

Innovative Entrepreneurship and Competitive Performance: The Prime Program Case, Brazil

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ABSTRACT

The purpose of this paper is to analyze the influence of a Support Program to Innovative Entrepreneurship on the competitive development of the supported companies. We carried out a study about the PRIME Program – First Innovative Company –, realized by the Ministry of Science, Technology and Innovation (MCTI) of Brazil and its Studies and Projects Financing agency (FINEP), in partnership with Incubators, from the standpoint of the companies favored by the program, with a focus on competitive development and local development. Therefore, we decided to apply a qualitative study of multiple cases on the companies selected through RAIAR incubator, of Pontifical Catholic University of Rio Grande do Sul (PUCRS). Overall, we found out that the performance indicators that improved the most under PRIME's influence were: revenue, management, and image. Likewise, the indicators that least improved and that, according to interviewed managers, experienced less influence from PRIME, were new products and new processes.

1Introduction

The search for regional development has highlighted several topics through the years, tapping into entrepreneurship, innovation, National Innovation Systems (NIS), and related public policies. In this macroeconomic scenario, structures such as NIS, which has public policies that stimulate the production of innovative products and processes, may deeply influence the consolidation and direction of innovation in the production sector and in the region it is part of (Bessant & Tidd, 2009). Such innovation is an important competitive differential in the globalized world, for companies as well as for the countries where they are located.

The emergence of new businesses is also considered a key-factor for local development,

due to the contribution of the production sector to the regions' economic dynamism (Valente, Dantas & Dominginhos, 2012), by creating jobs and incomes, among other factors (Xavier *et al.*, 2012). As a case in point, in 2010, the 33,320 high-growth companies¹ accounted for 1.6% of the total number of companies that have salary employees in Brazil, creating 5 million jobs and paying 88 billion Reais in salaries and other benefits.

The political instruments of the Brazilian Innovation System have gone through significant changes in an effort to increase the participation of the production sector in technological

¹High-growth Companies are those that within three years annually increased the number of employees in 20%, having 10 employees or over in the first year of observation (IBGE, 2012).

development actions in the country (Mendonça, 2008). One of these actions originated the PRIME Program – First Innovative Company, supported by the Ministry of Science, Technology and Innovation (MCTI) and its Studies and Projects Financing Agency (FINEP). In partnership with Incubators, the program allowed high impact startups to focus on developing innovative products and processes, as well as to create a successful strategy to enter the market (FINEP, 2012). The main objective of this program was “... regional development, technological innovation, and the rise of small businesses in the country” (FINEP, 2008).

Existing policies and programs to stimulate innovative entrepreneurship are key elements in the development of Brazil. Therefore, this study investigates the competitiveness of companies from Brazil, with regards to participation in the PRIME. The objective is to analyze the influence of PRIME in the competitive performance of Brazilian start-ups. To do so, we conducted a qualitative study including the business incubator, RAIAR, and three companies.

Next section, we present the literature review about innovation, National Innovation Systems (NIS), innovative entrepreneurship, and competitiveness.

2 Theoretical Framework

In the dynamic environment of economy, where organizations and institutions of all kinds interact, whether competing or cooperating, there is a close relation between entrepreneurship and innovation. First, most entrepreneurial activities are certainly involved in innovations; also, entrepreneurs are essential in the innovation process (Dahlstrand & Stevenson, 2007). Understanding the importance of public policies and incentive programs towards innovative entrepreneurship requires previous clarification about related concepts, such as Innovation Systems, innovative entrepreneurship, and competitiveness.

Innovation is a wide process of searching and selecting new ideas, making them viable and achievable, so people can use, value, and/or adopt them in their daily lives, in the form of products (goods or services), processes, and new or significantly improved marketing methods and/or management methods (Zawislak *et al.*, 2012;

Bessant & Tidd, 2009; OECD, 2005). Besides the innovation type, we should analyze its impact on the environment: a small improvement (incremental innovation) or a great change (radical innovation). Another relevant aspect is its geographical coverage, which may constitute a worldwide change, affecting the market where the firm operates, or be limited to the portfolio of the firm in question (Bessant & Tidd, 2009; OECD, 2005). Finally, for an idea, outline or model of a new or improved product, process or system to be regarded as an innovation, not only should it be technically viable, but also involve a commercial transaction and create wealth. Without those, the change will just be considered an invention (Schumpeter, 1994).

Although the definition of entrepreneur is relatively new in Brazil, it first appeared in the Middle Ages (Hisrich & Peters, 2004) originating from the French term entrepreneur, which dates back to the 14th century (Zen & Fracasso, 2008). Broadly speaking, it is the act of turning ideas into realities (Guedes, 2011) that, in association with innovation practice, create the entrepreneur figure: an individual whose main motivation is to create/change something or the environment where he operates. Unlike other kinds of entrepreneurs, innovators are more likely to create companies with high rates of growth, generation of wealth, and creation of jobs of higher added value (Bessant & Tidd, 2009; Zen & Fracasso, 2008; Xavier *et al.*, 2012). This way, entrepreneurship promotes a continuing reorganization of the economic system, resulting from the replacement of old products, services, and consuming habits for new ones (Creative Destruction process²), also promoting, through competitive mechanisms, a rearrangement cycle – rise and fall – of individuals in social classes according to their business success (Schumpeter, 1997).

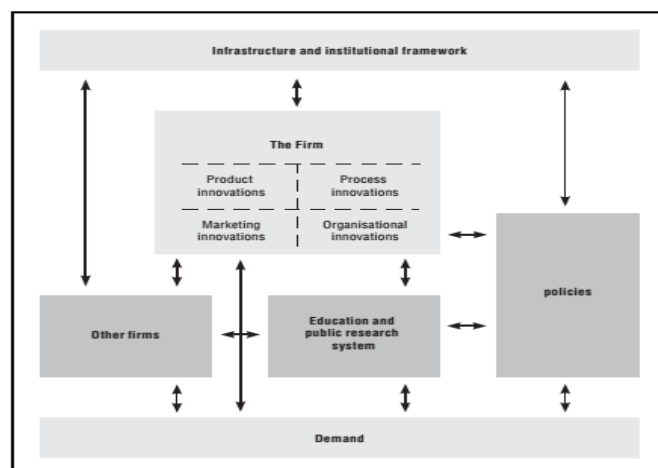
The set of interactions aimed at developing and spreading innovations in economic sectors, regions or countries is called Innovation System (IS). This concept was developed in 1841 by Friedrich List, who discovered an interrelation between nations’ development and Science,

² Creative Destruction: essential to maintain the capitalist system, it is the process of industrial change, which revolutionizes the economic structure, beginning with internal factors, and constantly destroying the old and creating a new one.

Technology, and Innovation practices – S,T&I (Freeman & Soete, 2008). Hence, the IS is a set of factors – economic, social, political, organizational, and institutional – whose interaction quality is decisive to enable the development, spreading, absorption, import, change, and/or use of innovations in a sector, region or country (Edquist, 2005; Strachman & Deus, 2005). In the macroeconomic dimension, the innovation process takes place basically through development and spreading of knowledge and technology among NIS actors, with emphasis on the role of firms as main innovation generators within an IS. That; however, does not result solely from business efforts, but also from a complex, interactive, and socially immersed process of building knowledge and learning through mechanisms that stimulate competitiveness and innovation, such as structuring markets and enterprises, encouraging partnerships, and experience exchanges, offering research incentive instruments, training human resources, and supplying adequate infrastructure (Dutta, 2012; SEBRAE, 2006; OECD, 2005), as per Figure 1.

Concerning the IS, institutions and organizations have a fundamental role. Institutions serve as regulators of relations and interactions among individuals, groups, and organizations (Edquist, 2005), being largely responsible for the way economies work. These may display an informal structure – established traditions, routines, and practices – or a formal structure – policies, regulations, and laws (Edquist, 2005), so, great is the influence of institutions on entrepreneurship and innovation processes, both as facilitators and obstacles (Strachman & Deus, 2005). In turn, organizations are formal structures created intentionally and with a specific purpose (Edquist, 2005). Their influence over a nation's innovative potential and innovation systems ranges from the firms' decisions – investments in physical capital, human resources, research, and development – to government decisions (or policy makers) – government support to scientific and technological development programs (Strachman & Deus, 2005).

Figure 1 – Innovation Systems and their interrelations.



Source: OECD (2005, p. 34)

Generally speaking, an IS can be seen from three standpoints: (1) Sectorial, when it is related to industries, technologies or specific economic sectors; (2) Local, when it refers to geographical spaces located in a certain country; and (3) National, when it covers the geographical limits of a whole country (Edquist, 2005; Strachman & Deus, 2005; Asheim & Gertler, 2005). National Innovation Systems (NIS) are institutional frameworks resulting from actions – planned and conscious or not planned and disarticulated – that stimulate the technological progress in economies. They represent the features of the economy, technology, culture, and political system that determine the national innovative performance, which help raise the country's economic development level and reduce the technological gap among countries (Albuquerque, 1999; Freeman & Soete, 2008). Among the factors that determine the success of an NIS, the following stand out: (1) the country's historic path (path dependence); (2) the shaping of the relations among NIS actors, such as companies and universities; information infrastructure and available means of communication; and (3) the participation of the State through incentive policies towards research, development, and innovation (Freeman & Soete, 2008; Albuquerque, 1999; OECD, 1997).

Since the interactions between actors and innovation incentive programs in a country are the basis of local development, the NIS political dimension is fundamental. Establishing policies is; however, a dynamic process that requires

detailed knowledge about the system in question, so we can apply the most suitable political instrument in each case. This way, before creating S,T&I policies we have to identify bottlenecks, which hinder the increase of local productive capacities, generation of knowledge and innovation, and which are the foundation of specific policies, thus avoiding a tendency to simply copy policies and institutions as a “recipe” for success (Enderle, 2012; Calzolaio, Zen & Dathein, 2012). In this regard, entrepreneurship policies are those that aim at stimulating the rise of new enterprises (startups) and the growth of established ones (Dahlstrand & Stevenson, 2007). Innovation policies, for their part, are those that aim at stimulating an interfirm systemic competitiveness, increase collaboration among the many innovation actors, and provide an adequate institutional environment for a successful technological path (Suzigan & Villela, 1997 *apud* Calzolaio *et al.*, 2012³). Common aspects can be observed in the entrepreneurship and innovation political strategies, such as economic growth and wealth generation. Nonetheless, those may present very distinct objectives regarding development policies, target groups (stakeholders), resource availability, applied indicators, and administrative bodies with authority within governments – ministries or agencies (Lundström, Almerud & Stevenson, 2008).

The integration of those two policies, so as to create an innovative entrepreneurship policy, may be a way to accelerate national development. And in spite of the few countries with a relevant level of integration, Dahlstrand & Stevenson (2007) believes that those with convergence potential have political objectives that aim at promoting the creation of new high-growth innovative firms, based on technology and research. The authors also discuss that policymakers who aspire an economic growth through innovative entrepreneurship have three key options of policies to be considered: (1) stimulate entrepreneurship in general, taking steps towards the entrepreneurial environment, and education, among others; (2) stimulate the creation of high-growth companies; and (3) stimulate innovations and R&D in small and medium-sized companies through institutional

partnerships.

According to Acs *et al* (2014), at the country level, entrepreneurship should be treated as a systemic phenomenon, similar to the literature on ‘National Systems of Innovation’ treats country-level infrastructures, policies, and institutions when considering factors that determine a country’s ability to produce and take advantage of scientific discoveries and technological innovation. Fast-growing startup companies tend to improve their chances of success when inserted in an entrepreneurial ecosystem that encourages business development and innovation (Arruda *et al*, 2015).

Daniel Isenberg’s model stems from the initiative developed at the Babson College called BEEP – Babson Entrepreneurship Ecosystem Project. BEEP aimed at developing the concepts based on which would be possible to understand different communities and nations regarding what Isenberg called Entrepreneurship Ecosystem. This Ecosystem is composed by the following domains: policy, finance, culture, supports, human capital and markets (Arruda *et al*, 2015).

The key policy challenge that entrepreneurial ecosystems attempt to address is that even in environments which are conducive to business start-ups there is a paucity of high growth businesses. Other fundamental element is the availability of finance. This element is a further critical feature of entrepreneurial ecosystems. Particularly important is a critical mass of seed and start-up investors to provide finance and hands on support (OCDE, 2014).

In the case of Brazil, scholars show that the country has advanced in the past years in terms of research infrastructure and promulgation of public policies aimed at technological development. For decades, government investments were limited to policies that disseminated the articulation among actors, but were operationalized by instruments that favored individualized actions. Only after 1990, with the consolidation of a systemic vision, was the integration with the productive sector taken into consideration, and, from then on, several measures and institutional frameworks have been created, such as the ‘Innovation Law’ (Law 10.973/2004); the improvement of the incentive tax law towards R&D, which became part of Chapter 3 of the ‘Good Law’ (Law 11.196/2005); and the release of several programs and calls for proposals to provide companies with

³SUZIGAN; W; VILLELA, A. *Industrial Policy in Brazil*. Campinas, SP: Unicamp – EI, 1997.p.15-30

FINEP's support (Negri & Cavalcante, 2013). Despite the advances in the past decade, studies show that the level of interaction among universities, research centers, and the productive sector are still limited when the country's situation is compared with South America's average. Likewise, there is still a gap in innovation and technological development rates, partly due to the tardiness of the industrialization and creation of research institutions and universities in the country (Negri & Cavalcante, 2013).

In the analysis of the economic development of a country, a company's competitive performance is an important factor to be investigated, because business success and innovative capacity reflect, in part, in the quality of the National Innovation System. When firms operate within a range of market and technology possibilities, resulting from the world evolution of science, technology, and markets, they should align the profile of developed innovations with the strategy, thus maximizing the impact of those innovations over the competitive performance (Epstein *et al.*, 2007). Similarly, to survive in this competitive environment, entrepreneurs should be able to plan their actions and adequately manage their companies (Trevisan & Silva, 2012).

Anyway, what does it mean to be competitive? The answer to this question depends on the way the definition of competitiveness is approached – company level or national level, for example. According to Ferraz, Kupfer and Haguener (1996), most studies regard competitiveness as a phenomenon directly linked to the characteristics of companies and their products, relating nations' competitiveness with the gathering of firms' individual results. Carvalho *et al.* (2007) argue that companies' competitiveness can be approached according to two perspectives: Business and Systemic. The Business perspective considers the firm's internal factors. Here, the competitive company is the one whose objective is to maximize profits, that is, to reduce total costs in relation to its total revenue (Mankiw, 2001), being able to "... reach sustainable results higher than its competitors (...) ensuring a satisfactory profitability by acquiring one or more competitive advantages" (Contador, 2008, p. 39). These advantages are obtained through innovation initiatives (Porter, 2008). The Systemic perspective – adopted in the study herein –, on the other hand, considers the influence of

factors in the external environment and advocates that a competitive company is the one that makes and implements competitive strategies that will broaden and maintain a sustainable market position (Ferraz *et al.*, 1996), as well as build competitive advantages through productive and quality gains in relevant factors (Siqueira, 2009), related to innovation in products, processes, management, and/or marketing methods, besides legal-related aspects and economic policy constraints, among others (Ferraz *et al.*, 1996).

The concept of national competitiveness, in its turn, is linked to productivity, so we can assert that a country's standard of living depends on its companies' capacity to reach or maintain high levels of productivity through time (Porter, 2008; Mankiw, 2001). That's why, the World Economic Forum (WEF) made the Global Competitiveness Index (GCI), which evaluates competitiveness based on micro- and macroeconomic factors that determine a country's level of productiveness (Schwab, 2012). In the 2012-2013 report, Brazil ranked 48 in global competitiveness, while the United States ranked 7 and Switzerland topped the ranking.

In this context, it is important to adopt competitive performance indicators, both ex-ante and ex-post. Ex-ante indicators represent strategies to create sustainable competitive advantages for a firm, and the ex-post indicators reflect the results it obtains (Carvalho *et al.*, 2007). There is a consensus that such metrics should be associated with result indicators, the most commonly used having a financial nature such as shareholders' profitability, value of the stocks traded at the stock exchange, economic and financial results (Contador, 2008). However, when we consider the time factor in those evaluations, some events might not display a noticeable financial impact, so it would be relevant to also observe non-financial dimensions (Olive, Roy & Wetter, 2001).

In order to represent the business competitiveness through compatible measurement instrument it was chosen the Balanced Score Card Model – BSC (Kaplan & Norton, 1992, 1997, 2004). This option took into consideration: (i) the systemic perspective of competitiveness adopted in the study (Ferraz *et al.*, 1996; Siqueira, 2009) that fits the general view of the Balanced Score Card instrument; (ii) the deliberate proposition cited by the authors of BSC (Kaplan & Norton,

1997) to provide managers with the instrumentation they need to navigate to future competitive success; and (iii) the well known use of BSC to evaluate competitiveness that can be found in the literature (Palatková & Hrubcová, 2014).

Therefore, Kaplan and Norton (2004) developed a balanced system to measure business strategy (Balanced Scorecard or BSC), which is designed to balance the financial perspective, associating it with non-financial indicators under three perspectives – Clients, Internal Processes, and Learning & Growth. The Clients' perspective identifies parameters the company considers more important for its competitive success. The Financial perspective describes the economic consequences of a successful strategy, checking whether the implementation and execution of the business strategy is contributing to the maximization of the company's overall profit. Finally, both Internal Process perspective and Learning & Growth perspective describe how to put the proposed strategy into practice. While the former involves improving processes, reducing costs, and producing and providing clients with value; the latter offers infrastructure to reach the objectives of the other three perspectives (Kaplan & Norton, 2004). Considering those concepts, it is then possible to more objectively elaborate an instrument to measure business competitive performance.

3 Method

This research is a qualitative and exploratory case study of three companies picked by the PRIME program through RAIAR/PUCRS incubator. To preserve the identity of the companies surveyed, they were given assumed names and their line of business was described according to the National Classification of Economic Activities (CNAE) of the Brazilian Institute of Geography and Statistics (IBGE). Data were collected from secondary and primary sources (Collis & Hussey, 2005), through personal semi-structured interviews (Hairet *et al.*, 2003) with four agents. One of the agents interviewed was the operation coordinator of PRIME at RAIAR/PUCRS' decentralized office. The others were managers of companies that signed up with that operator:

- Agent 1: PRIME's operation coordinator at RAIAR/PUCRS incubator;
- Agent 2: AGENCY's manager, service provider that selects and supplies manpower;
- Agent 3: CONTROLL's manager, service provider working with immunization and pest control in urban areas;
- Agent 4: ELECTRO's manager, household appliance manufacturer.

The exploratory and analysis steps required the selection of indicators to assess companies' competitive performance from 2010 through 2013, according to the traditional strategies of the Balanced Scorecard (BSC). And, because the program also aimed at a socio-economic impact, the impact of companies' activities on local development was assessed as well. The resulting set of indicators (Table 1) refers to the company's competitiveness level, and it is important to remember that competitive performance is also affected by macroeconomic factors, over which companies have little or no influence.

Based on the information provided by the companies' managers, a data bank was created with the main topics discussed and their assessments in relation to PRIME, also making a connection with the BSC perspectives. Later, cross-checking these data allowed to identify the changes in the performance of the companies participating in the program, as we compared their situation in 2010, the year the program was implemented, with the current one in 2013, and then assess how general objectives of the program were reached. To do so, the analysis of categories included three dimensions: (1) Trajectory or company; (2) Participation in PRIME: Motivator to join PRIME; PRIME benefits; and PRIME difficulties; (3) Competitive performance indicators under BSC's strategic perspectives. The qualitative analysis aimed at explaining the benefits PRIME brought to society and supported companies, as well as identifying necessary improvements. Also taken into account was the possibility of a second edition of the program.

4 Data Analysis

Each year, about 1.2 million new businesses are established in Brazil, of which 99% are micro- and small companies and individual entrepreneurs, whose difficulty accessing financial

resources is one of the main barriers to operationalize businesses and develop products (SEBRAE, 2011). This scenario shows that keeping incentive programs designed for that kind of entrepreneur is essential for national development. Among the government initiatives identified in the past years there are incentive programs for technology development, such as PRIME.

The pilot project, launched in 2009 by MCTI and its agency, FINEP, was developed as a result of the high failure rate among technology startups, and this situation shifts the focus away from strategy matters to day-by-day problems. The shift is actually necessary to secure the livelihood, for they are forced to handle multiple tasks, both within and outside the company (FINEP, 2010).

This way, with a total support of 1.3 billion Reais (Telles, 2009), PRIME gave that kind of entrepreneur the chance to be fully committed to the core business of his company and its innovation development (FINEP, 2012). With the purpose of offering management training to startups, the program enabled the consolidation of companies with high value-added in their initial critical phase, turning them into levers for local and national development by creating income and qualified jobs (RAIAR, 2013).

The selection process took place in three phases (RAIAR, 2009):

i. Registration: company's registration at MCTI's webpage and later submission of a simplified proposal by filling out an electronic application form at the selected operator's site.

ii. Training: free training in two phases, mandatory for finalists of the 1st phase, whose objective was to offer the means to improve candidates' proposals for the 3rd phase.

iii. Analysis of Detailed Proposal: filling-out of the Proposal Submission Form provided by operators, and later signing of contract, in case of selection.

Each granted company received an exact non-refundable amount of R\$ 120,000.00, paid in two installments, the 2^o installment (50% of the amount) being conditional upon the progress of the project within the first 6 months. Those resources should be assigned to the items on the PRIME Kit: (1) partners' compensation (*pro labore*); (2) manager's salary; (3) management consulting; and (4) market consultants (RAIAR,

2009). If the companies were able to meet the goals stated in their proposals, they could sign up for a loan of equal value from Zero Interest Program⁴ (Programa Juro Zero – MCTI; ANPEI, 2009).

PRIME is different from other grant programs because it is exclusively designed for startups (micro- and small-sized), without restrictions as to economic sectors (Telles, 2009). It is characterized by its nationwide coverage and geographical flexibility when companies choose operators, so a candidate can sign up at an operator in a state other than company's (FINEP, 2009). The complexity, coverage, and costs inherent to the infrastructure needed to operationalize the program made FINEP choose to work with decentralized operators, signing 17 Institutional Cooperation Agreements with incubators from all over Brazil, which are responsible for selection and follow-up processes of companies (FINEP, 2012). In the state of Rio Grande do Sul, agreements were signed with two operators: CEI incubator, of Federal University of Rio Grande do Sul (UFRGS), and RAIAR incubator, of Pontifical Catholic University of Rio Grande do Sul (PUCRS), object of this study.

Based on data available at MCTI's Innovation Website, it was possible to identify some of the program's features during its implementation. First, the companies attracted to and favored by PRIME are mostly from the Southeast and the South of Brazil (Figure 2).

⁴Programa Juro Zero: funding to help micro- and small businesses with innovative projects. The amount is paid back in 100 installments without any interest (MCT; ANPEI, 2009).

Table 1 – Competitive performance indicators.

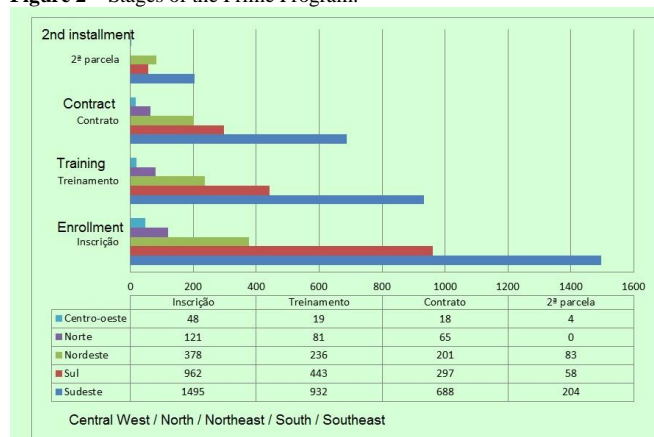
BASIC INDICATOR		DESCRIPTION	RELATED INDICATORS	
BSC PERSPECTIVES	FINANCIAL	Revenue	Variation of the annual average revenue	Economic and financial results (CONTADOR, 2008; SEBRAE, 2001); Sales amount (CARVALHO <i>et al.</i> , 2007; OECD, 2005).
	CLIENTS	Channel mix	Change of methods and tools to handle clients	Relationship with customers (ALÉM; GIAMBIAGI, 2010); Improvement of Mix Channels (KAPLAN; NORTON, 1997)
		Image	Change of company's image in the market	Image and reputation (KAPLAN; NORTON, 1997); Company's image (SEBRAE, 2001).
		Market share	Change of competitive position in relation to the competition	Market share (CARVALHO <i>et al.</i> , 2007, p.26; CONTADOR, 2008; OECD, 2005; KAPLAN; NORTON, 2004).
	INTERNAL PROCESSES	Suppliers	Change of methods and tools to handle suppliers	Acquisition of raw materials (KAPLAN; NORTON, 2004; SEBRAE, 2001); Leadership suppliers (KAPLAN; NORTON, 1997)
		Management	Change of management tools and practices	Organization and strategic integration of the company (CARVALHO <i>et al.</i> , 2007; FERRAZ <i>et al.</i> , 1996); Corporate governance (ALÉM; GIAMBIAGI, 2010); Strategic positioning (FERRAZ <i>et al.</i> , 1996).
		New products	Variation in the number of new products developed and put out	Development and launch of new products (SEBRAE, 2001; KAPLAN; NORTON, 2004).
		New processes	Variation in the number of new or improved internal processes	Purchase / upgrade of machinery, equipment and facilities (OECD, 2005; SEBRAE, 2001; FERRAZ <i>et al.</i> , 1996). Development / process improvement (SEBRAE, 2001; PORTER, 2008).
	LEARNING AND GROWTH	Knowledge	Change of knowledge acquisition sources, which the company needs to do what it does (external, internal, partnerships)	Acquisition of technology and knowledge (OECD, 2005); Investment in R&D activities (OECD, 2005; SEBRAE, 2001; IBGE, 2010; KAPLAN; NORTON, 2004). Partnerships and cooperation for innovation (IBGE, 2010; KAPLAN; NORTON, 2004; OECD, 2005); Information sources (IBGE, 2010; SEBRAE, 2001; CARVALHO <i>et al.</i> , 2007).
		Training	Variation in the amount of training offered to employees	Abilities of human resources (OECD, 2005; PORTER, 2008); Human resources training (SEBRAE, 2001; OECD, 2005; KAPLAN; NORTON, 2004).
	LOCAL DEVELOPMENT	Job	Variation in the number of employees	Company size (CARVALHO <i>et al.</i> , 2007; SEBRAE, 2001; OECD, 2005).
Remuneration		Variation in the salary offered (according to the market)	Labour practices (KAPLAN; NORTON, 2004); Salaries, taxes and benefits (SEBRAE, 2001).	

Source: elaborated by the authors

These regions saw the birth of approximately 50% and 30% of the total micro- and small companies enrolled in the project, respectively. These regions were also the ones with the highest concentration of operators in the country: Southeast (9 operators), South (4 operators), Northeast (3 operators) and North (1 operator).

Another interesting aspect is that thanks to the mobility during the enrollment process, there are companies established in the Central West, though the region has no decentralized operator.

Figure 2 – Stages of the Prime Program.



Source: adapted from MCTI (2011)

Throughout PRIME's implementation, we can notice a dramatic fall in the number of companies, which is a recurring pattern in different parts of the country. Based on Brazil's total data, of the 3,004 companies enrolled for the 1st phase, 1,711 were selected and were supposed to show up for the 2nd phase training. But only 1,269 remained in the process and had their projects approved, and only 349 of those (28%) were able to meet the requirements to remain in the program and receive the second installment of 120,000 Reais.

But although a reduction inherent to the tough selection process is expected, it is important to notice that the cut-off points in the criteria laid down by FINEP (AGENTE 1, 2013) and candidates' absenteeism during the mandatory training were key factors. Also significant is the reduction in the number of companies that were granted the second installment of the program – about 70% of the ones that signed the agreement – an indicator of problems implementing the proposed projects and/or adequately using the resources according to the PRIME Kit.

Despite an estimate of 5,000 companies favored by the program within four years (FINEP, 2013), in fact, only 12% of the 1.3-billion-real grant were used. Today, there are similar initiatives, such as the programs comprising Plano Inova Empresa (Plan Innovate Enterprise), launched by the Federal Government in 2013 with a grant of 32 billion Reais. But taking the Prime experience into account, it is worth rephrasing a comment by Senator Alvaro Dias regarding Plano Inova Empresa:

"Based on previous experiences, this is another announcement that creates false expectations, which will sadly end up in frustration. For sure, in a few years, two years from now, at the end of President Dilma Rouseff's term, we will be able to return to the podium and state that of the 32 million Reais promised, only a few million were invested, as was the case with the 1.3-billion-real program that only applied 160 million Reais – (...) announcement made in 2009 for the Primeira Empresa Inovadora program" (Senate, 2013).

That somehow helps us understand the results from the 1,269⁵ projects implemented from January 2010 to January 2011 all over Brazil (Ministry of Development, Industry and Foreign Trade, 2011).

4.1 PRIME in RAIAR incubator

The information described here was obtained through personal interviews with the operation coordinator of the PRIME Program at RAIAR/PUCRS incubator, whose function as a decentralized operator was to operationalize, according to FINEP's public notice, selection processes, the release of resources, and the follow-up of the projects approved by the program; besides updating MCTI's Innovation Website providing information about the program's progress in the incubator.

Operators, like companies, also need to fulfill a working plan with objectives and goals, assessed by FINEP. Within that scope, the incubator worked hard on follow-ups and directions, especially with regards to rendering of accounts, because companies had great difficulty handling that issue. When FINEP seemed to be taking too long to provide training on that subject, the incubator decided to do that itself so as to dispel companies' doubts. As a differential in RAIAR's program, the interviewee highlights "Prime's Integrator Seminar: The Day After", which took place in August, 2010, after the release of the 2nd installment of the program (PUCRS, 2010). The event, a pioneering initiative

⁵ As we found inconsistent data at MCTI's Innovation Website, we decided to adopt, as an analysis standard, those provided by the Follow-up Report by State (Relatórios de Acompanhamento por Estado).

of the incubator, lasted a day, featuring a series of lectures in the morning, and, in the afternoon, a business round among companies participating in RAIAR's program. Another differential mentioned was the use, since the release of the public announcement, of advertising tools provided by the university to promote PRIME and draw the attention of companies and the community in general. Also noteworthy was SEBRAE-RS' role promoting the program in Rio Grande do Sul, in an effort that not only included poster and folder designs for both RAIAR and CEI, but also offered an information center.

Among the common difficulties mentioned was the public announcement, according to which companies might be unable to classify in the very first phase, due to items such as "exactly 120,000 Reais" and "fill out form completely and correctly" (RAIAR, 2013) before an analysis of the project's content and merit in terms of its impact on local development. Likewise, the extremely complex selection process, along with an overlapping of the information required in each phase, resulted in a great number of companies that could not even go past the enrollment process. At the same time, FINEP undersized the time to carry out each phase, which increased the workload of decentralized operators and the number of administrative appeals filed by candidates.

Regarding benefits obtained, the following was reported:

- an increase of the incubator's visibility, with an increase in the number of incubated companies and associates;
- establishment of a promising relationship with FINEP;
- encouragement of company creation, for many were established thanks to the program;
- meeting the demands produced by incubators in terms of management training and company structuring, showing an unprecedented impact and coverage in the country, as per AGENTE 1's interview.

According to the interviewee, politics was the main hindrance in the launching of the program's second edition, which had already been scheduled at the time. With a change in the government and the election of Dilma Rousseff, a series of changes took place in the government leadership, which included the replacement of the

Science and Technology minister and FINEP's president, Luis Manuel Rebele Fernandes, a PRIME enthusiast. Besides the government change, the focus of investments veered too.

4.2 PRIME in the analyzed companies

In an effort to understand how PRIME influenced the competitive development of the companies' analyzed, we tried to shed light on the evolution, between 2010 and 2013, of the previously described basic indicators, along with managers' interpretation of the influence the program had over those metrics. So, a series of questions were proposed, linking PRIME's contribution to the companies, the companies' situation before the program, and the changes that took place afterwards.

So, Table 2 presents a summary of the most important information gathered during interviews with company managers from companies AGENCY, CONTROLL, and ELECTRO.

As we can see, two of the companies investigated, CONTROLL and ELECTRO, were already established, and their main motivator to join PRIME was to obtain financial resources. AGENCY; however, was established exclusively by the program, which was the motivating factor for joining PRIME. Between 2010 and 2013, the three companies showed an increase in revenue, especially CONTROLL.

The program's influence over companies can be partly noticed by observing the distribution of the PRIME Kit resources throughout the project. Therefore, companies prioritize the distribution of resources within budget headings related to the firm's own operation, such as compensation payments (*pro labore*) and business manager's salary. With regards to management and marketing training through consulting agencies, AGENCY made balanced investments, unlike CONTROLL, which favored management training (ELECTRO did not supply any information).

Table 2 – Comparative Analysis

	AGENCY	CONTROLL	ELECTRO
Field of operations	service provider that selects and supplies manpower	Immunization and pest control	House hold appliance manufacturer
Brief business background	The idea of this enterprise came about during an entrepreneur tournament in 2007, and was established by PRIME in 2009. The activities effectively started in 2010, along with the project.	The business, which initially focused on phytosanitary treatment, was established in 2008. After years of heavy investments in R&D, the company was facing financial problems, so they decided to find a way to turn the situation around. In 2011, CONTROLL acquired a company in the same line of business, this way becoming a corporation under unified management. The corporation's data were analyzed to check the company's current status.	The initial idea of this enterprise first appeared in 2005, and in 2007, it became a project in partnership with UFRGS. Then, the company looked for support so as to go ahead with the projects.
Partners' previous experience	Law degree	Business Administration degree, previous experience in management.	Engineering degree and previous experience in management.
Relationship with clients	In touch with specific highly demanded professionals by means of social networks and blogs.	Website and direct sale, with exploratory visits. The main clients are big companies, but they also work with companies of different sizes, and homes.	Website and direct sale, with exploratory visits. The clients are companies and public places that provide bathrooms with showers.
Strategy Vision	To grow and become a national company, opening branches in other states.	To make a billion Reais within 10 years, which is equivalent to increasing 2.5 times its average annual earnings.	To remain a market leader, by constantly improving and innovating.
Product/service portfolio	Small portfolio: three lines of services.	Small portfolio: three lines of services.	Portfolio limited to two products, and, due to market issues, one will be discontinued.
Development planning of new products/services	Internal development. Its partners are non-governmental organizations and government agencies as well.	Internal development. Monthly meetings with managers are organized to map out innovation ideas.	Internal development. Its partner is an electronics supplier.
Development planning of new processes	When something needs to be changed, the job is done immediately, avoiding paperwork.	There is a specific employee to analyze internal processes.	Informal meetings to solve process problems as they appear.
Suppliers	Multiple suppliers in the information technology area.	Exclusive suppliers of fuel and chemicals.	Exclusive suppliers of customized parts, due to technical complexity.
Motivator to join PRIME	To start a business.	Financial recovery of the company.	To attract financial resources without further indebtedness.
Revenue (2010-2012)	An increase of 3.4 times in relation to 2010	An increase of 8.7 times in relation to 2010	An increase of 3 times in relation to 2010
Jobs created (2010-2013)	Increased the number of employees from 4 to 10 people.	Increased the number of employees from 3 to 55 people.	Reduced the number of employees from 8 to 4.
Resource distribution according to PRIME Kit	<ul style="list-style-type: none"> • Compensation (<i>pro labore</i>): 33% • Business manager: 33% • Market consultant: 18% • Management consultant(s): 15% 	<ul style="list-style-type: none"> • Compensation (<i>pro labore</i>): 33% • Business manager: 33% • Market consultant: 8% • Management consultant(s): 25% 	Not informed
PRIME benefits	<ul style="list-style-type: none"> • Credibility • Marketing, management and finances 	<ul style="list-style-type: none"> • Credibility • Marketing, management, and finances • Enterprise networking 	<ul style="list-style-type: none"> • Marketing and management • Enterprise networking
PRIME difficulties	<ul style="list-style-type: none"> • Public announcement • Selection criteria • Disorganization • Access to information • Rendering of accounts • Little access to Zero Interest 	<ul style="list-style-type: none"> • Delay in resource release • Rendering of accounts • Little access to Zero Interest 	<ul style="list-style-type: none"> • Little access to Zero Interest

Source: elaborated by the authors

In an effort to display the information obtained in a simplified graphical format (matrix), the collected data were sorted, categorized, and interrelated (COLLIS and HUSSEY, 2005). We considered: (1) the changes in companies' competitive performance indicators between 2010 and 2013; and (2) whether those changes caused any developments, stagnation or retreat of the indicator in relation to the year when PRIME was implemented. In addition to that, we weighed the level of influence PRIME's experience had over the current situation of each performance indicator. As a result, analysis matrices involving Situation x Influence arose (Figure 3), which are related to the competitive performance indicators previously listed and interpreted under BSC's strategic perspectives. Based on repeated answers (two or more identical answers), it was possible to draw a behavior pattern of the indicators and identify patterns relative to managers' general perception about PRIME's influence over their situation.

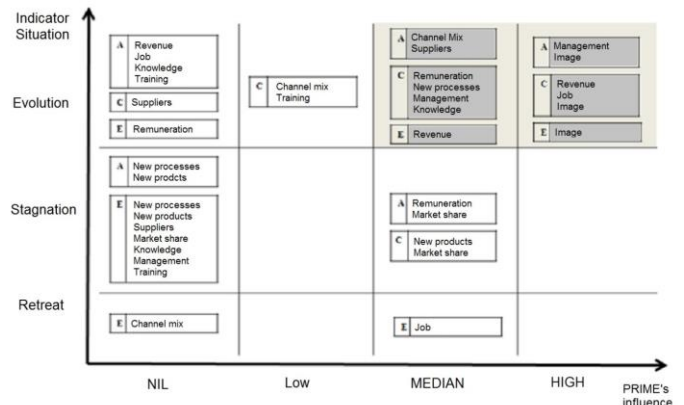
Figure 3 provides information to analyze the indicator under BSC's competitive performance perspectives. According to the financial perspective, all companies studied showed an improvement in their revenues. Under the Clients' perspective, all companies improved their market image and maintained their market share in comparison to 2010. Regarding Internal Processes, AGENCY and CONTROLL showed some improvement in their management and supplier indicators, ELECTRO experienced stagnation in those indicators in relation to 2010.

As to the new processes indicator, only CONTROLL had some progress, the others experienced stagnation in relation to 2010. In addition, as to development of new products, the three companies have not had significant changes since 2010. Finally, under the Learning and Growth perspective, AGENCY and CONTROLL had some progress in their indicators knowledge and training, ELECTRO experienced stagnation in those indicators in comparison to 2010.

Concerning local development indicators, AGENCY and CONTROLL improved the job indicator, while ELECTRO showed a retreat. As to remuneration, CONTROLL and ELECTRO displayed progress, and AGENCY was stagnant. Overall, the contribution of the three companies to local development is related to income (remuneration), job, and tax generation, in

connection with changes in the dynamics of the markets where they operate, because of the placement of new innovative products and services.

Figure 3 – Analysis matrix of companies.



LETTERING: A = AGENCY / C = CONTROLL / E = ELECTRO

Source: elaborated by the authors

The matrix also made it possible to sort the companies studied according to the situation of their indicators. This way, CONTROLL comes in first place, because it improved in 8 of the performance indicators and in 2 of local development, thanks to PRIME's significant influence over the current situation of 7 of those: management, remuneration, new processes, knowledge, revenue, image, and job. The company also stands out for its increase in revenue and jobs, and for presenting a plan to stimulate continuous improvement and innovation. In second place comes AGENCY, which improved in 7 of the performance indicators, and in 1 of the local development indicators; the other indicators were stagnant in comparison with the beginning of the program, with a significant influence of PRIME over the current situation of these four: management, mix of channels, image, and suppliers. When the company offers a highly differentiated service, it stands out for investing in the expansion of its target market, as it tries to meet the demands of other locations. Lastly, we have ELECTRO, which having no significant competition in its line of business, showed an improvement in 3 of the performance indicators, and a retreat in one performance indicator and in 1 of the local development indicators; most of the other indicators were stagnant in relation to the

beginning of the program, with a significant influence of PRIME over the current situation of these two: revenue and image. ELECTRO's posture may result from its position as the sole supplier in the market where it operates, which reduces the will to seek improvement and differentiation, inherent features to highly competitive markets. The company provides outdated information about products and services on its website, its main form of advertisement. Its 50% reduction in the number of employees since 2010 is not necessarily regarded as something bad, but as a lesson on reducing costs, learned with PRIME, as per Agent 4.

Overall, we found out that the performance indicators that improved the most under PRIME's influence were revenue, management, and image. Likewise, the indicators that least improved and that, according to interviewed managers, experienced less influence from PRIME, were new products and new processes.

5 Conclusions

This research gave us a glimpse of government efforts to stimulate innovative entrepreneurship in Brazil. Based on secondary and primary sources, it was possible to understand the context where the First Innovative Company Program took place and the way it was executed. Unlike other programs at the time, PRIME aimed to offer a solution for entrepreneurial failure among startups, caused especially by the difficulty accessing financial resources and entrepreneurs' constant veering away from the company's strategic issues. This way, it provided innovative startups with management training support, so their managers could focus on innovation and differentiation in the market.

However, since it is a pilot project, interviewees reported several problems and difficulties. Among them, glitches in the public announcement and the insufficient time to perform the many tasks in each of the phases of the program, which increased the workload of decentralized operators. Companies also encountered difficulty in the process of rendering accounts, especially due to FINEP's delay in providing the corresponding training.

Regarding the program's goals, there was an estimate of 1.3 billion Reais to be invested in 5,000 companies over a period of four years

(FINEP, 2013), but actually, "...the program did not reach 12% of the expected funding, and was ceased in the first year" (Ministry of Development, Industry and Foreign Trade, 2011). PRIME was terminated before any distribution of resources from Zero Interest Program, and the main reason for being discontinued lies in the government change of 2010.

In other aspects; however, the program was successful. According to interviewees, PRIME positively contributed to support the management, marketing, and financial organization of favored companies, which also mentioned other benefits such as forming a relationship network with other companies and increasing their credibility in the market for being linked to institutions like FINEP and PUCRS. Moreover, the program's operation coordinator at RAIAR incubator believes that, besides meeting the demands for management support through the program, there was an increase in the incubator's visibility, with an increase in the number of associates and incubated companies, and also the establishment of a promising relationship with FINEP.

PRIME's performance was also very positive as it supported entrepreneurship and innovation culture in several economic sectors, for among its prerequisites were establishing emerging businesses and submitting innovative projects. So, promoting local development was a success thanks to the creation of jobs and income, and to the stimulus in the economic sector by innovation.

A qualitative analysis of the companies' notes about the program's influence over their competitive performance indicators revealed that the set of individual characteristics of each firm – organizational culture, background, knowledge, and skills, etc. – had great influence over both the companies' perception about PRIME and indicators through time. This way, based on the study of the cases of the three companies favored by RAIAR's program, we were able to identify which competitive performance indicators changed between 2010 and 2013, and, which of them were significantly influenced by PRIME. PRIME had a significant influence on the improvement of only 3 of the 10 competitive performance metrics listed – revenue, image and company management indicators –with an emphasis on the perspectives Financial, Clients

and BSC's Internal Processes, respectively. On that regard, the program reached its goals.

The assimilation of an innovative culture by companies is a differentiation strategy essential to their survival in today's dynamic globalized market. Even in cases like ELECTRO's – few competitors – stagnation is not an option. In that context, a National Innovation System with a proper support infrastructure and incentive policies in connection with a stable investment strategy, in its turn linked to a long term State plan, free of the influence of party-political matters, could be the key to improve innovative performance in Brazil.

The PRIME Program proved to be a good tool to stimulate innovative entrepreneurship in the macroeconomic scenario, although under a microeconomic standpoint, it showed limited influence over most competitive performance factors of the companies studied. Therefore, it would be in the country's best interest to consider its continuity.

6 Implications and Further Research

This study has professional and academic implications. Regarding to professional involvements, the results stress the importance of innovation management system of company to use government incentives as source of competitive advantage. The program influenced mainly in revenue, management process, and image. In this way, companies could have a benefit in terms of reputation in the market. Then, the reputation will influence indirectly in the market relations (i.e. suppliers, government agencies and clients). The development of network was also presented as a benefit of PRIME, because the companies had the opportunity to interact with others small and micro companies during the entire Program.

We also identifies a strongly necessity to organize the internal processes during the participation in the PRIME. If a start-up wants to participate in these programs, the design of internal processes should be a requisite. So, more than financial support, the government could develop a specific program to help the companies organize an innovation management system.

In terms of theoretical contribution, we observed that programs to foster the innovative entrepreneurship could present also indirect benefits to image and networking. These benefits

are particularly importance to new business. Future researchers could explore the role of reputation due participate in governmental programs.

Regarding to influence in companies' internal processes, companies needed to organize their process to better use and control the financial resources. New research could explore the innovation management system in start-ups, considering internal and external dimensions.

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