges of internal and external environment (Pearce and Robinson, 2000).

In order to support and contribute for all the process of strategic management, Kaplan and Norton (1992) developed a tool named Balanced Scorecard that helps on the rationale that lies behind the strategy formulation/discussion and implementation (Kaplan and Norton, 1992; 1996a; 1996b; 1996c).

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3.2. Balanced Scorecard as a Strategic Management Tool

Senior executives have assumed that organization's measurement system affects the company overall strategy and activity. Since it is not enough to look only at static numbers of past performance, the executives also understood that traditional financial accounting measures are insufficient for continuous improvement and innovation which are the key to success (Kaplan and Norton, 1992). In general, financial measures encourage managers to focus only on maximizing the short-term results making them forget about the long-term company's performance in terms of sustainability. An investment today and a loss in the short-term return could be a huge step for company's future success (Pandey, 2005; Kaplan and Norton, 1996c; 2006). Thus, non-financial measures appeared as key factors for future companies' success since they lead the company to achieve the best results in financial terms. And as Kaplan and Norton (2001a) revealed, the intangible assets are a vital source for companies' competitive advantage which proves the importance of considering non-financial measures (intangible assets) in companies' strategy.

It was in this context that Kaplan and Norton in 1992 noticed the importance of having a measurement system that was able to include both financial and non-financial measures. They created the BSC which is a tool that allows managers to have a more comprehensive view of the business since it includes a set of measures: financial measures focused on showing the results of actions already taken and operational or non-financial measures that lead to future financial performance (Kaplan and Norton, 1992). The concept had evolved and Kaplan (2010:18) defined again the BSC as “*(...) a robust measurement and management system that included both operational metrics as leading indicators and financial metrics as lagging outcomes, along with several other metrics to measure a company's progress in driving future performance*”.

In fact, the traditional performance measurement systems (PMSs) exist as a tool to control employees' actions by measuring whether they are achieving the goals (Kaplan and Norton, 1992). But the BSC is different because it is based on the vision and the strategy of the company and not the control function (Kaplan and Norton, 2001b). The assumption behind the BSC is that employees will do everything they can to achieve those goals because the measures are designed to pull people toward the overall vision increasing the commitment (Kaplan and Norton, 1992). In addition, traditional tools reflect the past of what the company did, but they do not give insights to take decisions in terms of improving future performance as the BSC does (Kaplan and Norton, 1993).

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3.2.1. Characteristics and Evolution of the Concept

Initially, the BSC was presented as a performance evaluation system (diagnostic and control system) incorporating financial and non-financial measures and defining the goals to achieve and the respective execution measures (Machado, 2013; Pandey, 2005). But the concept has evolved to a strategic management system and managers started to integrate it into their planning and budgeting processes (Kaplan and Norton, 1996c).

In fact, Kaplan and Norton (1996b) defined the BSC as a strategic management system to transform the strategy into actions. Pandey (2005) verified that companies started to use the BSC as a tool to understand, communicate, and implement the strategy at all levels of the organization. Thus, the BSC allows a company linking long-term strategic objectives with short-term actions through a combination of separated four new management processes (Kaplan and Norton, 1996b; Pandey, 2005): **translating the vision** (create a consensus around the organization's vision and strategy translating this into actionable goals and initiatives), **communicating and linking** (communicate the strategy throughout the organization), **business planning** (integration of financial and business plans), **feedback and learning** (review processes and performance, give feedback to top management about the strategy status and adapt it).

Kaplan and Norton (2001a) concluded that the BSC is one of the biggest reasons why companies could quickly achieve the success of their strategy and deliver results because it focuses on the overall strategy and its linkages. Pandey (2005) corroborates this since he found several reasons that encourage firms to use the BSC: it gives a better understanding of the target customers; it contributes to create intangible and intellectual capital inside the company; it articulates very well the strategy of growth with business excellence through a bet on non-financial initiatives; employees understand better how their day-to-day operations are linked with the strategy and its goals; and the companies are always able to review the performance and receive feedback continuously.

With all these characteristics of the BSC, Kaplan and Norton (2001a) concluded that it allows the capitalization of companies' current resources, assets and capabilities preventing them to become obsolete. It is worth noting that these results are achievable with the support of the BSC, but the BSC is not a strategy, it is a tool supporting the management to follow the strategy formulated. A company has to continue formulating its strategy and strategic objectives and to achieve these goals and business success a

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company needs a strategic planning process that is independent of the BSC. In fact, the BSC is neither a strategy nor a strategic planning process since it is a constituent of the strategic planning process (Pandey, 2005).

3.2.2. A look at the Balanced Scorecard's perspectives

The BSC includes four perspectives (Table 2) that provide a forceful structure helping companies to define effectively the strategic objectives contributing to a clear and simple view of the business (Kaplan, 2010). They are exposed in detail in Appendix I.

Table 2 – Summary of the BSC's four perspectives

Innovation and Learning Perspective	<p><i>"Can we continue to improve and create value?"</i></p> <p>It includes indicators to measure the innovation, creativity, competence and capability of the company through ensuring employees' satisfaction, retention and productivity. The knowledge and capacity to learn fast are aspects taken into account as indicators of growth.</p>
Internal Business Perspective	<p><i>"What must we excel at?"</i></p> <p>This perspective is about what should be done internally to meet customers' needs which require alignment of processes and employees' actions. Quality, productivity, employees' skills, costs reduction, etc. are keywords in this perspective.</p>
Customer Perspective	<p><i>"How do customers see us?"</i></p> <p>This perspective aims to ensure the services provided add value to customers and surpass their needs. To evaluate if this is happening, indicators as satisfaction levels, acquisition of new customers and retention of targeted customers are relevant.</p>
Financial Perspective	<p><i>"How do we look to shareholders?"</i></p> <p>This perspective is a result of the other ones. It measures company's good performance and success and aims a sustained shareholder value creation. Revenue growth, productivity, risk management, profitability and shareholder value are keywords of this perspective.</p>

Source: Adapted from Kaplan and Norton (1992)

In order to use the BSC, a company has to translate the strategy and vision into objectives to be achieved under each one of the four perspectives (Kaplan and Norton, 1996c). The company is able to know if they are achieving these goals through the defined indicators (specific measures) for each perspective which measures the progress of the company on achieving that objective. It is also crucial to define the targets (values for the indicators) that a company has to reach if they want to attain that goal. Finally, all this is only possible if the company describes the actions needed to be performed for the entire company to achieve the targets and respective goals (Pandey, 2005; Kaplan

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and Norton, 2006). Concluding, each one of the four perspectives must have objectives, measures, targets and initiatives as the Scheme 3 of the Appendix I demonstrates.

3.2.3. The characteristics of Balanced Scorecard's Measures

3.2.3.1. Cause and Effect Relationship

According to Kaplan and Norton (1996a), a well-constructed BSC has to include goals and measures consistent and linked between them and that are mutually reinforced. All the measures included in the BSC have to be related in cause-effect relationships because this allows describing firm's strategy once each measure is connected with the others of each perspective creating an integrative framework where it is possible to see the entire company's strategy interconnected. For instance, if a firm trains employees to increase their knowledge about the range of products, then they will sell more effectively which increases the average margin of sales (Kaplan and Norton, 1996a).

To understand the importance of these relationships it is possible to observe the Scheme 4 (Appendix II) and respective explanation which corresponds to an example of Kaplan and Norton (1996a) that exemplifies how the BSC works and how it could translate the link of the business unit's strategy. Concluding, all the measures to be used in a BSC must be defined based on the goals established by firm's mission and strategy and they must be related in a cause-effect relationship meaning that if a measure changes, other changes can occur in other measure elsewhere. Furthermore, these relationships help identifying the critical drivers that will improve the performance in important outcome measures (mainly in the financial and customer measures) (Kaplan and Norton, 1996c).

3.2.3.2. Outcomes and Performance Drivers

Kaplan and Norton (1996a; 1996c) had emphasized the importance of having in the BSC outcome measures (generic measures) and performance drivers of those outcomes. The outcome or generic measures are the ones common to all the businesses such as “(...) *profitability, market share, customer satisfaction, customer retention, and employee skills.*” (Kaplan and Norton, 1996a:66). The performance drivers are the indicators that determine how the company's goals can be achieved. For Kaplan and Norton (1996c:31), these drivers identify the operational factors such as “(...) *strategic investments, market research, innovative products and services, reskilled employees and enhanced information systems (...)*”.

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The BSC has to include the performance drivers because to achieve the goals of financial and customer perspectives, it is necessary to have key performance drivers for the internal processes and learning and growth perspectives. Thus, an effective BSC should incorporate both core outcome measures and performance drivers because the last ones define how the outcomes are to be achieved (Kaplan and Norton, 1996a).

To finalize, the general measures or outcomes are the financial measures also named as “after-the-events” or lagging indicators of performance because they show managers what happened, how they did in the past. The lagging indicators are the result of the leading indicators (non-financial goals) that allow managers to know how the firm could succeed in the future. With this, a company is able to see what they did in the past, how they are currently performing and how they will do in the future. The BSC allows seeing this through the lagging, current and leading indicators (Pandey, 2005).

3.2.3.3. Number of measures in the BSC

The measures established for the perspectives are limited to 12 in total which induces managers to focus more on what is really important and critical by minimizing information overload (Kaplan and Norton, 1996a). However, in a company there are measures for different purposes and companies have a lot of measures to monitor and guarantee that everything in the company is functioning as expected and correct it if it is not (Kaplan and Norton, 1996a). However, the role of the BSC is to have a limited number of critical indicators in the four perspectives which is crucial for managers to focus on the strategic vision (Kaplan and Norton, 1993). The BSC is not an organization's day-to-day measurement system that makes daily monitoring, it drives action plans to lead the company to the success (Kaplan and Norton, 1996a) and it monitors if the strategy is being implemented as established (Kaplan and Norton, 1996c).

3.2.4. Strategic map

It is recognized the relevance of having cause-effect relationships between the BSC's measures in order to ensure an overall alignment of the company's strategic components (Kaplan and Norton, 1996a) but empirical studies had shown that this process was one of the most difficult aspects to implement (Machado, 2013). Taking into account the importance given to cause-effect relationships, Kaplan and Norton (2001a) proposed the development of a general framework for the BSC implementation named strategic map.

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A strategic map is a framework that follows a rational and comprehensive approach for describing strategy and the linkages between the critical elements of a company's strategy (Scheme 5 - Appendix II). This map was developed with the purpose of helping to describe and implement a strategy through the BSC to make it understandable for all the employees and organization units, by creating a common point of reference (Kaplan and Norton, 2001a). With this framework, managers can communicate easily the cause-effect relationships and provide unit's value proposition and then the BSC is even more capable to monitor the unit's strategy (Kaplan and Norton, 2006).

3.2.4.1. How does it work?

The BSC includes financial and non-financial measures that have to be linked since improvements in intangible assets affect financial outcomes. Though, the difficult part for managers is to place financial value on intangible assets as motivation levels and create a cause-effect relationship between those measures (Kaplan and Norton, 2001a).

In terms of measuring intangible assets, Kaplan and Norton (2001a) verified that an intangible asset's value depends on the context in which it is positioned since most part of the times the intangible asset has to be bundled with other tangible and intangible assets to create value. Likewise, they justify the importance of creating cause-effect relationships because no individual asset has value on its own meaning that the value has to be created by linking the entire set of assets in a strategic way. It was because of all of these difficulties of implementing a BSC through the deployment of measures in cause-effect logic, that the strategic map was made (Kaplan and Norton, 2001a).

A strategic map should be built from top to down starting with the overall goals and other components of company's strategy (such as the mission, vision, core values) and then designing the way to reach what the company wants to become (Kaplan and Norton, 2001a) as the Scheme 5 of the Appendix II and respective explanation illustrates. Kaplan and Norton (2001a) explain how the four perspectives are interconnected showing how the companies must look at each one of them and how they are linked in a cause-effect relationship. Note that this framework of the strategic map (Scheme 5 - Appendix II) is very similar to the Scheme 4 of the Appendix II in which a practical example is exhibited.

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3.2.5. Advantages and limitations

Kaplan and Norton (1992) identified numerous **advantages** coming from the use of the BSC by several companies proving that the BSC meets several managerial needs: it creates a single management report which allows a better and earlier decision-making process. It also supports to adapt the path of the company almost in real time; and it allows a company “(...) *becoming customer oriented, shortening response time, improving quality, emphasizing teamwork, reducing new product launch times, and managing for the long term*” (Kaplan and Norton, 1992:73).

Due to the BSC's cause-effect relationships, no area can stay outside the managers' analysis because all the important operational measures have to be considered together and a change in a component leads to a change in the other ones which is beneficial to guarantee consistency of vision and actions contributing to adapt the strategy and its activities in almost real time (Kaplan and Norton, 1992; Pandey, 2005).

Furthermore, Kaplan and Norton (1993) defined four reasons of why the BSC is so special: the BSC is a top-down reflection about company's mission and strategy; it looks at the current situation but also at the future success, so it is “forward-looking” which helps managers to look at the past and adapt the actions for the future; it allows the integration of external and internal measures; and finally, the BSC helps companies to focus on what is critical for the success of the company's strategy.

After several researches and real examples of companies which had already implemented the BSC, Kaplan and Norton (1996a; 1996c; 2001b) concluded this tool is very useful to make an articulation between the strategy and the business since it contributes to communicate effectively the strategy and to align individual, organizational and cross-departmental initiatives in order to reach a common goal. The BSC also has the ability to incentive frequent reviews to company's performance, to learn and improve the strategy (Kaplan and Norton, 1996b). The study of Crabtree and DeBusk (2008) concluded that companies adopting the BSC have superior performance and earn greater returns than those that do not adopt it meaning that this is an effective strategic management tool that leads to improved shareholder returns.

Taking into account the Portuguese context, the study developed by Quesado and Rodrigues (2009) shows that despite the low level of the BSC's implementation in Portuguese large companies, there were benefits attributed to this tool when it was

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implemented (Table 18 – Appendix III). From those benefits, the ones to highlight are the improvement of the alignment between strategic goals and actions and its clarification and communication throughout the company. The benefits found after the BSC's implementation meet some of the reasons presented by the large companies to implement this tool in the future since the main reason is the alignment and communication functionality (Table 19 – Appendix III).

However, the BSC also has **limitations** to emphasize. According with Neely et al. (2000), performance measures (or indicators) that are imperfectly designed and implemented are expected to result in company's dysfunctional behaviour. Although, the BSC is a valuable framework, it provides little guidance on how the appropriate measures can be defined, introduced and used to manage business (Neely et al., 2000).

Chen and Jones (2009) concluded that, on average, there is a lack of acceptance of the BSC by those who are affected by it, in large measure, due to management's inappropriate communication because many companies fail when it comes to communicate strategic goals to employees that generates low levels of motivation and commitment which is a barrier in the alignment of their human capital with the company's strategy. Moreover, employees of companies adopting the BSC do not perceive the organizational outcomes as more positive than those of the competitors who haven't adopted the BSC, nor that the benefits of its implementation outweigh the associated costs.

Additionally, some companies can't find a balance between financial and non-financial measures, neglecting the last ones over the first ones. Therefore, they are not being truthful to the name of the instrument they are applying, which suggests a balance in the strategic evaluation measures (Chen and Jones, 2009).

Following the same way of reasoning used regarding the advantages of the BSC, also in the Portuguese context it was identified reasons to not adopt the BSC in large Portuguese companies (Quesado and Rodrigues, 2009). The main reasons are the existence of tools that are useful and enough for company's activity, the fact that the BSC does not fit company's culture and mission and the companies do not recognize that the BSC could bring benefits to their business (Table 20 – Appendix III).

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3.3. Strategic Management in Start-ups

According to Ries (2011:8), a start-up is “*a human institution designed to create new products and services under conditions of extreme uncertainty*”. Start-ups are normally conceived by entrepreneurs who have passion for the business they developed and believe in the success they can achieve (Harris, 2006).

A start-up is designated as a company that is in the first stage of its operations which implies a good management policy that can control costs and increase sales⁴. Generally, a start-up is a small firm and Mata and Machado (1996) confirms this by referring that new firms entering in the market (start-ups) are typically small and they initiate their operations at a small scale. Also Gelderen et al. (2000) consider start-ups as small firms and Talaulicar et al. (2005) did a study in which was necessary to highlight the difference between what happens in large companies and in start-ups since the last ones have limited size being smaller than large companies. It is visible that start-ups have different characteristics from larger companies. In fact, what happens is that characteristics of organizations vary across life-cycle stages (Moore and Yuen, 2001).

3.3.1. Organizational Characteristics across Life-cycle Stages

Miller and Friesen (1983, 1984) worked on the five-stage life-cycle model in which they used the Table 3 below to assign the companies of their study to the respective stage in the life-cycle.

Table 3 - Criteria to assign companies to the respective stage in the business life-cycle

Phase	Criteria
Birth	Firm is less than 10 years old, has informal structure and is dominated by owner-manager.
Growth	Sales growth greater than 15%, functionally organized structure, early formalization of policies.
Maturity	Sales growth less than 15%, bureaucratic organization.
Revival	Sales growth greater than 15%, diversification of product lines, divisionalization, use of sophisticated controls and planning systems.
Decline	Demand for products levels off, low rate of product innovation, profitability starts to drop off.

Source: Miller and Friesen (1983)

Based on their model, it was concluded that organizational characteristics vary across the stages in 5 main dimensions (Table 4): Situation (or context), Strategy, Structure, Leadership Style and Decision-Making Style (Moore and Yuen, 2001; Miller and Friesen, 1983; 1984).

⁴<http://www.investopedia.com/terms/s/startup.asp>

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Table 4 - Change in Organizational Characteristics across the five stages of the life-cycle model

		Organizational Characteristics				
		Situation	Strategy	Structure	Leadership Style ⁵	Decision-Making Style
Stages	Birth	Small firm; Young firm; Homogeneous environment;	Considerable level of service/Product innovation; Niche strategy; Substantial risk taking	Informal; Undifferentiated; Power Centralized in the owner	High initiation of structure; Low Consideration	Crude information processing; Minimum amount of information used;
	Growth	Medium sized; Older firm; More heterogeneous and competitive environment	Incremental level of service/Product innovation; Rapid Growth	Moderately formal; Moderately Differentiated; Somewhat less centralized	Medium initiation of structure; High Consideration	Maximum amount of information used; Initial development of formal information processing and decision-making methods
	Maturity	Larger; Still older; Competitive and more heterogeneous environment	Low level of service/Product innovation; Consolidation in the Market; Focus on Efficient Supply; Slower growth	Formal and Bureaucratic; Moderately Differentiated; Functional basis of organization; Moderate centralization	Medium initiation of structure; Medium Consideration	Maximum amount of information used; Initial development of formal information processing and decision-making methods
	Revival	Very large; Very heterogeneous, competitive and dynamic environment	Substantial level of service/Product innovation; Diversification of product-market; Higher level of planning; Rapid growth	Formal; Highly Differentiated; Divisional basis of organization;	High initiation of structure; Medium Consideration	Minimum amount of information used; Sophisticated controls and scanning in information processing; more formal analysis in decision-making
	Decline	Medium size Homogeneous and competitive environment	Low level of service/Product innovation; Price cutting; Conservatism; Slow growth	Very Formal and Bureaucratic; Moderately Differentiated; Functional basis of organization;	Medium initiation of structure; Low Consideration	Minimum amount of information used; Less sophisticated information processing and decision-making methods

Source: Moores and Yuen (2001) and Miller and Friesen (1983; 1984)

Taking into consideration that the goal of this dissertation is the analysis of the role of a strategic management tool (the BSC) in start-ups, it is relevant to focus on the analysis of the strategic management practices.

⁵ Initiating Structure - leader's behavior that emphasizes the performance at work that focus on the attainment of the goals of the group by establishing clear channels of communication; Consideration – leader's behavior characterized by friendship, mutual trust, respect and concern in relationship between the leader and the group (Fleishman, 1973 apud Holtz and Harold, 2013)

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At the beginning of this literature review, it was approached different ways of formulating a strategy in a company which can be done in a, more or less, formal way. Also for start-ups this dilemma between applying formal or informal writing and implicit strategies has been debated by several authors. Based on the analysis of Smith (1998), it was concluded that if on one hand the studies developed by Porter demonstrate that formal planning is more effective, Mintzberg's study reveals that formal planning could be too rigid and it is necessary to use an adaptive approach that incentives intuition and creativity around the company.

Smith (1998) wanted to understand how this question of planning or not, occurred strategically in small start-ups with less than 10 employees. He concluded that the majority of the companies he had studied had a business plan and it was formally written, which was very useful when these companies started to grow because the main documents about its strategy were already designed. Formal planning leads companies to achieve easier the specified objectives and to outline the path to follow. In fact, Smith (1998) concluded that small start-ups should plan its strategy to better organize their business, to allocate efficiently the resources and to understand if they are achieving or not what was stipulated in the plan. The study showed that firms which plan the strategy performed better than the ones that left things to chance and act in a reactive way. Indeed, the author discovered that strategic planning was also useful and advantageous for micro organizations and it was able to develop and sustain a competitive advantage through the definition of formal measures incorporated in the strategic planning processes.

But the choice of formalizing or not the strategy depends on the stage of the business life-cycle and the environment characteristics in which the company is (Gelderen et al., 2000; Moores and Yuen, 2001; Miller and Friesen, 1983; 1984). Gelderen et al. (2000) developed a study in 49 small business start-ups applied in two different periods of time⁶ in which they compared the types of strategy formulation used with the environmental characteristics and performance. Based on this, the Table 5 below synthesizes the four action strategies approached in start-ups, their characteristics and their level of planning:

⁶The first application occurred near the initial stage of the company and then the same interviews took place 16 months after

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Table 5 - Four action strategies in start-ups and respective characteristics and level of planning

Strategy	Description	Orientation	Level of planning
Reactive	It is not planned and the strategy is driven by the situation.	Situation-Oriented	No Planning
Complete Planning	The planning is done ahead. The strategy is structured and there is a proactive orientation.	Goal-Oriented	Planning is essential
Opportunistic	Rudimentary planning since a firm deviates from the plan as an opportunity occurs. Plans are adjusted very quickly.	Situation-Oriented	Rudimentary planning
Critical Point	The critical point is chosen and plans and actions depart from this point. When a critical point is solved, another emerges.	Goal-Oriented	Some degree of Planning

Source: based on Gelderen et al. (2000)

In this study, Gelderen et al. (2000) discovered that in the Birth Stage of the business life-cycle in which there is a high degree of uncertainty, the critical point strategy was the most used because entrepreneurs had to make fast decisions at every critical point emerging inside the firm. It was also revealed that in this stage the opportunistic strategy was also used since the company was more open to new opportunities and entrepreneurs adjusted the plan every time they wanted to seize a found opportunity.

Gelderen et al. (2000) concluded that when the company starts to grow, to become more complex, to expand their activities and to hire employees, a more structured and top down planning approach is needed. Thus, a complete planning strategy is used in this stage of rapid growth because it helps to deal with more complex decisions and to control better the organization performance. Hence, the increase of the complexity of the start-up leads to the need of introducing more sophisticated management and control techniques (Gelderen et al., 2000; Moores and Yuen,2001), meaning that as the firm's stage in the life-cycle varies, the characteristics and needs of the company also varies (Table 6) (Miller and Friesen, 1983; 1984).

Table 6 – Strategies adopted in Start-ups and respective external and internal characteristics across Life-Cycle Stages

Strategy	Environment Characteristics	Company's Characteristics	Life-Cycle Stage
Reactive	High degree of uncertainty, many competitors and few resources	Scarce of human and capital resources	Birth Stage
Complete Planning	Higher Complexity	Growth, expansion of activities and employees; sophisticated control techniques	Growth Stage
Opportunistic	Constant changes and uncertainty	Take the opportunities	Birth Stage
Critical Point	High degree of uncertainty	Quick decisions	Birth Stage

Source: based on Gelderen et al. (2000) and Miller and Friesen (1983; 1984)

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But in fact and according to Gelderen et al. (2000), entrepreneurship is associated to uncertain environments which are characterized by fast change a complete planning strategy is not of much use. As the author realized, in those environments in which there are many competitors and few resources, it is very difficult to plan and use a proactive strategy and a reactive strategy is more used by start-ups. Indeed, Bhide (1994) realized that planning does not fit most start-ups because entrepreneurs do not have time to make intensive analysis and project several scenarios to be included in a strategic plan. Those firms that plan are less likely to survive in the first years of existence.

However, even if the reactive strategy is the most used, it is widely recognized that small business start-ups that choose this strategy (no planning) rather than a proactive one have a poor performance (Smith, 1998; Gelderen et al., 2000; Bhide, 1994). Gelderen et al. (2000) emphasize that companies following the reactive strategy are less successful since they do not have a plan and action plans according to each obstacle that can appear. In fact, when those companies focus on the most crucial issues of the company by formalizing and planning the strategy (complete planning strategy) they are high performers and they can get better results (Smith, 1998; Gelderen et al., 2000).

The reality is that start-ups work in dynamic environments and they need to implement decision-making processes that are fast and that result in strategic decisions of high quality (Taulau et al., 2005). An entrepreneur only plans and makes specific analysis when it seems to be pertinent and necessary. They become more successful by focusing more on operational planning and analysis than in strategic planning (Bhide, 1994).

In order to finalize, it is also important to match the types of strategy formulation processes defined for start-ups and the ones approached at the beginning of this literature review, which is summarized in the Table 7.

Table 7 - Synthesis of Strategy Formulation Models in general and for start-ups: matching of concepts of different authors

Gelderen et al. (2000)	Mintzberg (1978)	Nicolau (2001)	Hart (1992)	Chaffee (1985)
Reactive Strategy	Adaptive Mode	Permanently Construction Process	Transactive Mode	Adaptive Model
Complete Planning Strategy	Planning/Rational Mode	Rational and Formal Process	Rational Mode	Linear Model
-	-	Negotiated Process	Symbolic Mode	Interpretive Model
Opportunistic Strategy	Entrepreneurial Mode	-	-	-
Critical Point Strategy	-	-	-	-

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The reality is that start-ups have a bigger risk of failure and most of them are not sustainable if they do not get additional investment and funding from venture capitalists, banks and other entities⁷. Whitehead (2002), Harris (2006) and Bhide (1994) refer that those companies have to prove they are a good source of investment by developing a business plan that is realistic and truthful. Also Gelderen et al. (2000) observed that small business entrepreneurs have to produce a plan to obtain financing from a bank and Harris (2006) adds that business plans are also useful to attract key employees and to motivate the team. An investor does not want to lose money and he/she wants to make sure the investment is really worth and the start-up must convince them they are going to make a significant increase in their initial investment (Whitehead, 2002).

3.3.2. Importance of Management Control Systems in Start-ups

Until now, it was verified that start-ups usually do not focus attention on planning its strategy but when they do, they are more successful (Smith, 1998; Gelderen et al., 2000; Bhide, 1994). Actually, when these companies start to grow, it is crucial to have a strategy defined and implemented and to develop mechanisms that help them to support all the business (Gelderen et al., 2000).

Indeed, Davila and Foster (2007) recognized the importance of the existence of management control systems (MCSs) in start-ups. Those are “(...) *formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities*” (Simons, 1995:5) and Davila and Foster (2007) consider that MCSs incorporate financial, human resources and strategic planning, financial and human resources evaluation, as well as, product development, sales/marketing, and partnerships. Moreover, this analysis of the importance that MCSs have in start-ups becomes even more important since several authors equate the BSC to a MCS (Otley, 1999; Norreklit, 2000; Bisbe, and Otley, 2004).

The MCSs mentioned are considered fundamental to support start-ups growth in the transition from an informal management approach to the use of formal management tools (Davila, 2005). Davila (2005) pointed out that this necessity occurs because MCSs facilitate companies' growth since they contribute to synthesize information among the employees and to move important information to the right decision makers. Thus it contributes to a better communication throughout the start-up and to maintain everyone

⁷<http://www.investopedia.com/terms/s/startup.asp>

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aligned with organization's goals and mission. Davila and Foster (2007) stated that MCSs are important to coordinate and monitor costs that increase as company grows and it provides the management infrastructure required for firm's growth. Furthermore, Davila and Foster (2007) and Moores and Yuen (2001) agree with the fact that when companies grow it becomes even more important to implement systems that control and help to manage the company and all the resources, as better as possible, since the resources available are scarce (Gelderen et al., 2000; Wang and Wu, 2012).

However, Davila (2005) also has mentioned that even if the start-up is not growing much yet, MCSs are needed to codify routines and put attention in repetitive tasks that are relevant for the survival of that business.

In order to compare the use of MCS across the five-stage life-cycle model, Moores and Yuen (2001) studied how the use of Management Accounting Systems (MAS), which are a specific example of a financial system (Davila and Foster, 2007), vary and are more or less formal across the stages. Moores and Yuen (2001) concluded that as organizations evolve across the stages, the development of effective MAS is part of the adaptation process to the internal and external complexity, since it helps the company to deal with management density. Specifically, the use of more formal MAS increases from the Birth Stage to the Growth Stage as a result of firm's need to adjust internally to more density and to deal with more complex and different structures and tasks.

Concluding, a start-up needs to have MCSs to be able to grow due to their benefits; but as company grows, MCSs become more in quantity, intensity, diversity, relevancy and strength. Thus, the relationship between company size and the intensity of MCSs goes both ways (Davila, 2005; Davila and Foster, 2007).

3.3.2.1. Financial planning

A global view of these systems shows the importance given to financial indicators to control the execution of the business in a start-up company (Davila and Foster, 2007). It is possible to find a similarity with the BSC background where until its appearance, the companies' concern were about only financial indicators (Kaplan and Norton, 1992), and this is what is still happening with start-ups (Davila and Foster, 2007; Burns, 2011).

The MCSs most considered for companies in their initially stage are financial systems such as accounting systems and in particular the budget (Davila and Foster, 2007).

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Burns (2011) assumes the relevance of having plans and budgets as tools to monitor and control the performance of the business. For him, this is a way to look at actual financial results, to compare with the budget and to intervene when the results deviates from the initial plan. The budgeting process contributes to communicate better, to coordinate the activities, to establish standards of performance, to motivate and to know the results.

In fact, the focus on financial systems has a reason. Burns (2011) alleged that when a company is in its first stage, it is determinant to control very well the financial drivers such as the cash flow, sales, profit margin, and others because without this control a company cannot survive and not grow. In fact, a good management of cash flow is vital for a start-up to minimize its cash flow requirements and to prove to a bank and other possible investors that the company is able to have cash and to pay its bills (Burns, 2011; Smith, 1998). Also Churchill and Lewis (1983) studied that when a start-up wants to survive, they have to have enough cash to replace the capital assets as they wear out and they have to generate enough cash flow to stay in business and to finance growth of the company. Burns (2011) added the importance of having financial plans to convince stakeholders about the present and future success of the company.

3.3.2.2. Non-financial planning

Nevertheless, Davila and Foster (2007) also discovered that not only the financial planning and evaluation are important but also individual human resource planning and strategic planning appear as important MCSs to adopt in the initial stage of the company. Davila (2005) put more effort in this approach showing that MCSs include also systems for human resources management (HRM) and he recognized that those systems are also important for small firms when they start to grow.

Davila (2005) concluded that when a start-up starts to grow and to hire more employees, **personnel control system** is needed to ensure that new employees receive all the information about company's culture and goals; the **action control system** is needed to match organization and employees expectations by identifying very well the role of each other and it simplifies employees' coordination around company's rules and goals; and the **results control system** ensures a fair evaluation and respective reward systems as company grows.

In the research done by Davila (2005) about venture capital, an important bridge between MCSs and the BSC was found. The author discovered that venture capitalists

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have financial interest in start-ups and they want to see them develop and grow because with this, they also grow individually. These venture capitalists are interested in MCSs implemented in start-ups because they help companies to grow. Moreover, they want to align the financial success of the organization with employees' motivation and actions through the definition of financial and non-financial objectives.

3.4. The BSC in Small and Medium Enterprises and Start-ups

As it was seen before, the MCSs are considered vital for a start-up to grow. Despite the importance given to control systems for strategy and HRM (Davila, 2005; Davila and Foster, 2007), the financial control systems such as the accounting systems continue to be considered the most relevant systems (Burns, 2011; Davila and Foster, 2007).

Taking into account that there is lack of literature, to our best knowledge, about the BSC in start-ups and considering that start-ups are generally small companies (Talaular et al., 2005; Mata and Machado, 1996), it is possible to analyze some benefits and limitations of the BSC's implementation in SMEs to realize its impact. For this analysis, note that start-ups could have some different characteristics from SMEs mainly in terms of the their life-cycle stage (Birth Stage) since start-ups are more focused to gain position in the market, to be financed by investors, to attract and retain clients, to have enough money to cover cash demands, and others (Churchill and Lewis, 1983; Bhide, 1994; Cassar, 2004). But in general and in accordance with the authors stated, they are small companies and it is possible to make this match.

3.4.1. Benefits

Comparing the benefits of implementing a BSC in a large company and in a SME, it is possible to conclude that since SMEs have a less complex structure and limited resources (less employees and hierarchical levels), the BSC allows to focus more in what is really strategic, it facilitates the communication inside the company and the decision-making process (Person, 2009). Churchill and Lewis (1983) revealed that in a start-up the organizational structure is also very simple, there are no formal systems because the owners can control everybody once the employees are few.

The study done by Phadtare (2010) analyzed whether the BSC could be beneficial for SMEs and if it helped them to survive, succeed and grow. The conclusion was that SMEs could also implement successfully, this tool and benefit from it. This happens because the BSC translates strategy into performance measures and tracks performance,

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it contributes to cost reduction and revenue increase, and SMEs can continuously improve. Thus, the BSC can be beneficial for SMEs if they overcome the barriers of implementation.

3.4.2. Limitations

SMEs are characterized by small scales, few workers, single products and services and quick changes in the business which creates the need for SMEs to be more flexible, efficient, and innovative than the large enterprises since they face an internal and external environment less stable (Hongmei and Yujun, 2010) which is similar to start-ups (Churchill and Lewis, 1983; Bhide, 1994; Talaulicar et al., 2005). Because of these characteristics, Rompho (2011) says that there are some limitations to implement successfully a BSC in a SME and some constraints that it is necessary to care about. With his literature review, the author found that there are barriers to the BSC implementation such as the limited human and capital resources, the lack of time available, the lack of top manager involvement and absence of supporting software. Remembering what was said above, start-ups suffer of uncertainty of human and capital resources and of access to limited resources because they depend on the resources available in the environment (Gelderen et al., 2000; Wang and Wu, 2012). Despite these potential obstacles, Kaplan and Norton (2001a) mentioned that the BSC is able to capitalize companies' current resources, assets and capabilities.

Besides, Antonelli and Parbonetti (2002) cited by Garengo et al. (2005) concluded that the majority of SMEs do not perceive the need of having a PMS that balances financial measures and non-financial measures as the BSC, and the same seems to happen with start-ups since the biggest focus is in financial planning (Davila and Foster, 2007; Burns, 2011) as it was possible to see above.

The relevant issue that Rompho (2011) focused on was the main cause that prevents a BSC to be successfully implemented in a SME: the natural need of having a quick response to change which leads to frequent strategy changes. The same happens with start-ups that are normally inserted in emerging and fast industries implying the need to act quickly and apply changing strategies (Churchill and Lewis, 1983; Bhide, 1994; Talaulicar et al., 2005; Gelderen et al., 2000).

Furthermore, according to Garengo and Biazzo (2012), SMEs have an important entrepreneurial component to face frequent strategy changes and they consider

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performance measures as constraints to face these changes. SMEs are operationally focused and they do not give much importance to the formalization of their strategy because they have to quickly respond to frequently strategic changes. Regarding start-ups, in the initial stage of activity systems and formal planning are minimal to nonexistent (Gelderen et al., 2000; Churchill and Lewis, 1983; Bhide, 1994) and they become more successful by devoting attention to operational analysis and planning since they thrive in high-velocity environments (Churchill and Lewis, 1983; Talaulicar et al., 2005). Because of these characteristics, Garengo and Biazzo (2012) developed a new methodology to implement a BSC in SMEs which will be detailed later on.

Rompho (2011) showed a case study in which the company failed when implementing the BSC because its strategy was always changing and the measures defined in the BSC's perspectives were added or revised very quickly. The fact is that the BSC's measures should be stable and cannot be affected by environment changes during a long period of time unless a launch of new initiatives occurs (Kaplan and Norton, 2001 apud Rompho, 2001) cited by this author. Concluding, these findings showed that the BSC could have limitations when implemented in SMEs (which can include also start-ups due to the similar characteristics) because those companies have a specific nature of business based on frequent and quick response to market changes, which is the opposite of what happens in a large organization operating in a much more stable market.

Bringing to discussion the Portuguese context of the BSC in SMEs, the study of Machado (2013) divulged that the BSC is not significant for Portuguese SMEs (only 3 firms of a total of 58 uses a BSC). The reasons why the rest of the firms do not use the BSC are: the BSC was not considered useful to the company; the ratio benefit/cost was not favourable; the BSC philosophy is incompatible with the company's internal policy; need to comply with rules imposed by the headquarters; and personnel unprepared to implement the BSC (Machado, 2013).

Despite the probability of the BSC becomes disadvantageous for SMEs, McAdam (2000) cited by Russo (2006) proved with empirical studies that the BSC represents a lot of benefits for SMEs when it is well implemented: better definition of strategy; look at the resources and connect them with strategic goals; increase of the variety of products and services; employees alignment with company's strategy through a better communication process; it simplifies finding employees' training and development needs; and others.

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Concluding, for Garengo and Biazzo (2012), the BSC as it is, was designed for large enterprises where the complexity is much higher than in SMEs or in start-ups, and Hoque and James (2000) corroborate this by saying that larger organizations are more likely to use the BSC meaning that as size of firms increases, it becomes more practical and useful to implement it. There are limitations when implementing the BSC in SMEs which can bring unexpected disadvantages, but if the BSC is carefully implemented according to SMEs' characteristics, it contributes to translate their strategy into performance bringing better results to the company (McAdam, 2000 apud Russo, 2006). Russo (2006) explains that the BSC is not a unique formula that organizations can implement without any adaptations. It is not possible to just copy the concept and apply to SMEs or to start-ups; it has to be adapted according to companies' characteristics.

3.5. How to implement a Balanced Scorecard?

3.5.1. Top-down approach

To implement a BSC, it is pertinent to consider that each company is different and the implementation process must be adapted to the company's characteristics (Russo, 2006). Also, every company's units have their own BSC and strategic map which has to be linked with the corporate BSC. Thus, each unit has to set clear measures and targets to deploy their activities correctly contributing to the overall company value proposition (Kaplan and Norton, 2006).

Kaplan and Norton (1993) reflected about real examples of the BSC's implementation in different companies and they developed a framework with implementation steps that include the intervention of an external or internal facilitator (Table 21 - Appendix IV).

The implementation process is time consuming and requires several interviews and workshops which involves both internal as external parties. The goal is to understand the expectations about company's performance and to achieve the consensus about the company's strategy. After several interviews and workshops, the discussion of ideas results on the formulation of operational measures for the BSC based on the strategic objectives. As the number of people involved in the process increases, closer the company is to the final corporate the BSC. When the final version is completed, the result is communicated throughout the company, the BSC is implemented and periodic reviews have to be done (Kaplan and Norton, 1993).

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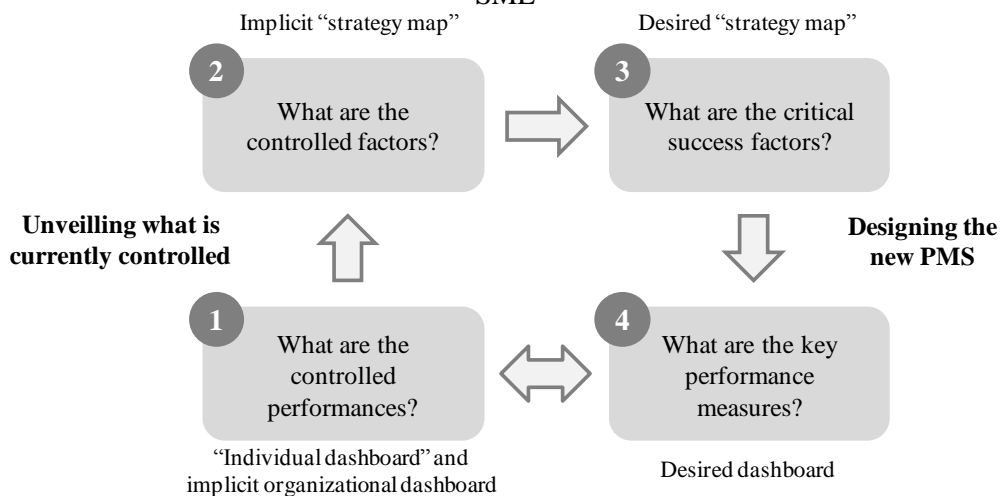
3.5.2. Circular Methodology

The guides given by the creators of the BSC are a top-down approach which aims to translate the strategy already well defined and known into action. But Garengo and Biazzo (2012) concluded that this methodology was done with large companies in mind and for companies with characteristics of SMEs the same approach needs adaptation.

As it was seen before, the literature evidences that SMEs and also start-ups do not formalize their strategic choices and their focus is on rationalizing their operational practices and strategic processes. And, contradictory to this, the methodologies offered to apply a strategic measurement system are based on a top-down approach which implies that the company has its strategy well formalized, which is not the case of most part of SMEs and start-ups. SMEs' cultural and organizational characteristics are crucial factors that led to the development of a methodology defined as "circular methodology" that contrasts with the top-down approach (Garengo and Biazzo, 2012).

This approach starts with a gradual process, starting from operations by looking at operational reality of each individual and it does not feature the abstract and generic formulation of strategy. This process is represented by the Scheme 1 below and detailed in Table 22 (Appendix IV). Briefly, the process starts by searching for the business strategy in employees' daily performances and shared knowledge. It is based on operational tasks that the critical success factors (CSFs) that hold up the pursued company strategy are figured out. Then, the management team is able to determine the desired strategic goals to synthesize firm's strategy and to build the desired strategy map. This map is the basis for the BSC's performance measures identification.

Scheme 1 - Circular methodology to design and implement a PMS (including the BSC) in a SME



Source: adapted from Garengo and Biazzo (2012:97)

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An important difference between the top-down approach and this methodology is that instead of starting the strategic map with the BSC's financial perspective, it starts with the customer and internal perspective. Furthermore, the learning and growth perspective is now the intangible perspective with particular focus on individual knowledge and organizational climate. In fact, this methodology enables the guidance of SMEs' managers to implement a BSC that's strategically aligned (Garengo and Biazzo, 2012).

To finalize, a successful implementation depends on the adaptation of the process to company's characteristics and Pandey (2005) found the prerequisites to ensure this success. For him, it is determinant to involve the top management insuring their commitment and support in all the process; to set firm's CSFs and to translate them into measurable goals and metrics; performance measures should be associated to rewards to increase motivation and all the organization should be linked around the BSC through an effective communication system. Finally, the linkage between strategic planning, the BSC and budgeting process is vital to ensure a better allocation of company's resources.

3.5.3. Strategy formulation processes and the BSC implementation

It is pertinent to make a connection between the methodologies for the BSC's implementation and the rational and formal or adaptive and informal processes of strategy formulation (Table 8) to make a clear match between both.

Table 8 - Matching between the characteristics of strategy formulation processes and the methodologies developed for the BSC's implementation

Strategy formulation characteristics	Methodologies for the BSC's implementation
Rational and Formal Strategies	Top-down Methodology(Kaplan and Norton, 1993)
Adaptive and Informal Strategies	Circular Methodology(Garengo and Biazzo, 2012)

Indeed, the methodology for the BSC's implementation presented by Kaplan and Norton (1993) is top-down which is directly related to the rational and formal process of strategy formulation because it aims to translate the strategy already defined, formalized and known into action. On the other hand, the circular methodology (Garengo and Biazzo, 2012) is referent to SMEs that do not formalize their strategic choices since they work in a very unpredictable context. The philosophy is that the BSC is implemented by starting with the information of daily tasks to get an overall understand of firm's strategy. This methodology is more associated to strategies that are reactive, in which there is not a formal plan of strategy, than with the ones that are rational. These firms are used to respond to the day-to-day challenges by doing an intuitive-anticipatory planning (Steiner et al., 1989).

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4. Research Questions

The main research question of this study is **“How do different stages in the business life-cycle play a role in the willingness to adopt a BSC?”** It emerged from the literature review since start-ups are companies in the birth stage of the life-cycle model and the study of Miller and Friesen (1983; 1984) demonstrates that organizational characteristics vary across stages in 5 main dimensions and the external environment.

This research question becomes even more important taking into account the study carried out by Moores and Yuen (2001) that shows that companies that are in the Birth Stage of the Life-cycle (start-ups) have little demand for formal control systems as MAS (a specific MCS). In fact, the use of MCSs is more often when the company starts to grow (transition from the birth stage to the growth one) as a result of the need to adapt to the rising complexity that the company has to deal with (Davila, 2005; Davila and Foster, 2007). Since the BSC is also seen by several authors as a MCS (Otley, 1999; Norreklit, 2000; Bisbe, and Otley, 2004), it is determinant to understand how the characteristics of companies in the birth stage of the business life-cycle can determine the willingness of a start-up to adopt a BSC.

Other important research question that arose from the literature review developed was **“how do existing strategic management practices play a role in the willingness to adopt a BSC?”** This question is relevant for the present study for a main reason. The BSC is a strategic management tool and it is used to support strategy formulation and implementation meaning this tool requires a long-term strategy established (Kaplan and Norton, 1996b; Pandey, 2005). It was verified that the majority of start-ups do not have a long-term strategy defined because they use reactive strategies due to the uncertain environment in which they operate (Gelderen, 2000; Bhide, 1994). Since these companies follow informal and flexible ways of strategic management and the BSC requires a planned strategy, it became relevant to understand if start-ups formalize and plan their strategy and how this can or cannot influence their willingness to adopt the BSC.

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5. Methodology and Research Process

First of all, the research paradigm had to be identified since it determines the context for the study. A research paradigm is defined as the set of interrelated assumptions, practices and agreements present in the community that constitute a set of beliefs that are the starting or ending points for the study and determines the selection of tools, instruments and methods to use in the study (Lewis and Grimes, 1999; Filstead, 1979 apud Ponterotto, 2005; Eriksson and Kovalain, 2008).

In this case in specific, the paradigm that best guided the research was the **interpretivist paradigm** since it does not consider the existence of a reality totally objective giving some relativism and subjectivity to it (Saccol, 2009; Orlikowski and Baroudi, 1991). This paradigm assumes that the research does not start with a theory but rather it develops a theory based on the background experienced of the participants in the study (Creswell, 2003) as well as, on how individuals interpret and understand social events (Eriksson and Kovalain, 2008). Once there was lack of information in the literature about the specific implementation of a BSC in start-ups, the study developed intended to construct and interpret new facts in the social world and give insights to the theory (Saccol, 2009; Orlikowski and Baroudi, 1991).

Furthermore, the model of social science research was partial deductive and open to be inductive (Thomas, 2006; Eriksson and Kovalain, 2008). It was **partial deductive** because the study was based on a set of information already existent in the theory and it was necessary to test if the data collected was consistent with the theory analyzed (Thomas, 2006). Indeed, there was information regarding the use of MCSs in start-ups and the use of the BSC in SMEs and the relationship between the use of these tools and the life-cycle model. Thus, there was a starting point for this study based on a collection of different data and that together constituted a solid support to begin all the analysis.

The model was also **open to be inductive** because there was no information in the theory, at least to our best knowledge, regarding the use of the specific tool “the BSC” in start-ups. Hence, the study was totally open to hear entrepreneurs’ opinions about this theme. It was from the analysis of empirical data that it was possible to derive concepts, themes, models or even a theory to characterize the reality observed regarding the BSC in start-ups (Thomas, 2006; Eriksson and Kovalain, 2008). To understand in specific the use of this tool in start-ups, it was necessary to search for an answer in the real world

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and was through the analysis of successive and similar phenomena collected through the interviews applied to start-ups that it was possible to construct a set of information that explains the study and the research questions.

5.1. Research Process: Qualitative Methodology

In order to develop the study, a methodology was followed and the choice about the type to use was influenced by the need of gathering extensive information from start-ups. The methodology is the process and the procedures the researcher uses to guide the research and to obtain the information needed for answering the questions emergent from the literature review (Ponterotto, 2005; Eriksson and Kovalain, 2008).

Taking into consideration that the paradigm of the study was the interpretivist and that it centres its attention on gathering information through qualitative research methods such as an interview and participant observation (Howe, 1988; Ponterotto, 2005; Saccol, 2009), the methodology followed was **qualitative**. Indeed, when little is known about an issue, it is normal to start with qualitative research that is exploratory and flexible (Edmondson and Mcmanus, 2007; Eriksson and Kovalain, 2008).

In fact and according with Seale and Silverman (1997), a qualitative methodology consists on the understanding of people's experiences, attitudes and opinions and social life in general. They referred that the methods of qualitative methodology generally generate words, rather than numbers and it is believed that open-ended questions are an effective way to obtain all the information needed. Following this way of reasoning, the research method that better suited the characteristics of this study (interpretivist and qualitative) was the **case study research** (Yin, 2009). Moreover, since the research questions start with a "how", this led to the use of a case study as the appropriate method in the first place (Yin, 2009). The essence of a case study, according with Schramm (1971) cited by Yin (2009), is the comprehension of why and how a decision or set of decisions were taken which allows understanding complex and social phenomena by retaining the characteristics of real-life events (Yin, 2009).

In this specific study, and following the insights of Yin (2009), it was used a multiple-case studies approach that is more robust than a single case study, even more if it is used between 6 and 10 case studies. In this specific case, it was used the replication for multiple-case studies meaning that the same questions were asked to different start-ups in order to understand what they think about the same topic to conclude about the

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existence or not of a general phenomenon among the sample. The application of the multiple-case studies intended to first develop an individual case analysis and then draw single cross-case conclusions to understand the phenomenon.

To collect all the data needed for the multiple-case study research, it was used an in-depth interview, also named as exploratory (Fontana and Frey, 1994; Edmondson and Mcmanus, 2007; Eriksson and Kovalain, 2008), applied to 9 start-ups as a source of information. The sample gathered the knowledge of 9 start-ups' representatives about the 6 dimensions that constitute companies' characterization across the life-cycle stages and their willingness to adopt the BSC presented before.

5.1.1. Data collection

The qualitative research method applied as the technique of data collection was the **in-depth interview**. The interview is a technique widely used to understand the human behaviour and this type of interview allows gathering information in a greater breath. (Fontana and Frey, 1994) which was the goal in this research.

With the purpose of applying an interview that could explore all the information needed about characteristics of start-ups and opinions about the BSC, an in-depth interview was designed by using a semi-structured format of interview – Appendix V (Fontana and Frey, 1994). According to Legard et al. (2003), these interviews are optimal to construct knowledge through the collection of data on individuals' personal histories, perspectives, and experiences and it intends to combine some structural format with flexibility when applied. For them, this type of interview has the goal of achieving breadth and depth coverage across the key issues, which was a goal of this study.

The common type of interviewing is based on a face-to-face verbal interchange and it can be individual or in group (Fontana and Frey, 1994). In this case in specific, the interviews were done to one person of each start-up and face-to-face to 8 start-ups and one was done through Skype. Moreover, the interviews were done in the Portuguese language and an audio recording was used to ensure that all the information was collected without fail (Seale and Silverman, 1997). Then, the interviews were transcribed using a program called F4 to facilitate the data treatment (Image 1 - Appendix VI).

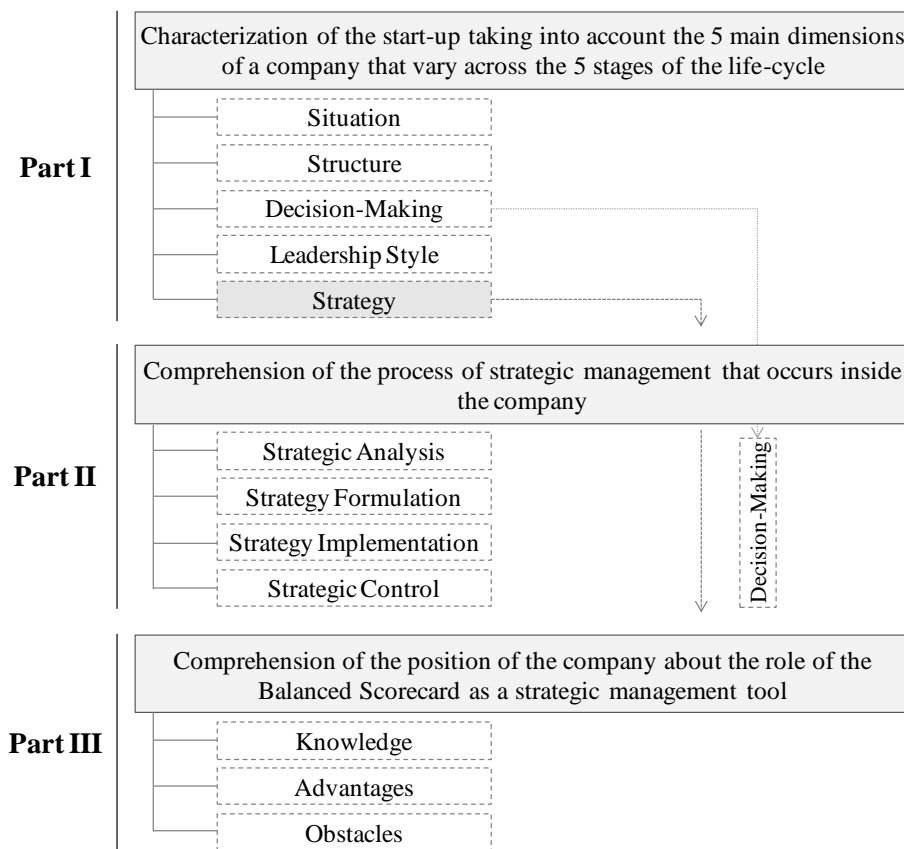
It was used a semi-structured format for the interview applied, and it was necessary to elaborate a flexible guide for the interview to ensure that the questions were the relevant

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ones. To elaborate this guide, a framework of analysis (Scheme 2) was developed based on the literature review done. By following this framework, the interview applied was also divided in three parts in order to collect information of each one of the main topics: life-cycle stage and organizational characteristics, the strategic management process and, finally, the BSC.

It is relevant to point out that the questions were not always open-ended since, in the course of the interview, it was necessary to explain better the question to the respondent to ensure the interviewee understood what was being asked because sometimes they were not totally aware of the concepts approached.

Scheme 2 – Framework of Analysis



First, the five-stage life-cycle model (Miller and Friesen, 1983; 1984) plays an important role in the process of start-ups' characterization since depending on the stage in which the firm is. The organizational characteristics are different. This analysis was relevant because the use of formal control systems varies across the stages of the life-cycle. Thus, since the BSC is also seen by several authors as a MCS, it was determinant for the interview to measure the characteristics of the company that can determine if the company was willing to adopt the BSC or if they already had one. Hence, the Part I of the interview intended to characterize the start-up by approaching 4 of the 5

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organizational characteristics: situation, structure, leadership style and decision-making style. The fifth characteristic missing – strategy – was deepened in Part II given its relevance to the study. The focus on the analysis of the decision-making style occurred in this part since it is something transversal to the strategic management process. Moreover, it was a goal of this part to understand the external context in which the company was inserted in.

Second, as explained in the research question justification, the way the strategic management practices are applied in firms varies across life-cycle's stages and the non formalization and planning of this process constitutes a barrier for implementing a BSC in a SME or in a start-up. This process is influenced by the constant need to adapt internally to frequent changes which contrasts the stability required by the BSC. It was in this context that it became crucial to find out, based on the interview applied, if the start-up formalized or not their strategy because this could influence their willingness to adopt the BSC. As mentioned before, this is closely related to the life-cycle analysis in which the use of a more or less formal way to manage the strategy varies across the 5 stages approached (Miller and Friesen, 1983; 1984). Thus, the way the firm manages its strategy was the fifth organizational characteristic to be analyzed and it constituted the Part II of the interview. The second part deepened this thematic by approaching the strategic management process through the analysis of the 4 steps presented: strategic analysis, strategy formulation, strategy implementation, and strategic control.

Finally, after the characterization of the start-ups' profile and after understanding all the context in which they were inserted in, the Part III – BSC - was approached. The goal of this part was to understand whether the start-up was aware of BSC concept, which advantages and obstacles they thought the BSC could bring to their companies and to conclude about the necessity and/or the willingness to implement this tool.

5.2. Sample of Start-ups

The method used to select the sample of this qualitative study was the convenience sampling because the sample of this study was selected based on researcher's professional and personal connections (Marshall, 1996).

The start-ups that participated in the study were identified as potential respondents that would fit the purpose of the study by AUDAX, ISCTE Junior Consulting (IJC), Startup Lisboa and AIESEC.

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The first contact occurred with the AUDAX which is the association that incentivizes and supports entrepreneurial initiatives such as start-ups. AUDAX manages also different incubators that are centres where several start-ups can find a place to establish their business and work. AUDAX identified one incubator - Tech Labs - to be interviewed for this study and Tech Labs recommended 2 start-ups to be interviewed. The second channel used was IJC that is the junior consultant of ISCTE Business School. Based on the contact established, 3 start-ups placed in the incubator “Startup Lisboa” and another whose owner was a member of IJC was interviewed. Finally, a member of AIESEC provided the contact of 3 start-ups and they were interviewed. The process of getting start-ups to interview ended here because after the application of the interview it achieved data saturation since it started to exist a pattern of answers.

Note that all the data analysis and conclusions taken in this dissertation are of author’s responsibility, meaning that the start-ups that have participated in this study do not compromise the analysis developed since it is the entire responsibility of the author.

5.3. Data Analysis

Taking into consideration that the application of an in-depth interview brings naturally loads of qualitative information, it means that a lot of verbal information has to be analyzed and for this, the technique chosen was the qualitative content analysis. This technique is the best one since it is widely used as a research method to analyze text data in order to identify the contextual and content meaning of the information obtained. It tries to codify text data into categories (coding) to then describe them through statistics (Hsieh and Shannon, 2005). In fact, this technique allows preserving the advantages of a quantitative content analysis (Hsieh and Shannon, 2005; Mayring, 2000). Thus, by using this technique it was possible to ensure a more qualified analysis of all the information obtained through the interviews.

Considering that there were 9 interviews to analyze with an average of 40 minutes of duration each, it became important the usage of content analysis software to better analyze the data and to make relationships between the different components (Yin, 2009; Gibbs, 2010). The software MaxQda (Image 2 - Appendix VI) helped coding and categorizing the large amount of information collected from the interviews (Yin, 2009).

For this analysis, the first step was to identify the codes for analysis based on the literature review (Table 23 - Appendix VII) – called concept-driven coding since they

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are codes coming from the literature review (Gibbs, 2010) which meets the deductive model applied in this study. Based on this process, the Table 24 and Image 3 of the Appendix VII show the initial set of codes that were developed.

Since the study's model was also open to be inductive, in the course of the interviews' analysis, the codes based on the literature became insufficient and the empirical data brought to this analysis more codes that were relevant to understand the current situation of start-ups and their opinion about the BSC (Table 25 – Appendix VIII). This way of coding is called data-driven coding because it starts with none code (Gibbs, 2010). The final list of codes including both coding methods is presented in the Table 26 and Image 4 of the Appendix VIII. Transversal to these codes, there were 3 main categories to be analyzed across the interviews based on the model developed: life-cycle dimensions, strategic management practices and the BSC. After the information gathered about each start-up has been associated to each code, the outputs of this process were taken and a table for each code was analyzed (example in Appendix IX).

Taking into account Yin (2009), subsequent to this process, the technique used was the treatment of each individual case study as a separate study (called within-case analysis according to Eisenhardt, 1989), across the different dimensions approached in the interview. At the same time, a match between this within-case analysis and the findings of the literature review was done. Only after this analysis, it was possible to use a cross-case synthesis that is proper when multiple-case studies are under observation, since it requires that the individual case studies were previously analyzed as independent research studies. To present the conclusions of the study, tables were created that present the individual data of each case study (Tables 13 and 14 of the chapter 6 - findings and discussion) transformed into a uniform framework of analysis to ensure an overall understanding of the thematic under observation (Table 16 of the chapter 7 - research questions analysis).

It is noteworthy that the tense used in the next chapters of data analysis - the present - refers to the time when the interviews have occurred (see Table 9), which does not mean that their situation have not changed since that specific date.

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6. Findings and Discussion

The results gathered through the interviews generated extensive and valuable information to help answering to the research questions of this study. In this section, the findings are presented and systemized in order to provide the basis for a discussion that is able to add value to the literature about start-ups and the BSC.

6.1. Start-ups characterization

To answer to the research questions of this study, it is necessary to first analyze the situation of the 9 start-ups at the time when the interviews occurred and understand their strategic management practices.

Table 9 synthesizes the information regarding the type of business that each start-up operates, the number of employees and how long have they existed, the respondents' name and their academic background as well as the location where the interview took place and the date. Following Miller and Friesen (1983) (Table 3), it was possible to assign the start-ups in analysis to their respective stage. According to those criteria, it is possible to state that 8 out of the 9 start-ups are less than 10 years old, have an informal structure (as it will be further showed), and are in their majority dominated by the owner-manager which means that they are all in the birth stage of the business life-cycle. Thus, there are conditions to make this analysis and answer to study's research questions.

The other company missing is Science4you that is 6 years old which justifies in being a considered start-up. However, there are several characteristics that shows it could be in a growth stage independently of the time of existence: they forecast a high sales volume of 5 million of Euros until the end of 2014 (according with the interviewee) and they have duplicated their volume in the last years (Newspaper "Económico" (January, 2013) and Image 5 - Appendix X). These aspects point to assign this company to the growth stage of the business life-cycle (sales growth greater than 15%). Furthermore, Science4you already has 140 employees around the three countries where they operate – Portugal, London and Madrid – and they currently sell for 14 countries. These characteristics of fast growth evidence that Science4you can be allocated to the growth stage of the business life-cycle.

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Table 9 – Characteristics of Start-ups

Start-up	Business Type	Time of existence	No. of Employees	Respondent	Background of the Respondent⁸	Place of Interview	Date of interview
PPL	Platform of crowdfunding	3 years	3	Yoann Nesme	Management	TecLabs	25/03/2014
Science4you	Development and commercialization of scientific and educational toys	6 years	80 ⁹	Miguel Pina Martins	Finance/ Management	TecLabs	25/03/2014
Naturelis	Production of handmade and natural soaps	2 years	2	Eloísa Ferreira	Economics/ Management	ISCTE-IUL	9/04/2014
Wazza	Development of software to support the management of Apps	6 months	2	João Vasques	Engineering	Startup Lisboa	11/04/2014
JOBBOX.io	Services and Platform to recruit technicians based on referral	7 months	9	Pedro Oliveira	Engineering/ Management	Startup Lisboa	15/04/2014
Start-up X ¹⁰	Platform of Distributed Computing	1 year and half	4	CEO Y ¹¹	-	Startup Lisboa	16/04/2014
Voucher Love	Management of a Vouchers Platform	1 month	1	André Lopes	International Relationships/Entrepreneurship	Startup Lisboa	22/04/2014
Startiupi	Development of programs to enhance entrepreneurial skills with kids and young adults	1 year and 8 months	4	Ruben Melo	Management	Co-work in Oeiras	22/04/2014
Travel With Mario	Website to provide digital guides to European cities	10 months	2	Mário Mouraz	Management	Via Skype	22/04/2014

⁸ This data is based on the LinkedIn profile of each start-up's representative

⁹ Number of employees in Portugal

¹⁰ Anonymity required for the name of this start-up. It is called hereinafter as "Start-up X".

¹¹ Anonymity required for the name of the respondent. The respondent is called hereinafter as "CEO Y"

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6.2. Part I – Life-Cycle and Organizational Characteristics

Taking into consideration that organizational characteristics vary across the life-cycle's stages (Miller and Friesen, 1983; 1984), it is relevant to analyze the organizational characteristics of the start-ups interviewed.

6.2.1. Organizational structure

Regarding the organizational structure of the start-ups analyzed, it was observed that 8 of the 9 start-ups assumed that their structure is very informal. The common statements of those start-ups revealed that it does not make any sense to have a hierarchical structure defined because they need to have quick and flexible channels of communication and decision-making processes. According to the respondents, the structure of a start-up has to be as simple as possible and very informal to facilitate the communication and maintain good relationships inside the team. Moreover, the start-ups in analysis are composed by small teams with a maximum of 9 members (Table 9), in which everyone is always in contact with each other which allows them to discuss issues as always as they need and want, to easily communicate and take decisions together in an informal way. For them, in a start-up everyone has to work on everything to ensure a high level of flexibility to respond to the internal and external needs which explains the difficulty of implementing a rigid and formal structure that can prevent them of being flexible enough. For these start-ups, it is enough to organize the firm through the division of tasks and responsibilities according to the expertise area of each one. These aspects meet the literature because the authors revealed that start-ups are normally inserted on emerging and fast industries meaning they have to act quickly and implement decision-making processes that are fast (Talaucar et al., 2005; Gelderen et al., 2000; Churchill and Lewis, 1983; Bhide, 1994).

The only company that follows a more formal structure is Science4you whose owner mentioned that the structure is organized by departments (Image 6 – Appendix X). As it was presented above, Science4you has been growing: they have 140 employees, they sell different products and services as their website evidences and they operate in three countries meaning that their structure has become more complex which justifies this need for a more formal structure. This is in line with the findings in the literature that revealed that when a company starts to grow and become more complex, a more structured and top down planning approach is needed (Gelderen et al., 2000), and a moderately formal structure becomes more useful (Moore and Yuen, 2001; Miller and

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Friesen, 1983; 1984). Despite this, Science4you continues to be a young firm and the respondent also assumed that, despite the existence of this organizational structure, the way they work and relate is very informal and they try to maintain everybody connected and involved when it becomes to take decisions.

Passing to a more detailed analysis, the respondents presented the way they divide their companies. They make an internal organization focused on the division of the team by the main areas they work on. **Startiupi**, **Naturelis** and **Wazza** make a division of tasks and responsibilities meaning they do not have a structure formally defined. **PPL** and **JOBBOX.io** divide the company between the two shareholders/founders and the rest of the team and then they are responsible for any task and **JOBBOX.io** also split the company in two business branches: services and product. **Start-up X** assigns the members to their areas of expertise: two members to the technical area (product development and improvement) and the other two to the business development (commercial area and market research). **Travel With Mario** allocates one member to the product development and the other one to the management function. Moreover, this start-up outsources some areas that are not their core business and that they are not able to do because they are only two. Also **Voucher Love** outsources its activities because this was the way found to have the best people working in their areas of expertise and doing the best job in an effective and cheap way as fast as possible with high levels of quality. According to its representative, by outsourcing it is possible to prevent high personnel costs that increase as team increases meaning that having a big team at the beginning of a company is impossible because of the high human resources' costs. Following this reasoning, he also says that "*it is antagonizing that start-ups have a business structure*" (Interview, Voucher Love) because of these costs and because start-ups are used to work in an informal way and without an organizational structure formally defined.

6.2.2. Decision-Making Process

The literature showed that as start-ups act in dynamic environment, they need to implement decision-making processes that are fast (Talaucar et al., 2005). The start-ups under analysis work, in fact, in dynamic environments as it will be detailed ahead and, as noted before, the decision-making process has to be fast, flexible and informal, the reason why the organization structure is so flat, which meets the literature. Indeed, the decision-making process in these companies is characterized by them as a process

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that involves everyone. Start-ups as **Start-up X**, **Naturelis**, Travel **With Mario** and **Wazza** recognized they make decisions together and there is not a leader to make all the decisions and to approve them. The decision-making process is very flexible, informal and it is not planned since it occurs as things happen. Some of these companies organize meetings where they make decisions. **PPL** revealed that the final decision belongs to the founders of the start-up, but they are all involved in the process.

6.2.3. Leadership

The concept of leadership is understood in different ways by people and the interviewees are an example of that because the answers were very different. For Miller and Friesen (1983; 1984) a company in the birth stage of the life-cycle is more able to use the leadership style “initiating structure” than a “consideration” style and in the growth stage, there is a higher focus on the “consideration” style and a medium focus on “initiation of structure”.

Instead of approaching the type of leadership used, interviewees started by focusing the way they divide the tasks between all the members. However, when confronted with the choice between a style more centered in relationships (consideration) and other more focused on results achievement (initiation of structure), they stated they are very focused on assuring good relationships, but since they are starting and they have to achieve and show positive results, the focus on results achievement becomes much more important and a priority. Even if the maintenance of good relationships is important, the focus on the attainment of the goals of the group is a priority.

Startiupi's representative mentioned that they bet on maintaining good relationships inside the company and keep all the team informed and motivated because they are the ones that ensure the company achieves the results. But, *“once it is a start-up, unfortunately there are times when we have to make a stronger focus on results because at the moment we are only dependent on the market meaning that we are only financially sustained by what we sell”* (Interview, Startiupi). Also **PPL**'s respondent stated that the leadership was very focused on relationships until the time he arrived at the company and started to define goals to achieve better results.

Other different answers were given regarding this point and in **Science4you**, leadership is leading by example since they reject an authoritarian leadership because it is important to give space to employees to ensure they have responsibility over their own

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objectives. **Naturelis** does not follow a specific leadership style since the two members are leaders when they have to be, to take a decision and to go ahead with something. **Start-up X** defined their leader as the person who knows the best way to do something meaning that there is not a specific leader to take all the decisions inside the company since each one is leader in his/her area of expertise: *“when it comes to the scope of each one of us, we know who we have to talk”* (Interview, Start-up X).

To conclude, these companies are very focused on maintaining good relationships inside the start-up but there is higher focus on keeping the team together to achieve the best results to guarantee they survive and are successful.

6.2.4. Challenges

Start-ups are companies that are starting their business meaning that it is relevant to understand the main challenges they are currently facing. The challenges more often referred by the respondents were the need of selling and getting revenues and clients to become more sustainable and successful (**Start-up X**, **JOBBOX.io**, **Naturelis**, **PPL**, and **Start-up**). Another challenge revealed by **PPL** and **Startiupi** is that for them it is being difficult to create a common understanding about the concept they commercialize which can bring some obstacles to the success of their business.

The answer to this point depended also on the stage in which the company is in its business path. **Travel With Mario** is still under the definition of the concept of their business meaning they are facing all types of challenges as getting investment and increasing their team. **Wazza** has not yet launched its product, which is the main challenge, they have to deal with the international market in which they have to operate with their product and they also face the problem of being only two to answer to all the needs they have. **Science4you** is growing very fast and the challenge they are facing is the internationalization and all the difficulties this goal brings associated with it.

6.2.4.1. Limited resources

The main challenge and obstacle these companies mentioned is the limitation of resources (human and financial) that are scarce which meets the literature review where it was analyzed that start-ups suffer of uncertainty of human and capital resources and of access to limited resources (Gelderen et al., 2000; Wang and Wu, 2012). And in fact, this was an aspect in which the start-ups made a huge focus on. They revealed they do not have enough time and members to answer to all the market's challenges and needs.

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Moreover, they do not have enough money to make the team increase, meaning that they have to deal with everything by using the resources available to them. Even if Gelderen et al. (2000) and Wang and Wu (2012) defend that it is crucial for a start-up to have systems that help them better manage their resources, the truth is that the start-ups under analysis said they do not have time nor people to look at and implement a management system since it is not a priority in the middle of everything they have to do.

6.2.5. External Environment

Regarding the external environment in which these companies are inserted in, some of them characterized it as stable because the competitors are more or less stronger than themselves or even because they are in a new industry in which they are able to differentiate themselves (**Naturelis**, **PPL**, **Science4you**, **Wazza**). **Science4you** devalued the power of competitors in Portugal but since they are in an internationalization process, the international competitors make this external reality more unpredictable. **Startiupi** and **Travel With Mario** revealed that the competition in their businesses is very strong which influences their way of acting. Regarding **Start-up X**, the market in which they operate is unstable since they are always changing the industry where they sell their product.

The literature evidenced that start-ups are normally inserted in emerging and fast industries (Churchill and Lewis, 1983; Bhidé, 1994; Talaulicar et al., 2005; Gelderen et al., 2000), which is corroborated by these case studies since while some are playing in fast industries, others do not reveal such fast changes in the industry but they are in emerging markets that they cannot predict very well.

The aspect “dynamism and unpredictability” was also studied and the results meet the literature review developed regarding the unpredictability that these companies face. For instance, **Start-up X** claimed that they have to change their orientation of business very often because they never know in which industry they are going to act; **JOBBOX.io** mentioned that it is always very difficult to predict what is going to happen because everything is open; **PPL** revealed that their industry is new, it is always changing and they are completely open to new trends and business areas; **Science4you** recognized that the environment in Portugal is stable but internationally it is very dynamic and the company needs constantly to adapt itself; **Startiupi** is also very dependent on the market and on what it allows them to do; **Travel With Mario** is

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trying to survive in a very competitive industry (travels) that justifies the fact he had said that they know what they are going to do next week but the unpredictability and dynamism is so high that they nor even know what it will happen in two weeks; **Wazza**'s trajectory is very oscillatory and they have to constantly adapt their actions and for the respondent everything is unpredictable in start-ups because there is a lot of uncertainty and several things that the company is not able to predict; **Voucher Love** stated that nowadays nothing is predictable and in a start-up there is no medium nor long-term because they are constantly validating if things they do make sense and are accepted in the market or not; finally, **Naturelis** revealed that its environment is stagnated but its representative knows that when they start to grow it will be very difficult to maintain this stability.

6.3. Part II – Strategic Management Practices

According to Gelderen et al. (2000), strategic management practices in start-ups are very informal and flexible since they operate in uncertain environments characterized by fast changes where a reactive strategy is more used. These start-ups operate in uncertain environments and, as a consequence, an analysis about their strategic management practices is needed.

6.3.1. Strategy definition and formulation

6.3.1.1. Long-term strategy

Only 3 of the 9 start-ups assumed having a long-term strategy defined for their business: **Science4you**, **Startiupi** and **JOBBOX.io**. As it was stated before, it is possible that **Science4you** is already in the growth stage of the life-cycle, and according to Gelderen et al. (2000) when this happens, a complete planning strategy gains relevance to help dealing with more complex decisions and to control better the performance. Indeed, Science4you already has a business plan developed, formalized and available to employees which mean they have a long-term strategy defined. The business plan has been defined since the first day they operate and it is based on company's strategic goals. It is a fact that the current strategy is not the same as 6 years ago since it is always evolving and adapting according to market needs and business's growth. **Startiupi** and **JOBBOX.io** have a long-term strategy defined and planned to ensure the attainment of the long-term goals, but they are convicted that even if they have this future vision, this can change from one moment to another because everything in a start-

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up in uncertain. **Startiupi** mentioned that the frequency of strategy changes is very high because they are a young firm. But it was also recognized that by having a long-term vision makes it easier to focus on company's daily activities. **JOBBOX.io** added that what they have is long-term goals that are the basis for their long-term strategy and it was also recognized that this can change from one moment to another. These cases meet the literature since these start-ups have a strategy defined and formalized but the constant need to fast react to changes leads to frequent strategy changes (Rompho, 2011).

Regarding the process they use to formulate the strategy, **JOBBOX.io** organizes weekly meetings between the two firm's shareholders to look at start-up's strategic lines and then they validate their decisions with the rest of the team. For **Science4you** this process results from company's daily life, from all the challenges faced and that they have to surpass and also from the information collected throughout the company. Finally, **Startiupi** stated that this process is done by trial and error since they try something and based on its success they discuss the possibilities to follow and adapt the plan.

6.3.1.2. Short-term strategies

The other 6 start-ups (**Start-up X**, **Naturelis**, **PPL**, **Travel With Mario**, **Voucher Love** and **Wazza**) stated they do not define a long-term strategy for the business, even if they admit the importance of having a vision for their future. They define short-term goals but the majority of them do not formalize exactly the strategy to attain those objectives.

These start-ups mentioned it does not make sense to have a long-term strategy defined once they are always changing their direction and are inserted in new industries. Some of the citations of the respondents are: *"I think it makes no sense with our size to have yet a long-term strategy"* (Interview, Naturelis); *"There is not a long-term strategy because we are in a very new industry"* (Interview, PPL); *"I also think it does not make much sense for a start-up to define something with such specific ideas because we know certainly it will change"* (Interview, Travel With Mario); *"It does not exist medium nor long-term in a start-up because we are constantly, and especially at the beginning, validating whether it is this or if it is a little more to the right or to the left"* (Interview, Voucher Love); and *"(...) we can say that in one year, one and a half we will be doing I don't know what but in a start-up doing a forecast for two years' time is... for five years is impossible, and for two years is already a bit difficult"* (Interview, Wazza).

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Despite this, start-ups such as **Naturelis**, **PPL** and **Travel With Mario**, revealed that they want to define their long-term strategy in a near future. These companies are very reactive as the respondent of PPL mentioned. They try to answer to each challenge they are facing and they want to catch all the market's opportunities they can, which meets the research of Gelderen et al. (2000) who observed that, in a start-up, the critical point strategy and the opportunistic strategy type are of much use.

The strategic management process of these start-ups occurs based on short-term goals definition and respective actions to reach them. The goals' formulation process is very informal and it occurs in a natural and organic way. **Naturelis** affirmed "*(...) it was a constructive process based on market's needs and our needs*" (Interview, Naturelis) and added that these goals arise from momentary needs meaning that this process is not formally deliberated. **PPL**, at the first beginning, did not define any goal for the firm, but more recently they started to feel the need to define and quantify these goals. For them and for **Wazza**, this process also occurs organically in informal moments and as the team is always together, they can discuss this process easily and quickly.

The literature showed that it is important for a start-up to have a realistic and truthful business plan to present to investors to demonstrate the investment done will be worth (Whitehead, 2002; Harris, 2006; Bhide, 1994), and **Start-up X** and **Voucher Love** take this into account since they define the goals by considering what investors want. **Voucher Love** revealed that in a normal start-up structure, there is the level of shareholders with whom there is a commitment to achieve the goals set because they want to guarantee the profitability of their money and for that, they have to know firm's goals to make sure it is really worth their investment. Moreover, **Start-up X** always formulate their goals based on a negotiation process with their shareholders and possible investors, in order to bargain the goals to be set and the strategy to be followed to attain those goals.

6.3.2. Level of Formalization and Planning of Strategy

It was already noted that these start-ups do not have a high level of processes and strategy formalization since they follow very informal ways of management due to scarcity of recourses and number of challenges faced. This was also perceived in the literature since Gelderen et al. (2000) and Churchill and Lewis (1983) stated that the use of systems and formal planning in start-ups is minimal to nonexistent.

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In terms of level of planning, only 2 of the 9 start-ups (**Science4you** and **Startiupi**) formalize and write their strategy which evidences a higher level of planning inside the company, what according to the literature is beneficial to better organize the business and to allocate efficiently the resources (Smith, 1998). But even if Smith (1998) reveals the advantages for these companies to plan, the fact is that the level of planning in the others start-ups is almost inexistent in terms of long-term planning, which is in line with Bhide (1994) who confirmed that planning does not suit most start-ups and they devote more attention to operational analysis and planning.

Indeed, the planning process in these companies occurs in a more operational and short-term level. These companies are used to plan their daily and weekly tasks. The maximum period for what they plan is for 1 year (**Startiupi** and **Wazza** set an activities plan at the beginning of the year) and the others or they do not plan at all or they have meetings to plan for the week, meaning they follow a more operational planning.

6.3.3. Control of performance

To answer to the research questions, it is crucial the analysis of how start-ups control their performance, even more because the BSC, in addition to all its other features, is a control tool. Thus, start-ups were asked about how they control and accompany their performance and strategy and which mechanisms they use for this purpose. The first observation is that the BSC is not used in any of these start-ups. Instead, other mechanisms are used. Hence, the majority of these start-ups control their performance by following a very informal process since it is based on meetings to look at the goals defined for the company and evaluate whether they are being attained or not is.

As examples of the processes used, **JOBBOX.io** organizes weekly control meetings where they define the performance's metrics for each area and evaluate the route they have followed to understand the speed of growth and to take decisions about the actions to implement. At **Start-up X**, they plan their activities in a weekly meeting where they define deadlines to be controlled in the following meetings. But, despite this, the way they evaluate company's route is very dynamic and very informal and because they are a small team, they always know everything about what is happening in the start-up. **Startiupi** also organizes meetings to control their performance and to analyze their status but they do it twice or once a month. They define measurable monthly goals to attain which for them constitute performance indicators to evaluate if they are being

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well succeeded or not. If they are more positioned in the red or yellow colour in some aspects of the company it means that is not good for the company and they analyze what went wrong and they rethink their actions according with it. **Science4you** mentioned they follow the results they achieve to measure where they are and to act according with it. They focus their attention in sales and products analysis which constitute for them measurable indicators. Also **Naturelis** takes their goals and turn them into measurable indicators to analyze their progress. **PPL** uses the budget they started to develop to set their goals and to evaluate its achievement. Thus, every month, they do a comparison between the goals set and the ones achieved. For them, this is a way, not only to control the past, but also a way to calculate the future by checking what they are doing well or badly. Finally, **Travel With Mario** does not use any type of system to make a control analysis, they make a very simple control by looking at the tasks they had to do and determine which ones are completed or not, which is very informal.

6.3.3.1. Control Mechanisms

From the analysis about the control mechanisms used in these start-ups, two different types of control mechanisms emerged: “control of performance and goals” and “synchronization of the team”. Table 10 summarizes the mechanisms that each start-up uses to control their performance and goals achievement. But before this analysis, it is relevant to remember that **Start-up X** and **Travel With Mario** do not use control mechanisms beyond the meetings and a check of the to do list.

Table 10 - Summary of the control mechanisms used by the 9 start-ups

	Control of Performance and Goals			Synchronization
Start-up X	-	-	-	-
JOBBOX.io	Excel	-	-	Trello
Naturelis	Excel	Word	-	-
PPL	Excel	Budget	-	-
Science4You	Billing System	Budget	PHC	-
Startiupi	Excel	Accounting Software	-	-
Travel With Mario	-	-	-	-
Voucher Love	Excel	-	-	-
Wazza	Excel	-	-	Pódio

6.3.3.1.1. Control of performance and goals

Regarding this type of mechanism, 6 of the 9 start-ups under observation use the Excel mechanism to control their performance: **JOBBOX.io**, **Naturelis**, **PPL**, **Startiupi**, **Voucher Love** and **Wazza**. **Science4you** does not use the Excel, but they use other mechanisms such as the budget, a billing system and the PHC tool.

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Regarding the usage of Excel as a control mechanism, this tool is accessible to all and it is easy to work with. In the specific case of these start-ups, they use the Excel as a tool to insert their goals and to evaluate the progress of their achievement. For the majority of these companies, this tool is very simple and, for now, it is enough to manage and control their companies namely in financial terms. This analysis meets Davila and Foster (2007) studies that show that start-ups give more importance to financial indicators and respective systems, and that the budget is a specific financial system of much use. In fact, there are two start-ups (PPL and Science4you) that use a budget as a mechanism of control of their achievement of their goals. As **PPL** stated, this tool was the method they found to set goals for the future and to analyze the past in order to adjust their actions and this meets the research of Burns (2011). **Startiupi** does not only use an Excel file to control their performance and goals, but also uses an accounting software provided by Microsoft that they utilize to manage and to organize their accounting records, which reveals the importance of financial analysis.

To finalize, Science4you uses tools to control the company that are more advanced and complex than the ones used in the other start-ups under analysis. They develop a budget, they use a billing system to manage their sales and, more than this, they use the Software PHC that is software of management that works as an ERP (Enterprise Resource Planning) and allows the company to manage more effectively its areas such as clients, suppliers, human resources, finance, and others.

6.3.3.1.2. Synchronization of the team

The tools mentioned as the ones used to synchronize the team are Trello and Pódio. **JOBBOX.io**, in addition the usage of Excel, Trello uses it to ensure everybody is updated of what is happening internally since this tool is online and accessible to all. For them, this is a mechanism for team management and not for control because it does not allow the company to confirm if things are going well or not, it is used to verify the speed of teams' development. **Wazza** uses the Excel and also Pódio, not only as synchronization tool, but also as a tasks management tool. Pódio allows Wazza introducing the tasks to do and the respective milestones and then it sends alerts to remember the users that they have to do such task. The tasks that are still to be done appear with red colour meaning that when a lot of tasks are red, something is going wrong in the company. It is also a synchronization tool for all the members to be able to access, meaning they are updated of what they have to do. Wazza recognized that this

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tool is very useful now, but when the team starts to increase it becomes obsolete and another will be needed.

It is possible to conclude that these companies do not use any type of management control system or other more complex types of systems, except for Science4you that has one more complex system (PHC). Despite the inexistence of more complex control systems, some of those start-ups recognized that once the team and the overall company starts to grow, a more complex system will be needed to implement to synchronize everyone and maintain the control over the overall business. This final analysis makes the link to the next part in which the knowledge about the BSC and start-ups' willingness to implement a BSC in their companies are going to be approached.

6.4. Part III - Balanced Scorecard

6.4.1. Knowledge about the BSC

To answer to the research questions, it was determinant to first understand the knowledge the respondents have about the BSC. The Table 11 shows their level of knowledge about the BSC for each start-up. The representatives of **Start-up X**, **JOBBOX.io**, **Startiupi** and **Travel With Mario** are entrepreneurs who have already worked with the BSC in previous experiences they had in the university and also in real companies. Pedro Oliveira of **JOBBOX.io** worked with the BSC in EDP and Ruben Melo of **Startiupi** worked with it during 2/3 years in previous professional experiences, meaning that they know very well the concept. The other two interviewees of **Start-up X** and **Travel With Mario** dealt with the BSC in the university. The ones responsible for **Naturelis**, **PPL** and **Science4you** recognized their superficial knowledge about the concept that was better explained during the interview. Regarding the representatives of **Voucher Love** and **Wazza**, they were not aware of the concept until its explanation in the interview.

Table 11 - Knowledge about the BSC per Start-up

	Knowledge about the BSC		
	Aware	More or Less	Not Aware
Start-up X	x		
JOBBOX.io	x		
Naturelis		x	
PPL		x	
Science4You		x	
Startiupi	x		
Travel With Mario	x		
Voucher Love			x
Wazza			x

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6.4.1.1. Functionalities of the BSC

In the course of the answers given to this question, the respondents have described some of the features of the BSC that are possible to group into 7 categories:

- Measure of goals – tool used to measure the achievement of firms' goals and it is attributed weights to the goals to check the ones more and less important for company's performance (Start-up X); the BSC allows making an internal and external analysis and measure it based on the goals and respective KPIs, which allows determining the areas that need more focus and action plans (Startiupi).
- Measure of performance – more than only measuring goals, the BSC has the function of measuring the performance of a team (Start-up X); the BSC is a management tool that allows understanding if the firm is in the green, yellow or red colour taking into account the mission and vision of the company (Startiupi).
- Team synchronization – the BSC contributes to maintain everyone in a team aligned and updated (Start-up X).
- Collection and presentation of information – the BSC consists on collecting data from several business areas of an organization, organizing and analyzing that data and present it to the board to evaluate company's performance (JOBBOX.io).
- Simplification –the BSC is a tool to simplify the lives of who uses the tool for the management process of the company (PPL).
- Relationship between the perspectives – the BSC organizes the company in four perspectives that are correlated (Wazza).

6.4.2. Analysis of the willingness to adopt the BSC

During the interview, the question about the willingness to adopt the BSC in the start-ups was asked and Table 12 shows that 5 start-ups of the 9 answered that they are not willing to adopt the BSC in their companies, 3 start-ups gave a more subjective answer by saying that it is a possibility to implement and only 1 start-up answered positively.

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Table 12 - Match between the knowledge level about the BSC and the willingness to adopt it

	Knowledge about the BSC	Willingness to adopt the BSC
Start-up X	Aware of the Concept	Unwilling
JOBBOX.io		Unwilling
Startiupi		Unwilling
Travel With Mario		Unwilling
Naturelis	More or Less aware of the Concept	Maybe
PPL		Maybe
Science4You		Maybe
Voucher Love	Not aware of the Concept	Willing
Wazza		Unwilling

A general analysis reveals some interesting aspects in the Table 12. The start-ups that **were not aware of the concept** gave opposites and extremes answers about their willingness to adopt the BSC since Voucher Love was willing to adopt the BSC while Wazza was not interested to implement this tool, at least at the moment of the interview. The start-ups **that were more or less aware of the concept** were also more open to the hypothesis of implementing the BSC but not with a high level of certainty by showing a lot of reservations about this. The most interesting analysis falls under the start-ups that **were aware of the concept** and had worked directly with it. Based on their knowledge, they said that they were not interested and it did not make sense to implement the BSC in their companies. Thus, the ones that were aware of the BSC evidenced more assertiveness in their answers regarding their willingness to adopt it by giving an objective answer. On the other hand, the rest of the companies gave more subjective answers to this question by stating that it is a possibility, but not for now.

A more specific analysis is needed by looking at the start-ups that are not willing to adopt the BSC, the one that is willing to do it and the others that are a little interested.

6.4.2.1. Some willingness to adopt the BSC

The companies **Naturelis**, **PPL** and **Science4you** revealed some interest on the BSC adoption but with some reservations. Indeed, when the question about the willingness to adopt this tool was asked, Naturelis answered *“I would say yes, at the same time of the strategic plan”* (Interview, Naturelis); PPL stated *“Yes, I think could be a nice to have”* (Interview, PPL); and Science4you responded *“Yes, I think it could make sense in a near future”* (Interview, Science4you).

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Naturelis considered this possibility, but only when they start to develop their business plan because for the interviewee, the BSC's implementation cannot occur before they think about their strategic areas. Then the BSC can be implemented to readapt the plan according to its results and repeat the process throughout time. Naturelis identified the BSC's **advantages** such as the support to define and formalize organization's goals and respective indicators to measure if they are going well. Furthermore, the BSC could be helpful to start the formulation of a long-term strategy and the business plan because if the company is able to measure the achievement of their goals, they are also able to understand which ones are worth, valid and relevant. It was also stated that it is helpful to increase the responsibility inside the company and to focus in the relevant goals. But Naturelis attributed also some **obstacles** to adopt the BSC, namely the fact that it is something that a company has to fulfil without deviations, what is not easy in a start-up because they take decisions as things happen and be very flexible. Naturelis is open to the BSC's implementation if this tool proves being broad enough to allow the company to adapt to the constant changes. However, in the literature it was identified that the natural need of these companies to act quickly and to apply changing strategies is the main barrier to implement a BSC (Rompho, 2011).

On the same line of reasoning, **PPL** answered they would like to see the BSC implemented since it is a tool "nice to have" but it is not a priority. If it appears implemented by itself, is a good option, otherwise with such a lot of things to do and scarce resources to respond to all, they do not have nor time nor money to implement this tool now. In any case, PPL's representative associated **advantages** to the BSC by saying that it is able to make a formal and exhaustive firm's control by defining formally the goals, the respective indicators and the way to achieve them throughout the 4 the BSC's areas. He also identified that it can be helpful for a start-up since these companies are very focused in operational and daily activities, and this tool can help a start-up to have in some way a vision and the respective goals to ensure the daily activities are developed with this vision always present in mind, i.e., "(...) *concentrate the day-to-day energies to achieve those objectives*" (Interview, PPL). Indeed, the interviewee stated that "*sometimes we are very reactive and we are always putting out fires, and we also have to ensure the company has an objective to attain (...)*" (Interview, PPL). It was already mentioned that the literature review revealed that start-ups act in a reactive way rather than in a proactive one (Gelderen, 2000). There were

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also identified some **obstacles** to implementing the BSC as the fact that it brings fixed costs that the company is not able to support and wants to diminish, it requires using several resources that are few for so many things to do and for PPL is difficult to currently have human resources, in particular, available to spend time to implement a BSC, even if it is useful. Moreover, PPL has the short-term goal of increase their sales volume which reduces even more team's availability to dedicate time to this process that is not a priority now and it could represent a lost investment.

Science4you has also claimed that they would be interested on implementing the BSC because they are growing and it starts to make sense to have other type of tools in addition to the ones they already have, but in a near future (in 1 year time), not now. The interviewee recognized that one of the BSC's **advantages** is to support the strategy definition and also to support firm's growth because currently they are small and the decisions made are based on feelings; and when company grows, it is difficult to maintain this way of management. Thus, for him, the BSC can be an important tool to gather all the information regarding the company in only one document available to everyone. But the respondent also identified some **obstacles** that prevent this tool to be easily implemented, since the main difficulty lies in the management of measures: data collection, the assurance that the data is rightly collected and is relevant, to handle correctly the data. If it is the same person collecting and handling the data to ensure there is no different interpretations of the same thing, among other aspects. To summarize, the definition of measures is not easy, neither clear and simple in reality, and for him this is the main difficulty to implement a tool as the BSC.

To conclude, even if these entities are receptive to the hypothesis of adopting the BSC, they state that it is not for now, only for a near future because there are internal characteristics that create some reservations regarding this implementation process.

6.4.2.2. Unwilling to adopt the BSC

First of all, the aspect that draws more attention is that 4 over the 5 start-ups that affirmed assertively not being interested in the BSC are the ones whose representatives know very well this tool. This means that their opinions are relevant because they know very well the concept of the BSC and based on their knowledge they state that the BSC does not make sense in start-ups. Once these opinions come from people who were aware of the BSC, they are particularly relevant for this study.

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The way these start-ups answered to the question about the willingness to adopt the BSC was much more assertive than the ones approached above, but in a negative way. Start-up X responded *“in our particular case, I think it does not make sense. In start-ups in general I think it does not make sense”* (Interview, Start-up X); JOBBOX.io claimed that *“now it does not make sense”* (Interview, JOBBOX.io); Startiupi answered *“No, for now no”* (Interview, Startiupi); Travel With Mario stated *“It does not make sense in start-ups, at least in one with our structure”* (Interview, Travel With Mario); and Wazza claimed *“No! (...) Currently, that is not the case”* (Interview, Wazza).

Passing to concrete examples, **Start-up X** mentioned it does not make sense to adopt a BSC in their firm, since one of its advantages is to align the team, something that already happens in this start-up because they have a small team and they are aligned by default. The respondent values the concept and recognizes its relevance for strategy definition and performance measure, but he identified the problem of extra bureaucracy, since the BSC brings procedures and processes that prevents a start-up from being flexible, which is one of the characteristics of these companies in its first stage of activity. This point meets what was stated by Naturelis and corroborated by the literature.

Regarding **JOBBOX.io**, the respondent recognized the BSC's advantages regarding the ability to analyze the company towards its 4 perspectives and the graphical analysis that allows seeing the evolution and speed of growth to take decisions according with it. Moreover, the interviewee acknowledged the importance the BSC could have to present its results to possible investors. However, he answered he wouldn't probably adopt the BSC in the start-up, at least at that time. For him, if he knew what is necessary to implement it, all the steps and if he got help in this process, he was available to implement this tool. But, despite all of this, for him the BSC would occupy a lot of time and it would be hard work, due to the difficulty of data collection, handless and treatment of raw data which meets what Science4you stated. He also added that the start-up is very operational focused and to be strategic focused is a challenge, which meets Bhide (1994) and what PPL's representative concluded above.

In the same way of reasoning, **Startiupi** responded assertively that they are not willing to adopt the BSC at this moment, since there are obstacles to consider because an effective implementation process is hard and complex and it implies the definition of

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many processes and procedures for the company. For the interviewee, this is something that it is not viable, when the company is trying to gain advantage in the market and this overload of processes is a factor that delays the main goal. For him, the BSC would represent an increase of the bureaucratic and procedural burden and would not be a solution for their current challenges and problems. Indeed, he thinks the BSC would be a possibility when the company starts to grow, also because he recognized that one of its advantages is the capacity to aggregate all the information of the company to ensure nothing is lost when the company is bigger. It allows showing to everyone company's performance, evolution and the next steps. This totally meets what Science4you's representative stated and Davila (2005) presented above.

The representative of **Travel With Mario** was aware of the BSC and he revealed it does not make sense to implement it in a start-up, at least in his start-up until the business concept is defined. He recognized that the BSC is an instrument for measuring and comparing which is its strength, but he does not think a start-up has enough information to fill all the BSC's rubrics and to make it a useful tool. In this case, they don't even have sales and a specific product to measure, thus it is not as beneficial as it could be in a big company where everything is already established. Indeed, in the literature review, it was concluded that the BSC was designed for large enterprises and they are more likely to use it (Garengo and Biazzo, 2012; Hoque and James, 2000).

Until here, the start-ups analyzed were the ones whose representatives know very well the concept of the BSC, which is not the case of **Wazza**'s representative since he was not aware of the tool until its explanation. Independently of his knowledge about the concept, when he understood its functionalities, he also recognized that is very useful but not for start-ups. He admitted that the BSC presents several advantages such as the possibility to measure firm's learning evolution through the analysis of respective indicators and their impact in the rest of the company because, for him, sometimes start-ups think they are learning and achieving better results, but is not true and the BSC allows to understand if this perspective is having impact on the others. Allied to this is the utility of the BSC's four perspectives that are all related and dependent on each other, which allows organizing the entire firm around them and ensuring the focus in what is really strategic. Indeed, company can see concretely where they are and the metrics' results and impact which helps them to rethink and readapt the actions and also to make decisions at a strategic level. However, the respondent answered surely that he

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is not interested on the BSC's implementation even if it is a good tool because it is not a priority and they are facing too many challenges. He identified obstacles as the lack of processes defined to justify the need to have a BSC, the lack of time and people to concentrate their attention in this process and the BSC is something big and complex to implement to become an automatic process. For him the BSC could make sense when the company starts to grow because at that time they will be ready and will need a tool as the BSC that can *"(...) be a tool for optimization so that we can climb in a more efficient and sustainable way"* (Interview, Wazza). Once again, this affirmation meets the statements of the representatives of Science4you and Startiupi that in their turn, meet the literature review regarding the findings of Davila (2005).

6.4.2.3. Willing to adopt the BSC

Voucher Love's representative answered positively to question about the willingness to adopt the BSC. He was the only one who expressed so assertively his willingness to implement the BSC, even if he did not know the concept until its explanation. When the concept was explained and a scheme of the BSC was shown, the interviewee could easily look at the four perspectives and define indicators to include in each one: for the **customer perspective** he thought about the indicators *"new clients"* and *"clients who have left"*; for the **internal business perspective**, *"processes to respond to clients' doubts"*; for the **innovation and learning perspective**, he identified the goals of training the sales team with the necessary skills to ensure an effective sales process; and the **financial perspective** has the normal indicators and is a result of the other ones.

The respondent did not identify any BSC's disadvantage and he assumed it is a tool simple to implement by stating: *"I want to have the minimum number of tools. But if they are very simple and with a micro vision, it could be interesting if I could have a very basic screen (...), if it is so simple, it is possible to implement and it is interesting"*. But it is important to note that the BSC's implementation process is very exhaustive and time consuming (remember the implementation processes approached by Kaplan and Norton (1993) and Garengo and Biazzo (2012)).

Thus, to conclude, this was the only start-up that has interest on implementing the BSC now since the other start-ups are also willing and interested on this tool, but in a long-term period, not now.

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6.4.3. Summary of the BSC's advantages and obstacles attributed by start-ups

Throughout the analysis of the current scenario of each case study in each one of the main dimensions used to characterize firms across the life-cycle model, it was observed the existence of advantages attributed to the BSC itself and also the obstacles associated to its implementation in start-ups. Relatively to the **advantages**, it is a fact that several advantages were attributed to this tool as the Table 13 shows. The start-ups recognized 17 types of advantages associated to the BSC that were grouped into 5 main categories according to the similarity found between the advantages. This reveals that start-ups recognize the value of the BSC and the benefits it can bring to their business.

Table 13 - From the interview to the main advantages of the BSC

Main ideas from the interviews	Advantages	Category of advantages
Concept is well defined; Based on well sustained ideas (Start-up X)	Good concept	Tool well conceived
Good tool that is very useful (Science4you)		
The 4 perspectives are connected in a way that reflect the company's activities as a all; Diagram of 4 perspectives that is useful to include all the metrics to measure company's performance (Wazza)	Perspectives connection	
The BSC increases responsibility inside the company and helps the company to focus in a certain goal to follow (Naturelis)	High focus	Focusing on what is critical
The BSC helps the company to not concentrate only in the daily challenges and focus also on strategic goals (PPL)		
The BSC is used to make the company focused across the 4 perspectives and pay to attention to the metrics and their impact. The BSC is a guide (Wazza)		
By having a BSC, it is mandatory to make a constant analysis of all the areas of the company which allows the company to save time because they only look at what really matters (Wazza)	Save time	
The main advantage is to think about the strategy; It helps to define where to go and how to get there (Start-up X)	Support strategy definition	Supporting Strategic Management Process
It is useful in the development of the company's strategic plan. It is a help when it comes to define the strategy (Start-up X)		
The BSC establishes the path to attain the company's goals. It allows to have a vision defined somewhere, which prevents a company to be so reactive in its way of act (PPL)		
The BSC supports the strategy definition (Science4you)		
It allows the existence of something more formalized to accompany the strategy (Startiupi)	Support goals definition	
It is a good help to formalize company's goals (Naturelis)		
It supports the establishment of goals. It clearly defines the means to achieve the goals across the different areas of the BSC (PPL)	Support performance indicators definition	
The BSC helps to define the indicators to measure the achievement of the goals (Start-up X)		
Based on the analysis of the 4 perspectives, the BSC allows to make decisions for the company (JOBBOX.io)	Support decision-making	
It serves to make decisions regarding the strategic vision (Wazza)		

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Main ideas from the interviews	Advantages	Category of advantages
The BSC is a way to make an exhaustive control of company's performance and to ensure that everything is formally established in the company (PPL)	Support control of performance	
The use of a BSC helps a company to readapt its actions according the BSC's results throughout time (Naturelis)	Support action plans adjustment	
The BSC lets the company improve the course of action based in the analysis of the 4 perspectives (Wazza)		
A BSC allows to aggregate all the information to see the progress of the company, the velocity of growth and what it is necessary to do based on this analysis (JOBBOX.io)	Measure company's progress	Measuring company's performance
The BSC allows to measure company's performance (PPL)		
The BSC is an instrument of measuring and comparison (Travel With Mario)		
The BSC enables to know the progress of the company throughout the 4 perspectives (Wazza)	Measure of goals	
It permits to measure the goals and if the company is achieving them or not. This allows a manager to decide if those goals are the right ones for the company (Naturelis)		
The BSC is beneficial to measure the performance indicators (Naturelis)	Measure of performance indicators	
With the BSC is easy to observe in an objective way the performance metrics and their impact (Wazza)		
The BSC facilitates data analysis and present the results graphically which simplifies the analysis of company's evolution across the 4 perspectives (JOBBOX.io)	Data analysis	Reporting critical information to all stakeholders
The BSC allows summarizing all the information regarding the company in one document by using the 4 perspectives (Science4you)	Compile information	
It permits to have a micro vision of the company by showing all the company's information in one screen where all the perspectives can be visualized (Voucher Love)		
The BSC is very useful to present to an investor and to the company's board (JOBBOX.io)	Present to investors	
The BSC allows having everyone aligned across the company to ensure they know where they have to go (Start-up X)	Keep team informed and aligned	

Still, despite the large number of advantages attributed to the BSC, they are lessened by the **obstacles** associated to it when it comes to implement it in start-ups (Table 14).

It is necessary to reinforce the idea that these obstacles are not disadvantages of the tool itself or of its functionalities. These are the main obstacles that the respondents identified as the ones that could be barriers to implementing a BSC in a start-up with such characteristics that are inherent to the birth stage of the business life-cycle. These obstacles derive from the BSC's characteristics identified by start-ups that are incompatible with their way of management.

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Table 14 - From the interview to the main characteristics of the BSC and the obstacles to implement it

Main ideas from the interviews	In start-ups, the BSC represents...	Obstacles identified by start-ups
The costs increase and the benefits decrease (Start-up X)	Increased fixed costs	Limited resources available (time, capital and human)
The BSC brings fixed costs when start-ups need to diminish them (PPL)		
In reality, it is difficult to implement the BSC, namely when it comes to define the metrics. It is not an easy tool (Science4you)	Demanding Implementation Process	
It is not an easy and quick tool to implement. It requires the definition of processes and procedures. It is not possible to just copy the BSC's model and implement it. It is necessary to adjust to the company to ensure an effective and usefulness of the tool (Startiupi)		
It is a complex tool that needs the adaptation of several things inside the company to be automatic (Wazza)		
The process of data collection and treatment is hard and requires spending a lot of time with it (JOBBOX.io)	Hard Data Collection Process	
It is complex the process of data collection and treatment. It is difficult to ensure that everything is well analyzed (Science4you)		
The main obstacle to implement the BSC in a start-up is the scarce of resources (people, time, money). There is limited resources to dedicate time to implement the BSC (PPL)	Requirement of several resources	
Considering the list of tasks to do, the BSC's implementation is not at the top of the list of priorities (Start-up X)		
It is not a priority and it takes too much time (PPL)		
The BSC takes time to implement and it is not mandatory for now (Wazza)		
The BSC is more strategic focused while a start-up is more operational focused (JOBBOX.io)	Focus on long-term strategy	Focus on short-term actions
A start-up is focused on operational tasks which contrasts the BSC (PPL)		
The BSC could prevent a start-up to be dynamic and to adapt to the market needs and challenges. The BSC is not wide enough to allow the start-up to deviate from the initial goal and strategy (Naturelis)	The need for stability	Need to fast response to change and act quickly
The BSC is not necessary when the team is small because there is already communication and alignment between the members. It represents extra bureaucracy when it is not necessary (JOBBOX.io)	Focus in large organizational structures	Small, simple and flexible organizational structure
The cost of bureaucracy is unbearable for a start-up that has to easily communicate, to make decisions and be flexible by using limited resources. Extra bureaucracy is a barrier for start-ups (Start-up X)	Extra bureaucracy and processes	
The BSC is something that a start-up has to mandatorily fulfil which is an obstacle to its implementation since a start-up has to make quick decisions and cannot be restricted to what is defined by the BSC (Naturelis)		
It increases the bureaucratic burden which can delay the achievement of the main goal of a start-up. It represents a raise in the number of processes which is not a solution for a start-up (Startiupi)		

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After this analysis, it is possible to conclude that there are 4 main obstacles that prevent a BSC with such characteristics to be adopted by these start-ups. They suffer of **limited resources available** which disables them to spend time, money and people with the BSC's complex implementation process. These start-ups are **focused on short-term actions** meaning they care about the operational tasks and short-term goals while a BSC requires a long-term strategy. The other obstacle is the **need that these start-ups have to have a fast response to change and act quickly** which contrasts with the stability required by the BSC when a start-up has to be flexible. Finally, these start-ups have a **small, simple and flexible organizational structure** which is a barrier to the BSC's adoption since it is more useful for complex organizational structures and it brings extra bureaucracy and processes to a company that needs to be flexible and dynamic.

In the literature review, there were also advantages (McAdam, 2000 cited by Russo, 2009; Person, 2009; Phadtare, 2010), and obstacles (Rompho, 2011) found regarding the BSC's implementation in SMEs that can be crossed with the ones revealed by these start-ups since they share similar characteristics. The Table 15 shows the advantages and obstacles found in SMEs and the match with the ones revealed by start-ups.

Table 15 - Match between the advantages and obstacles attributed to the BSC by SMEs and Start-ups

	SMEs	Start-ups
Advantages	Define better the strategy	√
	Focus in what is really strategic	√
	Look at the resources and connect them with strategic goals	X
	Facilitates the communication and alignment inside the company	√
	Facilitates the decision-making process	√
	Translation of strategy into performance measures and tracks performance	√
	Contribution to cost reduction and revenue increase	X
	Increase the variety of products and services	X
	To find employees' training and development needs	X
Obstacles	Limited human and capital resources	√
	Lack of time available	√
	Lack of top management involvement	X
	Absence of supporting software	X
	Need to fast response to change and act quickly	√
	Frequent strategy changes	√

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It is possible to see that these companies were considered in the literature as having very similar characteristics and this analysis shows that start-ups and SMEs are also similar in the way they look at the advantages and obstacles of the BSC. The aspect that came to make a difference is the relevance the life-cycle model has in the willingness to adopt the BSC across the stages in which companies are because their organizational characteristics vary across those stages.

7. Research Questions analysis

Throughout the analysis developed, the characteristics of start-ups were explored around 5 main dimensions - current situation, organizational structure, decision-making process, leadership and strategic management practices. The external environment was another dimension analyzed due to its relevance to characterize companies throughout the business life-cycle (Miller and Friesen, 1983; 1984). Once it was concluded that the stage in which companies are in the business life-cycle influences the use of MCSs, which includes the BSC (Davila and Foster, 2007; Moores and Yuen, 2001), it was determinant to first characterize these companies taking into account these 6 dimensions to answer to the research question: ***“How do different stages in the business life-cycle play a role in the willingness to adopt a BSC?”***

Based on all of this analysis, the main conclusion is that the majority of the start-ups under analysis (8 over 9) were not willing to adopt the BSC in their companies, at least at that moment, despite of all the advantages attributed to this tool. This conclusion is explained by the existence of obstacles to adopt a BSC that emerge from the inherent characteristics of a company in the birth stage of the business life-cycle (Table 16).

Hence, the organizational characteristics of the start-ups under analysis are summarized in Table 16 where it is possible to see how those characteristics constitute themselves the obstacles to adopt a BSC. Moreover, the Table 16 also includes the advantages that start-ups attributed to the BSC and that could constitute benefits for these companies in each one of the dimensions, but that are then lessened by the obstacles.

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Table 16 – Relationship between start-up’s characteristics, the potential the BSC’s advantages and the potential obstacles to adopt it

Dimensions	Characteristics of Start-ups	Potential advantages identified	Potential obstacles identified
Organizational Structure	<ul style="list-style-type: none"> • Flat, simple, informal, high level of flexibility • Small teams • Quick and flexible channels of communication 	<ul style="list-style-type: none"> • Report critical information to all stakeholders 	<ul style="list-style-type: none"> • Limited human resources • Small, simple and flexible organizational structure
Decision-making	<ul style="list-style-type: none"> • Informal process • Fast and flexible process • Involvement of everyone 	<ul style="list-style-type: none"> • Support strategic management process Namely: support decision-making process 	<ul style="list-style-type: none"> • Small, simple and flexible organizational structure
Situation	<ul style="list-style-type: none"> • Face challenges to be sustainable and successful • Limited resources: scarcity of human and financial resources and little time available 	<ul style="list-style-type: none"> • Focus on what is critical 	<ul style="list-style-type: none"> • Limited resources available (time, capital and human)
Leadership	<ul style="list-style-type: none"> • High focus on results and goals achievement • Some attention on maintaining good relationships 		<ul style="list-style-type: none"> • Limited resources available (time, capital and human) • Focused on short-term actions
External environment	<ul style="list-style-type: none"> • Play in fast industries and emerging markets • Dependent on the market • Uncertainty, unpredictability, dynamism • Need of constant adaptation 		<ul style="list-style-type: none"> • Need to fast response to change and act quickly
Strategy definition	<ul style="list-style-type: none"> • Focus on short-term goals and strategy • Less attention to long-term strategy • Focus on reactive strategies • Strategy changes constantly • Constant validation of the business direction 	<ul style="list-style-type: none"> • Support strategic management process 	<ul style="list-style-type: none"> • Focused on short-term actions • Need to fast response to change and act quickly
Strategy formulation	<ul style="list-style-type: none"> • Informal, quick, natural and organic process • Constructive process • Based on: meetings, day-to-day life, trial and error process, momentary needs 		<ul style="list-style-type: none"> • Focused on short-term actions • Small, simple and flexible organizational structure
Level of formalization and planning	<ul style="list-style-type: none"> • Low level of processes formalization • Informal ways of management • Low level of planning: focus on operational planning 		
Control of performance	<ul style="list-style-type: none"> • Simple, informal and dynamic process • Low level of control mechanisms 		<ul style="list-style-type: none"> • Support strategic management process • Measure of company’s performance

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In fact, what happened was that start-ups associated several advantages to the BSC as a tool. However, these advantages may not be fully exploited due to the organizational characteristics of start-ups, which result from being in a birth stage of the business life-cycle, thus constituting barriers to effectively implement the BSC.

Start-ups are characterized by a flat and simple **organizational structure** because they have small teams which allow the **decision-making process** being very quick, flexible and informal, which is crucial since they operate in very unpredictable and changing environments. Due to these characteristics, the advantages attributed to the BSC such as keeping the team informed, aligned, and supported in the decision-making process lose strength because they already do this. Moreover, not only these advantages do not add value to the company as there are obstacles to adopt the BSC. The BSC brings an increase of processes and bureaucracy when start-ups have to be flexible and adjustable and they have limited resources to spend with the implementation process.

Regarding the current **situation** of these companies, they are facing several challenges and they have limited resources to respond to all of those challenges, which constitute an obstacle to the willingness to adopt the BSC, since it is not a priority and they cannot dedicate money, time and people with a tool that is not understood as beneficial. This meets what happens in terms of **leadership** because start-ups assign much focus on results and goals achievement (focus on short-term actions) which represents their major preoccupation meaning they are not able to spend resources with something that is not a priority and that is complex to be implemented. The **external environment** that surrounds these companies was characterized as uncertain, unpredictable and dynamic which is incompatible with the characteristics attributed to the BSC when it requires some stability. Thus, the need to give a fast response to change and act quickly is an obstacle that emerges from this characteristic.

Indeed, it was recognized by these start-ups that a potential advantage that the BSC can bring is a higher focus on what is critical that can save time. This can be good because they have lack of resources and they need to be quick in their actions by focusing in what is really fundamental. However, this benefit only comes when the tool is already under use and due to the lack of resources and the need to focus in

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short-term actions; these start-ups are not able to spend resources immediately to implement a tool that will only bring benefits in the future and not now.

The strategic management practices of these start-ups are very informal and non-planned. Findings show, in line with the literature review, that these start-ups are very focused on short-term actions since they cannot predict for long-term when everything is uncertain and unpredictable and they have the need to fast response to change and act quickly by being reactive. Also the process to formulate and control the strategy is informal, simple, quick and organic and the level of formalization and planning is very low as observed also in the literature. And what was verified is that even if the BSC supports the strategic management process, this occurs for the long-term and start-ups are focused on short-term action which is an obstacle appointed by them. Moreover, the need for a fast response to change and act quickly that is supported by the existence of a small, simple and flexible organizational structure constitutes also barriers to adopt the BSC in start-ups.

This brings us to the second research question of this study ***“How do existing strategic management practices play a role in the willingness to adopt a BSC?”***

It was recognized that the strategic management practices has impact on the willingness of these start-ups to adopt the BSC because the way those are implemented in start-ups are incompatible with the BSC's characteristics. Due to the uncertain environment in which start-ups are inserted in, they need to have simple and flexible processes, informal organizational structures. They have to communicate very quickly and make decisions as fast as possible which constitute basis for the inexistence of long-term strategies. And it was recognized in the literature review that a firm should clearly define its strategy and strategic goals to achieve business success and to implement a BSC because it is not a strategy itself. It supports the management of this strategy that has to be defined (Pandey, 2005), which does not happen in these start-ups.

Additionally, these start-ups have been changing strategies which means they need to adapt their path constantly and they recognized that the BSC could not be wide enough to allow a start-up to deviate from the initial goal and strategy. Also, they do not need a BSC that is able to define clearly their goals, metrics and actions because

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they do it frequently and informally and, regarding the definition of long-term goals, they don't even have those goals defined.

Furthermore, even the start-ups that have their long-term strategy defined are not willing to adopt the BSC because they know that strategy can change at any moment. They do not want something as complex as the BSC because they need simplicity and flexibility, even if they have a strategic management process more formalized and planned. Thus, having a long-term strategy defined and formalized doesn't seem being decisive to make start-ups more willing and interested on the BSC, even if it is a BSC's requirement. The overall characteristics associated to the birth stage of life-cycle are a stronger barrier to implement the BSC.

To summarize, the willingness to adopt the BSC is not influenced by its disadvantages since several advantages were recognized, but it is influenced by the obstacles to adopt it that result from the characteristics of companies in the birth stage of the business life-cycle. More than obstacles, these characteristics reveal that the BSC is seen as unnecessary for these companies, at least at that moment.

7.1. When should the Balanced Scorecard be adopted?

After this main conclusion, it is relevant to understand the following: if the BSC does not make sense in these companies because they are in the birth stage of the business life-cycle and it is due to such characteristics that there are obstacles to adopt the BSC, when does it make sense to adopt?

In the literature review where the BSC was included in the category of MCS. It was seen that the use of this type of tools increases from the birth stage to the growth stage as a result of the need to adapt internally to the increasing complexity of the company. The start-ups under analysis also recognize the increasing importance of adopting a BSC, when the start-up starts to grow since it brings advantages as synthesizing the information, aligning the team as it grows, supporting strategy definition and optimizing the process to climb in an efficient and sustainable way (Table 17).

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The Table 17 allows understanding that the advantages a BSC can bring, in general, to a company are in accordance with the advantages attributed to this tool when a start-up starts to grow. In the case of the start-ups under analysis, the advantages were attributed to the BSC and in the case of the literature review, the advantages were attributed also by start-ups but it was for MCSs.

Table 17 - Match between the general advantages of the BSC, its utility for start-ups' growth (based on the interview) and MCSs utility for start-up's growth (based on the literature review)

BSC general advantages	BSC utility for start-up's growth	MCSs utility for start-up's growth
Existence of a single management report with all the necessary information (Kaplan and Norton, 1992)	Important tool to gather all the information in only one document available to everyone (Science4you)	MCSs contribute to synthesize information among the participants in the company (Davila, 2005)
	Capacity to aggregate all company's information to ensure anything is lost when the company starts to be bigger (Startiupi)	
Better and earlier decision-making process (Kaplan and Norton, 1992)	-	It allows moving important information to the right decision makers (Davila, 2005)
Communicate effectively the organization's strategy (Kaplan and Norton, 1996a; 1996c; 2001b; Pandey, 2005)	It allows showing to everyone company's performance and evolution and the next steps (Startiupi)	It contributes to a better communication (Davila, 2005)
Align everyone towards a common objective (Kaplan and Norton, 1996a; 1996c; 2001b)		It allows maintaining all the employees aligned with organization's goals and mission (Davila, 2005)
-	-	It supports the coordination and monitoring of costs that increase as company grows (Davila and Foster, 2007)
It supports companies in the definition and implementation of their strategy (Kaplan and Norton, 1992)	It supports a new way of management when the company starts to grow; it supports strategy definition (Science4you)	Critical to provide the management infrastructure required for the growth of the organization (Davila and Foster, 2007)
It allows the capitalization of companies' current resources, assets and capabilities (Kaplan and Norton, 2001a)	It is a tool for optimization that allows climbing in a more efficient and sustainable way (Wazza)	Help to manage the company and all the resources as better as possible (Davila and Foster, 2007; Moores and Yuen, 2001)
-	-	Allow the company to deal with management density (Moores and Yuen, 2001)

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It is possible to conclude that it is widely recognized by the authors and by the start-ups under analysis that this type of tools as the BSC is beneficial for a company not in its initial phase of activity but when it starts to grow and become more complex. Moreover, they acknowledged that the BSC's advantages are useful in the growth stage.

Concluding, the main problem is not about the tool itself because it is recognized as beneficial and advantageous for a company. The problem is that these advantages are not as advantageous when it comes to implement in a company that is in the birth stage of the business life-cycle because of their inherent characteristics that constitute obstacles to implement successfully a BSC and make it an advantageous tools. Indeed, when companies evolve to the growth stage, this process is accompanied by changes in company's characteristics. So, if start-ups' characteristics constitute obstacles to the BSC' adoption, when the company grows, those characteristics also change and they are not obstacles anymore and the advantages attributed to the BSC become more relevant.

Taking this conclusion into account, it is also important to note that some of the start-ups interviewed were interested on having a tool as the BSC because it is a good tool if it is implemented in the company by a third party. Furthermore, it was noted that they are open to adopt these tool in the growth stage. Hence, if these start-ups wanted to implement the BSC now or in the growth stage, the implementation processes analyzed in the literature review have to be considered and these start-ups should use the circular methodology presented by Garengo and Biazzo (2012) because it considers the specific characteristics of SMEs that are similar to start-ups such as the fact they do not formalize their strategic choices and processes by being more reactive due to their natural need to quickly respond to frequently strategy changes and to the day-to-day challenges. This implementation process could be the most effective to choose.

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8. Conclusion

The development of this study helped to demonstrate and reinforce what is already widely known: the power and impact that the BSC has in the business world. Several studies were developed for large companies and for SMEs in order to understand the level of acceptance and usage of this tool. But in this study, the goal was to match the potential of the BSC with the success of emergent driving forces of the business world: start-ups (companies in the initial stage of the business life-cycle).

Throughout this dissertation it was studied the willingness of start-ups to adopt the BSC and their characteristics in 6 relevant dimensions used to evaluate companies throughout the business life-cycle - current situation, organizational structure, decision-making process, leadership and strategic management practices and the external environment.

Regarding these dimensions, it is possible to summarize start-ups characteristics. They tend to be small firms with small scales. They have few workers and informal structures. The majority of these start-ups work with single products and services. They suffer of scarcity of resources and they are inserted in emerging and fast environments. It was also verified that these companies have to communicate and take decisions very quickly meaning they need a high level of flexibility to adapt themselves to the market's needs and requirements. The need for quick responses and actions allied to the scarcity of resources prevent these companies to plan their activities and formalize a strategy. In fact, only 3 of the 9 start-ups have a long-term strategy and they have the conscious that this can change frequently. The level of planning in the majority of these start-ups is very low and they only use an operational planning since they are short-term focused and follow a reactive strategy (Gelderen et al., 2000).

Based on all the research, the main conclusion is that it seems to be a relationship between the willingness to adopt the BSC and the stage of the business life-cycle in which a company is. In a total of 9 start-ups interviewed, 8 revealed not being willing to adopt the BSC in their companies. And this happens mainly due to start-ups' organizational characteristics that are a consequence of the birth stage of the business life-cycle and that constitute obstacles to implement the BSC. The BSC is a powerful

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tool and these start-ups attributed several advantages to it, such as the support given to the strategic management process, the ability to measure company's performance and to maintain a high focus on what is critical for the company. However, these advantages are minimized by the barriers of the BSC's implementation that arise from start-up's organizational characteristics mentioned above, as the limited resources available, the focus on short-term actions, the need to give a fast response to change and act quickly and the existence of a small, simple and flexible organizational structure.

Other conclusion is about the role of strategic management practices in the willingness to adopt the BSC. Start-ups are short-term focused and they do not plan nor formalize a long-term strategy which is incompatible with the BSC's characteristics since it requires the existence of a long-term strategy and stability for the goals and respective indicators (Pandey, 2005). Hence, the strategic management practices associated to companies in the birth stage are incompatible with the BSC requirements which influence negatively the willingness to apply this tool.

Once again, it is possible to conclude about the important role the business life-cycle plays in the adoption of the BSC since the level of willingness to do it is low in the birth stage and increases when the start-up evolves to the growth stage. In fact, in this stage companies become more complex, they expand their activities and the team raises meaning that it increases the need to incorporate more complex tools as the BSC to support strategic management practices.

Thus, as the firm's stage in the life-cycle varies, the characteristics and needs of the company also vary which influences the willingness to adopt the BSC. This main conclusion fully meets the studies of the authors who concluded about the same impact of the business life-cycle regarding the use of MCSs (Davila, 2005; Davila and Foster, 2007) and MAS (Moore and Yuen, 2001). And this is the main input of this study regarding the specific tool of the BSC because this aspect of the business life-cycle is what makes the difference between the existent studies about SMEs and it is what makes a difference within SMEs. Moreover, the advantages and obstacles attributed to this tool under start-ups' point of view are important insights to consider for future analysis.

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8.1. Limitations

One of the limitations of this study could be the method of sampling used: the convenience sampling. According with Marshall (1996), this method of sampling is the least rigorous technique that may result in poor quality data and lacks intellectual credibility. However, it is important to highlight that the start-ups interviewed were not chosen based on their organizational characteristics that could be more beneficial for the study. They were the ones that accepted to be interviewed after being contacted by people from author's network. These start-ups were not chosen by the author, they were the ones available to participate in this study and all the start-ups that accepted to participate were interviewed without limitations.

The other limitation that can be highlighted is the number of case studies applied. Taking into account the approach used – multiple-case studies – this is a good number of case studies. However, when it comes to create a pattern and a theory this number is limitative and it only allows creating a basis for further research. Still, the saturation of the data diminishes this limitation.

8.2. Recommendations and Further Research

First of all, the recommendation for start-ups is about how beneficial could be the adoption of a strategic management system as the BSC as soon as possible. Start-ups revealed not having the internal conditions to adopt the BSC, but existing research shows that it could be very advantageous to be implemented when these companies start to observe an increase of team and of complexity. The BSC has several advantages in terms of supporting strategy definition and implementation as well as of communicating and aligning everyone. Thus, by implementing a BSC from the root it allows to have a main tool for all the company that is able to concentrate all the internal information available for everyone. A special word goes to Science4you that is growing and presents organizational characteristics that seem to be the right ones to start implementing a BSC.

Following this reasoning and as it was already mentioned, for the BSC to be beneficial for a company it has to be adapted to company's characteristics and it has to follow an effective process of implementation. The recommendation given is, when it comes to implementing the BSC, try to use the circular methodology presented by

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Garengo and Biazzo (2012) since start-ups still not having a planned long-term strategy when they evolve to the growth stage and this methodology allows to start from the operational tasks rather than to start with a long-term strategy that has already been established.

In this sense and as a recommendation for further research, it could be very interesting to experiment and test whether a BSC could be adopted by a start-up that is growing and analyze the difficulties of implementation, the time the process takes and people involved for then verify the benefits the BSC brought to the company. A balance between the benefits and the difficulties/barriers should be done to conclude about the effectiveness of implementing a BSC in a start-up. This experience should be replicated for more than one start-up in order to find a pattern. Thus, further research could explore more cases in different industries, stages, dimensions, etc.

Moreover and because start-ups need to act very quickly and change constantly, it would be interesting not only to test the implementation of the BSC as it is in a start-up that is growing, but also to investigate whether the original form of the BSC could be adapted to become more wide and flexible to allow this type of companies to use it. Thus, a new model of the BSC can be tested by taken into account the integration of indicators as market feedback and positioning, trends monitoring, ratio solution/problem, velocity to attract clients, social media data such as the number of users, of followers, of people who are talking about that company, etc.

To conclude, this study can be used to develop a survey based on these results and to apply it to a higher number of start-ups to test if they all share the same opinions. Thus, it could be possible to find a pattern much stronger and to make a quantitative analysis with correlations and extrapolation for the population of start-ups.

As a final general recommendation for the future, it is important to understand that the BSC has several advantages and an enormous potential. Thus, several efforts should be done in order to give start-ups the opportunity to easily adopt a BSC that is able to bring more benefits than disadvantages for their businesses.

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- **Books**

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10. Appendixes

Appendix I – Detailed description of the BSC's perspectives

Innovation and learning perspective. In a business world that is always changing and where the competitiveness is huge, the companies make more efforts to innovate, to improve and create value in order to be always better than competitors. A company can easily enter in new markets and increase revenues and margins if it has the ability to create constantly more value for customers by launching new products according with their needs and by improving operating efficiencies continually (Kaplan and Norton, 1992). Innovation, creativity, competence and capability are the key words of this perspective and the central factor here are the employees because it is crucial to guarantee their satisfaction, retention and productivity. The knowledge, the culture, the capacity to learn fast, to continuously grow and develop their skills are important characteristics which contribute for managing and sustaining change and improvement. This is possible if the company develops a culture of self-improvement, corporate development and growth and continuous training (Pandey, 2005).

Defining the right measures in this perspective represents a continuous improvement in customer satisfaction and internal business processes, the next two perspectives to approach. Concluding, this perspective has to describe the goals for employees, information systems, and organizational alignment (Kaplan, 2010) which corresponds respectively to the three categories of intangible assets identified in this perspective: human capital, information capital, and organization capital (Kaplan and Norton, 2004).

Internal business perspective. This perspective is directly connected with the customer perspective because the measures about what the company must do internally depend on what customers need, want and expect (Kaplan and Norton, 1992). Thus, a company is able to meet customers' needs and expectations if they align very well their processes, decisions and actions, proving the cause-effect relationship existing between these perspectives. And in order to ensure this effective alignment, a connection with the innovation and learning perspective is vital. In fact, core competencies and critical technology are crucial for internal processes efficiency and effectiveness which contributes to a better meeting of customer's needs (Kaplan and Norton, 1992).

Most part of internal processes activities are influenced by employees' actions and it is impossible to look at all these processes and operations as an overall situation. Thus,

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managers should decompose the overall internal processes into local levels (departments, workstations, etc) to guarantee the link between the corporate objectives that are global and the actions taken by individuals. In fact, employees of lower levels are the ones whose day-to-day operations affect the overall corporate goals which makes imperative for an organization to establish clear targets for actions, decisions and improvement activities to ensure employees' commitment. Behind all of this, the information systems are crucial to help managers to organize the disaggregation of the processes and to facilitate the identification of any trouble that can occur. Managers are more able to discover quickly and timely what is behind a certain problem and solve it (Kaplan and Norton, 1992).

To finalize, the goal of this perspective passes through a reflection about what the company must do to create and deliver a differentiated value proposition and to improve productivity in order to meet the financial objectives (Kaplan, 2010). Hence, in order to find answers for this reflection, the company must look at the internal processes that have the highest impact on customers' satisfaction and define goals and respective measures taking into account processes related with quality, productivity, employees' skills, cost reduction, cycle time, and others. A company should ensure through processes measures that their products and services are meeting the customers' requirements and creating value for them (Kaplan and Norton, 1992).

Customer perspective. An alignment between the customer perspective and the other two perspectives approached above is determinant to have an effective implementation of a BSC. As a global view, the customer-value proposition is the focus of any business strategy and it is based on a well-defined and unique mix of products and services, respective price, relationship created with the customer and the image that a company offers which defines how the company is seen by their customers (Kaplan and Norton, 2001a; 2001b).

Managers have to provide a service to customers based on the company's general mission statement by defining specific measures that reflect the factors that really matter, contributing to a better understanding of customers' needs and expectations (Kaplan and Norton, 1992). Kaplan (2010) assumes that this perspective would include objectives for desired customer outcomes in terms of satisfaction levels, acquisition of new customers and retention of targeted customers. Thus, this perspective is useful for managers to get important information about the way customers see the company.

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Kaplan and Norton (1992) identified that the biggest customers' concerns are about time (the time required for the company to meet its customers' needs), quality (the defect level of incoming products as perceived and measured by the customer), performance and service (how the company's products or services contribute to creating value for its customers), and cost factors (how capable the company is to reduce the costs at a level which is possible to be reflected in the product's price). Companies have to articulate the goals of those four variables and translate this into specific metrics in order to put the BSC to work.

To conclude, Pandey (2005) verified that if the company has poor performance in terms of customer satisfaction, this will lead to a future decline in terms of current financial performance since this is a leading indicator.

Financial perspective. This perspective allows companies to realize how shareholders see the company. For Kaplan (2010), the financial objective should contain an objective for sustained shareholder value creation and other objectives for revenue growth, productivity, and risk management and the achievement of these goals depends on the pursuit of the measures included in the other three perspectives of the BSC.

The measures of this perspective give information about the contribution of company's strategy, implementation and execution for the company's overall success and good performance. These measures include indicators (specific measures) that are typically related with financial goals such as profitability, growth and shareholder value and they provide a common language for companies' comparison (Kaplan and Norton, 1992).

But some critics defend that nowadays it is not useful to look at traditional financial measures because they do not contribute to the improvement of customer satisfaction, quality, productivity, and cycle time and employee motivation. These operational actions determine financial performance, and if companies make the fundamental improvements in their operations, it could result in financial success (Kaplan and Norton, 1992).

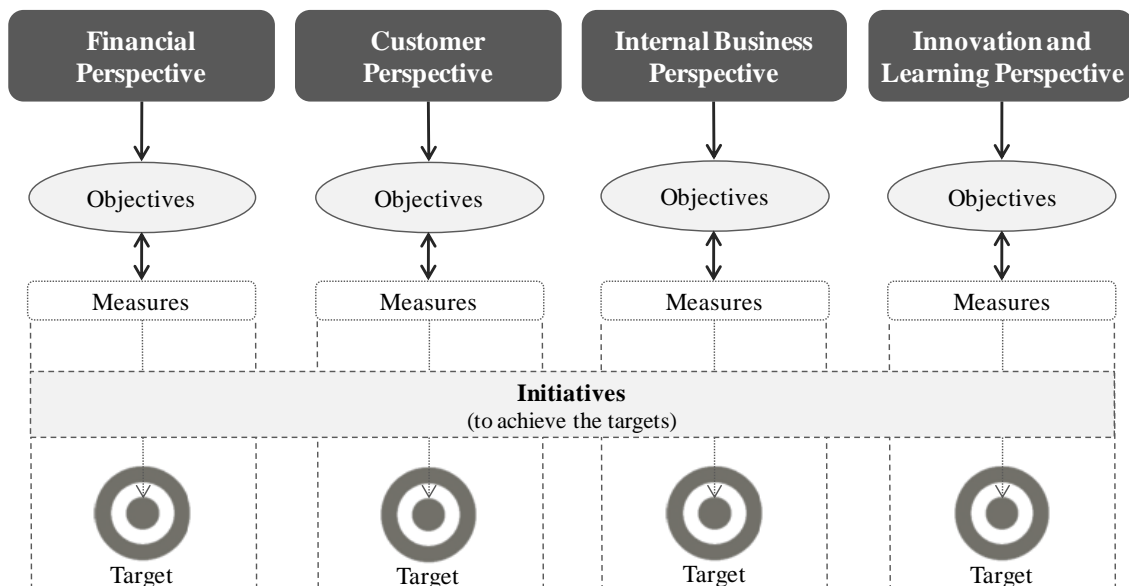
However, it can happen that a company achieves good performance in operational terms (operational indicators) but this could not be reflected in financial terms. Therefore, if company's operational performance fails to be reflected on financial performance through a positive impact, it is because something could be wrong in company's strategy and mission and it maybe should be mandatory for executives to rethink the

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company's strategy or the way they are implementing it to ensure the maintenance of a profitable strategy. Moreover, the BSC does not ensure that the indicators established are the best ones and the four perspectives are correctly connected between them, then the BSC by its own does not guarantee a winning strategy even if it is an excellent the BSC (Kaplan and Norton, 1992).

It is important for managers to understand that *"(...) improved quality, response time, productivity, or new products benefit company only when they are translated into improved sales and market share, reduced operating expenses, or higher asset turnover"* (Kaplan and Norton, 1992:78), which implies that a company has to define and specify very well how improvements on those operational dimensions will lead to better financial results. And why is this? It happens because financial measures are lagging indicators and non-financial measures are leading indicators meaning that financial measures depend on non-financial measures: they are their results (Pandey, 2005). Thus, the big challenge is to guarantee the perfect linkage between operations and finance, in order to see that operational activities cause positive financial results.

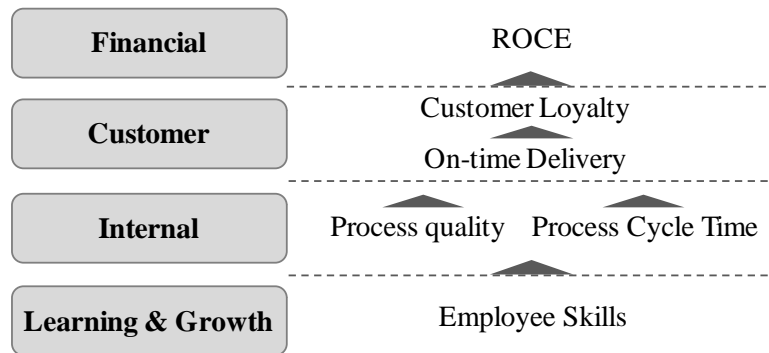
Scheme 3 - The BSC's four perspectives and respective measures, targets, initiatives and objectives relationship



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Appendix II – The cause-effect relationships of the BSC

Scheme 4 - An example of cause-effect relationships inside a company



Source: Adapted from Kaplan and Norton (1996a:64)

Based on Kaplan and Norton (1996a), the desired outcome for the **financial perspective** is the return on capital employed (ROCE). By achieving repeat and expanded sales from existing customers through creating loyalty with them, it is possible to reach the desired outcome (ROCE).

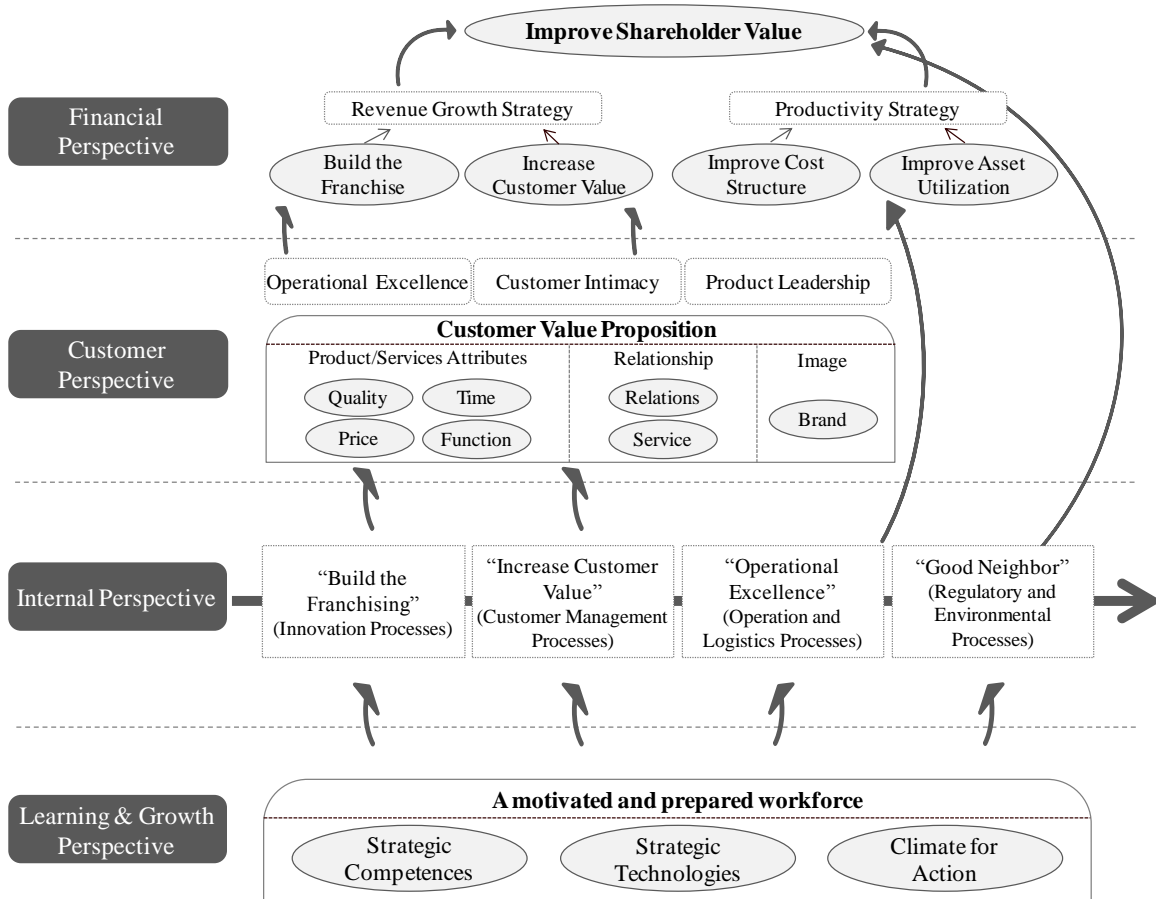
So, “customer loyalty” gets part of **customer perspective** as a measure and to achieve this it is necessary to understand what customers value more. As Kaplan and Norton (1996a) said, customers value the indicator on-time delivery (OTD) of orders that, once improved, will probably lead to higher customer loyalty which, in turn, is expected to lead to higher financial performance.

Internal processes are crucial to achieve an exceptional OTD and it is possible through attaining short cycle times in operating processes and high-quality internal processes. These are the measures for **internal business perspective** that leads to OTD of orders and, consequently, to increase customer’s loyalty.

To improve the quality and to reduce the cycle times of internal processes it is necessary to train and improve employees’ skills, a measure that makes part of the **learning and growth perspective**.

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Scheme 5 – The Balanced Scorecard Strategy Map



Source: adapted from Kaplan and Norton (2001a:92)

Taking into account Kaplan and Norton (2001) to briefly explain this scheme, it is a fact that managers know that the way to increase their economic value is through **revenue growth** (new markets, new products, new customers and increase sales to existing customers) and **productivity** (improve the cost structure and utilize assets more efficiently).

To increase the economic value, companies have to know which types of customers they will target and the internal processes they need to develop to improve the clients' outcomes. For this, they have to define their customer value proposition and differentiate themselves by selecting the best strategy among operational excellence (competitive pricing, product quality, product selection, lead time, and OTD), customer intimacy (quality of customers' relationships: exceptional service, the completeness and suitability of the solutions offered), and product leadership (functionality, features, and performance of products and services) according with their characteristics.

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Once an organization defines clearly the customer and financial perspectives, they are able to establish a path to attain the customers' differentiated value proposition and the financial goals through productivity improvements.

The internal business perspective includes four processes to ensure the pursuit of critical organizational activities: **build the franchise** (innovative processes to get new markets, products and customers), **increase customer value** (good relationships with customers), **achieve operational excellence** (supply-chain management, internal processes and resource-capacity management) and **become a good corporate citizen** (establishment of relationships with external stakeholders).

Finally, the last perspective ensures that the company has the right technology, the competent employees and the proper corporate climate to support the established strategy.

Appendix III – Results from a study of BSC adoption in the Portuguese Context

Table 18 – Benefits arising from the BSC's implementation recognized by large Portuguese companies

Benefits from the BSC's implementation	N	%
Facilitates strategy's implementation and its further development	18	69,2
Clarification and communication of strategy	20	76,9
Development of an objectives' system that is consistent	20	76,9
Improvement in the measurement of organizational performance	17	65,4
Increased economic and financial results	9	34,6
Improved alignment between strategic objectives and actions	22	84,6
Provides support for implementing changes	8	30,8
Synergies between units, areas and sectors	6	23,1
Improved strategic learning	14	53,8
Improvement in attention paid to customers	10	38,5
Construction of the foundations for a system of incentives	11	42,3
Enhancement of non-financial performance indicators	13	50

Source: Quesado and Rodrigues (2009:105)

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Table 19 - Reasons given by large Portuguese companies to implement the BSC according to a scale of importance in which the 1 is “totally unimportant” and 5 is “extremely important”

Reasons to implement the BSC	Mean	Std. Deviation
Create links between the strategy and individual goals of the teams and business units	4,52	0,643
Communicate the strategy to the operational level	4,22	0,751
Improve understanding of the inducers of strategic success	4,22	0,577
Align employees’ performance with strategic goals	4,04	0,759
More effective measurement of non-financial performance	4,00	0,784
Change the nature of the feedback process and strategic review	3,81	0,786
Improving the establishment of priority initiatives and resource allocation	3,81	0,736
Redefine company’s control management system	3,74	1,059
Align the system of incentives and rewards to performance	3,63	0,967
More effective measurement of financial performance	3,59	1,010
Counter the growing competitiveness	3,52	0,893

Source: Quesado and Rodrigues (2009:104)

Table 20 – Reasons given by large Portuguese companies to not adopt or to abandon the BSC

Reasons to not adopt or to abandon the BSC	N	%
the BSC does not fit the corporate culture and mission	6	14,6
The company uses similar tools and it is satisfied	26	63,4
Difficulty in selecting the basic perspectives of the BSC and the establishment of cause-effect relationships between them	2	4,9
Difficulty to define strategies in such clear terms as it is needed to build the BSC	3	12,2
Difficulty of representing various facets of the business strategy through a critical set of quantitative measurements	4	9,8
It is not expected to get great benefits	6	14,6
Requires vey high implementation costs	1	2,4
Requires an excessive amount of time	1	2,4
Misunderstanding of its impact at the organizational level	3	7,3
Inadequate technological support	3	7,3
Aversion to change and risk	1	2,4
Lack of commitment by staff	1	2,4
Difficulty in assessing the relative importance of the measures	1	2,4
Difficulty in decomposing the objectives to lower levels	4	9,8
Requires a well developed information system	3	7,3
Other	2	4,9

Source: Quesado and Rodrigues (2009:103)

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Appendix IV - The BSC implementation processes

Table 21 - the BSC implementation process – top-down approach

Steps	Process
First	For a start, the senior manager of each business unit where the BSC will be applied has to be interviewed by a facilitator in order to describe the company’s mission, vision and strategy and to get some proposals for the BSC’s measures. In this first part the shareholders and key customers should be interviewed to understand their expectations about the company’s performance
Second	Then several workshops take place and the first one wants to bring the top management team together to discuss and achieve the consensus about the company’s strategy and the key success factors which will differentiate the company from the competitors and then the team can start by formulating some operational measures for the BSC based on the strategic objectives.
Third	The next step implies the involvement of more managers of the company to discuss in groups the company’s strategy and the tentative the BSC by analyzing the proposed measures and its linkage with the company’s goals. Since in this workshop there are more people involved, they start to develop the BSC’s implementation plan.
Fourth	In the last workshop, the senior executive team has to agree with the vision, objectives and measurements developed and then they must develop the targets for each the BSC’s measure and the action plans to achieve the targets.
Fifth	After this, the team has to define the BSC’s implementation plan which includes the communication to employees, the integration process of the BSC in the management philosophy and the development of an information system to support the tool
Sixth	The implementation takes place by making a link between the BSC’s measures and databases and information systems, communicate the tool across the entire organization and encourage the deployment of second-level measures for decentralized units
Seventh	Once a BSC is implemented, periodic reviews have to be done to guarantee the BSC’s metrics are always updated and according to the company’s strategic planning, goal setting and internal processes.

Source: based on Kaplan and Norton (1993)

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Table 22 - the BSC implementation process – circular methodology

Steps	Process
First	The starting point of this methodology is the collection of individual dashboards (performance measures that each person uses actually to manage their activities) and the implicit organizational dashboard (combination of all individual dashboards). Employees' performances and shared knowledge normally kept under control is the key that reflects the company's strategy, which means this is the starting point to watch and understand the company's CSFs and any other factors related to the pursued overall business strategy.
Second	The second step is the identification of the implicit strategy map which is done based on the implicit organizational dashboard. Taking into account the activities that are actually done, it is possible to figure out the CSFs that hold up the pursued company strategy. During these two first phases the top and middle managers should be involved. Note that the word implicit is an important qualification because it transmits the real idea that the current performances are invisible for managers and there is no overall vision of the performances being under control.
Third	Then in step three , the management team should work together in order to determine the desired strategic objectives needed to synthesize the company's competitive strategy through the building of the desired strategy map based on the implicit strategy map by eliminating non-strategic CSF and adding new strategic CSFs. At the same time, small groups have an important role on identifying measures that are meant to translate the key performance factors into the measurements to evaluate of the predefined goals are being achieved.
Fourth	With the last step it is possible to get the desired dashboard in which the key performance measures for the company's strategy were already found. This step justifies the name of the methodology (circular) because here we go back to actual metrics

Source: based on Garengo and Biazzo (2012)

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Appendix V – Interview guide

Introduction:

As has been reported over the exchanged emails, I am collecting the opinions of entrepreneurs, including the representatives of start-ups, about the vision they have about the Balanced Scorecard and its role in your company.

- Before starting the interview I would like to ask if I can record it just to follow a methodological issue and to facilitate the analysis of the information being collected here.
- Finally, I would also ask if it is possible to identify the company and the respondent or if you prefer anonymity

Start-up's characterization:

- **Situation:**

1. Talk a little bit about your start-up. <i>(the business, the business area, the evolution of the company, the main stakeholders)</i>
A.:

2. For how long has your start-up existed?
A.:

3. How many employees does your company have?
A.:

- **Structure:**

4. Can you describe briefly your organizational structure?
5. How do you characterize the formality level of your internal processes?
A.:

- **Leadership Style:**

6. How do you characterize the leadership in your start-up?
R.:

Start-up's current situation:

7. Can you please describe the challenges that you currently face? <i>(Necessities; Problems; Opportunities)</i>
R.:

External environment:

8. How do you characterize your external environment? <i>(Dynamism; Unpredictability; Impact of clients changes, technology, competitors)</i>
R.:

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Start-up Strategic Management:

1. How do you describe your business strategy?
A.:
2. How do you describe the process to formulate that strategy?
A.:
3. How do you explain the process to define your long-term goals? And the short-term goals?
A.:
4. How are you implementing your business strategy?
A.:
5. In a general way, how are the decisions about your business being made at a strategic level?
A.:
6. For this process, which are the data supports used? I.e., in which type of information and internal and external indicators do you use to support your decision-making process?
A.:
7. Can you describe the control and revision mechanisms used regarding your strategy management? How does it work?
A.:
8. How do you characterize the frequency with which you rethink and readapt your strategy?
A.:
9. There is a strategic planning implemented in your company?
a. Is this planning formalized? Is there any document with this information?
A.:
10. Who are the people responsible for the strategic management process of the company?
A.:
11. Do you have any strategic management tool or control management system?
a. If yes, when did you feel the necessity to implement it and in which circumstances?
A.:

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Balanced Scorecard:

1. Do you know the concept of the Balanced Scorecard?
R.:

• **If they are not aware of the concept (the concept is explained):**

1.1. Taking into account the characteristics explained, would you be willing to implement a tool as the BSC in your company?
1.2. Why?
1.2.1. Which are the advantages that you recognize in this tool taking into consideration the characteristics of your company?
1.2.2. Which are the obstacles that you identify in this tool taking into consideration the characteristics of your company?
R.:

• **If they are aware of the concept:**

1.1. How did you learn and what is your level of knowledge about the BSC?
R.:

1.2. How could the role of a BSC be in your company?
R.:

1.3. Which are the advantages that you recognize in this tool taking into consideration the characteristics of your company?
R.:

1.4. Which are the obstacles that you identify in this tool taking into consideration the characteristics of your company?
R.:

1.5. Taking into account what you know about the BSC, would you be willing to implement it in your company? Why?
R.:

Conclusion:

12. To finalize, how do think your company will be in 3 three years time?
R.:

I have to thank you a lot for your collaboration and contribution in this study that was an important insight for the development of my dissertation.

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Appendix VI – Programs used for data analysis

Image 1 – Example of the “F4” Program used to transcribe the interviews recorded

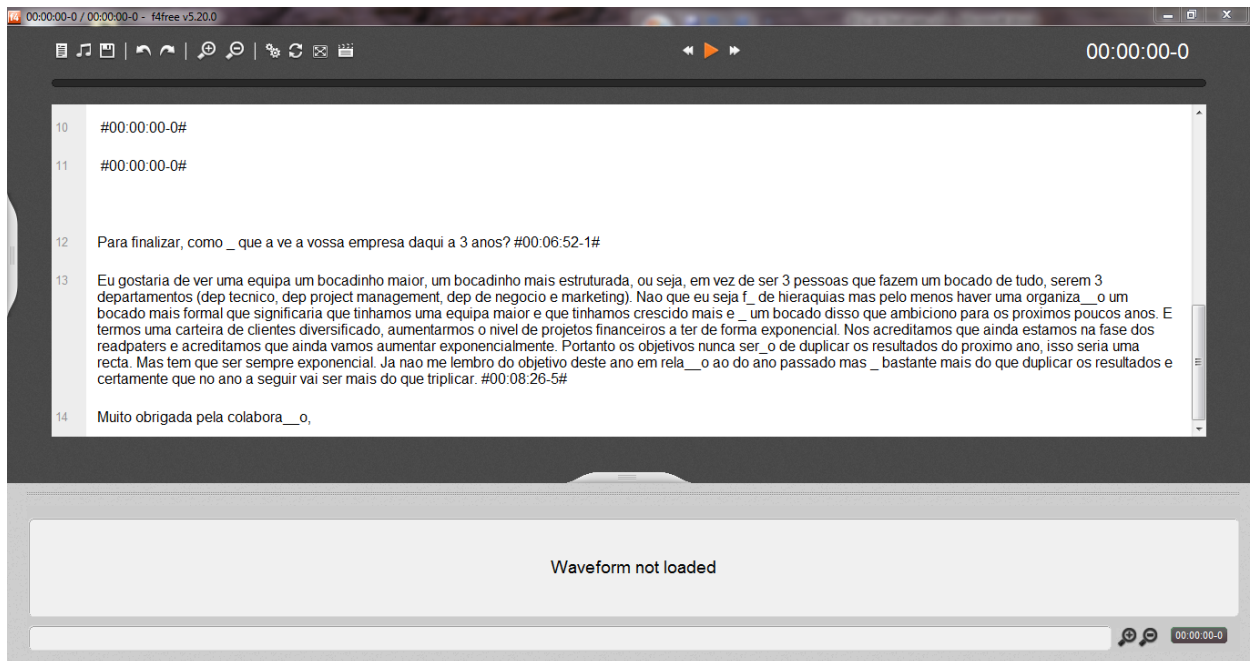
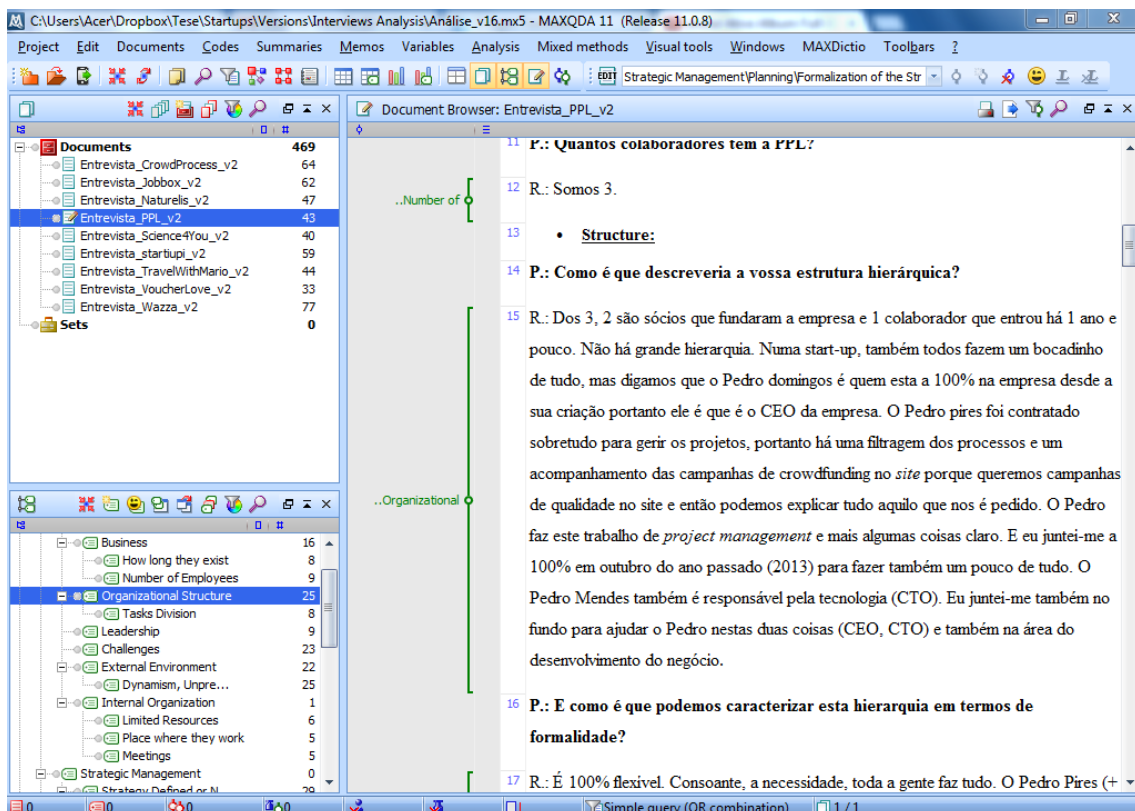


Image 2 - Example of the “MaxQda” Program used to codify and analyze the interviews applied



Are start-ups ready to adopt a Balanced Scorecard?

Appendix VII – Initial coding system – definition process

Table 23 – Example of the process used to define the codes for analysis based on the literature review

Categories	1st order code	2nd order code	Description (from literature review)	Reference
Life-cycle (Dimensions)	Business	Time of existence	<i>“A start-up company is designated as a company that is in the first stage of its operations which implies a good management policy that can control costs and increase sales.”</i>	http://www.investopedia.com/terms/s/start-up.asp
			Companies in the birth stage (characteristics): <i>“small firm; young firm; Homogeneous environment”</i>	Moore and Yuen (2001); Miller and Friesen (1983; 1984)
	Organizational structure	Number of employees	Structure of companies in the birth stage: <i>“Informal; Undifferentiated; Power Centralized in the owner”</i>	Moore and Yuen (2001); Miller and Friesen (1983; 1984)
			<i>“(…) in a start-up the organizational structure is also very simple, there are no formal systems because the owners can control everybody once the employees are few.”</i>	Churchill and Lewis (1983)
	Leadership		Leadership style of companies in the birth stage: <i>“High initiation of structure; Low Consideration”</i>	Moore and Yuen (2001); Miller and Friesen (1983; 1984)
	Challenges		<i>“The same happens with start-ups that are normally inserted in emerging and fast industries implying the need to act quickly and apply changing strategies”</i>	Churchill and Lewis (1983); Bhidé (1994); Talaulicar et al. (2005); Gelderen et al. (2000)
			<i>“(…) start-ups suffer of uncertainty of human and capital resources and of access to limited resources because they depend on the resources available in the environment”</i>	Gelderen et al. (2000); Wang and Wu (2012)
	External Environment	Dynamism and unpredictability	<i>“The same happens with start-ups that are normally inserted in emerging and fast industries implying the need to act quickly and apply changing strategies”</i>	Churchill and Lewis (1983); Bhidé (1994); Talaulicar et al. (2005); Gelderen et al. (2000)
			<i>“(…) entrepreneurship is associated to uncertain environments and in these environments characterized by fast change a Complete Planning Strategy is not of much use.”</i>	Gelderen et al. (2000)

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Table 24 - Initial coding system (based on the literature review)

Category	1st order code	2nd order code
Life-cycle (Dimensions)	Business	Time of existence
	Organizational structure	Number of employees
	Leadership	
	Challenges	
	External Environment	Dynamism and unpredictability
Strategic Management Practices	Strategy definition	
	Formulation of strategy	
	Strategy implementation	
	Decision-making	Sources of information/indicators
	Control of strategy	
	Control mechanisms	
	Frequency of strategy readaptation	
	Formalization of strategy/tasks/Goals	
	Level of Planning	
	People with responsibility over strategic management process	
Balanced Scorecard	Knowledge	
	Advantages	
	Obstacles	
	Necessity (implement or not implement)	

Are start-ups ready to adopt a Balanced Scorecard?

Image 3 - Example of the initial coding system introduced in the “MaxQda” Program

Code System	Count
Code System	22
Life-cycle (Dimensions)	0
Business	2
Time of Existence	1
Organizational Structure	2
Number of Employees	1
Leadership	1
Challenges	2
External Environment	3
Dynamism, Unpredictability	1
Strategic Management Practices	0
Strategy Definition	1
Formulation of Strategy	0
Strategy implementation	0
Decision Making	4
Sources of Information/Indicators	0
Control of Strategy	0
Control Mechanisms	0
Frequency of Strategy Readaptation	0
Formalization of strategy/tasks/goals	0
Level of Planning	4
People with responsibility over strategic management	0
Balanced Scorecard	0
Knowledge	0
Advantages	0
Obstacles	0
Necessity (implement or not implement)	0
Sets	0

Are start-ups ready to adopt a Balanced Scorecard?

Appendix VIII – Final coding system – definition process

Table 25 - Example of the process followed to define the codes emergent from the interview's analysis

Categories	1st order code	2nd order code	Description (from the interviews)	Reference
Balanced Scorecard	Types of the BSC advantages	Define the strategy	<i>“The main advantage is to think about the strategy”</i>	Interview, Start-up X
			<i>“I think it may be a help to start to have a strategy, it can help a lot in this part.”</i>	Interview, Naturelis
			<i>“Strategy definition. (...) I think it starts to be important to begin to put everything together in a single document to realize where all the things are (...). “</i>	Interview, Science4you
			<i>“(…) I think that eventually it will have to exist something more formal to follow the strategy. “</i>	Interview, Startiupi
		Macro vision	<i>“I want to have the minimum number of tools. But if they are very simple and with a micro vision, it could be interesting if I could have a very basic screen where I have the accounts results, the customers’ results, the evolution of the number of clients, which are the processes that exist and are implemented and ready already have a process to support customer response..., if it is so simple, it is possible to implement and it is interesting. “</i>	Interview, Voucher Love
		Control	<i>“I think the role would have to do with I have tried to do now (...), but in a more comprehensive way of control and to ensure everything is formally established.”</i>	Interview, PPL
		Readapt the action based on BSC analysis	<i>“(…) then readjust the plan according to the outcomes of the BSC and continue to adapt over time.”</i>	Interview, Naturelis
		Develop the strategic plan	<i>“It can even be helpful in developing the company's strategic plan (...).”</i>	Interview, Naturelis
		Define goals and analyze them	<i>“In this case I think it would be good to help to formalize the goals. (...) If I can measure my goals now and understand if I am achieving them or not, I'll know if it worth to invest in them. ”</i>	Interview, Naturelis
			<i>“(…) to set goals, to establish how to achieve those goals.”</i>	Interview, PPL
Data analysis	<i>“Then the BSC works these data and presents graphs for me to see the evolution.”</i>	Interview, JOBBOX.io		

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		Define metrics and measure them	<i>"In this case I think it would be good to help goals' formalization and we can measure what we are achieving and if we still on the right track or not. So the BSC can be beneficial to help measure such indicators."</i>	Interview, Naturelis
			<i>"We can see the metrics and their impact in a much more objective way."</i>	Interview, Wazza
		Save time	<i>"It forces us to analyze everything that we're measuring and then at the end of the day, it ends up saving us time since we just look at what really matters."</i>	Interview, Wazza
		To take decisions	<i>"(...) and then do an analysis within the 4 perspectives and could assist me in the weekly meetings."</i>	Interview, JOBBOX.io
			<i>"(...) to make decisions not about the strategic vision but to know how we are at the customers' level, if our learning and growth is not to be as good as we stood, how it can be improved here or what can be optimized in the processes."</i>	Interview, Wazza
		High focus	<i>"It increases responsibility within the company and it helps us to focus on a goal."</i>	Interview, Naturelis
			<i>"But the BSC has a very positive part of being a focus (...)."</i>	Interview, Wazza
		Perspectives connection	<i>"(...) Making an analysis within the 4 perspectives and it could help me in the weekly meetings."</i>	Interview, JOBBOX.io
		Traces the path	<i>"(...) backward analysis, i.e., if I want to get there what do I need, which indicators have to have."</i>	Interview, Start-up X
		Align everyone	<i>"One of the great advantages of the BSC is everyone is aligned and we are all aligned, we are all watching the final port. We all know where we want to go."</i>	Interview, Start-up X
		Good concept	<i>"I think the concept makes sense, I think the ideas that defend the concept are well supported. This is the positive side."</i>	Interview, Start-up X
			<i>"I remember it was a good tool, which is very useful."</i>	Interview, Science4you
		Analysis of company's progress	<i>"(...) an aggregation of information, what has happened since the last time we met, and we can then get a sense of speed, if we are growing or not, what needs to be done, so we can also make decisions."</i>	Interview, JOBBOX.io

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Types of the BSC obstacles	Hard data collection	<i>"It is the metrics: It is how to collect, how to know if all is well collected, whether it really makes sense, whether there is a person to collect one thing and one another collecting the same thing which can create a difference because there are numbers and there are different interpretations of what is qualitative."</i>	Interview, Science4you	
	Demanding implementation process	<i>"Here the issue is the implementation of the tool, then the metrics to use because sometimes it is easier when they are on paper but in reality may not be so black and white (...)."</i>	Interview, Science4you	
		<i>"(...) because it is not a tool that you can implement quickly."</i>	Interview, Startupi	
	Limited resources of a start-up	<i>"I think the main obstacle for a start-up is the resources, i.e., resources that are typically few and they are doing so many things and there is a resource that is not available to devote 100% of time to implement a BSC."</i>	Interview, PPL	
	Tool not dynamic and adjustable	<i>"We now make the decisions a little bit to turn the tide, a BSC can become too caught up in that single goal and do not let us go where the market is calling us. It depends on the amplitude of the BSC, if it is wide enough to let us flee to what we had before (...)."</i>	Interview, Naturelis	
	Start-up is short-term focused	<i>"I'm still operating and is very difficult to shut down the operation and thinking about strategy."</i>	Interview, JOBBOX.io	
	It requires hardwork	<i>"It requires hard work."</i>	Interview, JOBBOX.io	
	Complexity/size of the BSC	<i>"This seems to be a very big deal. So suddenly seems to be a thing in itself was not great but it would probably have to adjust several things to be automatic."</i>	Interview, Wazza	
	Not a priority	<i>"And for sure, with a giant list of things we have to do, this hardly reach the top of the list of priorities."</i>	Interview, Start-up X	
		<i>"(...) we do not consider it a priority to have."</i>	Interview, PPL	
	Costs	<i>"The cost goes up a start-up and benefits go down."</i>	Interview, Start-up X	
		<i>"(...) and then in terms of cost, I have no idea what are the costs to implement, but it brings fixed costs every month and we are currently trying to reduce the costs (...)."</i>	Interview, PPL	

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		Unnecessary when exist small teams	<i>“One of the great advantages of the BSC is everyone is aligned and we are all aligned, we are all watching the final port. We all know where we want to go. In a company that has 4 people, if anyone is not watching the final port, that person will quickly leave the team.”</i>	Interview, Start-up X
		Extra bureaucracy	<i>“What do I think that does not work in start-ups? The cost of bureaucracy. I think it has a cost of bureaucracy that does not matter in a company that has to be highly flexible, must always be to exchange, in which time and resources are scarce (...).”</i>	Interview, Start-up X
			<i>“(...) adding this bureaucratic and procedural burden, it would only delay our main goal (...).”</i>	Interview, Startupi

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Table 26 – Final coding system (include both codes from the literature review and from the interviews)

Category	1st order code	2nd order code	3rd order code	
Life-cycle (Dimensions)	Evolution of the business			
	Business	Time of existence	Less than 1 year	
			Between 1 year and 3 years	
			More than 3 years	
	Organizational structure	Number of employees		
		Tasks division		
	Leadership			
	Challenges			
	External Environment		Technology	
			Competitors	
			Clients	
			Dynamism and unpredictability	
	Internal organization		Limited resources	
			Place of work	
		Meetings		
Strategic Management Practices	Strategy definition	Strategy is defined		
		Strategy is not defined		
		Strategy can change		
		Strategy is stable		
	Formulation of strategy			
	Goals (short and long-term)	Formulation of goals		
	Strategy implementation			
	Decision-making	Sources of information/indicators		
	Control of strategy			
	Control of goals			
	Control mechanisms	Strategic Management Tool		
		Performance control		
		Team synchronization		
	Frequency of strategy readaptation			
	Formalization of strategy/tasks/Goals	Not Written		
		Written		
Planning	Yes			
	Not			
	To do in the future			
People with responsibility over strategic management process	Other type of responsibilities			

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Balanced Scorecard	Operational the BSC (role)		
	Knowledge	More or Less	
		Know the concept	
		Not know the concept	
	Necessity (implement or not implement)	Want	
		Do not want	
		Maybe	
	When to implement?	For what?	
	Types of the BSC advantages	Define the strategy	
		Macro vision	
		Control	
		Readapt the action based on the BSC analysis	
		Develop the strategic plan	
		Define goals and analyze them	
		Data analysis	
		Define metrics and measure them	
		Save time	
		To take decisions	
		High focus	
		Perspectives connection	
		Traces the path	
		Align everyone	
		Good concept	
		Analysis of company's progress	
		Types of the BSC obstacles	Hard data collection
			Demanding implementation process
	Limited resources of a start-up		
	Tool not dynamic and adjustable		
	Start-up is short-term focused		
	It requires hardwork		
	Complexity/size of the BSC		
	Not a priority		
	Costs		
Unnecessary when exist small teams			
Functionalities	Importance of such indicators		
	To simplify		
	Collect information and present it		
	Measure of goals		
	Measure of performance		
	Team synchronization		

Are start-ups ready to adopt a Balanced Scorecard?

		Relationship between perspectives
	Start-ups in general	Importance of such indicators
		Strategy in start-ups

Image 4 - Example of the final coding system used in the “MaxQda” Program

Code System	759
Life-cycle (Dimensions)	0
Evolution of the Business	12
Business	17
Time of Existence	2
Less than 1 year	4
between 1 year and 3 years	3
more than 3 years	2
Organizational Structure	29
Number of Employees	21
Tasks Division	8
Leadership	9
Challenges	23
External Environment	14
Technology	1
Competitors	10
Clients	4
Dynamism and Unpredictability	30
Internal Organization	2
Limited Resources	15
Place of work	6
Meetings	17
Strategic Management Practices	0
Strategy Definition	30
Strategy is defined	9
Strategy is not defined	9
Strategy can change	20
Strategy is stable	1
Formulation of Strategy	8
Goals (short and long-term)	45
Formulation of Goals	13
Strategy Implementation	4
Decision Making	19
Sources of Information/Indicators	22
Control of the Strategy	5
Control of Goals	16
Control Mechanisms	38
Strategic Management Tool	5
Performance Control	19
Synchronization	7
Frequency of Strategy Readaptation	18
Formalization of Strategy/Tasks/Goals	11
Not Written	6
Written	10
Planning	19
Yes	8
No	5
To do in the future	4
People with responsibility over strategic management	7
Other type of Responsibilities	2

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[-]	[-]	Balanced Scorecard	0
	[-]	[-]	15
		[-]	4
		[-]	4
		[-]	2
	[-]	Necessity (implement or not implement)	18
		[-]	1
		[-]	7
		[-]	6
	[-]	When to implement?	6
		[-]	4
	[-]	Types of BSC Advantages	0
		[-]	1
		[-]	1
		[-]	1
		[-]	1
		[-]	7
		[-]	2
		[-]	4
		[-]	1
		[-]	2
		[-]	5
		[-]	4
		[-]	5
		[-]	3
		[-]	4
		[-]	2
		[-]	5
	[-]	Types of BSC Obstacles	0
		[-]	1
		[-]	4
		[-]	2
		[-]	2
		[-]	2
		[-]	1
		[-]	2
		[-]	4
		[-]	2
		[-]	2
		[-]	9
	[-]	Functionalities	0
		[-]	2
		[-]	1
		[-]	2
		[-]	3
		[-]	2
		[-]	2
		[-]	1
	[-]	Startups in General	2
		[-]	2
		[-]	7
	[-]	Sets	0

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Appendix IX – Output used for data analysis

Table 27 – Example of one output of MaxQda program (1st order code “External Environment” and 2nd order code “Dynamism and Unpredictability”)

Document	Code	Segment
Entrevista_Start-up X_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Os fatores externos são tão imprevisíveis assim... mas temos fatores internos que nos criam bastante imprevisibilidade porque nós não sabemos onde é que a nossa tecnologia funciona melhor, onde é que resolve melhor os problemas. O que acontece é que nós nos últimos tempos estivemos a mudar a nossa orientação várias vezes porque entrámos no mercado, vimos uma oportunidade e pensámos, isto pode ser! E então investigávamos, falávamos com especialistas, tentávamos fazer uma prova de conceito. E chegávamos a ponto que víamos "ah, afinal não é". Descobrimos que não é. Então bora, vamos passar para o próximo e assim sucessivamente. Eliminámos algumas hipóteses durante o caminho o que nos fez estar sempre a mudar a agulha
Entrevista_Start-up X_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Podemos é estar sempre a trocar de indústria.
Entrevista_Start-up X_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	E é isso que nos obriga a mudar a agulha, é nós termos que descobrir qual é que é o nosso sitio no mercado.
Entrevista_Start-up X_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Por isso é que eu acho que tem um custo de burocracia que não interessa numa empresa que tem que ser altamente flexível, tem que estar sempre a trocar
Entrevista_JOBBO X.io_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	É difícil de prever.
Entrevista_JOBBO X.io_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Está tudo em aberto.
Entrevista_Natureliss_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Em termos de dinamismo, a envolvente ainda é muito estagnada onde nós estamos agora.
Entrevista_Natureliss_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Eu sei que quando começarmos a ter mais lojas a revender vai ser muito mais difícil manter o dinamismo da empresa porque antes produzíamos em casa, agora tratámos dos licenciamentos para estarmos legais e produzimos num espaço à parte. Toda a logística de termos a nossas vidas pessoais e ainda termos tempo para ir para o nosso atelier produzir quando chegamos a casa, numa altura em que houver mais procura, vai ser mais

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		complicado de gerir.
Entrevista_Natureliss_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Mas por enquanto ainda conseguimos dar conta de toda a dinâmica que exige vender e dar resposta aos pedidos.
Entrevista_Natureliss_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	ainda há muitas dúvidas, muita coisa por decidir, instabilidade, imprevisibilidade
Entrevista_Natureliss_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Não sei, depende da amplitude do the BSC, se for amplo o suficiente ou não para nos deixar fugir àquilo que já tínhamos antes ou se nos limita demasiado àquilo que tínhamos definido anteriormente.
Entrevista_PPL_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	é uma industria muito nova e esta sempre a mudar
Entrevista_PPL_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Estamos sempre abertos a novas tendências, novas áreas de negócio para explorar e sobretudo não há uma estratégia definida a media a longo prazo.
Entrevista_Science4You_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	A envolvente é dinâmica. Principalmente la fora a concorrência é muito agressiva por isso temos que responder o mais eficazmente possível
Entrevista_Science4You_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Estão constantemente a tentar adaptar-se aquilo que é necessário. R.: Sem duvida nenhuma
Entrevista_startiupi_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	sendo uma start-up, infelizmente há alturas em que temos que fazer um focus forte nos resultados até porque de momento nós estamos apenas dependentes mercado, ou seja, financeiramente somos sustentados apenas por aquilo vendemos
Entrevista_startiupi_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	de hoje para amanhã conseguimos adaptar-nos a qualquer desafio que nos seja feito até porque sabemos qual é o nosso plano educativo em que temos programas fixos mas estamos sempre abertos a receber novas propostas dos nossos clientes.
Entrevista_startiupi_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	como somos adaptáveis ao mercado, e temos essa capacidade
Entrevista_TravelWithMario_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	A nível do que eu prevejo para o mercado de viagens, eu creio que vai continuar a ser muito competitivo e cada vez mais.
Entrevista_TravelWithMario_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Há tendências que nós vemos claramente, por exemplo o desaparecimento de agências de viagens tanto offline como online, não fazem tanto sentido porque as agências de viagem era um intermediário e as pessoas com acesso a internet e estando cada vez mais esclarecidas, conseguem fazer todo o tipo de reservas por elas próprias, já não precisam de recorrer as agências de viagens.

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Entrevista_Travel WithMario_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Eu também acho que não faz tanto sentido para uma start-up definir uma coisa com ideias muito específicas porque sabemos certamente que vai mudar.
Entrevista_Travel WithMario_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Então acompanhar as tendências e ver que tipo de tecnologias é que se vão usar, em termos de inteligência artificial que softwares é que vale a pena utilizar, quais é que são os softwares que os viajantes dão mais valor e nestes últimos tempos nós vimos que a geo localização, a realidade aumentada são coisas em que vale a pena investir.
Entrevista_Travel WithMario_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Não está nada formalizado porque nos temos realmente objetivos por etapas. Já sabemos o que vamos fazer na próxima semana, seguramente, mas daqui a 2 semanas não sabemos. Há muita coisa que não está dependente só de nós, por exemplo sermos aceites ou não em determinados concursos ou em incubadoras ou programas de aceleração...
Entrevista_Vouche rLove_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Nós estamos em 2014, não há nada previsível.
Entrevista_Vouche rLove_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Não existe médio nem longo prazo numa start-up porque tu estas constantemente e especialmente no inicio a validar se é isto ou se é um bocadinho à direita ou á esquerda.
Entrevista_Vouche rLove_v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Nós estamos mesmo sempre a tentar novas maneiras de chegar a um produto que seja tão fácil de compreender e tão bom para o utilizador
Entrevista_Wazza_ v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	É sempre um percurso muito oscilante porque temos que nos adaptar constantemente e as vezes achamos que sabemos o que é que as pessoas querem mas quando vamos falar com as pessoas que efetivamente nos vão pagar, elas dizem que aquilo é bom mas não é essencial e dizem que o que queriam realmente era aquilo...
Entrevista_Wazza_ v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Não quer dizer que depois isto não vá mudar, porque as coisas mudam sempre.
Entrevista_Wazza_ v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Fizemos o plano de 2014, para o ano também já temos algumas ideias, mas como te disse é imprevisível. Nos achamos que conseguimos fazer aquilo mas esta muito dependente daquilo que vai acontecer nestes próximos 3/4 meses.
Entrevista_Wazza_ v2	Life-cycle (characteristics)\External Environment\Dynamism, Unpredictability	Para uma empresa que esta a começar há tanta incerteza, tanta coisa que a pessoa não sabe, o que também é a parte engraçada no meio disto tudo.

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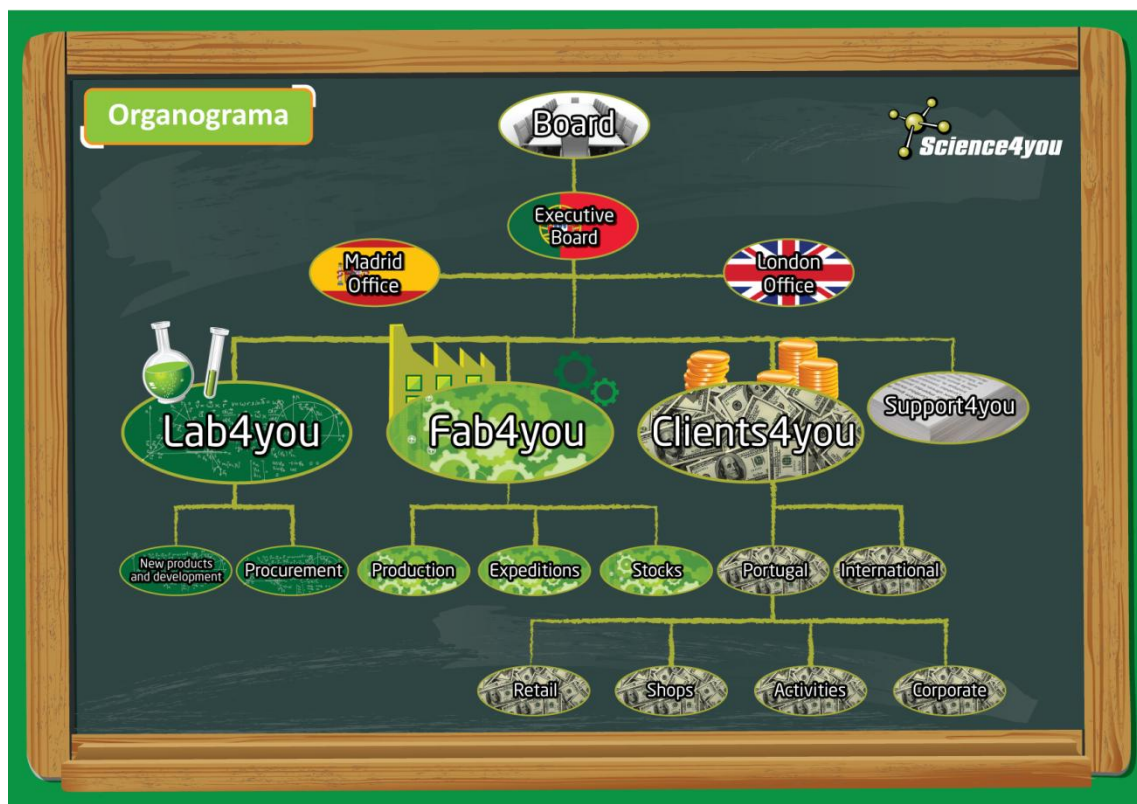
Appendix X - Data about Science4you

Image 5 – Evolution of Science4you’s growth (in Millions of Euros)



Source: Science4you Presentation 2014

Image 6 - Organogram of Science4you



Source: provided by Science4you