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## Effectuation and identity in entrepreneurship: A systematic review

*Efetuação e identidade no empreendedorismo: Uma revisão sistemática*

*Efectuación e identidad en el emprendimiento: Una revisión sistemática*

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### ABSTRACT

The study aimed to analyze the existing literature on the identity of the entrepreneur in connection with effectuation, characterizing the state of the art of research on the subject. A systematic literature review was carried out, which searched for publications indexed by Scopus (23 articles) and Web of Science (37 articles) from the last 21 years, being operationalized with the StArt tool. The results show that, with effectuation, the identity of the entrepreneur influences decisions, the type of opportunity explored, the objectives and the commitment of partners in the entrepreneurial process. It is concluded that, with effectuation, personal and social identities can guide effectual (intuitive) or causal (planned) behavior, which shapes the entrepreneurial activities.

**Keywords:** identity; effectuation; causation; entrepreneurship; behaviours.

### RESUMO

O estudo objetivou analisar a literatura existente sobre a identidade do empreendedor em conexão com a efetuação (effectuation), caracterizando o estado da arte da pesquisa sobre o tema. Para tanto, realizou-se uma revisão sistemática da literatura que buscou publicações indexadas pela Scopus (23 artigos) e Web of Science (37 artigos) dos últimos 21 anos, sendo operacionalizada com a ferramenta StArt. Os resultados evidenciam que, com a efetuação, a identidade do empreendedor influencia as decisões, o tipo de oportunidade explorada, os objetivos e o comprometimento de parceiros no processo empreendedor. Conclui-se que, com a efetuação, as identidades pessoal e social podem guiar comportamentos efetuais (intuitivos) ou causais (planejados), o que o modela as atividades empreendedoras.

**Palavras-chave:** identidade; effectuation; efetuação; causação; empreendedorismo; comportamentos.

### RESUMEN

El estudio objetivo analizar la literatura existente sobre la identidad del emprendedor en relación con la efectución, caracterizando el estado del arte de las investigaciones sobre el tema. Se realizó una revisión sistemática de la literatura, la cual buscó publicaciones indexadas por Scopus (23 artículos) y Web of Science (37 artículos) de los últimos 21 años, siendo operacionalizada con la herramienta StArt. Los resultados muestran que la identidad del emprendedor influye en las decisiones, el tipo de oportunidad explorada, los objetivos y el compromiso de los aliados en el proceso emprendedor. Se concluye que las identidades personales y sociales conducen comportamientos de efectución (intuitivos) o causales (planificados), lo que modela las actividades de emprendimiento.

**Palabras clave:** identidad; efectución; causación; emprendimiento; comportamientos.

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## 1 INTRODUCTION

Identity is an important concept to explain entrepreneurship. It is particularly relevant to understand a way to do entrepreneurial activities using only what one has and what allows important achievements, so-called effectuation (Sarasvathy, 2001). Mainly in conditions of poverty and in others in which it is advisable that entrepreneurship should be economic, effectuation makes entrepreneurship and important achievements possible because it permits frugality with efficiency (Michaelis et al., 2020). Entrepreneur's identity is one of the essential basis to effectuation, which can be defined as doing entrepreneurial activities out of the means of identity, knowledge and relations, respecting risks limited to affordable losses (Sarasvathy, 2001).

Researches on identity in entrepreneurship are numerous, according to Alsos et al. (2016) and Mmbaga et al. (2020). The defining character of identity to entrepreneurship is confirmed with the finding that entrepreneurs either usually use their businesses as vehicles of affirmation and defense of their identity or create, in the businesses, roles of interest to express it (Powell et al., 2014). Despite the importance of the identity for business, there is a lack of knowledge about the approach and the functions regarding it in effectuation and about its influences on entrepreneurial actions through effectuation (Nielsen et al., 2012; Grégoire et al., 2019; Strauss et al., 2020). Motivated by such research need, the present article proposes a detailed review of publications of the main journals on the role of identity in effectuation in order to suggest new promising themes and research approaches for the advance of researches on such role.

As a short guide to carry out this objective, the following research question was used: how to characterize the pertinent available publications and which new studies are promising to explain the role of identity in effectuation? To answer such question, this article evaluates and summarizes the existing publications on the theme, organizing their contributions with a systematic literature review (SLR). This review innovates in methods by combining two SLR protocols: 1) the protocol by Kraus, Breier & Dasí-Rodríguez (2020), which is specific to the field of entrepreneurship and; 2) the PRISMA protocol, which is a checklist that guides the consistency of the writing of the final report with the findings of a research performed as a SLR. The protocols are complementary and used with the help of the SLR software called StArt (State of the Art through Systematic Review), which supports data gathering and organization in all steps of the study. Such methodological combination was chosen to ensure the accuracy and the systematicity of all the process, favoring the transparency, as well as the possibility of replication and auditing of the data, procedures and results.

This article is composed of five complementary parts in the following sequence. In addition to this introduction, a brief theoretical founding is proceeded, whose purpose is to

position the concept of identity in the literature regarding effectuation. As follows, another section describes the research methods regarding the protocol of data gathering and data treatment applied to the identified and criteria of inclusion, exclusion and evaluation of such articles. Then, there is a summary and discussion of the results. At last, the section of final considerations brings suggestions for future studies.

## 2 THEORETICAL FRAMEWORK

Effectuation is a way to undertake from the raise of possible effects of means that are available (effectual means) to the entrepreneur regarding who she/he is (or identity), who she/he knows (or relations) and what she/he knows (or knowledge) (Sarasvathy, 2001). With such raise, the entrepreneur considers the objectives enabled by such effects and works to carry out one of them using the means available with risks limited to affordable loss (Sarasvathy, 2001; Sarasvathy, Foster & Ramesh, 2020). For those reasons, effectuation enables unexpensive entrepreneurial activities with low risks, as the means determine the objectives – and not the other way around as usually happens in causation (Sarasvathy, 2001). According to such author, effectuation occurs using already available means while causation starts with objectives. The latter consists in a way of doing entrepreneurial activities based on the logical sequence of (1) definition of an objective, (2) obtention of means to realize it, and (3) usage of the means to effectively realize it.

Effectuation theory highlights that entrepreneurial actions may be based on causation (traditional method guided by the prospective analysis with plans, predefined objectives and obtention of the needed resources to fulfill such objectives) and/or on effectuation (with actions according to what the possessed means allow to do, without plans and in a way to overcome uncertainties, due to the control favored by the use of what is already available, and exploration of opportunities with risks limited to affordable loss – Sarasvathy & Dew, 2005). Even though they are in opposed logic sides, causation and effectuation are complementary in entrepreneurship. More stable and predictable situations or problems favor the entrepreneurship with causation, with results tending to be superior to those using effectuation; on the other hand, the situations of uncertainty are more compatible with effectuation in entrepreneurship (Sarasvathy, 2001). Entrepreneurship process frequently counts on part of its initiatives in conditions of stability and predictability and with some other part out of such conditions (Fisher, 2012). Causation and effectuation, therefore, tend to occur side by side or sequentially and are useful, respectively, in such parts, configuring the complementarity of both (Fisher, 2012; Grégoire & Cherchem, 2019; Nelson & Lima, 2020).

With such characteristics, effectuation is frequently and particularly needed in the realities of scarce resources (Fisher, 2012; Michaelis et al., 2020), which tend to be worst

in crisis situations (Nelson e Lima, 2020). To effectuate is similar to what a cook does by defining and preparing a meal after imagining the courses of possible preparation using only the ingredients available in her/his kitchen (Sarasvathy, 2001). Something similar had already occurred in ancient times, when restaurants and rustic hostels emerged as the extension of people’s home, who wanted to improve their gains, expanding what they already did regarding food and shelter in their own homes (Lima, 2022).

There are five effectual principals that help describing how the effectuation occurs in practice: pilot on the plane, bird in hand, affordable loss, crazy quilt and lemonade (Read et al., 2009). A summary (Nelson & Lima, 2020) is useful here regarding these five principals as follows. Pilot on the plane principal refers to the preference of the entrepreneur for shaping the context according to her/his goals, rather than adapting her/himself to the context. Bird in hand regards the preference for using means that are under one’s own control, prioritizing autonomy. Affordable loss refers to realize initiatives whose eventual failure may lead to a maximum of losses considered acceptable. Crazy quilt means to unite, in the same initiative, a variety of self-selected partners with whom the entrepreneur cultivates relations. The lemonade principle brings the notion of exploring problems as resources, “making lemonade out of lemons”.

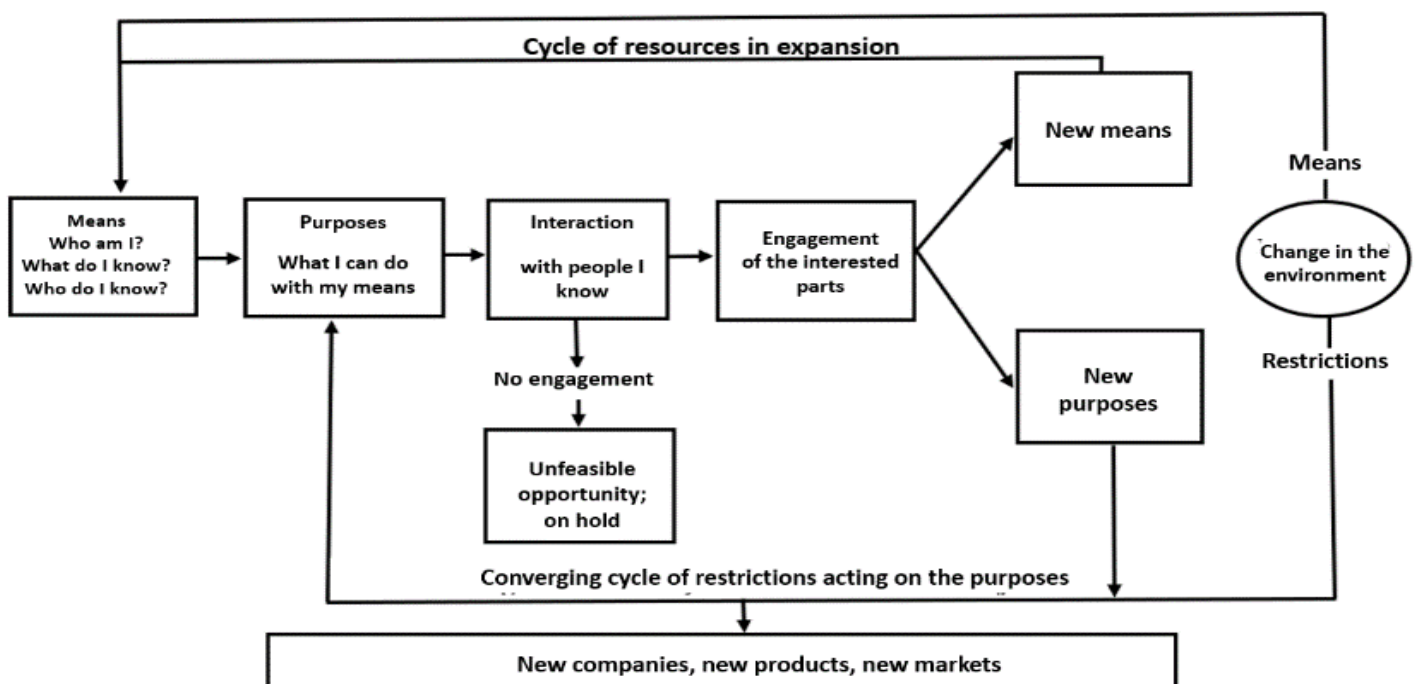
**2.1 The identity in the process of effectuation**

In effectuation, identity (who the entrepreneur understands he/she is) is a central and essential aspect, which acts in the prioritization order of one’s preferences in the process of accessing and combining resources, obtaining commitment of the interested parts that become partners themselves and performing the other entrepreneurship actions (Nielsen & Lassen, 2012). Identity

offers content to the entrepreneurship initiatives, but acts mainly in the definition of how to perform those initiatives, given the structure of values and preferences it prioritizes (Hitlin, 2003) that guides behavior (Nielsen et al., 2012; Sarasvathy, 2001; 2008). According to Sarasvathy (2008), entrepreneurs frequently explain their actions and decisions in terms of something fundamental on who they are (their identity), more than according to their more superficial preferences. Also, according to Sarasvathy (2008), when results are unpredictable or preferences are ambiguous, it is enough to have a strong sense of identity (who we are, rather than what we want) and of process (how to make decisions, more than what decisions to make).

Identity helps giving form to entrepreneurship initiatives and to lead the effectuation to break with the assumption of opportunities and preexisting purposes to undertake using available means, even if those means are restricted (Nielsen et al., 2012). Identity, in effectuation, is one of the bases to the creation of enterprises. As quoted above, it is built as one of the three means (together with knowledge and relations) whose possible effects are considered to the raise and choice of objectives to guide entrepreneurship initiatives – and such initiatives have risks which are limited to affordable loss (Sarasvathy, 2001; 2008; Sarasvathy & Dew, 2005). An example of such form of risk management is to start an entrepreneurship initiative with a low financial investment, which is accepted to be loss in case the initiative fails. The identity of the entrepreneur may be an important reason for the application of the principle of affordable loss particularly when she/he is a careful/frugal person (Michaelis et al., 2020).

The context of identity in effectuation is shown in Figure 1, which describes the dynamic process of effectuation having the identity represented by the effectual mean “who I am”.



**Figure 1.** The dynamic process of effectuation  
Source: Adapted from Sarasvathy & Dew (2005).

As explained by Sarasvathy & Dew (2005), the dynamic process of effectuation (Figure 1) starts when the entrepreneur makes an inventory of her/his effectual means, including identity, asking her/himself about who she/he is, what she/he knows, and who she/he knows. Identity has a particular impact on the definition of how the process of entrepreneurship occurs given the effect of the values and preferences associated to choices and decisions (Nielsen & Lassen, 2012; Sarasvathy, 2001; 2008). As follows, the entrepreneur imagines possible purposes that may be fulfilled using her/his means. Among such purposes, she/he chooses the one to be fulfilled. Given her/his reality of uncertainties, the entrepreneur protects her/his entrepreneurial capacity from errors and failures by limiting risks to affordable loss. Then, she/he interacts with people she/he knows and, at least with a part of them, she/he obtains partnership and engagement to do activities. Also, at least part of those people become (and/or help to obtain) customers and supporters.

Still, according to Sarasvathy & Dew (2005), without engagement of the interested parts (stakeholders), the entrepreneur tends not to move on, avoiding the normally unfruitful effort of trying to endeavor in a lonely way. Without stakeholders' engagement, the opportunity tends to be unfeasible, staying on hold to become viable later or to be either changed or abandoned. If the entrepreneur obtains stakeholders' engagement to explore an identified opportunity according to the established objectives, she/he tends to capture new additional means from them in a cycle of resource expansion. She/he is also influenced by them, leading to new objectives elaborated from scratch or from the adjustment of previous objectives. There are still external cycles represented in Figure 1 regarding the effects of changes in the environment. These changes may lead to new restrictions (convergent cycle of restrictions) acting on the objectives and/or to new useful means, which will be added to the already possessed effectual means according to the cycle resource expansion. At last, resulting from the effectuation, new artifacts are created, such as new companies, new products or new markets.

In the beginning of the dynamic process of effectuation, the entrepreneur considers who he/she is (identity), which reflects on the other effectual means – knowledge and relationships. With this, she/he tends to exploit knowledge and relations which has more affinity with her/his identity. As for the relations, for example, such tendency may imply a preference to be in relation to people with whom she/he has something in common, such as a connection with the same hobby or even the same profession (Haller et al., 2017; Kerr et al., 2020). Effectuation theory suggests that, from the beginning of the dynamic process of effectuation, the entrepreneur has a relatively clear and coherent perception of who she/he is and, based on that, she/he acts to advance in the entrepreneurship process (Sarasvathy, 2001; 2008).

Identity helps revealing a self-consciousness that is reinforced by experiences throughout the entrepreneur's life. Nothing prevents that, throughout the process, the process itself changes such self-consciousness making the entrepreneur to acquire new ways of seeing her/himself and of being. Side by side with the cycle of resources in expansion, evaluations and adjustment of actions may also occur, so that those actions kept aligned with the entrepreneur's interests and personal values. Therefore, the identity has a central role in entrepreneurship, in particular for the effectuators (Sarasvathy, 2001; 2008; Nielsen et al., 2012). A reason for such centrality is the important role of identity in molding the behavior and in action motivation (Stets & Burke, 2005). An example of this occurred with WK Sistemas, one of the most important companies that originated the cluster of management software production in Blumenau - SC (Lima, 2005). Soon after founding this company, its main creator, Werner Keske, restricted the commercial policy of the business to sales through traditional mail, since he had already had positive experience by attending several postal courses, but mainly because he saw himself as a very shy person and he did not want to visit costumers to offer them products (Lima, 2004). Such "shy" commercial policy ended up being a great national success. The first Brazilian accounting software to use colors in a computer screen was launched by WK Sistemas and had great demand all over Brazil for being an attractive innovation in the main Brazilian TV news program showing the product in a computer fair (Lima, 2004, 2005).

### 3 METHODOLOGY

The SLR subsidize the description of the main scientific contributions made regarding a subject (Tranfield et al., 2003; Kraus et al., 2020), besides identifying theoretical and methodological gaps regarding it contributing to the formulation of an agenda for future researches (Petticrew e Roberts, 2008). The present SLR employs the steps described in Table 1 (Denyer & Neely, 2004; Tranfield et al. 2003; Kraus et al., 2020) treating peer-reviewed articles (since they reflected validated knowledge – Podsakoff et al. 2005) published since the publication of the Sarasvathy's (2001) seminal article. The SLR is qualitative by nature, having exploratory character, being chosen here as a method of literature review because it uses replicable, transparent and auditable procedures. Regarding the SLR protocols, two were used:

1) The protocol of Kraus, Breier & Dasí-Rodríguez (2020) – it is a specific protocol for the field of entrepreneurship, summarized in Table 1. It establishes the steps of a SLR including the three steps performed here with the tool StArt (State of the Art through Systematic Review). Such free tool helps in the realization of a SLR with details and retraceable registries.

**Table 1**

SLR steps

<b>Step 1 – SLR planning</b>
a) Identification of the need of a review
b) Developing the plan of review
<b>Step 2 – Identification and evaluation of the studies</b>
<b>Step 3 – Extraction and summary of data</b>
a) Performing the data extraction
b) Performing the data summary
<b>Step 4 – Disclosure of the results of the review</b>

Source: Adapted from Kraus, Breier &amp; Dasí-Rodríguez (2020).

2) Prisma Protocol - PRISMA (Preferred Reporting Items of Systematic Reviews and Meta-Analyses) is a checklist that assures the accuracy of the final reports of findings in a SLR. The present article includes such report and employed PRISMA for the insertion in the text of all the 27 items which provide qualitative evidence for the final writing, according to Table 2. The PRISMA's flowchart of four steps was also used (Figure 2).

**Table 2**

Checklist of items of the PRISMA protocol

1 - Title	15 - Evaluation of certainty
2 - Abstract	16 - Selection of studies
3 - Introduction	17 - Characteristics of the studies
4 - Purpose	18 - Risk of bias in the studies
5 - Criteria of legibility	19 - Results from individual studies
6 - Sources of information	20 - Results of the summary
7 - Research strategy	21 - Bias report
8 - Selection process	22 - Certainty of evidences
9 - Data gathering process	23 - Discussion
10 - Data items	24 - Registry and protocol
11 - Study of bias evaluation	25 - Support
12 - Measures of effect	26 - Competitive interests
13 - Methods of summary	27 - Data availability, codes and other materials
14 - Evaluation of bias of the report	

Source: Adapted from the PRISMA protocol.

The two protocols were used in a complementary way, applied with the support of StArt, which enabled and organized the data gathering and treatment in all the SLR steps. The tool manages the first three steps of a SLR, which are: Step 1 – planning (insertion of the protocol); Step 2 – execution (identification and evaluation of the studies) and; Step 3 – summary (extraction and data summary). In each of the steps, the tool allows filtering processes, content extraction from the publications and quantitative and qualitative analysis.

The use of protocols and the tool helped fulfilling the following prerequisites:

- 1) Validity of the review – by providing a clear set of steps that allow replication. The results reflect precisely the analyzed and validated situation, with the evidence and the conclusions (Gregori & Parastuty, 2020; Kraus et al., 2020).
- 2) Rigor of the review – by providing evidences which sustain the content of the SLR at the same time

that the final samples are founded, clearly presented and documented including the terms of the research, the search strategies, the inclusion and exclusion criteria (Hall & Roussel, 2014; Whitemore & Knafl, 2005).

- 3) Generalization of the results – by allowing knowledge to be systematically organized, clearly positioning the phenomenon, in a way to allow higher agility in the disclosure of knowledge (Whitemore & Knafl, 2005).

### 3.1. Research strategy: Steps and realization criteria

In Step 1 - planning, the research question was determining to guide the definition and execution of the methodological procedures, as well as for the elaboration of planning and choice of protocols. Based on the research question, the research planning and review of the research plan were elaborated, including a double-check of protocols and procedures, as well as the choice of the tool StArt to support process steps. Also, the strings (words) of search, the criteria of inclusion and exclusion of the obtained articles, as well as the criteria of evaluation of quality and which data would be extracted from each of the articles in the analysis were defined. In step 1, after the planning, the protocol was validated and reviewed for the application with StArt.

In the *strings*, asterisk (\*) was used as a way to find, during the searches, the variations of the original words. The search period was also defined. The raise of articles for the SLR was performed in 2021, but complemented in November 2022. The years of 2001 up to 2022 were used as time limits for the search. The year of 2001 was chosen because it was the year of creation of the concept of effectuation (Sarasvathy, 2001). The strings used were: *identit\** and *effectua\**. These search terms were used and were available in both bases of publications, with the same markers, regarding some of their perspectives. Regarding the Boolean operators, "AND" was used. "OR" was not used because it is excluding and could bring article which did not use effectuation theory or did not study identity.

The Step 2 - execution was subdivided into identification and evaluation of the articles. It started with the use of the strings for search in Web of Science and Scopus. In that moment, the year filters were selected (2001 to 2022), as well as the language filter: English, Portuguese and/or Spanish. Other filters were not used, allowing the search for articles beyond the Administration and Business domains, not excluding, therefore, studies from the areas of Psychology or Education, for example. This open filter broadened at most the search results without exclusion a priori. The obtained articles from such search, together with their respective indexation information, were exported to a Bibtext file and used in the StArt tool. The results from both data based resulted in 60 articles, being 37 from the WOS and 23 from Scopus.

In step 2, the articles were evaluated and classified one by one, being identified and excluded duplicated articles

according to the reading of the titles, abstracts and keywords, already considering which articles could be more relevant to answer the research question of the present article. Such process excluded 16 duplicated articles, which means that they were obtained from both bases of publications. Other six articles did not treat the focused subjects (identity and effectuation in entrepreneurship).

After this preliminary triage, 38 articles remained for a more detailed analysis, with the reading of their full text. With such reading, each article was evaluated according to the quality and inclusion criteria, with registries computed in StArt software once each article was read.

The inclusion criteria are summarized in Table 3.

**Table 3**

Inclusion criteria

Criteria	Description of the inclusion criteria
C11	To have good correspondence to the search strings
C12	To have bonds with the theory of effectuation
C13	To treat some of the identity aspects of the entrepreneur
C14	To treat of the personal or social identity of the entrepreneur
C15	To treat of the self-identity, self or synonyms of the identity of the entrepreneur
C16	To be published and be available on the consulted scientific basis
C17	To be from any area of knowledge, but within the scope of the research a

Source: Adapted from the PRISMA protocol.

Regarding the quality criteria, two approaches were used: Objective and subjective criteria, respectively summarized in Tables 4 and 5. Each occurrence analyzed under the objective criteria was registered in the StArt tool with either 'yes' or 'no'. In the deep reading of the texts, the

subjective criteria were used based on four complementary research questions, showed in Table 5. The four questions help the confirmation of the quality of the articles and in the summarization of the Step 3.

**Table 4**

Quality criteria

Criteria	Description of the Quality Criteria
CQ1	Coherence of the text with the themes focused on the research = {Yes, No}
CQ2	Treats in a direct or indirect form the concept of identity = {Yes, No}
CQ3	Treats concepts related to entrepreneurship = {Yes, No}
CQ4	Used the concept of personal identity of the entrepreneur = {Yes, No}
CQ5	Uses the effectuation theory = {Yes, No}
CQ6	There is detailing of the practical application of the research = {Yes, No}
CQ7	There is detailing of the area of application = {Yes, No}
CQ8	Good quality of the theoretical reflection = {Yes, No}

Source: Adapted from the PRISMA protocol.

**Table 5**

Complementary Research Questions

Question	Description of the Questions
P1	What can we describe about the identity in connection with the effectuation?
P2	How is the identity being approached in the studies that are also related to the effectuation?
P3	What are the other types of identities treated in the studies that also approach effectuation?
P4	In studies performed on the identity in connection with effectuation, what are the gaps of knowledge that deserve future studies?

Source: Adapted from the PRISMA protocol.

Throughout the reading of the articles, the application of the inclusion and quality criteria in the evaluation of all 38 articles resulted in the withdrawn of 10 articles by such criteria. Therefore, 10 articles were excluded in Step 2. Finally, 28 articles were selected for the extraction and summarization in Step 3.

Step 3 – extraction and data summary included the extraction that helped to form evidence for discussion of the selected articles; using StArt, a data bank was prepared as a table with the following theme categories: (i) title of the article; (ii) authors and year of publication; (iii) general objective of the article; (iv) type of identity studied; (v) contributions on the identity connected with effectuation and; (vi) subjects of future research suggested by the article,

besides eventual highlights of results about identity as an effectual mean. From an interactive analysis, the findings were summarized in Table 6.

Using a hybrid approach, a balance between deductive codification (use of categories of analysis from the literature) and inductive codification (use of new categories of analysis emerging from the articles) was promoted to obtain the results and the writing of the present article (Fereday e Muir-Cochrane, 2006). The deductive codification used the technique of correspondence of patterns in the data analysis (Yin, 2005) connecting data to codes from the literature. The results of the research, supported in the retained articles after the steps of selection and analysis, are summarized in section 4.

Step 4 – disclosure of the results of the SLR is performed by the present article having the global summary of the findings and, from those, the identification of research gaps and the proposal of an agenda for future researches.

Figure 2 brings a schematic summary of the search processes and the selection of the articles according to a flow chart based on the PRISMA protocol.

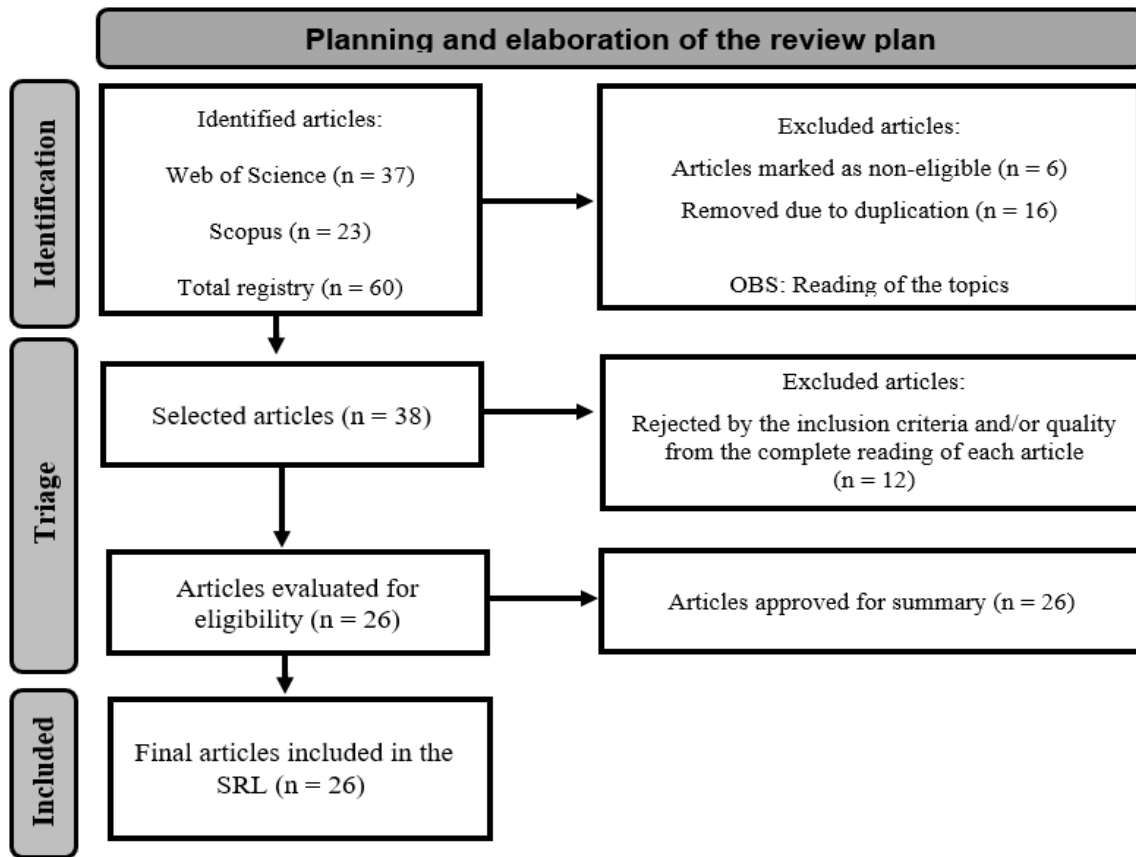


Figure 2: Flow chart of the SLR steps

Source: Elaborated by the authors based on the PRISMA protocol (<http://www.prisma-statement.org/>)

#### 4 ANALYSIS AND DISCUSSION OF RESULTS

Figure 3 presents a historical evolution of the publication of articles dealing with identity and effectuation and that are available in Scopus and WoS. In the figure, it can be noticed the beginning of publications on the subjects in 2001, year of the publication of the seminal article by Sarasvathy (2001). It can also be noticed that, after the publication of Sarasvathy (2001), the author further developed the original concepts with the publication of Figure 1, which describes the dynamic process of effectuation and helps to understand the identity in the context of the entire process (Sarasvathy & Dew, 2005). From 2001, and up to 2013, there were eight articles published dealing with the role of identity in effectuation. There was no publication about the subjects in 2014 and 2015, but the number of publications about them raised from 2016, with special highlight to 2019, when there were seven publications of articles about them. In general, the number of publications found is low (26 retained in the SLR). Since the theme remains important, this reinforces the persistence of the research need regarding it, even though there was a concentration of publications in the last five years that were considered.

Articles with the theme Identity and Effectuation

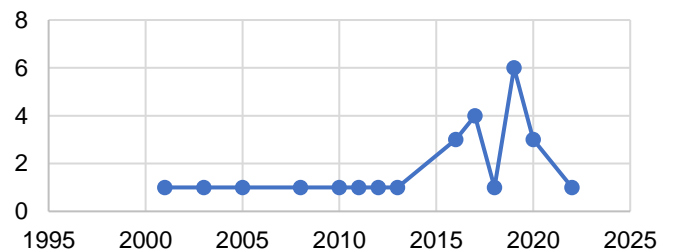


Figure 3: Historical evolution of publications.

Source: Elaborated by the authors.

It was preferable not to deepen the analysis with statistics. With a relatively small sample, there would not be contribution emerging from such approach. On the other hand, the discussion on the content of the articles were deepened, which resulted in the identification and in the analysis of two predominant currents of connection of identity with effectuation. The two currents are: Personal identity, according to the concept of Korsgaard (1996; 2009), and social identity, according to the concept of Alsos, Clausen, Hytti & Solvoll (2016). The personal identity refers to how a person perceives her/himself (Korsgaard, 1996;



Based on the level of sharing of the same bibliographic references, five *clusters* of theme similarity were identified: the ones of green, yellow, purple, blue and red dots and lines. The closer a keyword is to an intersection of the *clusters*, the more it is cited in different *clusters*. The keyword also tends to be more cited in the broad variety of the analyzed articles, having many lines of connection, if it is represented by a bigger dot and if it is located more at the center of the complete network. As one can probably hope, both situations may happen mainly with the keywords *effectuation* and *identity*, since the theme identity in effectuation was the focus in the search of the analyzed articles. Due to the same reason, *effectuation* and *identity* have many lines of connection between themselves and with more themes. In addition, the keyword *causation* appeared with high frequency (11 occurrences) and it is close to the center by being a common theme treated in the articles of effectuation, as a contrast to it.

The conditions of occurrences of the entrepreneurial logic of effectuation and causation, as well as the situations of transition between the use of both logics, are recurrent themes in the publications that use the effectuation theory, being the uncertainty, associated to the unpredictability, an important contextual difficulty for causation to make effectuation necessary (e.g. Alsos et al., 2016; Fisher, 2012; Mattes & Freiling, 2019; Sarasvaty, 2001). The interest for such conditions appears also in the literature on identity connected with effectuation, in which Alsos et al. (2016) are important authors by approaching, in a very direct and explicit way, the relation of the social identity with the preference for effectual or causal behavior. Now it is about a current characteristic of an entrepreneur under consideration, and not of the context as in the case of uncertainty. The authors conclude that the social identity influences the predominance of use of effectuation or causation which has contributed to give the necessary attention to identity (and its variations that help characterizing entrepreneurs as heterogenous) as definition of the way that entrepreneurs do entrepreneurial activities. Table 6 also helps to understand the description made here of contributions coming from the articles retained in the SLR.

On the other hand, the study of Hensel & Visser (2019) focus on the personality as one of the aspects to define the identity of the entrepreneurs. Such authors concluded that specific patterns of moderation effects from

personality traits are relevant influences to establish the entrepreneur behavior and her/his identity. An example of such influences is offered by the application of the crazy quilt and bird in hand principals according to traits of sensitivity to *feedback*, sociability and ambition. Also studying aspects of personality, but linked to traits of the black triad (narcissism, psychopathy and Machiavellism), Shirokova et al. (2022) identified that the effects of such triad are moderated by the perception of the level of uncertainty in the business environment of small and medium companies. The uncertainty perceived weakens the connections between the traits of the black triad and the effectual and causal logics. The authors also concluded that the directors of such companies having more elevated levels of psychopathy tend to use causation, while the Machiavellic tend to use effectuation.

Also defining the way the entrepreneur do entrepreneurial activities, the identity of the entrepreneurs, according to the effectuation perspective, shape the combination of resources strategies, which brings to the proposition of the concept of resource mobilization based on identity (Onishi et al., 2018). Estrada-Cruz, Verdu-Jover & Gomez-Gras (2019) reminded that the theory of effectuation breaks up the assumption of opportunities, preexisting markets etc. and focus on how entrepreneurs face the challenge of designing a way to think and act regarding the business while using their limited resources, in situations of unpredictability and without preexisting objectives. The results of the study from such authors show that the levels of measures of effectuation are related to specific social identities (varying according to the typology of Darwinians, communitarians and missionaries – Fauchart & Gruber, 2011)<sup>1</sup>, which end up by influencing the causation. The social identity, including its effects on effectuation and causation, reflects on the type of opportunity and the purpose of the business. The identity of the Darwinian has a stronger effect on the effectual logic rather than on the causal one and leads the entrepreneur to focus on entrepreneurship planned goals as her/his main motivation; the communitarians tend to use the effectuation more, being motivated by an interest in supporting (and being supported by) her/his community; and the missionaries use causation and effectuation in a complementary way, being motivated by a very specific goal when they operate in an uncertain market (Estrada-Cruz, Verdu-Jover & Gomez-Gras, 2019).

<sup>1</sup> Darwinians are motivated by economy benefits and make their decisions mainly to establish strong and profitable businesses; communitarians resemble the entrepreneurs-users, given that they create business ideaa from their own use and share those with the community, being an identity that is very connected the entrepreneur's social group, and that makes she/he to take

decisions mainly based on the social identity ("who I am in my group"); the missionaries have a profile close to the social entrepreneur, once they have a strong belief that their businesses are a vehicle to improve society (Estrada-Cruz, Verdu-Jover & Gomez-Gras, 2019).

## 4.1 Synthesis

Table 6

Summary of the treatment of the 26 articles

	Title	Authors	Objective	About the identity	Contributions	Future Researches
1	Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency	Sarasvathy, 2001	To explain how the creation of new enterprises occur according to the notion of effectuation as a logic of control, comparing it to causation, which is a prediction logic.	Personal identity is presented as an effectual and fundamental mean to the decision-making process.	It presents the theoretical basis of effectuation, elaborating its concept, being the seminal article of the theory. It presents the elements, principles and applications of the effectual decision-making logic.	To do more empirical researches on the effectuation's constructs and components.
2	Managing managerial identities: Organizational fragmentation, discourse and identity struggle	Sveningsson & Alvesson, 2003	To approach the interaction between organization speeches, role expectations, narrative self-identity and identity work.	Personal identity is conceived in processual terms as identity work.	It intends to contribute to a theory of personal identity which is oriented to the organizational process and personal identification with the process.	To explore aspects of how people define and redefine themselves and how they see themselves as members of organizations and/or how they perceive themselves in and relate.
3	Entrepreneurial logics for a technology of foolishness	Dew & Sarasvathy, 2005	To identify the logics that constitute the elements of work in a disruptive technology.	Personal identity applied in the model of dynamic effectuation.	Each logic suggests complementary decision criteria that use identity (who you are), knowledge (what you know) and network (who you know) in unusual ways.	To study how (1) to build and sustain a strong sense of identity; (2) to act in the world to change the estimation of probability; and (3) to mend commitments shaping their purposes
4	Identity matters: Reflections on the construction of identity scholarship in organization studies	Alvesson, Ashcraft & Thomas, 2008	To theoretically approach the personal and social identities in an organizational context.	Personal and social identity in an organizational context.	The personal identity implicates types of subjectivity (often positive) and entangles feelings, values and behaviors pointing them in (sometimes conflicting) particular directions.	To treat identity as a key in the process of organizational construction, with which the identities are engaged in the process.
5	Institutional Logics as Identity Projects	Lok, 2010	To analyze how management and institutional investors have reworked their identity and practices as a response to institutional changes.	The construction of personal identity in the processes of institutionalization.	It identifies three ways in which the actors, through the identity daily work, may paradoxically accommodate and resist to the identity practice and implications of new institutional logic at the same time.	To study identifications that may persist despite the institutionalization of the ways of diffusion of practices because it is necessary to broaden the comprehension of the identity role in institutional processes.
6	On the relevance of the concept of entrepreneurial capabilities	Obrecht, 2011	To bring to light the view of a dynamic contextual group of capacities that sustain the pro-activity of the entrepreneur	Personal identity as an entrepreneur capacity.	It admits the idea that entrepreneurial capacities are dependent on the context, since they are anchored in the individuals and dependent on the environment of the agency and on cultural and social factors.	To study how entrepreneurial capacities may promote a view of a dynamic context of distinct and interdependent personal capacities.
7	Identity in entrepreneurship effectuation theory: a supplementary framework	Nielsen & Lassen, 2012	To defy and to advance the vision of the theory of	Personal identity from the dynamic and	It proposes and alternative structure of identity sense creation as a way to integrate the dynamic	To investigate the sensemaking structure related to identity integrating the dynamic and

			effectuation on personal identity	constructionist perspectives.	and constructivist conceptualization of identity in effectuation	constructivist perspective of identity in effectuation
8	Entrepreneurship in action: bringing together the individual, organizational and institutional dimensions of entrepreneurial action	Watson, 2013	To consider in an empirical and theoretical way the contributions of researchers to understand the contextualized entrepreneurship.	Individual identity and the economic and social environments.	The history of a business is also the history of people's lives, since it gathers entrepreneurial action, individual identity work, and life orientations in change, institutional logics and process of effectuation.	To generate knowledge about how the entrepreneurial actions are related to institutional and state's logics, besides the logics of religion, family etc.
9	Exploring environmental entrepreneurship: Identity coupling, venture goals, and stakeholder incentives	York, O'Neil & Sarasvathy, 2016	To theorize on the why's and how's of individuals getting involved in environmental entrepreneurship.	Personal identity and its relation with network and with the establishing of effectual commitments.	It contributes to the flows of literature on hybrid organization of the business identity and to the potential of entrepreneurship to solve environmental degradation.	To use a process approach to explore the coupling of strong identities, evaluating if the entrepreneur's identity changes when there are several possibilities of progress and stakeholders.
10	Entrepreneurs' social identity and the preference of causal and effectual behavior in start-up processes	Alsos, Clausen, Hytti & Solvoll, 2016	To advance in the knowledge of the relation between the type of social identity of an entrepreneur and the entrepreneur's behavior.	Social identity and its relation with causal and/or effectual behaviors.	Focus on identity as an important factor in the formation of the entrepreneurial behavior according to the Darwinian, missionary and communitarian identities with the causal or effectual behaviors.	To study the behavior of hybrid identities besides examining aspects related to the entrepreneurial identity and its relation with the effectual and causal behaviors.
11	Sustainable entrepreneurship education: A new field for research in step with the 'effectual entrepreneur'	Obrecht, 2016	To suggest a possible design of an entrepreneur education program that considers the identity and other entrepreneurial capacities.	Personal identity and its relation with entrepreneurship education and the education	The identity, that is a mainly idiosyncratic capacity, is generally considered as the most important factor of leading or change of behavior.	To investigate how the diversity of entrepreneurial identities may lead to an open mentality regarding sustainability and the comprehension of its complexity of contents and methods.
12	Enacted identities in the university spin-off process-bridging an imaginative gap	Hannibal, 2017	To explore the inter-dependencies between represented role identities and the behavioral logic.	Enacted personal identities and behavioral logic.	Effectuation allows entrepreneurs to reuse their academic identities as key-means in entrepreneurial process. And, causation helps in the dismiss of their academic identity in search of opportunities.	To study the process of social interaction between founders and the context that shapes new businesses aiming at internationalization or that are born internationalized.
13	Effectuation in the undergraduate classroom: three barriers to entrepreneurial learning	Gunzel-Jensen & Robinson, 2017	To explore how students, who are beginners in entrepreneurship, react effectively to the work and which barriers they face when applying the effectual logic of decision making in a college course.	Personal identity and its relation with entrepreneurship education and the education to entrepreneurship.	The contributions are triple: a) Comprehension of the effectuation application in classroom; b) articulation of factors that make learning difficult when the effectuation is used; c) highlighting of the importance of contextual factors to the individual learning.	To do researches to answer two questions: a) What are the antecedents in the effectual behavior of students – in addition to expertise? b) How can educators prepare students of all levels to deal with an unpredictable world in fast change?
14	An understanding of peer support in an effectual entrepreneurial process: Case of French wine-entrepreneurs	Haller, Santoni & Barth, 2017	To determine the specific role of what we call strategic individual partnership in the process of entrepreneurial effectuation.	Personal identity and the connection with strategic partnerships with peers (relation network).	It develops the theoretical relation between effectuation and peer support based on common identity, promoted by passion for the same object of desire. It adopts an	To use a bigger sample to enrich findings and a longitudinal approach to provide more information on the relation between people and the formation of networks.

			empirical approach on the formation of networks.			
15	Influence of the entrepreneur's social identity on business performance through effectuation	Estrada-Cruz, Verdu-Jover & Gomez-Gras, 2017	To examine how the social identities influence the way the entrepreneur manages the company and their consequences to the business performance.	Social identity and its relation with causal and effectual behaviors.	Entrepreneur's social identity is an important variable in the performance of the company and effectuation is the "vehicle" of business performance.	To study the relation between causation, effectuation and social identity analyzing this type of identity regarding the entrepreneur's objectives in the creation of companies.
16	An effectual perspective on how social entrepreneurs select, combine, and orchestrate resources	Onishi, Burkemper, Micelotta & Wales, 2018	To investigate how the development of opportunities of social entrepreneurship is eased with selection, combination and orchestration of resources in the different phases of such development.	Personal identity as resource and its relation with social entrepreneurship and the formation of networks based on personal values.	Social entrepreneurship may operate in environments of limited resources; however, it can be simultaneously rich in resources in terms of identity, knowledge and networks. Based on that it is proposed the notion of "mobilization" of resources based on identity". There are evidences that identity plays a critical role in influencing the selection of resources.	To investigate which factors contribute, intervene and are more resilient in such processes and to identify whether the past successes and failures of social entrepreneurs in similar circumstances allow them to find the right adjustment. Does the extension of resource insufficiency obligate social entrepreneurs to search for the right type of resources?
17	The influence of culture on the relationship between the entrepreneur's social identity and decision-making: Effectual and causal logic	Estrada-Cruz, Verdu-Jover, Gomez-Gras, 2019	To answer whether the social identities relate to effectual or causal creation and whether the national culture may influence such relation.	Social identity and culture as influences in the choice of the use of effectual and causal logics.	Individual's identity reflects on the type of opportunity explored and on the purpose of entrepreneurial activities, besides confirming that the entrepreneurial phenomenon is complex and demands studies on the sociological characteristics of the individuals.	To deepen the comprehension of the second order dimensions that compose the effectual logic and to analyze how each dimension is influenced by cultural aspects. To analyze other dimensions comparing to other countries.
18	Individual-level antecedents of the entrepreneurial approach: the role of different types of passion in the Italian craft brewing industry	Cannatelli, Pedrini & Braun, 2019	To explore the relation between logics of entrepreneurial action according to the principles of effectuation and causation.	Personal identity (passion) and the option for effectuation or causation in two aspects.	Passion for the product or the activity is an antecedent of effectuation, while passion for business growth is an antecedent of causation.	To focus on conditions under which identity changes occur and how they affect the entrepreneurial approach in important strategic decision making.
19	Understanding shifts of entrepreneurial decision-making: a process study of effectual and causal logics in the venture creating process	Mattes & Freiling, 2019	To investigate individual entrepreneurs on their tendencies of change of decision-making logic during the respective phases of the process of the enterprise creation.	Personal identity and its differences regarding the social identity in the processes of effectuation	The study shows how both entrepreneurial logics – the one based on planning (causation) and the flexible one (effectuation) – belong to one another, complement each other, and combine in the process of business creation.	To measure aspects of the individual effectual and causal decision making throughout the time, evaluating the unfoldments of tasks in which decisions are due to isolation of vertexes with displacements associated to actions.
20	Toward a theory of affordable loss	Martina, 2019	To make theoretical and empirical contributions on the definition of affordable loss in the effectuation theory.	Personal identity and its relation with levels of loss aversion.	Loss aversion is influenced by identity: who the entrepreneurs are and what they want to become.	To explain how entrepreneurs' identities influence loss aversion and if individuals having a heroic image of entrepreneurs are averse to loss.

21	Well-trodden highways and roads less traveled: Entrepreneurial-oriented behavior and identity construction in international entrepreneurship narratives	Korhonen & Leppaaho, 2019	To investigate the constructions of contextual identity and of creation in a sense creation of founders-CEOs of new, precocious and quickly internationalized enterprises.	Personal and social identities and orientation to international entrepreneurship.	The findings show: (a) How narratives full of meaning emerge from the construction of sense in the individual level of time and contextual experiences and (b) how narratives feed the construction of the identity. Individuals have different scripts of institutional progression	(a) To examine individual scripts and their broader implications; (b) to make intercultural comparisons among narrative scripts and constructions of identity and their contexts; (c) to deepen the “international” aspects of the process.
22	Does personality influence effectual behaviour?	Hensel & Visser, 2019	To analyze what personality traits impact the cognitive and social abilities of strategic decision making originated in effectuation.	Personal identity and the relations of personality with three central dimensions of effectuation.	Personality relations with key-issues of effectuation were found.	Future researches may improve the theoretical comprehension of the lemonade principle as a central dimension in effectuation, specifying its relevance to a phases of businesses.
23	Effectual thinking and music education: One view of creative adaptation in an undeserved urban middle school	Hanson, 2020	To contribute to the discussion on how educators teach music in circumstances under ideal conditions and deal with the “reality shock” gap.	Personal identity and professional identity in the context of education/teaching of music.	Conventional models of teaching music tend to be based on the causal logic. It is suggested to be focused on the available means, rather than predetermined objectives to be successful.	To understand how effectuation theory may explain the fluidity of the development of the identity and the identity of teachers.
24	Weaving network theory into effectuation: A multi-level reconceptualization of effectual dynamics	Kerr & Coviello, 2020	To position the effectuation as a phenomenon and conducting and dependent on network in the dynamic of effectuation.	Personal identity and social identity as supporters of the network in effectuation.	Knowledge, identity, and social capital influence the perceptions of uncertainty among actors and the notions of time, dimensions of ideas and social context.	To stud such as “ cognitive processes influence the degree in which the effectual thought is transferrable from one activity to another”.
25	Determining the influence of national culture: insights into entrepreneurs' collective identity and effectuation	Strauss, Greven & Brettel, 2020	To describe how the effectual behavior is shaped by the collective identity under different levels of cultural conditioning.	Social identity, individual identity and the national culture as influences on the use of effectuation	Entrepreneurs' effectual behavior is different due to their national cultural conditioning. Collective identity affects causal behavior.	To explore the relations in different national cultural contexts to examine the generalization and to add the context of other nationalities to analyze a broad diversity.
26	Unraveling the Relationship between Dark Triad Traits and Effectuation and Causation within Small- and Medium-sized Enterprises	Shirokova, Selivanovskikh, Morris & Bordunos, 2022	To amplify the comprehension of antecedents, at the individual level, examining the role of the dark side of the CEO's personality in the process of decision making in small and medium enterprises.	Personal identity and three characteristics of personality: narcissism, psychopathy and Machiavellism.	Results suggest that directors with higher score of psychopathy tend to adopt a causal logic, while the Machiavellians tend to adopt the effectual logic. The level of uncertainty shapes such relation weakening the bonds between the black triad's traits and the behavioral logic.	To deepen the studies on the relations of the black triad and the choice for certain behaviors in the decision making.

Source: Elaborated by the authors.

## 4.2 The current of personal identity

The identity of an entrepreneur is associated to her/his attitudes, beliefs, meanings and behaviors that typifies a line of work in the entrepreneurial process, whether searching for opportunities, whether performing initiatives or even evaluating and making an inventory of possessed resources to consider in a decision making (Sarasvathy, 2001; Hoang et al. 2010; Shepherd et al., 2009). An entrepreneur, when taking decisions on her/his business, even without knowing it, is communicating her/his identity in decisions and actions (Puhakka & Stewart, 2015). Personal identity constitutes a fundamental effectual mean to the process of the decision making (Sarasvathy, 2001). Such identity and its narratives throughout the life history of each entrepreneur give her/him a particular sense for her/his experiences and actions (which also influence identity) guiding the progression of her/his businesses (Korhonen et al., 2019; Sveningsson et al, 2003)

There are evidences showing that a more social-constructionist vision of identity is valuable to support effectuation, since we have to consider the complex, multiple and continuous construction of identity under the influence of more people and of several circumstances (Nielsen et al., 2012). According to the current, the personal identity is multiple and not always coherent. Such fact highlights that the way the entrepreneur aims at doing entrepreneurial activities is influenced not only in an intra-individual way, but also through the inter-individual interactions, which suggests that effectuation theory may be better understood if we approach identity by an individual/personal level to consider it in the realm of social interactions (Nielsen et al., 2012). The economic, social and cultural aspects influence the personal identity (Obrecht, 2011).

Studies reveal that it is necessary to recognize that the people's identity, the emergent orientations and the entrepreneurship actions are inserted in the context of social and institutional logics, emerging from the interaction between the individual agency and the institutional structures, which shapes the creation and the development of businesses (Lok, 2010). It is noticed that there is a fine connection between work, identity, life and entrepreneurial involvement in life, in particular in the "pre-entrepreneurship" phase of people, which will be relevant in the definition of the whys, from what and how to undertake (Watson, 2013). In addition, personal identity implicates forms of subjectivity (many times positive) entangled to feeling, values and behaviors that point in particular directions (sometimes conflicting) in affinity with the personality of the actor throughout the time (Alvesson et al., 2008). The relations between identity and personality may reveal evidences of how entrepreneurs choose to adopt a causal or effectual logic (Shirokova et al, 2022).

When seen in the condition of precedent to the entrepreneur's behavior, identity is constituted as a provider of means from which entrepreneurs may, paradoxically and at the same time, accommodate and resist to the practice

and the identity implications of new institutional logics according to the changes in context and status that influence her/his "who I am" (Lok, 2010). Identity, as an effectual mean, relates to knowledge and relations being a guidance to the subsequent actions, directly affecting strategic decision making, the definition of the level of affordable loss and the choice of effectual partnerships (Hensel et al., 2019; Deligianni et al., 2022).

The intimate relation of personal identity with effectuation is not simply a part of a static concept of "who I am", since the perception the individual has regarding her/himself results of a continuous process of social construction and interaction with her/his social circle, which leads to a group of multiple different identities, each one being related to a socially expected role (Nielsen et al., 2012; Watson, 2013; Powell et al., 2014). Within such perspective, personal identity acts defining effectual and causal logics, reflecting on the relation between self-efficacy (belief in one's own ability to succeed doing what one desires - Bandura 1986)) and entrepreneurial orientations (Kvitastein et al., 2019).

## 4.3 The current of the social identity

Social identity consists of how a person sees her/himself as member of a group and a result of the group's influences (Alsos et al. 2016; Fauchart et al., 2011; Mills & Pawson, 2012). It includes how the person understands her/his "who I am" in the social space, which shapes her/his behavior and her/his actions, including her/his entrepreneur behavior (Gruber & MacMillan, 2017). Social identity is one of the justifications of how and why the entrepreneur deploys effectual or causal behaviors (Estrada-Cruz et al., 2017). It helps to shape the effectual behavior (Alsos et al. 2016; Estrada-Cruz et al., 2017; Mattes et al., 2019).

There are three types of social identity revealed in the research of Fauchart & Gruber (2011) and developed in more details by Alsos et al. (2016): Darwinian, communitarian and missionary. The Darwinian refers to the classic entrepreneur, to whom profit, market fit and survival of the business are above all social causes, which have little relevance to her/him. The communitarian has as central characteristic the motivation of self-fulfillment, hobby or leisure interest to her/himself and to a group of individuals with common interests – as it can be seen in the lifestyle entrepreneurs (Ateljevic e Doorne, 2000; Klapper, Upham & Kurronen, 2018; Wallis et al., 2020). The missionary's identity is strongly linked to the promotion of a cause and/or activities of social responsibility, being the search for financial gains secondary – as it occurs with social entrepreneurs.

Alsos et al. (2016) advanced in research and identified that the social identities called Darwinian and missionary are more associated to the causal behavior, which means that type of behavior considered traditional, planned and with objectives established a priori, followed by raising of resources to achieve them. To Darwinians, the objective is to obtain profit and beat the competition. To the

missionaries, the objective is to promote a social cause and her/his success is obtained from the reach of such objective. Alsos et al. (2016) pointed out that, in the communitarian social identity, effectual behavior prevails, which converges with the effectuation centrality in lifestyle entrepreneurship - LSE (Lima, 2022). According to the authors, to start a business, entrepreneurs with a communitarian identity need to be identified as part of their social community, and, as follows, to work generating responses to the community needs once those needs are identified.

In society, the national cultural values promote or make the effectual behavior harder according to the collective identity the entrepreneur has under the influence of such values (Estrada-Cruz et al., 2019). The social identity is molded and influenced by cultural aspects and, consequently, molds and influences the behaviors of entrepreneurial action in effectuation (Strauss *et al.*, 2020). A prevalent social identity provides references for the individuals so each one may interpret both the social situations and behaviors; since the creation of a business is a social activity, the entrepreneurs mold their behaviors regarding how they perceive themselves upon others and act based on that (Fauchart e Gruber, 2011; Alsos et al. 2016). The development of businesses defies the entrepreneurs and impose varied identities to them (as far as they want to reach their objectives) so they have several identities according to the roles that interest them and they recognize throughout the development of businesses (Ekinci, Gordon-Wilson & Slade, 2020).

#### 4.4 Discussions with more publications in addition to the SLR

It is central, in the studied literature, the notion that identity plays an important role in effectuation as a booster and guide of thoughts, decisions and behaviors directed to entrepreneurial activities, including definitions regarding the products offered by the businesses (e.g. as shown by York, O'Neil & Sarasvathy, 2016) and regarding the interest and the way to act as an entrepreneur (Onishi et al., 2018). When effectuation is used, identity also influences the preparation of students to undertake, once they experience an entrepreneurial identity and its potentials during an entrepreneurship education supported by effectuation (Gunzel-Jensen & Robinson, 2017).

In effectuation, identity reflects on the type of opportunity explored and on the purpose of the entrepreneurial activities (Estrada-Cruz et al., 2019), as well as on actions and ways of thinking and acting in entrepreneurship according to what the most general literature informs by extrapolating the theme of effectuation (Mmbaga et al., 2020; Radu-Lefebvre et al., 2021; Wagenschwanz, 2020). Such identity effects are mostly due to its common role of establishing desires, values and preferences. Those effects occur in frequent association with the correlates of identity, such as personality (Hensel & Visser, 2019; Shirokova et al., 2022) and entrepreneurship passion (Cannatelli, Pedrini & Braun, 2019).

Entrepreneurship passion consists of positive feelings which are conscientiously accessible and result from an engagement in activities with a meaning which is aligned to the identity and are salient to the entrepreneur (Cordon & Kirk, 2015).

According to the considerations presented here, identity constitutes a central factor of distinction in effectuation comparing with the rational-formal approach used in causation, given that the guidance it produces is predominantly oriented by entrepreneurs' personal and idiosyncrasy factors (e.g. values, preferences, passions and ideologies) and not by what the classic approach establishes, which is the rational, logic calculus, even mathematical, of what is best for the development of the entrepreneurial activities. To illustrate such ideas an example that can be created here regards wine production. An entrepreneur producer of wine may insist on producing and selling a specific type of wine, given its identity linked to emotional issues and family tradition that privileges such wine, rather than another one which is proven to be more profitable according to formal rationality criteria. Identity is frequently shown as an important reason not to fully adhere to or to go against the rational criteria of growth and/or profit. This occurs in particular in life style entrepreneurship (LSE). This is a type of entrepreneurship that occurs as a way to live a desired lifestyle, prioritizing the well-being normally related to self-fulfillment and alignment of work, passion, income, personal life, values and family (Ateljevic & Doorne, 2000). In this type of entrepreneurship, entrepreneurs have an identity which is strongly linked to the her/his chosen (and normally pleasant) lifestyle. This way, they protect the lifestyle imposing themselves a behavioral limit fence (*"staying within the fence"*) avoiding to injure their lifestyle with a lot of dedication to profit and growth (Ateljevic e Doorne, 2000).

In the SLR presented here, it was noticed the absence of studies on LSE exploring the connections between effectuation and identity. LSE is much supported by effectuation, mainly when the created business is at its beginning, since it is common that this LSE occur from an already established lifestyle used as a source of effectual means to the entrepreneur. An example of this is a sportsperson who starts to live her/his lifestyle also in relation to and supported by a business. In LSE, identity is even more central, since the preferences it establishes are linked to a great respect for the lifestyle that the entrepreneurs understand as a definer of and a need for her/his way of being so they do their entrepreneurial activities in alignment with such lifestyle (Lima, 2022; Cardon et al., 2009). Therefore, it is common that ecologists that want to become entrepreneurs, boosted by their identity, extend and support their lifestyle with ecological entrepreneurship (e.g. services of immersion in nature and adventure tourism in respectful interaction with biodiversity – Ateljevic & Doorne, 2000). Something similar commonly also happens to other lifestyles, such as skaters, surfers, travelers and hobby enthusiasts (Lima, 2022).

Extreme cases of adhesion to a lifestyle are not rare, with lifestyle entrepreneurs persisting in their activities even in cases of low profitability, financial losses or great restriction of resources and possibilities. This has been seen in the tourism, sports and ecology entrepreneurship of many restrictions in the village of Playa Gigante, Nicaragua, which offered a lifestyle to its entrepreneurs and social-development to its region (Klapper, Upham & Kurronen, 2018). Persistence of the lifestyle entrepreneurs, anchored on their identity and for non-economy reasons, has given them a relevant role in promotion and development of disfavored communities (Mouraviev e Avramenko, 2020), just as in poor and remote places (Ciasullo, Montera e Pellicano, 2019; Klapper, Upham e Kurronen, 2018). Such persistence in face of restrictions fed by identity and enabled by the effectual “doing much from little” (Michaelis et al., 2020). Such persistence seems irrational in more extreme situations of scarcity, but ends up being an important source of solutions and development even at the bottom of the pyramid in a context of violence (Servantie e Rispal, 2018) and in a disaster crisis (Nelson e Lima, 2020). Something similar has happened in the case of entrepreneurs of four social companies in India and Colombia using effectuation (and the key-effects of the identity, one may deduce) to persist and overcome the lack of resources and the uncertainties imposed by poverty in the promotion of health (Rosca, Agarwal & Brem, 2020). Such statements complement the study of Mouraviev & Avramenko (2020) on the potential of the LSE to poor communities, pointing out the promising character of new studies on the effects of identity in effectuation that produces development in contexts of scarcity.

Combining directive and motivation roles, as well as a persistence feeding one (including by effect of passion – Cardon & Kirk, 2015), identity, by definition, also offers to entrepreneurs a level of consciousness on their own personal characteristics and, therefore, on their abilities and potentials. To clearly and realistically notice their characteristics including personal conditions helps them to understand what they are capable of doing and modulates their level of belief in their capacity of successfully perform the initiatives they want (self-efficacy – Bandura, 1986). For such perception and for such modulation, the experiences in past realizations are particularly useful and can elevate their self-efficacy – i.e. if they were able to realize things they considered important, they are led to better believe in their capacity of doing the same again and maybe doing even more (Bandura, 1986). In this sense, entrepreneurs can develop the perception and beliefs about their identity, characteristics and capacities throughout the time, just as their identity can also develop (Nielsen & Lassen, 2012). Those developments end up by offering them entrepreneurial abilities to explore (Obrecht, 2011). However, the identity development throughout effectual processes has not been studied, as well as the relations of identity as an effectual mean with self-consciousness and self-efficacy.

In addition to the several research needs indicated in the last paragraphs about identity and its condition as an effectual mean, studies are lacking to detail how identity interact with and influences the other effectual means (knowledge and relations). This lack of research occurs despite the fact that the literature already highlights the existence of a close interaction of the three effectual means (e.g. Haller et al., 2017; York, O’Neil & Sarasvathy, 2016). Attention is particularly drawn by the research need regarding the effects of identity on relationship networks and the processes of taking advantage of those networks. Identity limits the scope of thoughts and desirable and acceptable actions in the dynamic process of effectuation (Figure 1 above) and of the entrepreneurial process in general, in a way that one acts as an entrepreneur in what (and the way that) has affinity with identity. It was exactly what occurred in the process (described by York, O’Neil & Sarasvathy, 2016) of conceiving ideas, performing and acting in environmental entrepreneurship because the entrepreneurs’ identity characteristics point to that.

Either, studies were not found focusing identity centrality acting as a stimulus of differentiated development of organizations (e.g. entrepreneurs’ identity generating strategic differentials via effectuation). This is an important theme since entrepreneurs often explain their actions and decisions in accordance with preferences established by their identity (Sarasvathy, 2001; 2008). As it has already been repeated in this article, identity directly reflects on the option for certain strategies or ways of acting in the causal and effectual logics (Estrada-Cruz et al., 2017). Mainly in ambiguous situations, it guides the entrepreneur in strategic decision for development of the business (Ceresia & Mendola, 2020).

Identity is an effectual mean (Sarasvathy, 2001) and an ability (Obrecht, 2011) to be explored by (and in combination with) the effectual means of relations and knowledge. Such role of identity occurs, for example, in the sense of belonging to a specific group of people (social identity – Alsos et al. 2016) that has similar identities and, by affinity, mutually help one another. This mutual support between peers (e.g. entrepreneurs of different enterprises helping themselves) favors exchanges and collective realizations moved by common interests, as well as collaboration and trust (Haller et al., 2017).

When collaboration and trust are facilitated, they provide the formation of useful engagements of various partners, as it is common in effectuation, in a “crazy quilt” of collaborative relations. In the recursive cycles of the effectual process represented in Figure 1, identity boosts the gradual amplification of the availability of the three effectual means within the scope that it establishes, with the entrepreneur seeking to always respect and use her/his own identity. Therefore, even with the expansion of the entrepreneurial activities and levels of affordable losses in initiatives, the entrepreneur advances seeking to avoid the discomfort of misalignments regarding identity, which also evolves over time. Such considerations contribute to

broaden the supplementation proposed by Nielsen & Lassen (2012) as to the role and to the dynamics of identity in effectuation theory.

## 5 CONCLUSIONS

The central interest of this article was to analyze the existing literature about identity in effectuation, characterizing the state of the art of research on this subject. The choice of doing a SLR became a fruitful path to reach such goal. The research question was answered, revealing that identity in effectuation has been an important object of study, mainly from 2011 on, but revealing also that important knowledge gaps persist, as shown by the precedent section. More researches are necessary to deepen knowledge, especially regarding the dynamic and processual identity development in the entrepreneurial process – so that the knowledge presented in this article can be complemented regarding how identity molds the entrepreneurship activity being used in effectuation. According to the raised publications, used by effectuation, identity may determine not only the type of opportunity to be explored in entrepreneurship, but also the purpose of the entrepreneurial activities, the way to do them, the established effectual objectives and the network of relationships and commitments developed with partners. Identity and its effects have also impacted persistence – as seen in the LSE in scarcity contexts – and the self-efficacy of entrepreneurs.

From the analysis of the raised publications, it can be concluded that identity should not still be treated as stable, but dynamic, processual and influential to the decisions and entrepreneurial actions. Personal values and objectives established according to identity are relevant in the entrepreneurial initiatives. As individuals act, they are also considering who they are, what they want and whether they are in the proper path of actions aligned with their identity, enabling adjustments of aspects of identity throughout time consecutively with changes of actions aiming at better results and self-fulfillment (this one being much emphasized in LSE).

Identity is similar to the center of a snowball, which defines the layers to be added to its surroundings, layers of values, interests, preferences, orientations, realizations, contexts, facts and realities that give life to the entrepreneurial process and establishes its characteristics. Therefore, the dynamic construction, the evolution and the impacts of identity throughout time need to be better known in effectuation and entrepreneurship.

As for future researches, it is suggested to study entrepreneurs who use the identity to advance their entrepreneurial intention by effectuation, as, for example, lifestyle entrepreneurs, since, in those type of entrepreneurs, identity is particularly relevant for decision-making and guidance of the entrepreneurial action. This way, the study of those entrepreneurs may deepen the comprehension of aspects of identity acting as a driving

force of the effectual behavior. From the results that were obtained, not predictable a priori and, therefore, not liable to treatment in the theoretical foundation of this article, four investigation lines seem promising for future investigations:

- 1) Studies about social identity and formation of social value in the social entrepreneurship (York, O'Neil & Sarasvathy, 2016; Alsos, Clausen, Hytti & Solvoll, 2016; Estrada-Cruz, Verdu-Jover & Gomez-Gras, 2017; 2019; Onishi, Burkemper, Micelotta & Wales, 2018);
- 2) Studies about identity related to the lifestyle entrepreneurs, evaluating how and why these entrepreneurs do what they do (Popp, 2016; Lima, 2022; Lima, Nelson & Lopes, 2020; Wallis, Walmsley, Beaumont & Sutton, 2020; Horst, Thesleff, & Latre, 2019);
- 3) Studies about personal identity in interaction and in complement with the effectual means of knowledge and relations (Obrecht, 2011; Watson, 2013; Obrecht, 2016; York, O'Neil & Sarasvathy, 2016; Martina, 2019; Kerr & Coviello, 2020);
- 4) Understanding identity as a motivational instrument and force for the effectual behavior, mainly in its dynamics regarding business strategies (Nielsen & Lassen, 2012; Haller, Santoni & Barth, 2017; Martina, 2019; Mattes & Freiling, 2019; Cannatelli, Pedrini & Braun, 2019; Kerr & Coviello, 2020).

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