

# ANALYSIS OF THE ENTREPRENEURIAL PROCESS FROM EFFECTUATION AND CAUSATION LOGIC: A CASE STUDY IN TWO COMPANIES FROM MINAS GERAIS

## *ANÁLISE DO PROCESSO EMPREENDEDORA A PARTIR DAS LÓGICAS EFFECTUATION E CAUSATION: UM ESTUDO DE CASO EM DUAS EMPRESAS MINEIRAS*

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### ABSTRACT

**Objective:** The article aimed to analyze how the *effectuation* and *causation* logics were used in the entrepreneurial process of two companies from Minas Gerais. The *effectuation logic* is based on issues related to the entrepreneur's decision making and contrasts with the *causation logic* - which refers to traditional methods of the entrepreneurial process based on planning and determined sequences.

**Methodology:** A qualitative comparative study was carried out in two companies from Minas Gerais. The evidence was obtained from interviews with the founding partners, in addition to observation and documents, and the data analysis was performed using content analysis.

**Results:** The results showed that in the two cases analyzed, the entrepreneurs relied on *effectuation* logic for setting up the businesses, with little use of *causation* logic but as the businesses consolidated and moved beyond the initial founding phase, the entrepreneurs took different attitudes, basing their decisions and actions on greater planning and systematic analysis of the context.

**Limitations:** Some studies show that cultural differences can have an influence on the entrepreneurial process and how entrepreneurs make decisions. This variable was not contemplated in this study, which represents a limitation. Additionally, the study analyzed the entrepreneurial process of two companies from Minas Gerais, which does not allow for generalization.

**Originality/contributions:** the work contributes to the national studies on the entrepreneurial process, mainly from the principles that compose the *effectuation* logic, seeking to identify and classify the decisions and actions of entrepreneurs in the *causation* and *effectuation* logics.

**Keywords:** *Effectuation*. *Causation*. Entrepreneurial process. Entrepreneurship. Business creation.



## RESUMO

**Objetivo:** O artigo teve por objetivo analisar como as lógicas *effectuation* e *causation* foram utilizadas no processo empreendedor de duas empresas mineiras. A lógica *effectuation* surgiu a partir de questões relacionadas à tomada de decisão do empreendedor e se contrapõe à lógica *causation* - que se refere aos métodos tradicionais sobre o processo de empreender baseado em planejamento e sequências determinadas.

**Metodologia:** Foi realizado um estudo qualitativo comparativo em duas empresas mineiras. As evidências foram obtidas a partir de entrevistas com os sócios-fundadores, além de observação e documentos, sendo a análise dos dados feita a partir da análise de conteúdo.

**Resultados:** Os resultados mostraram que, nos dois casos analisados, os empresários se basearam na lógica *effectuation* para criação das empresas, com pouco uso da lógica *causation* mas, na medida que os negócios se consolidaram e superaram a fase inicial de fundação, os empresários tomaram atitudes diferentes, baseando suas decisões e ações em maior planejamento e análise sistemática do contexto.

**Limitações:** Alguns estudos mostram que diferenças culturais podem ter influência sobre o processo empreendedor e na forma como empreendedores tomam decisões. Essa variável não foi contemplada nesse estudo, o que representa uma limitação. Adicionalmente o estudo analisou o processo empreendedor de duas empresas mineiras, o que não permite generalização.

**Originalidade/contribuições:** o trabalho contribui com os estudos nacionais sobre o processo empreendedor, principalmente a partir dos princípios que compõem a lógica *effectuation*, buscando identificar e classificar as decisões e ações dos empreendedores nas lógicas *causation* e *effectuation*.

**Palavras-chave:** *Effectuation*. *Causation*. Processo empreendedor. Empreendedorismo. Criação de empresas.

## 1 INTRODUCTION

The popularization of the theme “entrepreneurship”, in general, whether in the academic or business milieu, started from changes resulting from the adoption of organizational restructuring practices adopted by large organizations as of the 1970s and 1980s, with the reduction of managerial levels, outsourcing of processes, and concentration of resources and activities in the company’s core business (Almeida, 2002). These changes have meant organizational leaning and the stimulus to the creation of businesses to supply products and services that complement the business activities of large corporations. These changes in the organizational *modus operandi* and management practices of large corporations brought, as a consequence, the multiplication of new and small businesses. This movement within large industrial organizations gave rise to an increase in research and support activities for new businesses with the objective of understanding the entrepreneurial process, identifying instruments that would allow small businesses to survive and reduce venture mortality rates (Baron & Shane, 2007; Bygrave, 1997; Gartner, 1985; Heinzmann, Fischborn, & Hoeltgebaum, 2003; Hisrich, Peters, & Shepherd, 2014; Mason & Harvey, 2013).

These changes in economic and social logic have allowed entrepreneurship and new business creation to be valued as having an important function in catalyzing the development and prosperity of regions and nations (Hisrich et al., 2014). However, the high mortality rates of nascent companies point to the difficulties and the absence of models to facilitate and explain the entrepreneurial process. In this sense, the topic has increasingly gained the attention of researchers (Pelagio, Rocha, Machado, & Añez, 2016) and several authors seek to analyze the entrepreneurial process through explanatory models, which are often associated with successful businesses (Gartner, 1985; Heinzmann et al., 2003). These models constitute planned approaches, with predictable outcomes made through calculations based on a stable and perfect market (Bourry & Teixeira, 2019; Jiang & Ruling, 2019). Traditional models explaining the entrepreneurial process, referred to in recent



literature as *causation* logic (Sarasvathy, 2001a), are generally characterized by sequential explanatory steps (Hisrich & Peter, 1998). Several authors have elaborated models from the *causation* logic perspective to explain the entrepreneurial process such as Baron and Shane (2007), Bygrave (1997), Dornelas (2016), Gartner (1985), Hisrich and Peter (1998), Hisrich et al. (2014), Kotler and Keller (2012), Labrecque, Borges, Simard and Filion, (2005a, 2005b) among others.

On the other hand, the consensus that the process of creating a company does not follow a single path has been gaining space in the literature and traditional models have started to be questioned for not always representing the reality of the entrepreneurial process. In this sense, it has become relevant to deepen the studies and try to understand the decisions made by entrepreneurs in the process of business creation (Bourry & Teixeira, 2019; Jiang & Ruling, 2019). With the appreciation and multiplication of entrepreneurial activities, and from linear attempts to understand the process of business creation and the difficulties in establishing an explanatory model for the entrepreneurial process, Sarasvathy (2001a) proposed a new perspective for analyzing entrepreneurship. Sarasvathy's (2001a) model, called *effectuation*, opposes the logic she called *causation*, which refers to traditional explanatory methods about the entrepreneurial process. Her studies concluded that traditional explanatory and predictive models are not always applicable in the early stages of venture creation (Sarasvathy, 2001a, 2001b).

According to Sarasvathy (2001a), processes that explain entrepreneurship from *causation* logic consider that the entrepreneur has a pre-established goal and focuses on the selection of the means to achieve that goal (Sarasvathy, 2001a), referring to a planned strategic approach (Bourry & Teixeira, 2019). On the other hand, the analysis from the *effectuation* logic considers that the entrepreneur evaluates the available means and focuses on selecting the possible goals that can be achieved from that set of means (Sarasvathy, 2001a), referring to emergence strategies and options based on willingness to lose, flexibility, and experimentation (Bourry & Teixeira, 2019; Jiang & Ruling, 2019).

The perspective developed by Sarasvathy (2001a) to explain the entrepreneurial process has generated many studies aiming to deepen and verify the relevance of the effectuation logic in entrepreneurship, either by relating it to the processes of innovation in small and medium-sized enterprises (Vanderstraeten, Hermans, Van Witteloostuijn & Dejardin, 2020), or seeking to develop measurement measures of the causation and effectuation constructs (Chandler, DeTienne, McKelvie & Mumford, 2011; Mckelvie, Chandler, DeTienne & Johansson, 2019), or even the influence of the institutional context on the causation and effectuation processes used by entrepreneurs and on firm performance (Shirokova, Morris, Laskovaia,., & Micelotta, 2021). In addition to empirical studies, systematic literature reviews have been conducted to compile and organize knowledge on the topic and formulate agenda for future studies (Grégoire & Cherchem, 2019). For Grégoire & Cherchem (2019, p. 1) "Effectuation has garnered considerable scholarly attention over the last 20 years", however, the expansion of studies on the entrepreneurial process considering the causation and effectuation logics and "all these contributions, vigorous debates remain about effectuation's articulation" (Grégoire & Cherchem, 2019).

The contact with the *effectuation* logic motivated the development of the research that formed the basis of this article with the purpose of identifying and analyzing elements of logics in entrepreneurial processes. This seemed relevant due to the fact that *effectuation logic* is a relatively recent theoretical proposal (Bourry & Teixeira, 2019; Dias & Izyka, 2020). In addition, the scarcity of national studies on the *effectuation* and *causation* logics of entrepreneurial decision making represented another driving factor for conducting the work. Survey of articles conducted in the *Scientific Periodicals Electronic Library* (SPELL) repository using the keywords "*effectuation*" and "*causation*", identified only five articles had been published in Brazil, the first one published in 2014. Therefore, this research intended to contribute to national studies on the subject and to broaden the understanding about the characteristics and decisions that guide the entrepreneurial process.



In the view of the above, the objective of this study was to analyze how the *effectuation* and *causation* logics were used in the entrepreneurial process of two companies from Minas Gerais, located in the city of Belo Horizonte, founded in 2011 and operates in the civil engineering and outsourcing services sector. The entrepreneurial process of the companies presented, in general, quite similarity and in both cases the previous professional experience of the entrepreneurs was fundamental for the creation of the businesses. It is concluded that in the analysed cases, the entrepreneurs were based on the effectuation logic for the creation of their companies, but as the businesses were consolidated and overcame the initial foundation phase, some unpredictable events occur and the entrepreneurs took different attitudes.

The article was structured as follows. After this introduction, section two presents the theoretical framework that provided the basis for data collection and analysis. Section three presents the methodology used in the research, and section four presents and discusses the cases. Finally, in section five, the final considerations are made.

## 2 THEORETICAL FRAMEWORK

### 2.1 Entrepreneurial process through *causation* logic

Traditional literature studies entrepreneurship as a set of personality traits or attributes of the entrepreneur that explain business success or failure (Bourry & Teixeira, 2019). Moreover, according to this perspective on the process of business creation, for a venture to be successful, the entrepreneur needs to have full knowledge of his or her business, and for this, some planning need to be developed, such as a business plan (Heinzmann et al., 2003). Therefore, several authors in the traditional literature on entrepreneurship propose models, usually in sequential phases, to explain the entrepreneurial process (Dornelas, 2016; Hisrich & Peter 1998), a process with planned strategic approaches, in a stable and perfect market perspective (Bourry & Teixeira, 2019). The models, generally, start with the identification and evaluation of the business opportunity, going through the development of the company, its growth and management.

Like Hisrich and Peter (1998), Dornelas (2016) presents four phases that, in his evaluation, illustrate the entrepreneurial process. The first phase - identification and evaluation of an opportunity - is described by Dornelas (2016) as the most difficult, as it requires talent, knowledge, perception, and intuition from the entrepreneur. The second stage of the process - the development of the business plan - is considered the most laborious stage for first-time entrepreneurs, because it involves several concepts about the business that must be described in a few pages to summarize the foundation of the company. The stage of determining and obtaining the necessary resources - the third phase - represents the stage when the entrepreneur, aware of the means that will be necessary to make his business viable, makes efforts to obtain them. The last phase concerns the management of the company already established. According to Dornelas (2016), at this stage, the entrepreneur must know his limitations and have a good team of professionals to put into practice actions aimed at minimizing marketing and resource management problems. In a very similar perspective, Baron and Shane (2007) state that entrepreneurship is a process and not a single event, moreover "there is a growing consensus in the area as to the usefulness and correctness of viewing entrepreneurship as a process that develops over time and moves through distinct but closely related stages" (Baron & Shane, 2007, p. 12).

Starting from a general conception, if compared to Dornelas' (2016) entrepreneurial process, but expanding beyond the business consolidation phase as Baron and Shane (2007), Gartner (1985) based on the work of eight researchers who presented similar views, gathers in his study six behaviors or actions performed by entrepreneurs to create a new venture. For Gartner (1985),



these behaviors are performed by entrepreneurs, but not necessarily following this sequence: a) The entrepreneur locates a business opportunity; b) The entrepreneur accumulates resources; c) The entrepreneur markets products and services; d) The entrepreneur produces the product; e) The entrepreneur builds an organization; f) The entrepreneur responds to government and society.

In line with the second phase of the entrepreneurial process proposed by Dornelas (2016), with emphasis on market entry and marketing aspects, Kotler and Keller (2012) argue that, to introduce a product/service to the market, planning is required that comprises the following steps: analyze opportunities, select target markets, design strategies, develop programs, and manage the marketing effort. This planning, for the authors, involves the preparation of a strategic plan composed of the definition of the company's mission, *swot* analysis - strengths and weaknesses, opportunities and threats - goal setting, strategy formulation, program design, implementation, *feedback*, and control. Similar to what Kotler and Keller (2012) proposed, Hisrich et al. (2014) suggest a marketing plan which, according to the author, is often not carried out by new and small businesses due to financial constraints and limitations. For the author, the marketing plan must be preceded by an analysis about the industry.

Labrecque et al. (2005a, 2005b) also presented a model with stages and activities of the process of creating a venture based on studies of entrepreneurial processes. The proposed model is divided into four stages: Initiation, Preparation, Launch, and Consolidation. For Hashimoto and Borges (2014), one of the main reasons that lead to the mortality of new companies is the entrepreneur's difficulty in visualizing the business in a comprehensive manner. Therefore, the author proposes a business plan as a solution to obtain an integrated vision of the venture, which concerns stage two of Dornelas' (2016) entrepreneurial process. The authors define the business plan for the entrepreneur as "a way to test a business idea on paper, a guide to ensure that he has not forgotten important and strategic issues that will make a difference in his business." (Hashimoto & Borges, 2014, p. 21).

When we analyze the explanatory models for the entrepreneurial process described above, we notice that they have a relatively similar logic. They conceive the entrepreneurial process from a certain path or stages to be completed. However, these models and this perspective to analyze and understand the process of business creation started to be questioned, with more vigor, by studies developed from the beginning of the 21st century (Dew, Read, Sarasvathy, & Wiltbank, 2009; Read, Dew, Sarasvathy, Song, & Wiltbank, 2009; Read & Sarasvathy, 2005; Sarasvathy, 2001a, 2001b, 2003, 2008; Sarasvathy & Dew, 2005; Sarasvathy, Dew, Read, & Wiltbank, 2007). These studies concluded that traditional explanatory and predictive models are not always applicable in the early stages of venture creation, as it is a phase of great uncertainty for the entrepreneur. Thus, Sarasvathy (2001a) proposes a different logic to analyze and understand the creation of new firms, which she calls *effectuation*, presented in the next section.

## 2.2 The *Effectuation* Logic

The logic for entrepreneurial decisions called *effectuation* was developed by Sarasvathy (2001a, 2001b) and represents a different way of analyzing the entrepreneurial process. The logic was elaborated from some questions made by the researcher related to decision making when there is not yet a market or a clear and specific objective on the part of the entrepreneur. This means that a great deal of the information needed to create new markets does not exist until those markets are developed, and creating a business in a non-existent market involves understanding how to make decisions when one does not have pre-existing goals (Sarasvathy, 2001a). In other words, decision-making does not occur based on clear and objective data and information (Read et al. 2009;



Peng, Liu, Jiao, Feng, & Zheng, 2020).

As a way to show that decisions are not always rational and based on hard data, Sarasvathy (2001a, 2001b) proposed *effectuation* as an explanatory logic about entrepreneurial decision-making. In *effectuation* logic, “the entrepreneur takes a set of means that he or she has available and focuses on selecting among the possible effects that can be created with these means” (Sarasvathy, 2001a, p. 245). Some characteristics of *effectuation logic* is that it does not have as a prerequisite the existence of particular psychological traits, economic conditions, and even existence of opportunities, it is enough for the decision maker to be willing to work with other people, because the process of *effectuation* is interactive (Jiang & Ruling, 2019; Sarasvathy, Forster, & Ramesh, 2020).

Sarasvathy (2001a) defines *effectuation* logic as a contrary perspective to the logic she calls *causation logic*. According to the author, processes that explain entrepreneurship from the *causation logic* consider that the entrepreneur has a pre-established goal and selects the means to achieve that goal (Sarasvathy, 2001a, 2001b), referring to a planned strategic approach (Bourry & Teixeira, 2019). On the other hand, the analysis from the *effectuation* logic considers that the entrepreneur evaluates the available means and chooses the possible goals that can be achieved from that set of means (Sarasvathy, 2001a, 2001b), referring to emergence strategies and options based on willingness to losses and experimentation (Bourry & Teixeira, 2019; Jiang & Ruling, 2019; Peng et al., 2020).

A simple example cited by Sarasvathy (2001a) to aid in understanding and distinguishing between the two types of logics is as follows: consider a chef assigned to cook a dinner party and the customer chooses a menu in advance. In this case, the chef lists the ingredients needed, makes the purchase, and then prepares the dinner. This is a *causation* process, i.e. it starts with a pre-established menu and the process focuses on selecting the best means to prepare it. In another situation, the customer asks the *chef* to use the ingredients and utensils available in the cupboards to prepare the dinner. In this case, the *chef* has to imagine the possible menus based on the available ingredients and utensils, choose the menu and prepare the meal, i.e. he starts with ingredients and utensils given at that moment and focuses on preparing one of the many possible meals with them. This is an *effectuation* process.

Sarasvathy’s (2001a) example shows the conception of the *effectuation* logic. In this explanatory logic of the entrepreneurial process, it is understood that the entrepreneur’s decisions are made considering the resources he has available at the time. Therefore, by using *effectuation* processes to create a firm, the entrepreneur can build several different types of firms. Furthermore, it shows how the decision maker changes, shapes, and constructs his goals over time. To test his theory on decision-making based on *effectuation* logic, Sarasvathy (2001b) conducted a study with 27 entrepreneurs, founders of multiple ventures, with cases of failures and successes and extensive entrepreneurial experience. The entrepreneurs were given a detailed description of an imaginary product called *Venturing* and had to identify and/or create a market for this product. The rationale behind the study was established from the question, “Given the fact that the subjects are expert entrepreneurs and have nothing else in common, is there anything common in the problem-solving processes they use?” (Sarasvathy, 2003, p. 205). In quantitative terms, the results showed that over 63% of all statements made by 74% of the subjects (20 out of 27) were statements of *effectuation* logic.

When we compare the characteristics of the two logics for analyzing the entrepreneurial process, it can be seen that in the *effectuation logic* what prevails is the perspective of the possible effects that can be obtained with certain means and in the control of a future that can be originated and shaped by the actions of individuals, unlike the causal reasoning that focuses on the choice of means to achieve previously formulated objectives and on the prediction of the future as a continuation of the past (González, Añez, & Machado, 2011). As a result, ventures founded on *effectual* logic reach new markets created through alliances between *stakeholders* (Carval-



ho & Cohen, 2019; Peng et al., 2020; Vanderstraeten, Hermans, Van Witteloostuijn & Dejardin, 2020), whereas ventures founded on causal logic enter existing markets through traditional competitive strategies (Vanderstraeten, Hermans, Van Witteloostuijn & Dejardin, 2020).

In *effectuation* logic, the necessary means for entrepreneurship are at two levels: firm and individual. At the level of the firm, the means are physical, human, and organizational resources. At the level of the individual, entrepreneurs usually start with three categories that correspond to a set of means: a) who they are, which concerns their own characteristics, preferences, and skills; b) what they know, which is the knowledge and information they possess; c) who they know, that is, the social networks they are part of. (Saravathy, 2001a). The author suggests the following inquiries: "Given what I am, what I know, and who I know, what can I do? What kinds of effects can I create?" (Saravathy, 2003).

Saravathy (2001a) proposes four principles that form the core of *effectuation* theory. The principle of "Acceptable loss costs" consists of testing all possible strategies considering the limited means that have been given from the predetermination of how much loss is acceptable. The "Strategic alliances" principle means forming strategic alliances with *stakeholders in order* to reduce and/or eliminate uncertainty and build barriers to entry. The "Exploitation of contingencies" is about exploring and taking advantage as opportunities of situations that arise unexpectedly over time. And the last principle - "Controlling an unpredictable future" - concerns the management of unpredictable future events, where entrepreneurs remain flexible and open to change (Saravathy, 2001a, p. 252). Table 1 presents the principles of *effectuation* logic.

**Table 1 - Principles of Effectuation Logic**

Principles	Features
Acceptable loss costs	It consists of testing all possible strategies considering the limited means that have been given from the predetermination of how much loss is acceptable. "The <i>effectuator</i> prefers choices that create more options in the future over those that maximize returns in the present." (Saravathy, 2001a, p. 252).
Strategic alliances	Focus on forming strategic alliances with <i>stakeholders in order</i> to reduce and/or eliminate uncertainty and build barriers to entry. "Stakeholder pre-commitments make uncertainty irrelevant by "delivering" a future that looks very similar to what was contracted." (Saravathy, 2003, p. 210).
Contingency Exploitation	Contingencies that arise unexpectedly over time are best exploited by the process of <i>effectuation</i> .
Controlling an unpredictable future	It focuses on issues of the conflict of an unpredictable future. "To the extent that we can control the future, we need not predict it." (Saravathy, 2001a, p. 252).

Source: Adapted from (Ferreira, 2020, p. 46) based on (Saravathy, 2001, p. 252)

With respect to firms' success or failure rates, *effectuation* theory has an important implication, which concerns the fact that the processes of *effectuation* logic may not necessarily reduce the possibility of failure, but they do reduce the costs of failure. According to Saravathy, *effectuation* processes "allow failures to happen earlier and at lower levels of investment, while keeping open the option of making larger investments if initial successes begin to accumulate" (Saravathy, 2003, p. 210). As control reasoning overcomes the problems of forecasting, investments are kept to a minimum as negotiations are made with *stakeholders* and use of contingencies to create new ends or adapt to achieve previously established goals (Saravathy, 2003).

Saravathy & Dew (2005) proposed a dynamic process of entrepreneurial interaction, based on methods used by experienced entrepreneurs - *effectuation* logic - for creating a business or mar-



ket. Practice based on *effectuation logic* starts with three means: identity, which is related to “Who I am”; knowledge, which is related to “What I know”, and networks, which is related to “Who I know”. Based on these means, actors begin to think about what they can do, emphasizing control strategies rather than prediction. The next step is to find people who can contribute information about what one intends to do. These people can be family members, friends, or other potential stakeholders. (Wiltbank, Dew, Read, & Sarasvathy, 2006).

The idea that standardized procedures and actions based on causal logic are sufficient and necessary to understand the process of business creation and determine business success is under transformation. The *effectuation* decision logic was elaborated as an alternative to analyze and understand the entrepreneurial process, apparently more effective to explain entrepreneurship in its early stages (Pelogio & Rocha, 2016; Dias & Izyka, 2020).

Recognizing that the work of Sarasvathy (2001a, 2008) represents a major contribution to explaining the entrepreneurial process, Chandler, DeTienne, McKelvie & Mumford (2011) propose to expand research as from the construction of measures to validate the processes and the relationship between them, *causation* and *effectuation*. Using information from a database on formalization of companies and performing statistical tests, one of the authors’ conclusions concerns the previous relationships, considered important for the entrepreneur both in processes classified as causation and in the effectuation category. In the authors’ evaluation, the network, in the actions considered effectuation, helps the entrepreneur to reduce the uncertainty of the environment and the experimentation cost, as well as to maintain flexibility, but, at the same time, in the more planned approaches, social relationships provide essential and necessary resources in the implementation of projects (Chandler, DeTienne, McKelvie & Mumford (2011).

Similarly, Vanderstraeten, Hermans, Van Witteloostuijn & Dejardin, (2020) in a quantitative study to assess the influence of causation and effectuation logics on innovation in small and medium sized companies, conclude that the use of planned management practices - causation - has positive effects on innovation, but that these effects are amplified when related to the use of decision-making practices classified as effectuation. The dynamism of the environment represents a moderating variable in this process and, in the words of the authors “With this finding, we provide statistical evidence that combining causal and effectual decision-making logics is beneficial for innovative performance, but that environmental dynamism acts as a barrier to fully take advantage of it (Vanderstraeten, Hermans, Van Witteloostuijn & Dejardin, 2020, p.1).

Recent studies such as those of Shirokova, Morris, Laskovaia & Micelotta, (2021) and of McKelvie, Chandler, DeTienne & Johansson (2019) have included new variables, additional to the identification of the use of causation and effectuation logics, to better analyze the entrepreneurial process, such as legal, cultural and institutional contextual characteristics. Shirokova, Morris, Laskovaia & Micelotta, (2021) started from the assumption that the use, by the entrepreneur, of the causation and effectuation logics in the creation of companies, has a positive influence on the performance of firms, but point to the need to evaluate the role of the institutional and cultural context in this process. Based on a quantitative study with a sample of companies from 24 countries, the authors point out that “the findings indicate that the effectiveness of causation and effectuation logics is influenced by the level of development of regulatory, normative, and cultural-cognitive institutions. (Shirokova, Morris, Laskovaia & Micelotta, 2021, p.169)



### 3 METHODOLOGY

In the view of the objective of analyzing how the *effectuation* and *causation* logics were used in the entrepreneurial process of two companies from Minas Gerais, we chose a research approach of a qualitative nature. The method chosen was the case study, because it deals with deeper investigations about something complex. The choice of the method is based on one of the main virtues of the case study, which is the depth of analysis it allows (Gerring, 2004), on its peculiar characteristic of investigating a contemporary phenomenon in its real context, especially when the boundaries between the phenomenon and the context are not clear (Yin, 2010), and on the possibility of combining data collection methods, such as archives, interviews, questionnaires, and observations (Eisenhardt, 1989). Therefore, the choice for the qualitative perspective and the case study method was based on the need to understand in depth the entrepreneurial process of two mining companies from the *effectuation* and *causation* logics in their respective real contexts, through the combination of data collection methods, namely, interviews with the founders, observation and company documents.

Two cases were used, as they make it possible to establish comparisons and relationships among them, providing a deeper understanding of the processes (Ridder, Hoon & McCandless, 2009). To this end, two companies were chosen as objects of analysis, both located in the city of Belo Horizonte, in the state of Minas Gerais and founded in 2011. Company X operates in the civil engineering services sector and Company Y in the outsourcing services sector. Each company was founded by two partners who act as administrators.

Evidence for the case study was obtained from the following sources: in-depth interviews, observation, and documents. The major advantage in using multiple sources of evidence is the development of converging lines of inquiry, a process of triangulation (Yin, 2010). To conduct the interviews, an interview script was developed based on and adapted from the scripts used in the research of Fisher (2012), Kalinic, Sarasvathy and Forza (2014) and Tasic (2007) and from the literature review. The script had a total of 47 questions and was divided into four blocks of questions: interviewee profile, company characteristics, business development, and decision making and strategies. For validation, the script was tested in the first interview held, and after transcription and analysis of the answers it was found that it had all the information necessary to meet the research objectives, and no modifications were necessary.

The interviews were scheduled in advance and carried out in person at the headquarters of each company, being interviewed the 2 partners of Company X and the 2 partners of Company Y. Each interview lasted an average of 30 minutes and their respective audios were recorded with the interviewees' authorization. Regarding documents, during the interviews and later, via e-mail, the interviewees provided the companies' presentation documents, which contributed to the description and clarity of the services provided, as well as the business sector. The observation technique was used mainly in case 1, because one of the authors is part of the company's staff and has been following the development of the business for about 7 years. However, it should be emphasized that Company X also maintains commercial relations with Company Y, which allowed it to observe, more closely, the company's development and its organizational processes.

The analysis of the qualitative data collected during the research was based on content analysis. After data collection, the pre-analysis stage was carried out, which consisted of listening to the audios of the interviews and their transcription into text files, which totaled about 30 pages. The documents provided by the founders were attached to the data collected in the interviews for further analysis together. Then, in the material exploration phase, as proposed by Bardin (2011), a thematic analysis of the data raised in the pre-analysis was performed, through the categories identified in the literature review. The interview script was chosen and adapted in order to highlight these categories that refer to the pertinent characteristics of the *effectuation* and *causation* logics. The categories are presented in table 2 below.



**Table 2 - Categories of analysis**

	Logic	Category	References
<i>Effectuation</i>		Means of access: who they are, what they know, who they know.	Sarasvathy (2001a), (2001b), (2003), (2008); Read and Sarasvathy (2005); Sarasvathy and Dew (2005); Sarasvathy, Dew, Read and Wiltbank (2007); Dew, Read, Sarasvathy and Wiltbank (2008); Dew, Read, Sarasvathy and Wiltbank (2009); Read, Dew, Sarasvathy, Song and Wiltbank (2009).
		Clarity in the initial objectives.	
		Acceptable loss costs.	
		Strategic alliances with stakeholders.	
<i>Causation</i>		Contingency exploitation.	Bygrave (1937); Gartner (1985); Hisrich (1998); Labrecque, Borges, Simard and Filion (2005a), (2005b); Baron and Shane (2007); Read, Dew, Sarasvathy, Song and Wiltbank (2009); Kotler and Keller (2012); Hisrich, Peters and Shepherd (2014); Dornelas (2016).
		Controlling an unpredictable future.	
		Identifying an opportunity.	
		Conducting competitive analysis and market research.	
		Development of a business plan.	
		Acquire appropriate resources and stakeholders.	
	Adaptation to the environment.		

Source: (Ferreira, 2020, p. 66)

Finally, the third and last phase of results treatment, inference and interpretation (Bardin, 2011), was performed. All data obtained were analyzed qualitatively and several original excerpts from the statements collected in the interviews were used.

## 4 DESCRIPTION AND ANALYSIS OF THE CASES

### 4.1 Case 1 - Company X

Company X is a medium-sized company that has been in the market for over 9 years, operating in the civil engineering sector, providing special engineering and geotechnical services, such as retaining structures, foundations, dams, geotechnical instrumentation, drainage, recovery of structures and civil works. The company, founded in 2011, has approximately 50 employees and an average annual turnover of 4 million reais, according to the interviewees. Headquartered in the city of Belo Horizonte, state of Minas Gerais, but with the capacity to act nationwide, Company X has already performed services in the Southeast, Northeast and North regions of the country.

The company was founded by two civil engineers, and currently partner A is 40 years old, and partner B is 38. At the time of the business' creation, the founders left their jobs in reputable firms in the area to devote themselves to the company. The idea to set up the enterprise came from partner A, who had performed a service in the field as an individual and achieved good results. He then made the invitation to create his own company to partner B, whom he knew since high school, from the identification of an opportunity to act in a niche that was not served by companies in the sector. Thus, Company X became a competitor of the firm where partner A had previously worked.

In the *effectuation* logic, entrepreneurs start a business from three categories that correspond to a set of means: a) who they are, which concerns their own characteristics, preferences, and skills; b) what they know, which are the knowledge and information they possess; and c) who they know, that is, the social networks they are part of. (Sarasvathy, 2001a). The partners of Compa-



ny X worked in firms in the engineering sector and decided to open a business in the same sector, because it was an area of interest and ability. Even the driving factor was that partner A performed a service as an individual and the result was satisfactory, besides being the area in which they both majored - civil engineering -, means that relate to “who they are”.

The category “what they know” can be perceived by the fact that they have already worked in this market and have extensive experience and information. Another means is the network of contacts they had, both of potential customers, suppliers, and employees, and of people who could contribute to the growth of the business with indications, loans, among others, represented by family members and friends, which relates to “who they know.”

According to the traditional perspective or *causation*, the entrepreneurial process is characterized by the identification, recognition, and evaluation of an opportunity (Gartner, 1985; Read et al., 2009). Based on this more linear and pragmatic perspective to evaluate the creation of Company X, one of the reasons that drove the opening of the business, according to the partners, was the identification of an opportunity to operate in a niche that was not served by companies in the sector. At this moment, the partners of Company X used the *causation* logic. On the other hand, from the interviews it was found that no competitive analysis or market study was made to open the business, and all decisions to start the business were made based on information obtained by the partners in the positions they held in their previous jobs. At this point, the entrepreneurs started to use the *effectuation* logic, employing the knowledge they had (what they know), because according to the traditional explanatory model of the entrepreneurial process - *causation* logic - proposed by Labrecque et al. (2005a, 2005b), the Preparation stage for the opening of a business, a stage that comes before the Launch and Consolidation of the venture, is the time when activities such as the preparation of the business plan and marketing research are carried out, activities that were not performed by the entrepreneurs before the opening of Company X, which reveals the use of *effectuation* logic.

According to Sarasvathy (2001a), processes that explain entrepreneurship from the *causation* logic consider that the entrepreneur has a pre-established goal and selects the means to achieve this goal. On the other hand, the analysis of the entrepreneurial process from the *effectuation logic* considers that the entrepreneur evaluates the available means and chooses the possible goals that can be achieved from this set of means. In the case of Company X, the entrepreneurs used the means available at the time - contacts, training, experience, and information (*effectuation*) - however, it should be noted that, as verbalized by the entrepreneurs, the company’s objective was defined right at the beginning, to provide hillside containment and foundation services, which can be credited to the *causation* logic.

The partners of Company X reported that they did not conduct market research before the company was founded, strategies were not prepared to present and offer the service to the market, decision-making was quick and without much research, investments and the company’s positioning were also not based on a market analysis, the selection of employees was simple and made by the entrepreneurs themselves, and the office was set up in the residence of one of the partners. These facts converge with the *effectuation* logic, because in this explanatory logic of the entrepreneurial process, it is understood that the entrepreneur’s decisions are made considering the resources that he has available at the moment, without focusing efforts on studies and forecasts (Sarasvathy, 2001a).

On the other hand, in the view of the clear objective of Company X’s operations, after the company’s opening, the owners hired a consulting firm to assist in the establishment of strategies, and together with the consulting firm a basic business plan was prepared. According to the traditional literature on the process of business creation or *causation*, the business plan is prepared after the identification of the opportunity (Hisrich & Peter, 1998; Labrecque et al., 2005a, 2005b;



Dornelas, 2016) and before the Launch and Consolidation stages of the business (Labrecque et al., 2005a, 2005b). Although it was not conducted when it is indicated in the traditional literature, after the company was founded the partners bothered to do it and it was followed during the first three years of the venture.

The authors Hisrich et al. (2014) suggest, as a requirement for the success of a business, the development of a marketing plan and that, for this, it is necessary to perform an analysis of the sector in order to know the environment that will influence the decision making of the marketing strategy. In the case of Company X, a generic marketing plan and a website were developed with the help of a consulting firm, but according to the interviewees, they did not reflect well the company's reality. Thus, they were not used to advertise the service in the market, that is, even following the traditional *causation* theory with the development of a marketing plan, it did not bring results for the company. In this situation, one can analyze that the entrepreneurs tried to follow what the traditional or *causation theory* proposes, however, according to the partners, due to the fact that they knew little about the company at that moment, the marketing plan was not useful.

In case 1, this principle was used because the partners of Company X gave up their professional and financial stability as employees of reputable firms to invest in a new business that they were aware that, initially, would not bring a return, but that in the future could provide a better quality of life and financial return, factors that motivated the opening of the company. Therefore, when opening the business, the partners defined how much they were willing to lose initially to try to obtain a future return.

Another component principle of the *effectuation* logic is that of "strategic alliances" with *stakeholders*. In the case of Company X, to reduce the initial problem of lack of credit, the company sought to establish partnerships with suppliers. They granted longer payment terms and supplied at differentiated prices, and at times of cash shortages they postponed collections. Partnerships were also made with customers to be exclusive service providers, since the larger companies always had demands in the field in which Company X operated. With these alliances the company guaranteed the execution of works and the supply of inputs, even in uncertain times. Regarding the "Exploitation of contingencies" principle, the partners of Company X reported that one of the unforeseen problems they faced was the difficulty in obtaining financing. To overcome this problem, the partners opted, in order to capitalize the business, for not withdrawing profits from the company or from their own payroll.

Lastly, the principle of "Controlling an unpredictable future". In case 1, by making strategic partnerships with suppliers and customers, Company X guaranteed the necessary resources for business continuity - supply of inputs and the guarantee of construction work. In this way, the entrepreneurs were able to control the future without wasting time and effort on forecasts and market studies. It is clearly recognized, in the Company X analysis, the predominance of the principles related to the *effectuation* logic in the process of business creation. However, we can highlight some elements of the *causation logic* in the initial process, such as the establishment of a clear goal from the beginning, the identification of an opportunity, and some actions that the partners took after the opening of the company, trying to follow what is proposed in traditional literature, such as hiring a consulting firm that helped in the preparation of the business and marketing plan. After the consolidation and development of the company in the market, and with the strong economic and political crisis of 2016, a planning was made for the continuity of the company. The entrepreneurs sought to make new adjustments so that possible delays in receipts or crises would not have so much impact on the survival of the business. Furthermore, according to partner A, these changes were extremely necessary, because with the growth of the company, decisions became increasingly complex, and their impacts also became greater.



Therefore, currently, after 9 years of existence, it is perceived that, in the decision-making processes used, there is a conjugation of the *effectuation* and *causation* logics, but with predominance of the *causation logic*. According to Sarasvathy (2001a) and Carvalho and Cohen (2019), the *effectuation logic* predominates in the initial stages of the business, and as the company consolidates and grows, the entrepreneur tends to use the *causation logic* in its decision-making processes, a theory that can be verified in the present study.

With the *causation* perspective as a reference, the company continues to have a business plan that is reviewed every 2 years; the decision making process and new investments are made based on controls, planning and market studies, and to contribute to these decisions the company acquired an ERP (*Enterprise Resource Planning*) system, besides having employees who work in the business management. Expansions were made in the company's facilities, which are no longer located in the residence of one of the partners.

On the other hand, under the *effectuation* logic, even though there is a business plan, according to the partners, it is not yet used as a parameter to compare planned and achieved goals; despite the investments in commercial and marketing, there is still no formalized and detailed marketing plan; and although the initial objective of the business has not changed, the entrepreneurs plan to expand the business in the market by performing other types of services in civil construction.

#### 4.2 Case 2 - Company Y

Company Y is a medium-sized company that has been in the market for about 9 years, operating in the outsourcing sector, providing services of concierge, reception, cleaning, telephony, catering, gardening and parking. The company, founded in 2011, has approximately 150 employees and an average annual turnover of 5 million reais, according to the interviewees. Headquartered in the city of Belo Horizonte, but with the capacity to act nationwide, Company Y currently provides services in the Southeast and Northeast regions of the country. The company was founded by two partners who today act as administrators. Partner A is 49 years old, has a degree in Administration, and has worked as Commercial Director in a company in the same segment as Company Y. Partner B is 60 years old and has a degree in Mining Engineering and has worked as Operational Director in the same company that partner A used to work for, where they met. The idea of setting up Company Y arose from the perception of a gap in the outsourcing market, in which there was a need for better labor management. According to the partners, they tried to implement this change in the company that employed them, but were unsuccessful due to resistance from the owners. Then, combining this perception with their vast experience in the segment, the partners decided to leave the positions they held to jointly open Company Y.

In the *effectuation* logic, entrepreneurs start a business from three categories that correspond to a set of means: a) who they are, b) what they know and, c) who they know (Sarasvathy, 2001a). We can observe that the partners of Company Y started the venture based on these three means, firstly because the business operates in the same segment as the company they previously worked for, which reveals the entrepreneurs' preference for the area, as well as the existence of skills due to long experience in the previous company, which concerns the "who they are" category.

Second, analyzing the "what they know" category, the entrepreneurs had much knowledge and information about the market in which Company Y is inserted, a factor that, according to the owners, made it unnecessary to conduct a market study. Third, the entrepreneurs had a portfolio of contacts, both potential customers and suppliers, in addition to having friends who supported them and could help them financially and with indications of the business, elements related to the catego-



ry “who they know. For Sarasvathy (2003, p.214), “the effective entrepreneur starts with who he is, with what he knows, and with whom he knows, to discover at least one customer or partner who is interested in a product or service he can offer”.

Analyzing the traditional perspective or *causation* of the entrepreneurial process, the first phase of the process consists of identifying and evaluating the opportunity to undertake the business (Dornelas, 2016; Hisrich & Peter, 1998; Labrecque et al., 2005a, 2005b), and one of the reasons that motivated the entrepreneurs to start the business was the perception of a need for better people management in the outsourcing market, an action that was not done, in their view, by the already consolidated companies. Therefore, the entrepreneurs identified and evaluated this opportunity as the factor that would be Empresa Y's differential. One notices that in this situation there was a conjunction of the use of *effectuation* and *causation* logic, since the entrepreneurs used the means available at the time (*effectuation*), but the business objective was already defined at the very beginning (*causation*).

Although the entrepreneurs were clear about the objective of the company, they claimed not to have done any market study, nor a business plan for the opening of the enterprise. According to the testimonies, as they had already worked in this field for about 20 years, they had a lot of knowledge about the market. In addition, they informed that creating a business plan at that moment was not a priority, due to both the financial and time efforts. Therefore, in this situation, the use of *effectuation* logic by the entrepreneurs is clearly perceived, because according to Sarasvathy (2001a), the entrepreneur starts with the means he has available at the moment, not spending efforts on studies, planning, and forecasts. Several authors in the traditional literature on entrepreneurship propose models, usually in sequential phases, to explain the entrepreneurial process (Hisrich & Peter, 1998; Dornelas, 2016), but the characteristics of the entrepreneurial process of Company Y show that to open the business the entrepreneurs basically used the resources and means they had at the moment, without using any plan or sequence, as predicted in the effectuation logic (Dew et al., 2009; Read et al., 2009; Sarasvathy, 2001a, 2001b, 2003, 2008; Sarasvathy et al., 2020; Vanderstraeten, Hermans, Van Witteloostuijn & Dejardin, 2020; Shirokova, Morris, Laskovaia,., & Micelotta, 2021).

Considering the principles of *effectuation* logic proposed by Sarasvathy (2001a), the principle of “Acceptable cost of losses” was clearly identified in the process of Company Y, since the partners abandoned professional and financial stability to open the new business, besides having invested all their own resources at the time. The principle of “Strategic Alliances” was also identified in the entrepreneurial process of Company Y. The partners made partnerships with suppliers that, besides supplying extremely high quality products, granted terms and differentiated prices to Company Y. This factor contributed not only to allow an adequate cash flow for the company, but also to provide a quality service. Another principle of the *effectuation* logic - “Exploitation of contingencies” - was used by the entrepreneurs of Company Y as of the 2016 Brazilian economic and political crisis. According to the partners, to overcome it, one of the actions was to expand the provision of services to other states, since initially the goal was to operate only in the metropolitan region of Belo Horizonte. Finally, the principle of “Controlling an unpredictable future”, the partners did not seek to make planning and forecasts for the future of the company, but took necessary actions for the moment and that could lead to the control of future situations, such as the partnership with suppliers and the adoption of differentiated people management practices used with their employees.

Based on the collected data, it is admitted that in the entrepreneurial process of Company Y there was a predominance of principles related to the *effectuation* logic. One can highlight as a characteristic of the *causation* logic only the clear and specific objective on the part of the entrepreneurs when opening the business and the identification of the market opportunity. All the other phases that the company went through during its entrepreneurial process, as analyzed, reveal the use of the *effectuation* logic.



### 4.3 Inter-case analysis

Regarding the principles elaborated by Sarasvathy (2001a) to explain the entrepreneurial process from the *effectuation* logic, table 3 below presents the list of the principles of *effectuation* logic identified in each company.

**Table 3 - Principles of *effectuation* theory identified in the cases**

Principles	Company X	Company Y
Cost of acceptable losses	Abandonment of stable professional career; Abandonment of financial stability ; Search for quality of life; Search for future financial result.	Abandonment of stable professional career; Abandonment of financial stability ; Search for quality of life; Search for future financial result.
Strategic alliances	Partnerships with suppliers; Partnerships with customers.	Partnerships with suppliers.
Contingency Exploitation	Difficulty in obtaining credit in the market; Borrowing from relatives; Reinvestment of profits in the company.	Crisis in the country; Expansion of service provision in other states.
Controlling an unpredictable future	Partnerships with suppliers (price and deadline); Partnerships with clients (works).	Partnerships with suppliers (price, deadline and quality); Labor management.

Source: (Ferreira, 2020, p. 108)

When analyzing how the entrepreneurial process occurred in the cases studied, the adoption of the principles on which the *effectuation* logic is based is verified. In the case of Company X, some points of the *causation* theory were identified in the creation process, such as the establishment of a clear objective from the beginning, the identification of an opportunity, and the elaboration of a business plan, even if generic, after the company was opened. In Company Y, the definition of a clear objective by the entrepreneurs when opening the business and the identification of a market opportunity were identified. This information corroborates the results obtained in the researches of Carvalho and Cohen (2019), Chandler, De-Tienne, McKelvie & Mumford (2011) Vanderstraeten, Hermans, Van Witteloostuijn & Dejardin, (2020), which revealed that the entrepreneurs investigated use a mix of *causation* and *effectuation* logics, but in the cases investigated, there is a prevalence of the use of *effectuation* logic in the entrepreneurial process. Table 4 summarizes the use of *effectuation* and *causation* logics in the investigated companies.



**Table 4 - Stages of the *effectual* and causal process in the investigated companies**

<b>Effectual Process Steps</b>	<b>Company X</b>	<b>Company Y</b>
Means of access	Civil engineering background; Experience and information coming from previous work; Possible clients, suppliers and employees; etc.	Years of experience and skills in the industry; Experience and information coming from previous work; Portfolio of customers and suppliers; etc.
What can I do?	Acting in a niche (small works) that was not served by companies in the civil engineering sector.	Act with the differential of people management in the outsourcing market.
Interacting with people I know	Direct "word of mouth" contact with customers, suppliers and acquaintances.	Direct "word of mouth" contact with the portfolio of customers and suppliers they had.
Get commitments from partners	Establishment of partnerships with suppliers and fixed customers.	Establishment of partnerships with suppliers.
New objectives/New means	Expansion planning for other types of civil works.	Expansion planning for other types of service provision, such as armed surveillance.
<b>Causal Process Steps</b>	<b>Company X</b>	<b>Company Y</b>
Identify an opportunity	Acting in a niche (small works) that was not served by companies in the civil engineering sector.	Act with the differential of people management in the outsourcing market.
Conduct competitive analysis and market research	Not conducted. Only the market experience of the entrepreneurs was used at this stage.	Not conducted. Only the market experience of the entrepreneurs was used at this stage.
Develop a business plan	A generic business plan was prepared with the assistance of a consultancy.	Not carried out. The entrepreneurs did not consider it necessary or a priority.
Acquire resources and stakeholders	Establishment of partnerships with suppliers and fixed customers; They did not acquire sufficient financial resources to open the business, investing their own resources and those of family members.	Establishment of partnerships with suppliers; Did not acquire sufficient financial resources to open the business, seeking with friends.
Adapting to the environment	Expansion planning for other types of civil works.	Contracts with short periods and in other states began to be closed.

Source: (Ferreira, 2020, p. 109)

Based on the analyses and Table 4, similarities can be observed in the entrepreneurial process of the cases investigated. The two companies researched used principles of *effectuation* logic in their entrepreneurial process. Analyzing the cases from the *causation* logic perspective, one can also observe similarities between the cases in all stages of the process, except in the development of the business plan, which was only done in one of the companies.

Even acknowledging that in both cases, the entrepreneurs based themselves on the *effectuation* logic to create their companies, as the business became consolidated and unforeseen events arose, the entrepreneurs took different attitudes. In the case of Company X, when facing the difficulties arising from the economic crisis in the country and the difficulty in obtaining financing, the entrepreneurs made a planning to increase the company's survival, having found the need to dismiss 70% of the employees and change the negotiation with the client. This was the initial action for the company to start adopting control measures, such as the decision-making process and new investments started to be made based on controls, planning, and market studies. To assist in these decisions an ERP (*Enterprise Resource Planning*) system was acquired and employees to manage the company were hired. Additionally, strategies to take the service to the market were improved in such a way that today the company has a commercial manager, and investments were made in marketing.



In the case of Company Y, when faced with the difficulties caused by the country's economic crisis, the entrepreneurs developed actions to expand in the market, such as providing services in other states. Contracts for shorter periods started to be established, and initially, in a better scenario, according to the partners, they would not have been signed. Thus, it can be seen that from the moment the companies consolidated and overcame the initial phase of business creation, the way to deal with the unforeseen events, which is the "exploitation of contingencies" principle of the *effectuation logic*, were different. The entrepreneurs of both cases took actions with different perspectives and the companies developed their own characteristics to explore contingencies, with the owners of Company X adopting *causation logic* methods and those of Company Y maintaining the *effectuation logic* in their decision making process.

## 5 FINAL CONSIDERATIONS

As mentioned in the introduction, this work aimed to analyze how the *effectuation* and *causation* logics were used in the entrepreneurial process of two companies from Minas Gerais. From the evidence obtained, it was possible to identify the practices used by the companies during their entrepreneurial process. It was found that the entrepreneurs of the two companies researched used, predominantly, principles of *effectuation logic* in their entrepreneurial process. By identifying the moments/situations in which these practices were used by the companies investigated, it was noticed that the cases presented a great deal of similarity in the situations and moments in which they used practices and principles of *effectuation logic*.

With the obtained results, one can conclude that in both cases, the entrepreneurs based themselves on the *effectuation logic* to create their companies, but as the companies consolidated and overcame the initial founding phase, some unforeseen events arose and the entrepreneurs took different attitudes, at which point there was a change in practices between the different logics in the management of the companies. In the case of Company X, the entrepreneurs planned to increase the survival of the business, adopting control measures that were more in line with the traditional management perspective. Therefore, the founders of Company X began to adopt, in a clearer way, methods of *causation logic*. This finding is consistent with the principles of *effectuation logic*, that is, as predominant in the initial stages of the business, but as the company consolidates and grows, the tendency is that the entrepreneur starts using *causation logic* in his or her decision making processes.

The entrepreneurial process of both companies presented, in general, a great deal of similarity in the use of entrepreneurial practices, whether of the *effectuation* or *causation logic*. Moreover, the entrepreneurs also presented similar trajectories, and it became evident that previous professional experience represented an important catalyst for the entrepreneurial process. This study aimed to contribute to national studies on the subject and increase knowledge about the entrepreneurial process, especially from the principles that make up the *effectuation logic*, seeking to identify how the decisions and actions of entrepreneurs occur. The results obtained showed that, at the beginning of the business, there is a clear prevalence of the use of *effectuation logic* in the entrepreneurial process, where entrepreneurs make use of who they are, what they know, and who they know to direct their actions and decisions.

### 5.1 - Limitations of the work

Any research work presents limitations. We are aware that the small number of cases analyzed and their geographical limitation, since both companies analyzed were founded and are located in the city of Belo Horizonte, state of Minas Gerais, do not allow the conclusions to be gen-



eralized. In addition, some studies show that cultural differences can influence the entrepreneurial process and the way entrepreneurs make decisions. This variable was not considered in this study, which represents another limitation. Another limitation of this research is the fact that it is a retrospective study, which sought to analyze a situation that has already occurred in the past. Thus, there are possibilities of not obtaining information and data in full from the past moment, mainly because much of this initial information about the businesses is solely and exclusively in the minds of the companies' founders, which can generate distortions in the results.

## 5.2 - Suggestions for new studies

Based on these limitations, it is suggested that new, broader studies in different regions and cultures be developed in order to obtain a greater understanding of the entrepreneurial process, as well as the influence of cultural, institutional, and legal aspects on business development. Additionally, it is suggested that research be extended in order to establish when and how entrepreneurs use different logics - causation and effectuation - in organizational decision-making processes. It is believed that a better understanding of the temporal aspects may facilitate mentoring and training actions in order to reduce damages arising from decision-making processes that lead to the fragilization of new businesses.

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1. Definition of research problem	X	X		
2. Development of hypotheses or research questions (empirical studies)	X	X		
3. Development of theoretical propositions (theoretical work)	X	X		
4. Theoretical foundation / Literature review	X	X	X	X
5. Definition of methodological procedures	X	X	X	X
6. Data collection	X			
7. Statistical analysis				
8. Analysis and interpretation of data	X	X		
9. Critical revision of the manuscript		X	X	X
10. Manuscript writing	X	X	X	X
11. Other (please specify)				

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