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DIGITAL ENTREPRENEURSHIP: GOALS AND PRACTICES IN STARTUPS BUSINESS MODELS

EMPREENDEDORISMO DIGITAL: OBJETIVOS E PRÁTICAS EM MODELOS DE NEGÓCIOS DE STARTUPS

Soraya Cardoso Pongelupe Lopes[1]
Humberto Elias Garcia Lopes[2]
Otávio Morato de Andrade[3]

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ABSTRACT

In order to serve markets with high complexity, technology, complexity and competitiveness, the Business Model Canvas-BMC tool emerged, which approaches the conceptual approach of the business model oriented towards innovation markets. However, although most startups use the BMC tool in its original way, 25% of Startups 'die' before the 1st year of life and half of them, in less than 04 years. In this context, this study contributes to strengthening startups by answering the question: What are the strategies and practices that startup entrepreneurs adopt when using BMC? This study evaluates the purpose of using the BMC, the gaps in the tool's execution; and finally, the practices adopted in the business models of startups to create value and generate a sustainable competitive advantage. The research methodology is characterized as descriptive, its operationalization occurred with the adoption of the mixed method. The research technique applied in the quantitative approach was the survey, which took place through forms, applied online. In phase 2, 12 startup entrepreneurs were interviewed. At the end of the study, BMC proved to be embedded in the entrepreneurial culture, as 73.53% of respondents who used or use BMC (98%) apply Canvas to describe the business model. This empirical analysis confirms the purpose of using the BMC in the business description and not as a model "creation, adjustment and management" tool. The study shows some inconsistencies in the BMC, which are: the non-adoption of metrics, the non-integration of market assessment to the creation and negotiation of the business model management. These shortcomings, in addition to reducing the BMC's response power, confirm the tool's limitations. Management practices related to sales channels, relationships and partnerships presented difficulties, which impact on the operation and attraction phases of startups.

Keywords: Digital Entrepreneurship. Startups. Canvas Business Model.

[1] Doctorate in Management at Pontifical Catholic University of Minas Gerais. Professor at Pontifical Catholic University of Minas Gerais.
[2] Doctorate in Management at Pontifical Catholic University of Minas Gerais. Professor at Pontifical Catholic University of Minas Gerais.
[3] Master in Law at Federal University of Minas Gerais. Professor at Federal University of Minas Gerais.

1. INTRODUCTION

In recent decades, the progress of information technology and the universalization of digital media have subsidized business innovation, promoting a true competitive revolution in business models. The gradual complementation – and in some cases, replacement – of traditional physical media by digital media has been transforming consumption patterns, determining new ways of providing services and reshaping productive activities. In this exciting new environment, competitive advantage can be built by improving the ability to create, manage and disseminate information and knowledge strategically (Lopes, 2019).

In the contemporary era of the digital economy, disruptive ventures have fascinated by their large number and diversity, giving rise to a diversity of organizations: 'dotcom' companies that have benefited from the opening of the Internet for commercial purposes; large contingent of entrepreneurs who sell goods using the digital infrastructure of electronic auction companies (such as eBay and Mercado Livre); new platforms based on social networks and mobile technologies; and blogs development , credible channels and websites that already compete with traditional media conglomerates.

In this context of multiple business innovations, startups are inserted, and its definition is still controversial in the specialized literature (Gihaty, 2011; Longhi, 2011; Hermanson, 2011). However, these companies have some very specific characteristics, notably the ones connected to the implementation of a new digital technological base, which has been transforming the way of consuming, producing and selling services.

According to Ries (2012), in the entrepreneurial ecosystem of the technology sector, time has an accelerated pace. A five-year period, for instance, can mean a cycle of birth, rise and establishment – or death – of an innovative company. In this regard, it is essential that startups processes take into account the fast pace of this new business environment, adopting strategies that match the dynamics of changes present there.

As a proposal to serve markets with high uncertainty, technology, complexity and competitiveness, the Business Model Canvas (BMC) tool emerged, which approximates the conceptual approach of the business model oriented towards innovation markets (Osterwalder, 2004). Despite most startups use the BMC tool in its original mode, 25% of Startups 'die' before the 1st year of life and half of them, in less than 04 years (Arruda, Costa, Cozzi, & Nogueira, 2014).

This article examines how the Business Model Canvas is used, the management practices adopted in each element of the model by entrepreneurs and the perceptions of

startup entrepreneurs about the contribution of BMC in creating value and generating sustainable competitive advantage. In order to integrate the proposed subjects and reach the final result, the work was structured in three axes. The first aims to present the fundamental concepts for the study, such as innovation, digital entrepreneurship, startups, business model and Business Model Canvas (BMC). From the construction of this initial universe, the research was carried out through surveys, which include questions directly asked to respondents through forms. Next, a discussion about the studied phenomena is presented, allowing the evaluation of the BMC tool and an examination of the management practices related to it.

In this regard, the research can identify contributions to the Canvas tool improvements, which were classified into two blocks of opinions: one focused on tool handling and the other on functionality increments.

2. RESEARCH PROBLEM AND OBJECTIVE

In the context of profound and uncertain changes in the competitive conditions provided by digital entrepreneurship, understanding the conceptual aspects and perspectives on startups and innovation is of interest to academic research, guiding business practices and public policies that aim to support this phenomenon. The high mortality rates found in startups lead to some questions, mainly regarding the modeling and management of business models, considering that most of these enterprises use technological tools that support new consumption habits and commercial practices.

This research takes on relevance regarding its contribution to strengthening startups and its positive impacts in terms of job creation and economic growth, by answering the question: What are the perceptions and practices of startup entrepreneurs regarding the Business Model Canvas (BMC)?

The general objective of this article is to present and discuss the perceptions and practices about the BMC business model applied by startups, providing elements for agents involved in this market to face the difficulties inherent to digital entrepreneurship. This research examined the purpose of using the BMC, the tool's implementation gaps; and finally, the practices adopted concerning the constituent elements of the business model by startup entrepreneurs.

3. THEORETICAL FOUNDATION

3.1 Innovation and digital entrepreneurship

Although Richard Cantillon (1680-1734) and Jean Baptiste Say (1767-1832) have dealt with entrepreneurship in general terms, considering as an entrepreneur one who took risks to add economic value to products and services, it was Joseph Schumpeter (1883-1950) who first associated entrepreneurship with innovation, also relating it to the idea of technological development.

For Schumpeter, 'growing', 'adapting' and 'following' the growth of society is not entrepreneurship, given that such activities are not innovative. The author states that growth and competitiveness linked to survival cannot be considered undertakings. Development would be, then, a distinct phenomenon, which breaks the current balance, by providing a spontaneous and discontinuous change in the flow channels (Schumpeter, 1985). Therefore, Schumpeter argues that to undertake is to innovate, generating a new cycle of growth and value from the disturbance of the current economic flow balance. By introducing a new method, product or service capable of generating optimization and cost reduction, the entrepreneur promotes development through innovation.

The theme of innovation has been acquiring relevance not only among entrepreneurs, but also in academic discussions, given the importance of innovation for the economy and society. According to Nonaka & Takeuchi (1995), when companies innovate, they create knowledge and generate information that, when taken back to the external environment, recreate their environment. In a similar vein, Côté & Miler (2008) argue that the advancement of innovation encourages value generation, helps to maintain the balance of the business ecosystem, and also generates new products and services, restarting the innovation cycle.

Even though it is not a new phenomenon, entrepreneurship has spread as a revolution in contemporary economies, reinvigorating business processes by adding competitiveness, productivity, innovation, value generation and jobs, in such a way that it ended up becoming a multidisciplinary theme (Kuratko, Morris, & Schindehutte,2015). However, the dynamic pace of entrepreneurship has brought about different realities with regard to risk, growth, innovation, the ability to generate wealth and the actors involved in the business, and it is necessary to characterize it for the purposes of public policy and investment definitions (Morris, Neumeyer, & Kuratko, 2015).

Research by Morris, Neumeyer and Kuratko (2015) classifies entrepreneurship into four modalities: survival, lifestyle, controlled growth and aggressive growth or high growth (HG) ventures. In this line of thought, survival entrepreneurship is that which provides the entrepreneurs and their family with basic subsistence conditions, and part of these ventures are not formalized and employ a minimum contingent of people. In turn, lifestyle entrepreneurship is defined as one that gives entrepreneurs a steady income stream, with investment being regional and moderately developed. Growth entrepreneurship, on the other hand, presents a viable business model that aims at stable growth, over time, for the expanding market, through local and regional brand development. Last but not least, there is aggressive growth entrepreneurship, anchored in exponential growth companies that pursue innovation, most of which are technology-based companies, or that need technology to distinguish themselves from others (Morris et al., 2015).

Particularly, the last category reconciles entrepreneurship with innovation, and, recently, research points to digital technological entrepreneurship (Giones & Brem, 2017; Nambisan, 2017). This new scenario of aggressive entrepreneurship, which uses technology, leads to dynamic advances through innovations, resulting in the emergence of new markets, jobs, changes in consumption patterns, disruption in regulatory norms and increased global competitiveness of a country (Morris et al., 2015; Giones & Brem, 2017; Freire, Muruyana, Polli, 2017; Thomas, Passaro, & Quinto, 2019).

For Asghari and Gedeon (2010), three recent transformations are the key to understanding this new nature of entrepreneurship: the internet, new electronic devices such as smartphones; and web applications. The dissemination of these new tools has contributed to universalizing communication, increasing the efficiency of products and services and expanding the geographic limits of target markets. Thus, the specialized literature recognizes that technological innovations and entrepreneurial opportunity have an increasingly close connection (Mack & Redican, 2017). The use of these innovation tools to expand and leverage business is called digital entrepreneurship which, according to Mastilo (2017), presents itself as one of the most attractive growth opportunities today.

3.2 Startups: concept and growth structure

Although the beginnings of startups go back to the early 1990s, with the rise of "dot-com" companies and with the Internet bubble, controversies about its definitions still remain today (Gitahy, 2016). A portion of the specialized literature argues that startups

are ventures, formal or not, located in a context of uncertainties due to their innovative business model. These are ventures in which technology is the protagonist of this innovation, providing unique experiences for the customer, creating new value, new needs to be met and introducing new approaches (Hermanson, 2011; Morris, et.al., 2015). In this context, Gihaty (2016), Ries (2012), Longhi (2011), Blank and Dorf (2013) state that the business model needs to be replicable and scalable, costs must be reduced and revenues increased. Another line of researchers understand that startups are businesses in their beginning that use technology as a business model differential, but are seeking to consolidate the idea and/or the business model (Thomas et al., 2019).

If there is controversy at the international level, better luck does not see the issue pacified in Brazil. For this reason, the Ministry of Foreign Trade opened for public consultation a bill that tests the concept of startup in the country. The project was enacted in Complementary Law (LC) of No. 167/2019, which aimed to expand the Simples credit line and streamline the process of opening and closing these enterprises. In regard to that, said LC defines Startup in the following terms:

> [...] a nascent company or society that aims to improve systems, methods, business, production, service or product models, these, when already existing, are startups of an incremental nature, or when in the creation of something totally new, startups of a disruptive nature (Complementary Law 167, 2019.)

It is understood that, by approving the concept of startups in this quote, Brazilian society agrees that this venture is in the nascent phase, in addition to reinforcing the nature of the types of innovation, as well as the purpose of the business. The process of constitution of startups is still controversial, as it differs in many aspects from traditional ventures, particularly in the start-up phase of the business (Blank, 2013; Figueira et al., 2017; Salamzadet, & Kawamorita Kesim, 2015; Spina, 2012). This initial phase, or 'seed' of startups, is unfolded, in the international and Brazilian literature, in at least three stages which, in turn, are unfolded into more.

The first phase is the initialization or seed, considered the riskiest for investments (Salamzadeh & Kawamorita Kesim, 2015). The second phase is the creation phase, which is defined, when the company starts selling its products/services and hires some employees (Salamzadeh & Kawamorita Kesim, 2015). And, finally, the scaling phase in which the enterprise will have the challenge of greater organizational structuring (Salamzadeh & Kawamorita Kesim, 2015) and Abrstartups (2017) scaleup or scalar, which would be the increase in sales scale. This stage is a challenge, considering that

actions and processes will be duplicated, requiring more control, efficient management mechanisms, expansion of the portfolio of products and services (Spina, 2012).

The lean startup methodology appears in the literature (Ries, 2012) with the objective of reducing the imbalance between the failure and success of this type of enterprise, in the initial phases. The methodology adds the concept of 'pivoting' and the minimum viable product to the business model (Blank & Dorf, 2013).

The expression 'pivot' is understood as the investigation of new hypotheses, as the existing business model assumptions proved to be mistaken or flawed (Ries, 2012) and the minimum viable product (MVP) breaks with the conception of a product ready and finished from the beginning of the enterprise, the entrepreneur being able to generate improvements at each stage of business development (Ries, 2012). This fact supports the need for startups to adopt a dynamic business model capable of being reconfigured or transformed in the course of implementing management, creating value for customers and a sustainable competitive advantage for these companies.

However, aggressive growth entrepreneurship points to a relationship involving the level of failure of early-stage ventures (Morris et al., 2015): the higher the rate of nascent ventures, the higher the mortality rate (Thomas et al. ., 2019).

3.3 Business models: origin and concepts

According to Osterwalder (2004), the concept “business model” emerged in the literature with Peter Drucker (1909-2005) in 1960. However, it was throughout the 1990s that the concept gained greater relevance. The digital market started to grow with the “dotcom” companies, which used the business model concept to identify the synthesis of a business idea that has not always been used consistently.

Osterwalder, Pigneur, & Tucci (2005), Magretta (2002) and Wirtz, Pistoia, Ullrich & Göttel (2016) argue that, at first, the difficulty and misalignment about the business model concept impacted their understanding, being regularly replaced by synonyms such as: business idea, business concept, revenue model and even economic model.

The definition of the business model generates criticisms, such as, for example, that of Porter (2001, p. 73) when he proclaims that the “definition of a business model is obscure at best. Most of the time, it seems to refer to a loose conception of how the company does business and generates revenue”. In turn, Arend (2013) criticizes the lack of alignment of the concept regarding the model and the levels of analysis and existing theories. In regard to this view, Zott and Amit (2013) explain that the problems presented

result from the heterogeneity of companies in relation to new organizational forms, diverse ecosystems, activity systems and the value chain.

Currently, there is no consensus in the literature on the concept of a business model that consolidates the subject (Shafer, Smith, & Linder, 2005; Teece, 2010; Wirtz et al.,2016). However, the studies by Wirtz et al., (2016) and Massa et al., (2016) found that, in recent decades, the concept of business model has acquired importance and recurrence of use in various fields of knowledge such as technology, management innovation, organization theories, strategy and environmental and social sustainability. The study drawn by researchers Massa et al., (2016) advances, as the authors identify three branches in the literature that make basic interpretations about the concept of business model. In this research, the authors present their understanding of the business model as being "an attribute of a company, a cognitive or linguistic scheme and a formal conceptual representation, which describes the activities of a company" (Massa et al.,2016, p.16).

The interpretation of the business model as an attribute of a real company materializes as the authors place it as the aspect that differentiates the company from the competition, allowing companies to capture and create value (Massa et al., 2016). The definition elaborated by Casadesus-Masanell and Zhu (2010), who conceptualize the business model as a set of choices that establish the bases for competitive interactions that will occur between the company and the partner, is one of the examples of this interpretation. Another concept that can illustrate this interpretation is the one from Zott and Amit (2010, p. 217) who place the business model as a "set of activities, resources and capabilities to be performed, whether inside or outside the company, through cooperation of partners and suppliers". In this interpretation, the competitive advantage it achieves is a reflection of the actions adopted in the business model that are supported by the business strategy.

When interpreting a business model as cognitive or linguistic business schemes, the entrepreneur does not necessarily need to have formal systems for recording value capture and creation activities. However, it has the operating logic of a company through mental maps capable of generating a narrative of the functions of managing costs, revenues, defining customer segments and offering value, which connects both the external and the internal environment as it generates the business value chain (Massa et al.,2016).

This business model perspective allows managers the freedom to change and modify the model dynamically, also allowing them to share the business model information with other members of the company. According to Magretta (2002), business models "are, at heart, stories that explain how companies work". For Chesbrough and Rosenbloom (2002, p. 529), the business model is "the heuristic logic that connects technical potential with the accomplishment of economic value".

And, finally, the interpretation of the business model as a formal representation is the joining of a system of real activities of a business with cognitive and linguistic schemes, within a formal representation (Massa et al., 2016). For Massa et al. (2016), this interpretation conceives the business model as a management tool that allows the activities classification in a synthesis of the constituent elements of the model.

Osterwalder, Pigneur and Tucci (2005, p.10) define the model as "a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific company". And for Teece (2010, p.179) "the business model articulates the logic, data, and other evidence that support a value proposition for the customer, and a viable revenue and cost structure for the company to deliver that value".

The study by Wirtz et al. (2016), on the other hand, brings together the business model concepts into three categories: technology-oriented concepts, organization theory and strategy theory, which takes place in a temporal dimension from 1975 to 2013. The authors highlight that, between 2000 and 2002, concepts oriented towards technology and strategy grew. (Wirtz, et.al., 2016). However, the authors perceive that the concepts converge more to the technology and strategy area than to the management area. It is important to point out that there is still no consensus on the term, due to its inconsistent use in the literature.

3.4 Tool Business Model Canvas - BMC

The Business Model Canvas tool (Osterwalder & Pigneur, 2010) emerges as a proposal to serve markets of high uncertainty, technology, complexity and competitiveness, which brings it closer to the conceptual approach of a business model aimed at innovation and competitive complex and dynamic markets. (Osterwalder, 2004).

Currently, Canvas is one of the most used business models in the corporate environment, which seeks to bring together important strategy concepts in a simple and visual model. It is a tool to describe an organization's business model, explaining how it creates, delivers and captures value composed of nine elements.

The Business Model Canvas had its first structure mirrored in the Balanced Scorecard methodology created by Kaplan and Norton (1992) and organized into four blocks: product, customer interface, infrastructure management and financial aspects, and broken down into nine elements: proposition of value, customer, channel relationship, revenue, value configuration, capabilities, partnership and costs (Osterwalder, 2004). Figure 2 presents the Canvas synthesis table that aims to record the contributions to the construction of a business model, through pictures, keywords, and using a visual language.

In the study by Wirtz et al. (2016) on the origin and conceptualization of the business model, the approach used by Osterwalder (2004) is initially classified within a technology-based perspective, migrating to an organizational orientation. This classification deserves to be discussed, as Canvas brings in its structure a hybrid look, both from the market (outside) - called by the author "right side" - and organizational (inside) – called “left side”. This strategic duality of the model can be understood when Osterwalder and Pigneur (2010) present the constituent elements with their conceptual details and the reference bases that reflect the two strategic views (Chart 1).

Table 1 - Conceptual structure of The Business Model Canvas – 2010

Interface	Components	Concepts	References
CLIENT	Clients Segments	Define the type of consumer that the company seeks.	(Hagel & Armstrong, 1977; Kotler, 1999; Neal & Wurst; 2001).
	Value Proposition	Describes the entire package of products and services that create value for a customer segment. It is understood by the author as the reason why customers choose the company.	Kambil e Ginsberg, 1997.
	Channels	They describe how a company delivers the value proposition to customer segments. Typically, a company has one or more direct and indirect channels that can be divided into their links.	(Dolan, 2000; Ives & Learmonth, 1984; Ives, 1999; Moriarty & Moran, 1990; Muther, 2002)
	Costumer Relationship	Describes the relationship between the company and the customer segment.	Blattberg e Getz, 2001.
	Sources of Income	Describe the periodic money to be received from the amount offered by the company. Also define the mechanism used to determine the price of that offered value.	(Klein & Loebbecke, 2000; Pitt & Berthon,1999).
COMPANY	Key Activities	Actions that a company takes to do business and achieve its goals.	(Fjeldstad & Haanaes; 2001; Porter & Millar, 1985)
	Main Resources	Resources are absorbed by the value creation process. They are the aptitude forms the company needs to deliver the value propositions.	Grant, 1991; Wernefelt; 1984.
	Main partnerships	Partnerships are cooperative agreements initiated between two or more independent companies with the aim of creating a project or activities together by organizing the necessary capabilities, resources and activities.	(Brandenburger & Stuart, 1996; Child & Faulkner, 1998; Dussauge & Garrette, 1999; Tapscott & Ticoll, 2000).
	Structure of costs	Measures all the monetary costs of a company.	Maîte e Aladjidi, 1999.

Note: Adapted from Osterwalder & Pigneu (2010)

The business model literature has been considered fragmented due to its historical development and the varied perspectives of the authors (Demil & Lecocq, 2010; Osterwalder, 2004; Zott & Amit, 2013; Wirtz et al., 2016). Not far from this reality, the concept of the Business Model Canvas, henceforth BMC, proposed by Osterwalder (2004) has also undergone changes over time. Initially, the emphasis of the Business Model Canvas concept was on the business unit, despite its commitment to value creation (Osterwalder, 2004).

In another moment, the concept for the creation, capture and delivery of value was expanded, however, reinforcing the visual representation of the constituent components of the business in a frame (Osterwalder & Pigneur, 2010).

Finally, the BMC concept focused on building a business model friendly and easy to understand in which the value proposition was the central element (Osterwalder,

Pigneur, Bernarda & Smith, 2014). However, it is observed that the BMC concepts denote assuming the static function of a tool or framework describing the idea and the business components, despite being committed to the creation and capture of value.

According to Fritscher and Pigneur (2015), the structural framework of the Business Model Canvas has evolved over time, due to the criticisms received since its initial conception. With the creation of the Canvas framework (2010), the authors claim that there was an improvement in the didactic structure for presenting the model capable of simplifying the complexities of the business, making it intuitive and simple. With these changes, the signs of relationships and interactions between the constituent components of the model were lost, which led to a sealed form of composition and analysis.

The process of grouping, links, connections and dynamics between the components or activities of a structural framework is considered fundamental for achieving value creation and capture (Afuah & Tucci, 2003; Amit & Zott, 2015). Table 5 shows how the BMC changes over time.

Although the literature and the authors of the Business Model Canvas affirm the importance of the interrelationship and interdependence of the constituent elements (Achetenhagen et al., 2013; Afuah & Tucci, 2003; Amit & Zott, 2015; Demil & Lecocq, 2010; Demil et al., 2015; Lecooq et al., 2010) the Canvas framework does not prove to be effective in this regard.

The presentation of the BMC visual framework does not define for the user an ordering between elements with their parameters and indicators capable of establishing an interdependence between elements, and, consequently, between blocks, according to the conceptual idealization of the model.

Navigation in the Canvas frame is free, the user being able to define the relationships between the components, without drawing a correspondence between them, which results in the absence of interaction and loss of the model's design. This reinforces the perception that the BMC is a static framework that the entrepreneur fills randomly, clashing with the conceptual proposal of being a model that translates a business concept to be improved, compared and recreated.

Therefore, the BMC design does not meet a dynamic perspective, adept at "creating, tweaking and tuning. And, if necessary, replace business models, being essential for dynamic capabilities" (Teece, 2007, p.1323).

However, it appears that the BMC does not present a defined strategic decision that can conduct its activities, as recommended in the dynamic business model literature,

and let alone mechanisms for capturing and transforming the model over time. In this context, Canvas brings in itself conditions to link it to a strategy of dynamic capabilities, which would allow the continuous updating of the model, making it dynamic. However, it would require the creation of routines, organizational and market parameters, (Zott & Amit, 2015) capable of breaking with the current static and descriptive structure of the business model.

Another critical analysis of the Business Model Canvas version is the interface between the external environment and the model, which compromises the capture and transformation of information into strategic actions. Osterwalder and Pigneur (2010) made an effort to bring complementary mechanisms existing in academia, for the reading of environments and the analysis of scenarios combined or adapted to Canvas.

In 2012, the new structural adds to the BMC the value creation proposal, presenting methodologies for analyzing customer profiles and creating value, based on customer needs. However, the model still does not resolve the strategic approach to decision making in order to configure itself as a complementary tool that can help in the analysis and reconfiguration of the existing models.

The conceptualization of established value proposition differentials reflects its definition as a component that describes the entire package of products and services that create value for a customer segment (Osterwalder, 2004; Osterwalder & Pigneu, 2010). The construction of the value proposition for the authors uses the resource-based view (when identifying the management and infrastructure conditions of the activity) and the positioning view (when interpreting the conditions of the company's interface with its consumers, channels of distribution, relationship and communication with customers).

Such movement generates the revenue model and cost structure of the Model Canvas. However, the lack of dynamism in the construction and management of the business model can compromise its value proposition. Management is based on the interdependence between the components of the model that generate integrated dynamic systems of actions that promote the value proposition, which can be constantly changed and improved. The construction of the model, on the other hand, requires mechanisms for capturing and transforming the external information associated with it.

Within the business model approach as a competitive advantage, the definitions of metrics for measuring value in business frameworks have been a point to be considered. The Model Canvas has its value equation expressed by the relation of revenues minus costs (Osterwalder & Pigneur, 2010), which is considered simplistic, as it does not allow

the analysis of economic leverage that justifies the delivery of value at scale. Furthermore, the absence of economic indicators (profitability, profitability and ebitda) in the model's components can make the generation of costs and revenues of a new business model unfeasible.

According to Demil et al. (2015), in recent decades, studies on the business model topic have intensified. However, empirical research is rare, making it necessary to expand knowledge about the implemented model and its transformations over time. Empirical research on Canvas, like other models, also presents this scarcity, not allowing tests to be carried out on the theoretical premises of the model.

4. METHODOLOGY

The research typology is characterized as descriptive, as it describes the perceptions of startup entrepreneurs about the business model Canvas; as well as the management practices related to each constituent element of the BMC.

To operationalize the study, the mixed method was adopted, the combination and integration of qualitative (concepts and ideas) and quantitative (statistical numbers) methods (Creswell & Clarck, 2013), a method that is justified in view of a better understanding of the complex phenomena that involve the problem pointed out by the research.

The research technique applied in the quantitative approach was surveys, which is characterized as a technique in which questions are asked directly to respondents through forms (Malhotra, 2004). The choice of the survey was justified, as it allowed the investigation of the practices and conceptions of entrepreneurs in relation to the business model adopted, so that a standard answer was obtained, which guaranteed a unit of plausible answers for measurement and conclusions.

In contrast, in the research technique of a qualitative nature, semi-structured interviews were used, whose content was based on the same categories of analysis proposed for this study. This technique allowed a personal investigation with the entrepreneurs about their practices and their concepts about the business model (Malhotra, 2004), in order to contrast the interview responses with those of the surveys research.

The statistics available on the StartupBase platform were transposed to a Excel spreadsheet with validated contact information, adding a number of 1920 companies

throughout Brazil that constitute the universe of this research. The survey had 166 respondents and of these, 102 questionnaires with complete responses were validated.

In the case of qualitative research, the sample was non-probabilistic, and in phase 1, six experts from the startup's ecosystem were consulted, including university professors of entrepreneurship, mentors and acceleration coordinators of startups of the Seed/MG, Tecmall and TroposLab. In phase 2, 12 startups entrepreneurs were interviewed, who responded to the questionnaire and whose ventures earned more than R$60,000.00 (sixty thousand) reais per year.

5. ANALYSIS OF RESULTS

The quantitative survey had 102 respondent entrepreneurs, 83% of whom were male, with an average age of 37 years, education concentrated in postgraduate studies (63%). As for the profile of the projects, they are located in the Southeast region (67.5%), and the areas of operation are scattered, but more expressive: ICT and Telecom (15.7%), Education (11.77%), Health and Welfare (9.8%) and Professional Services (8.8%). Most enterprises earn up to R$60,000 (51.96%), and with up to two years of existence (64%). But it is clear that companies with more than two years (35%) earn more than R$ 60,000.00 and are starting to move from the ideation phase to operation and traction ones. 59.8% of the enterprises have 1 to 5 people employed by startups, but as startups revenue rises, the number of employed staff increases, demonstrating the same growth effect of the enterprises.

The relationship between the time of existence and revenue, after the 3rd year, does not indicate a linearity in the growth of revenue per enterprise, as the time of existence grows. This fact has been explained by the idiosyncrasy of each company (Penrose & Jorgensen, 2006), which can be observed in the way they manage, make decisions and in the level of complexity of the business, which can bring negative or positive results.

5.1. Evaluation of the Business Model Canvas - BMC tool

According to Fritscher and Pigneur (2015), a BMC tool became popular in the business environment, which can also be observed in the startup's environment, since most 73 (53%) of respondents use or have used tools. Despite the results, there are still entrepreneurs who have not used it (11.76%) or do not know it (14.71%).

Of the 73.53% of respondents who used or use Canvas, 50 of them (98%) used Canvas to describe the business model. Those that use it for the purpose of analyzing the improvement and expansion of the business (14.71) present an enterprise profile with larger and different revenue scales. And finally, entrepreneurs who use Canvas as a management tool (7.84%) are fewer in number, with a billing profile in almost all billing categories.

The evidence of the tool's relevance for entrepreneurs increases, when it is found that 63.74% of those surveyed declared that the Canvas tool contributed to the business, while 20.58% asserted that it did not, and 15.68% did not respond.

Respondents described the tool's contributions as an opportunity for structuring, mapping, visualizing and thinking about various business possibilities, and some let it be clear that, in the beginning, when handling the tool, they even felt immature in the face of so many variables. These reports reinforce the concept given to entrepreneurs that the Canvas tool simplifies business complexity, and it is intuitive and is visual (Fritscher & Pigneur, 2015).

In the interviews with the entrepreneurs, data were collected that, for the most part, confirmed that the Canvas business model tool is, and was, used as a business descriptor in the beginning of the activities. However, as the interviewees are already somehow in the business development stage, it is clear that there is still a relationship between the entrepreneurs and the tool, which can be materialized in a mental model, developments of the model in other management tools and, or even, the maintenance of the Canvas board updated with the startup's times and movements.

In light of this empirical analysis, the purpose of using the Business Model Canvas is focused on the business description and not as a tool for improvement and expansion, much less capable of “creating, adjusting and fine tuning. And, if necessary, replace business models, being essential for dynamic capabilities” (Teece, 2007, p.1323).

The study identified contributions to the improvements of the Canvas tool, both in quantitative and qualitative research, as they were classified into two blocks of opinions: one focused on tool handling and the other on functionality increments. Table 2, below, presents a summary of the entrepreneurs' suggestions kept in their original version.

Table 2 - Contributions of Improvements in the Model Business Canvas by Startup Entrepreneurs

Contributions Incrementals	Suggestions "[...] it should also be demonstrated what competitors have proposed in the market and the differentials of products that already exist in the market." "[...] Focus on the relevant problem for the market in terms of size, profitability and cost-effectiveness", "[...] It should carry out an assessment of the ecosystem, taking into account the economy and the external environment", "[...] allow the measurement of actions according to changes made over time in the business", "[...]Perhaps if the tool were an application, this monitoring would be more viable"; "[...] There is a lack of indicators. The tool lack assessment"; "[...] The introduction of a financial spreadsheet in Canvas to better model the business".
Handling	"[...] Putting links to explanations of each item can help to clarify and solve doubts", "[...] Perhaps, a kind of instruction creating the business models, and that would allow the visualization of the use of the tool in different business models", "[...] A clearer description of how to use each framework"; "[...] The tool should not be placed as a first means of evaluating the business, but rather a customer-problem view should be sought first".

Source: Organized by the author, using interviewees' statements.

The indications of the entrepreneurs made in the Canvas tool's handling block point to the need for entrepreneurship training and development agents to work on the concepts and interrelationships of the variables that make up the business model as well as ecosystem contexts.

This fact was observed in other interviews and is in line with the data presented on the inefficiency in the processes of startup establishments, which reinforces the need to evaluate the educational mechanisms of entrepreneurial training. In relation to the business model Canvas, the statements made by the deponents demonstrate the need for revision regarding the adoption of a path in the definition and design of the model.

As for the incremental suggestions to the Business Model Canvas, the empirical research confirms the indications of the theoretical study, as it provides for the external evaluation mechanisms of the enterprise, performance indicators, measurement and relation of demand with revenue sources and cost structure.

The entrepreneur's speech, below, reveals his/her difficulty in managing the Canvas business model in the many versions that appear in the daily changes of the minimum viable product (MVP) and the ideal point of the business in the future. However, on the other side, it also explains the practical inefficiency of the Business Model Canvas in keeping the business model active and dynamic with the changes that the startup business requires.

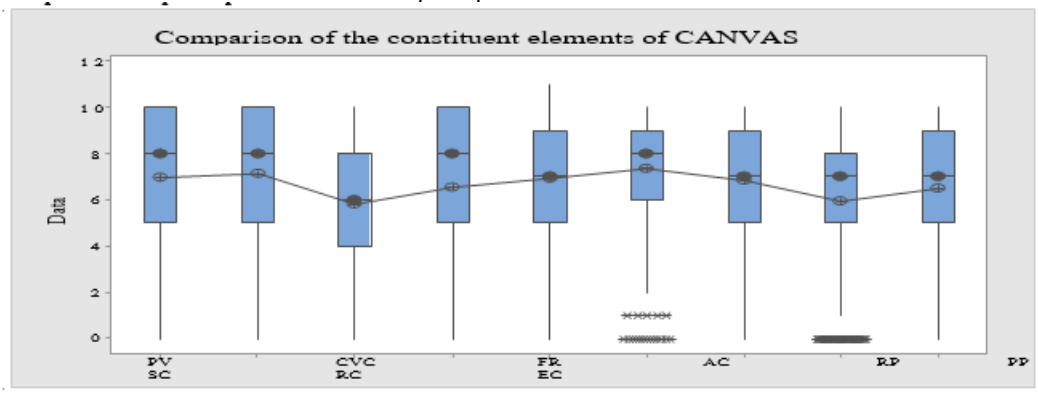
> [...] One difficulty of Canvas that we've been facing is in dealing with the different versions of Canvas, because it's interactive and incremental, and sometimes we're learning about an MVP, in a minimized version of it, but we cannot lose the insights that arise for the future, for when it is already maximized,

> when, for example, it is in the ideal operation that we are looking for. So that's an awful lot of Canvas documents for us to manage. [...] (Interview IX, October, 2018)

5.2 Analysis of management practices regarding the Business Model Canvas

Entrepreneurs evaluated four practices for each element that constitutes the Canvas business model, on a scale from zero (I do not apply) to ten (I apply fully). In the entrepreneurs' perception, the elements of the Business Model Canvas that presented averages and medians below 6 are located in the client core (right side), namely: value proposition, sales and communication channels and revenue sources. In the internal core of the organization (left side), the element that obtained averages and medians below 6 were the main partnerships. To better explain this result in Figure 1, below, this general comparison of each element was made. It is observed that, in the general analysis, the sales and communication channels element continue with the mean and median lower than all the elements.

Figure 1 - Comparative boxplot between the constituent elements of Canvas in the respondents' perception



Source: Author´s own writing.

Note. The items marked in Figure 7 are understood as *outliers,* however, they can be disregarded, since those surveyed can mark the option *I do not apply*.

The results indicated by the previous quantitative analyzes are reinforced by the interviews carried out with entrepreneurs, as most of them point to the difficulty of establishing a marketing strategy, customer relationship and strategic partnerships. In addition, some of these ventures are in the operational development phase for business traction, which requires the implementation of strategies that enable startups to meet two conditions: make the business model replicable and scalable (Ries, 2012)

In this context, entrepreneurs are concerned about becoming a highly specialized company, and this can mean the loss of the enterprise's ability to scale. For some entrepreneurs, the commercialization process is complex, as they have to sell an unknown

proposal to customers, using, in most cases, digital channels that can bring a large volume of customers and the company is not prepared to respond to this demand.

It is noticed that entrepreneurs are clear about the value proposition of startups for their customers, but the structuring of an integrated sales strategy, communication and customer relationships is still an impasse for most respondents.

This question that arises implicitly brings reflection on other aspects such as: the traditional consumption patterns of future customers will be broken, the segmentation of customers to be worked on will be sufficient for the business to scale, the digital sales strategies will be sufficient to reach all customers?

It is noticed that a discussion between the value proposition, clientele, sales channels and revenue forms cannot be limited to a single model that requires constant rethinking of the business model, therefore, transforming itself into a continuous process.

Still, in the client block of the Business Model Canvas, the variables of customer segment and value proposition are more directly affected by the effects of environmental dynamism in business (Chen & Miller, 2014; Li & Liu, 2014; Pisano, et.al., 2015), bringing uncertain market conditions to strategic decisions such as: regulation of energy, telephony, education sectors, need to operate in the international market, business entry barriers through traditional markets and others that hinder the preparation of strategies and management of the business model. Therefore, it can be seen that, in fact, there is an interference of environmental dynamism in business models.

The constituent elements of Canvas in the inner core of the enterprise had scores from 7 to 8 on most items evaluated. This fact can be best elucidated when, in the choices, the adoption of project tools, agile methodologies, indicator management and a training and qualification mechanism can be seen, which go far beyond the use of the BMC tool.

6. CONCLUSION/CONTRIBUTIONS

After the surveys, the problem “What are the perceptions and practices of startup entrepreneurs regarding the Business Model Canvas (BMC)?” was answered, as it was identified that the majority (73.53%) of the interviewed entrepreneurs used or use the Canvas tool, and of that majority, 50.98% used the BMC to describe the business and 22.55% to discuss the management and expanding or improving the business. In the perception of 63.74% of these entrepreneurs, the tool contributed to the business, but, in the interviews, it was evident that the tool was used as a business descriptor, due to the ease of understanding and visualization of the business. The tool proved to be introjected

into the entrepreneurial culture, because despite not using the BMC, entrepreneurs use the structure of the model to mentally carry out analysis and projections.

On the other hand, the study highlights some inconsistencies in the Canvas theoretical model signaled by the entrepreneurs themselves, which are: the adoption of metrics, the integration of market assessment in the development and management of the business model, the monitoring and management mechanisms, among others.

These theoretical inconsistencies, in addition to reducing the Canvas model's responsiveness, confirm the static performance of the model, which limits the business model to a descriptor tool.

The performance of the interviewed entrepreneurs in the practices carried out in relation to the constituent elements of the Canvas was shown to be average, considering the range of averages of 6 points. However, the elements of sales and communication channels and main partnerships had averages below the level of 5 points. This result deserves attention, as 35% of the enterprises interviewed are in the transition phase from the operation phase to the business traction phase.

Such limitations can be understood as a result of the lack of knowledge of the entrepreneurs on the constituent elements of the BMC, reinforced by the free application of the elements, without interdependence and connection between them, in addition to generating a static view of the variables and the business. This Canvas gap brings to many entrepreneurs a shortsightedness and lack of criticality in relation to the modeling and management of digital businesses that impact the survival conditions of startups. As a result, there is a need for educational agents to promote a paradigm shift and change their way of teaching and learning about the business model.

The research identified difficulties that the entrepreneurs present in modeling the business model, as their initial conception of assembling the MVP (minimum viable product) intervenes in the portfolio of services and products that can generate greater scale, and in the barriers of innovative business in consumer culture. The literature still lacks studies that delve into the relationships and strategies adopted by startups to define the constituent elements of the business model.

Finally, it was observed that there is a lack of knowledge on the part of the entrepreneur about the concepts and relationships of the constituent elements of the business model, demonstrating that it is important to reassess the teaching conditions in relation to the business model constructs in entrepreneurial education.

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