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### FACTORS AND APPROACHES OF ENTREPRENEURIAL INTENTION

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### **ABSTRACT**

The objective was to identify the factors and approaches present in the scientific production on entrepreneurial intention (IE). Therefore, the database Web of Science served as a reference for the selection, collection, analysis, and systematization of the 59 scientific articles selected from January 2013 to January 2016. The design was quantitative and descriptive. It was adopted the bibliometric technique for analysis of the citations, and the software Bibexcel to generate a matrix of quotes. This matrix, in turn, was analyzed using the Statistical Package for Social Sciences (SPSS) and the exploratory factor analysis (EFA). The factors that emerged from the factor analysis were seven: Entrepreneurship; Cultural Influence and Personal Factors; Entrepreneurial Education and Influencing Variables; Development of Entrepreneurial Intention; Entrepreneurial Risks, Conceptual Tools, and Enterprising Women. The approaches, in turn, were 17, corresponding to the specificities of the factors of the articles analyzed. These approaches indicated the essence of the articles analyzed, enabling the sorting and systematization of what has been approached in the literature on El. It was possible to highlight the approaches relative to the Entrepreneurship, Cultural Influence and Personal Factors, Entrepreneurial Education and Entrepreneurial Women. There was a connectivity between the authors, the factors, and the permanent approaches to the literature on El. The contribution of this research expands and complements the overview that has been recently made about the literature published at EI in the individual level.

**Keywords**: Entrepreneurial intention; Bibliometrics; Citation analysis; Factors and approaches.

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## FATORES E ABORDAGENS DA INTENÇÃO EMPREENDEDORA

#### **RESUMO**

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O objetivo foi identificar os fatores e as abordagens presentes na produção científica de intenção empreendedora (IE). Para tanto, a base de dados Web of Science (WoS) serviu como referência para a seleção, coleta, análise e sistematização dos 59 artigos científicos selecionados, de janeiro de 2013 a janeiro de 2016. O delineamento foi quantitativo e descritivo. Adotou-se a técnica bibliométrica para análise das citações e o software Bibexcel para gerar uma matriz de citações. Esta matriz, por sua vez, foi analisada por meio do Statistical Package for Social Sciences (SPSS) e da análise fatorial exploratória (AFE). Os fatores que emergiram da análise fatorial foram sete: Empreendedorismo, Influência Cultural e Fatores Pessoais, Educação Empreendedora e Variáveis Influenciadoras; Formação de Intenção Empreendedora, Riscos de Empreender, Ferramentas Conceituais e Mulher Empreendedora. Por sua vez, foram 17 abordagens, correspondendo às especificidades dos fatores dos artigos analisados. Estas abordagens indicaram o cerne dos artigos analisados, possibilitando a ordenação e a sistematização do que vem sendo abordado na literatura de IE. Coube destague para as abordagens concernentes ao Empreendedorismo, Influência Cultural e Fatores Pessoais, Educação Empreendedora e Mulher Empreendedora. Houve conectividade entre os autores, os fatores e as abordagens constantes na literatura de IE. A contribuição desta pesquisa amplia e complementa o balanço que vem sendo realizado sobre a literatura publicada em IE, no nível individual, em período recente.

**Palavras-chave**: Intenção empreendedora; Bibliometria; Análise de citação; Fatores e abordagens.



## 1 INTRODUCTION

Since Wickers' (1969) review, which studied the relationship of attitudes and behaviors, social psychologists are dedicated to the research about the predictive power of intentions and attitudes (Armitage & Conner, 2001). The Theory of Planned Behavior (TPB), of Ajzen (1985, 1988, 1991), drafted in the social psychology, is constituted of one of the seminal models in Entrepreneurial Intention (EI). It has influenced the literature on the theme in the last 30 years. In this theory, the intention of performing a certain behavior is the main element. The stronger the intention of having a behavior, the greater the probability of its performance to be effective (Ajzen, 1991).

Lortie and Castogiovanni (2015) expatiated on the TPB, starting from the premise that a type of intentionality for the behavior precedes any planned behavior. The intentions are understood by capturing the motivational factors that influence the behavior, as well as by how much effort has an individual who is planning to execute, in order to perform this behavior.

The article of Krueger and Carsrud (1993) was probably the responsible for making the TPB the "reference" model in the EI research. During the evolution of this subject, the work of these authors considered the TBP of Ajzen (1991) as the theoretical model that supported the understanding on EI (Liñán & Fayolle, 2015). It is worth highlighting that the TPB derives from previous works of Fishbein and Ajzen (1975), and Ajzen and Fishbein (1980), and is characterized as an extension of the Theory of Reasoned Action (TRA). The TPB also considered Bandura's (1977a, 1977b, 1982, 1986, 1997, 1999, 2001, 2012) works about self-efficacy.

In this evolution of the EI, the Entrepreneurial Event Model (EEM), preconized by Shapero and Sokol (1982), and Shapero (1984), was also considered important for the literature on the theme, aiming at the EI and the creation of new businesses (Krueger, 1993, 2000, 2005, 2007, 2009). Along the same line of thinking, Krueger and Brazeal (1994), and Krueger, Reilly, and Carsrud (2000) understood that these two models, the TPB (Ajzen, 1991), and the EEM (Shapero and Sokol, 1982; Shapero, 1984), were similar somehow and stood out in more than one aspect. Recently, Schlaegel and Koeing (2014) analyzed and compared these two theoretical studies and their applicability in the entrepreneurship area. For that matter, the TPB (Ajzen,



1991) has frequently been applied, standing out among the others, to explain the mental and behavioral process that leads to the creation of businesses.

Bird's (1988) work can also be considered important for this theme. The author understood that the EI is the main factor in the process of creation of new enterprises. The EI may be defined as a conscious state of mind that precedes the action and directs the attention to a goal: starting new businesses (Bird, 1988). The EI has been presented as a predictor of the entrepreneurial behavior since it can represent the first step for the launch of an enterprise (Kolvereid, 1996; Krueger et al., 2000; Krueger, 2005; Mitchell et al., 2007; Schlaegel & Koenig, 2014). Therefore, the life experience, as well as the environment and the culture that surround the individual produces an accumulation of knowledge. In addition, the potential, the capacity, and the resilience are attributes that sustain the individual in the entrepreneurial process. It is a complex decision process. And such attributes are responsible for the motivation, attitude and intention concerning the act of starting a business (Bird, 1992). Undertaking, with the creation of a business, mainly when it is about micro and small businesses, contributes for the growth of the country, especially with the job creation and the reduction of social inequalities.

In this context of EI, Hirschi (2013) understands the entrepreneurship as a process composed of phases, and the EI is a fundamental component. It is revealed as a key element that initiates all the other steps of the undertaking process. Muller, Zapkau, and Schwens (2014) understand that the entrepreneurial process in originated in the behavior and attitude of the individual and is related to the intention of starting a business. Saeed, Yousafzai, Yani-De-Soriano, and Muffatto (2015) complement understanding the entrepreneurship as a process of risk creation, in which the EI creates the connection between the ideas and the action, making the entrepreneurial process feasible. According to Kautonen, Gelderen, and Fink (2015), the entrepreneurial behavior occurs when there is a connection/union between the entrepreneurial individual and the business opportunity, because an individual may have the desire, but the moment for that applicability may not occur, or vice versa.

The TPB and the EEM served as support for numberless relevant researches that defend that a conscious and deliberate behavior can be predicted through the intention (Krueger, 1993; Krueger & Brazeal, 1994; Krueger, Reilly, & Carsrud, 2000; Guerrero, Rialp, & Urbano, 2008; Souitaris, Zerbinati & Al-Laham, 2007; Liñán & Chen,



2009; Liñán, Urbano, & Guerrero, 2011; Nabi, Liñán, & Krueger, 2013; Kautonen, Van Gelderen, & Tornikoski, 2013; Chen, 2014). According to Micaela et al. (2014), all the models arose with the aim of predicting and explaining the entrepreneurial behavior of the individuals, adding to the understanding of the entrepreneurial process.

The literature on EI has constantly been growing, and studies have focused on the analysis of this literature. Therefore, the aim of this work was to identify the factors and approaches present in the scientific production on El. To this end, a quantitative and descriptive research, using the bibliometric technique, was held considering the database Web of Science (WoS), from January 2013 to January 2016. This period of time is justified in virtue of the currentness of the theme and consequent representativeness on time. It is advantageous to count on regular and recent literature analysis, since they give the opportunity to review the past and consider concepts, principles, ideas, and tendencies in a particular study area. The 59 scientific articles, published with full text, were selected and collected in the categories *Management* and Business of WoS. They were analyzed through the Software Bibexcel, and it was possible to generate a matrix of quotations. This, in turn, was analyzed through the Statistical Package for Social Sciences (SPSS) and the exploratory factorial research (EFR). This research considers aspects of what has been more recently highlighted by international authors such as Liñán and Fayolle (2015), Souza (2015), and Santos, Martins, and Silveira, by virtue of the similitude, in some aspects, with what was developed here.

The article was structured in five parts; the first one regarded the introductory aspects. The second part presented the most recent literature reviews about entrepreneurial intention and that showed aspects of similitude with this study. The third part described the methodological procedures adopted to the accomplishment of this research, intending to ensure the scientific replica. The analysis of the results evinced what was found in the study field and approached the studies that are similar to that were accomplished here. The final considerations were revealed in the conclusion. The references enrolled at the end of the article showed what was cited to substantiate the theme approached.



## **2 LITERATURE REVIEW**

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Relevant studies for the development and creation of business considered mainly the investigations designed to identify the characteristics of the entrepreneur. Gartner (1988), however, informed that researches should be directed to the attitudes which made the person an entrepreneurial individual, not focused on the personal characteristics. Therefore, at some point, this literature presented the design of models to investigate how the individuals would choose to start an enterprise and which constructs and variables could be related to this theme. Umpteen studies related to the understanding of the factors that influenced the entrepreneurial intentions arose. At this point, it is worth highlighting that researchers used several theories and models in this path. Lortie and Castogiovanni (2015) reviewed the scientific literature and considered the TPB (Ajzen, 1988, 1991) as a study base, making clear that this theory has been cited over time. They also affirmed that Ajzen's (1988, 1991) works received constant, numerous and significant citations.

Previously, Moriano et al. (2011) made clear that numberless studies explained the entrepreneurial intentions, but that the most effective model in this task was the one of the TPB, of Ajzen (1991). Liñán and Fayolle (2015), also based on a study of literature review, reaffirmed that the theoretical study of Ajzen (1991) remains as the most cited theory in scientific articles in the entrepreneurship area, to prevent the human behavior and support the studies on entrepreneurial intention. This theory, the TPB (Ajzen, 1991), focused on two research lines regarding entrepreneurial intentions: 1) the relations between attitudes and entrepreneurial intention; and 2) the connections between self-efficacy and entrepreneurial intention.

For that matter, three components were efficient and effective in the identification of the behavioral intentions: 1) attitude related to the behavior; 2) subjective norms; and 3) perceived behavioral control. The first is related to the influence of a set of beliefs in the behavior. The second, to the normative beliefs and the motivation to comply with them. And the third and last one, to the capability of the individuals to perform certain behavior (Moriano et al., 2011). For Schlaegel and Koenig (2014), Ajzen's (1991) study was considered the most complex one, expanding the comprehension on the determining factors of the entrepreneurial intention. The authors conclude that Ajzen (1991), through the TPB, is the author who best supports



and explains the entrepreneurial intention. Schlaegel and Koenig (2014) also demonstrate that the EEM (Shapero & Sokol, 1982) depends on the perceived convenience, the propensity to act and the perceived viability. Perceived convenience refers to the level of attraction and interest of the individual in becoming an entrepreneur. The tendency of a person to act is related to the disposition and perception to take appropriate attitudes and at the right moment. The perceived viability, in turn, corresponds to the degree of trustfulness of the individual to become an entrepreneur (Kolvereid, 1996; Tkachev & Kolvereid, 1999; Autio et al., 2001; Kolvereid & Isaksen, 2006; Van Gelderen et al., 2008; Liñán & Chen, 2009; Liñán, Guerrero & Urbano, 2011; Moriano et al., 2012; Espiritu-Olmos & Sastre-Castillo, 2015). With this perspective, Liñán (2005, 2008) presented an instrument of psychometric measure whose base was the TPB (Ajzen, 1991), with the aim of measuring the degree of entrepreneurial intention. Liñán and Chen (2009) tested this instrument of data collection with university students. This instrument was constituted of a set of questions representing the following constructs: Entrepreneurial Intention (EI), Perceived Behavior Control (PBC), Subjective Norms (SN), and Personal Attitudes (PA). The EIQ was reviewed by Liñán, Urbano, and Guerrero (2011), subsidizing new researches. In Rueda, Moriano, and Liñán's (2015) work, they pointed out researches performed with the EIQ in several countries, mainly in universities and with undergraduate students.

It is worth highlighting that there was an interest, during this trajectory, of following the behavior of this scientific production. Several literature reviews and meta-analysis figured in the literature of El. Among others, it is important to mention the studies of Armitage and Conner (2001), Guerrero, Rialp, and Urbano (2008), Thompson (2009), Zhao, Seibert, and Lumpkin (2010), Singh, Prasad, and Raut (2012), Terjesen, Hessels, and Li (2013), Schlaegel and Koenig (2014), Bae, Qian, Miao, and Fiet (2014), Kautonen, Gelderen, and Fink (2015), Lortie and Castogiovanni (2015), Liñán and Fayolle (2015), and Kolvereid (2016).

From the reviews that studied specifically the TPB (Ajzen, 1991) to better comprehend this theory, Schlaegel and Koenig's (2014) stands out. These authors pursued three objectives: 1) testing and comparing the Theory of the Planned Behavior (TPB) of Ajzen and the Entrepreneurial Event Model (EEM) of Shapero and Sokol (1982); 2) exploring if the differences between the two studies are due to the contextual or methodological moderators, testing these kinds of moderators; 3) examining the particular mechanism that is behind the formation of entrepreneurial intention. This study offers an extensive and valuable view on this theme. Lortie and Castogiovanni (2015), in turn,

performed a literature review that considered as focus of study the two works of Ajzen (1988 and 1991) and that substantiated the TPB. This study solidifies the knowledge about the subject.

Among the recent international reviews about EI, on the whole, Liñán and Fayolle's (2015) and the ones performed in Brazil, of Souza (2015) and Santos, Martins, and Silveira (2016), deserve to be pointed out. These works are similar to what was developed here and deserve a closer look in this article.

Liñan and Fayolle (2015) sought to systematize and categorize the literature on entrepreneurial intention. The objective of the study focused on offering a clearer image of the themes and subthemes of entrepreneurial intention. To do so, they reviewed the influent contribution in the research field, identifying the most relevant areas of specialization. The study classified the research themes in each specialization area, in order to induce new ways and perspectives in the field of the investigation of the entrepreneurial intention. To his end, Liñan and Fayolle (2015) selected the scientific articles in the Scopus database, from 2004 to 2013. After that, they did research on Web of Science, integrating results and eliminating double articles; after careful reading, 409 scientific articles were considered for analysis. From them, 24 articles emerged as the most representative ones. Through the analysis of citations, the articles reviewed were categorized into five groups, followed by the theme analysis, in six themes. In compliance with Liñan and Fayolle (2015), the articles elected were presented according to categories, serving as support for studies on the theme of the entrepreneurial intention.

Figure 1 shortly evinces what was found on Liñán and Fayolle's (2015) work.

Citation Analysis				
Group 1	Core model, methodological and theoretical issues			
Group 2	! Influence of personal level variables			
Group 3	Education, entrepreneurship and intentions			
Group 4	The role of the context and institutions			
Group 5	The entrepreneurial process and the link of behavior intention			
Thematic analysis				
1	Model of intention of the managerial core			
2	Personal level variables			
3	Entrepreneurial education			
4	Context and institution			
5	Entrepreneurial process			
6	New research areas			

Figure 1. Citation analysis and thematic analysis Source: adapted from Liñán, F., & Fayolle, A. (2015).



Souza (2015), in Brazil, performed a search on Scopus database about this same issue. Afterward, he used the software Bibexcel to analyze the period between 1999 and August 2015. The term *entrepreneurial intent* or *entrepreneurial intention* was present in 242 articles. Through a Dendrogram, generated from the use of a free software called Iramuteq (Camargo & Justo, 2013), the author showed the result of the lexical analysis. Two classes emerged from the main keywords and their variations found in the articles about entrepreneurial intention: 1) classes 2, 6, 4 and 3, with the greatest concentration (70.1%) and representing a group in which the impact words are registered, such as region, economy, culture, instrument, cognitive, university, intentions, competences, capital, researches, work and theory; and 2) classes 1 and 5, with the lowest concentration (29,9%), are about the TPB and the variables such as subjective norms, attitude, and behavior.

In this study, as Souza (2015) found in his results emphasis to Francisco Liñán's scientific production, at University of Seville, Spain, he focused his analysis on the articles that dealt with and referred to the initial model proposed and validated by Liñán and Chen (2009) to measure the entrepreneurial intention. Bibliometrics was adopted in this study, using Zipf's Law (Zipf, 1949). The frequency of words found in the articles developed by the researcher Francisco Liñán about entrepreneurial intention was presented. In general, from a similitude analysis, Souza (2015) reaffirmed the statements regarding the relations and connections between the most representative words in the analyzed articles. He presents the following as results: 1) Intention – TPB, behavior, predictor, businesses; 2) Entrepreneur – influence, impact, and gender, and other relations. The connections discuss motivations, effect, individual, undergraduates, and others. The influence of Francisco Liñán's publications was confirmed.

Santos, Martins, and Silveira (2016), also in Brazil, aimed at categorizing and classifying the constructs of the entrepreneurial intention present in the literature of the theme. For that purpose, they considered the subject on the platform Web of Science, from 1999 to August 2015, and 142 scientific articles published with full text in journals of the vast area of the social sciences were retrieved. The design of the research was quantitative and descriptive. At first, the technique adopted for the study was bibliometric, based on Zipf's Law (Zipf, 1949), once it supports the analysis of the



scientific production in a particular area and measures the number of occurrences of words in texts, indicating the subject categories.

Subsequently, Reinert's method was adopted, which was based on the search for the similarity of words. This method measured the occurrence of the words in the texts of the articles analyzed, separating them into clusters (Reinert, 1993). The algorithm ALCESTE, employed in Reinert's (1993) method, divided the texts into blocks of words and centered lexical forms with the same specific sense. Afterward, the algorithm verified the lexical proximity between the forms and their distance within the text. For this purpose, the program Iramuteq was used, which drew on Reinert's (1993) method to analyze the textual corpus (Sbalchiero & Tuzzi, 2015). Through this program, the three analyses were held: 1) the hierarchy of constructs (categories or "classes" according to Reinert's nomenclature); 2) the spatial organization of constructs (how they influence each other and stand out); and 3) the analysis of similitude in which the weight relation between the primary constructs, the second-order ones and the relationship strength between them are verified.

The results were in conformity with Zipf's Law (1949), proving its adequacy and giving evidence of the existence of internal categories of theoretical grouping. Following Reinert's (1993) method, four classes emerged from the classification of this literature: 1) Theoretical Component; 2) Accessories and Contextualization; 3) Typical Characteristics; and 4) Structure of the Studies. The first conclusion evinced pointed out that classes 1 (Theoretical Component) and 2 (Accessories of Contextualization) are relatively stable. Classes 3 (Typical Characteristics) and 4 (Structure of the Studies) presented a high degree of interaction and conjunction. Santos, Martins, and Silveira (2016) proposed a preliminary model based on the spatial organization and on the weight between the main constructs and the second-order ones, aiming at the continuity of studies of such nature and seeking to contribute in the sense of presenting progress in this field of study.

The results of these three reviews contributed for this study.

#### **3 RESEARCH METHOD AND TECHNIQUES**

For the development of this article, a descriptive, qualitative, with deductive method and bibliometric technique research was conducted (Guedes & Borschiver,



2005; Vanz & Stumpf, 2010), supported by Lotka's Law (Lotka, 1926). According to Vanti (2002), Lotka's Law, or Inverse Square Law, seeks to measure the authors' productivity, using a size-frequency distribution model of several authors of a particular set of texts. Price (1965) stated that the references listed in scientific articles indicate the nature of the networks and the scientific research basic core on that specific subject. Considering the objective of this article, this Lotka's Law (Lotka, 1926) was adopted to support this research, relying on the citations of the selected articles and seeking in these authors' references the currents of thought that substantiate the literature on entrepreneurial intention. With the previous understanding, the database Web of Science was accessed using the following keywords: *entrepreneurial intent*, *entrepreneurial intention*, and *entrepreneurship intention*. The Boolean resource was or, and the selected period was the four most recent years. This data collection was conducted in February 2016. The search began with the selection of 68 registries; it and was refined and 63 scientific articles remained.

Only articles published in journals were included in this research, once they are primary scientific productions and are considered representative, validated through blind peer review. They were retrieved online, with full text, from WoS, from January 2013 to January 2016. For the selection of the articles, initially, the keywords defined in the title and abstract were considered.

After the data collection in the WoS database, in the categories *Management* and *Business*, new selective reading considering the whole articles retrieved was accomplished. Fifty-nine articles remained in the corpus of the research and were subsequently inserted on Software Bibexcel to generate a matrix of citations. This matrix, in turn, was analyzed through the Statistical Package for Social Sciences (SPSS). After following all the steps appearing on the research tutorial (WoS  $\rightarrow$  .txt  $\rightarrow$ .doc  $\rightarrow$ .out  $\rightarrow$ .1st  $\rightarrow$ .low  $\rightarrow$ .cit  $\rightarrow$ .coc  $\rightarrow$ .ccc  $\rightarrow$ .ma2  $\rightarrow$  xlsx  $\rightarrow$  SPSS), the result was the relation of citations of the main authors, separated in seven factors, which are presented in the analysis of the results. The initial number of citations was 91, and the distribution on time was: three in 2013, 32 in 2014, 53 in 2015, and three in 2016. The average of citations was 1.44 per article. Considering that these citations were repeated in some of the articles analyzed, the final number was 65 citations considered to the study.



After that, it is highlighted the Exploratory Factor Analysis (EFA) for the extraction of these seven factors; the variables considered were the authors cited in the selected articles and the ones who were more evinced in the analyzed articles. The procedures adopted in EFA followed the order recommended in the literature, which is: KMO test (above 0.5); KMO of each item in the anti-image matrix (above .5); removal of items with communality above .5; removal of items with loading on one factor below .5; removal of items with higher loading on one factor other than the original; and removal of items remaining from a factor with reliability (Cronbach's Alpha) below .6 (Hair Jr. et al., 2010). The sample is appropriate considering the results: KMO = 0.870; Barlett p<0.001, and the total variance explained: 77.32%. These values supported and confirmed the validity of the research.

Factors are understood as any element that contributes to a result. Each part of a whole. Approach is known as the way a subject is dealt with. It can also be considered the set of theoretical positions and beliefs about the nature expressed in the language of a text. Here, in this article, the factors and approaches refer to the different aspects of the literature of EI, from January 2013 to January 2016, published on WoS (Aulete, 2017).

### **4 ANALYSES OF THE RESULTS**

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The results of the exploratory factor analysis of the 59 selected articles and the nomination of each factor of cluster of author cited and of the thematic approaches analyzed are described hereinafter.

Considering the research design, and after meeting the demands of each step of the analysis, the authors were grouped in seven factors of the rotation component matrix. It is highlighted that four of these authors are related but do not belong to the theme of the EI. They belong to the area of methodology or statistics (two authors are on the first factor, one on the second, and one on the fifth, highlighted). Figure 2 shows the findings.



Authors	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
BoydN1994	,880						
BanduraA1997	,874						
BirdB1992	,872						
BirdB1988	,860						
AutioE2001	,855						
FishbeinM1975	,854						
BusenitzL1996	,828						
KolvereidL1996	,815						
KruegerJrN1993	,811						
BanduraA1986	,790						
KruegerJrN1994	,790						
HairJosephF1998	,788						
FayolleA2006	,786						
GormanG1997	,779						
CromieS2000	,777						
BarbosaS2007	,770						
DouglasE2002	,770						
HaytonJ2002	,754						
GuerreroM2008	,746						
FornellC1981	,720						
AjzenI2001	,714						
GirdA2008	,674						
HofstedeG1980	,667						
LinanF2007	,641						
LuthjeC2003	,620						
SchoenfeldJ2005	,550						
McclellandD1961	,520						
ShaneS2000		,862					
LinanF2009		,828					
LeeL2011		,802					
MorianoJ2012		,799					
MuellerS2001		,788					
PodsakoffP2003		,781					
SarasvathyS2001		,773					
ShaneS2000 B		,764					
ThompsonE2009		,731					
LinanF2011		,721					

McgeeJ2009	,718					
ZhaoH2005	,698					
MatthewsC1996	,695					
WilsonF2007	,644					
VanGelderenM2008		,807				
SchererR1991		,792				
MatthewsC1995		,706				
TkachevA1999		,653				
UrbanoD2005		,636				
ChenC1998			,831			
DavidssonP2003			,801			
FitzsimmonsJ2011			,747			
CarterN2003			,698			
HmieleskiK2006			,643			
NunnallyJ1994				,699		
SchumpeterJ1934				,686		
BaronR2004					,740	
AndersonJ1988					,710	
AjzenI1991					,536	
SouitarisV2007						,749
BarnirA2011						,731
LangowitzN2007						,522

Figure 2. Rotation Component Matrix

The order these authors are presented corresponds to the frequency of citations in the articles analyzed and the importance of each one regarding the factors which they are related to. This list of authors who are dedicated to the study of the entrepreneurial intention serves to guide and support the evolutionary report of the theoretical and empirical thought underlying this theme. Therefore, Figure 3 lists the seven factors identified and nominated, relating the name of the authors cited and the year of publication of their works with the seven factors corresponding to what is confirmed in these works: 1) Entrepreneurship; 2) Cultural Influence and Personal Factors; 3) Entrepreneurial Education and Influencing Variables; 4) Development of Entrepreneurial Intention; 5) Entrepreneurial Risks; 6) Conceptual Tools; and 7) Entrepreneurial Women.



Figure 3 summarizes the seven factors identified, the first author's surname, and the year of publication of the articles analyzed; and the 17 most specific approaches related to each one of the seven factors as well.

Factor	Author/year	Approaches	
Entrepreneurhip	Bird 1988; Bird 1992; Fayolle 2006; Gorman 1997; Guerrero 2008; Haylton 2002; Hofstede 1980; Krueger 1994; Krueger 1993; Busenitz 1996; Schoenfeld 2005	Entrepreneurship	
	Ajzen 2001; Autio 2001; Gird 2008; Cromie 2000; Douglas 2002; Kolvereid 1996; Liñán 2007; Luthje 2003; Fishbein 1975; McClelland 1961	Components of the entrepreneurial intention	
	Bandura 1997; Bandura 1986; Barbosa 2007; Boyd 1994	Self-efficacy in entrepreneurial intention	
	Moriano 2012; Mueller 2001; Liñán 2009	Cultural influence	
	Sarasvathy 2001; Shane 2000	Empirical evidences	
Cultural influence and Personal factors	Lee 2011; McGee 2009; Liñán 2011; Wilson 2007; Thompson 2009; Zhao 2005; Matthews 1996	Personal factors	
	Shane 2000	Entrepreneurial opportunities	
Entrepreneurial	Van Gelderen 2008; Scherer 1991; Urbano 2005	Influencing variables	
education and influencing variables	Matthews 1995; Tkachev 1999	Entrepreneurial learning	
	Chen 1998; Davidsson 2003; Fitzsimmons	Development of	
Development of	2011	Entrepreneurial intention	
Entrepreneurial Intention	Carter 2003; Hmieleski 2006	Factors that influence the entrepreneurial intention	
Entrepreneurial risks	Schumpeter 1934	Entrepreneurial risks	
	Baron 2004;	Conceptual tools	
Conceptual tools	Anderson 1988;	Tests and theory development	
	Ajzen 1991	Application of the Theory of Planned Behavior (TPB)	
Entrepreneurial women	Souitaris 2007; Barnir 2011 Entrepreneurial carro		
_	Langowitz 2007	The entrepreneurial intention of women	

Figure 3. Factors, authors and approaches of the analyzed scientific articles

As it can be observed, in the articles that were part of factor 1, Entrepreneurship, approaches were identified by subgroups, such as the components of the entrepreneurial intention and the self-efficacy. Regarding factor 2, Cultural Influence and Personal Factors, what deserves highlight is the cultural influence, which, despite having three works referenced, received high loading in the crossing of the Statistical Package for Social Science (SPSS). It was also highlighted that the



empirical evidence influences the entrepreneurial intention, as well as the personal factors and the entrepreneurial opportunities. Factor 3 is characterized by the themes Entrepreneurial Education and Influencing Variables. This aspect was also highlighted in terms of the SPSS. Factor 4, Development of Entrepreneurial Intention, also comprises the factors that can influence the individuals' entrepreneurial intention. Here, the entrepreneurship seems to be related or overlaid. These two factors show similar research interest. On factor 5, Entrepreneurial Risk, Schumpeter's classic article (1934) is found. And, again, it is related to the entrepreneurship. Undertaking a business definitely brings in the core of the action the risk of the undertaking. On factor 6, Conceptual Tools, there is the predominance of the theoretical and conceptual aspects about the El. Here, Ajzen's (1991) seminal study prevails and is present in the citation. There is also relation with the entrepreneurship. The EI is part of the entrepreneurial process and cannot be dissociated. Finally, with a lesser degree of representativeness, the focus of the citations is on the managerial career and on the gender influence on the entrepreneurial intention. These two aspects show a strong tendency of research growth in this area.

The studies related to entrepreneurial women have a meaningful representation and are presented as an area of new researches in Liñán and Fayolle (2015). Another aspect that deserves attention is the evolution of the themes researched in the last two years. In 2014 and 2015, they focused on the entrepreneurship, the influencing variables, the cultural influence, and the gender influence on the entrepreneurial intention. These issues are present also in Souza (2015) and Santos, Martins, and Silveira (2016). In principle, regarding the same literature, this result is coherent. Therefore, there is support and reinforcement for the understanding of the results of the study performed.

More specifically, factors 1, 4, 5, and 6 that deal with Entrepreneurship, Development of Entrepreneurial Intention, Entrepreneurial Risks, and Conceptual Tools, which emerged from the Rotated Component Matrix detailed in this research must be considered together. They are similar to the Core model, methodological and theoretical issues, as well as to the group named The entrepreneurial process and the Link of behavior intention of Liñán and Fayolle (2015). Similarly, in Souza (2015), classes 1 and 5 address the theory in EI, revealing the TPB (Ajzen, 1991) and the variables such as subjective norms, personal attitude, and control of the behavior. The



indications of constructs, categories or classes performed by Santos, Martins, and Silveira (2016) are similar to the results found in this research regarding factors 1, 4, 5, and 6. In the category Theoretical component, Ajzen (1991) appears linked to the EI. Subsequently, in Accessories and Contextualization, which is connected to the first category, the elements adjacent to the theories of EI arise.

The results of this research are also similar to the Personal Factors of Liñán and Fayolle (2015) in group 2, Influence of personal level variables, and in the thematic analysis that considers Personal level variables. In Santos, Martins, and Silveira (2016), the concepts are connected to the behavior of the entrepreneurial individuals and to the concepts related to the cognitive structures of the entrepreneurial behavior.

The cultural influence is revealed as promising in the second factor of this study. In Liñán and Fayolle (2015), Context and Institutions are in group 4. In Santos, Martins, and Silveira (2016), it is considered as well, but there is a criticism regarding the way how culture has been studied. It does not consider institutional variables and macro-environmental co-variables, among other aspects. Thus, it is necessary to review this factor more extensively.

Regarding the entrepreneurial intention, the third factor in this research, it has relation with Education, entrepreneurship, and intention, group 3 of Liñán and Fayolle's (2015) study. The entrepreneurial education has a prominent place in Liñán and Fayolle (2015) and in the articles analyzed in this research.

In relation to the entrepreneurial education, third factor in this research, it is correspondent with the Education, entrepreneurship, and intention, group 3 of the study of Liñán and Fayolle (2015). The entrepreneurial education reinforces the entrepreneurial intention whilst contributes with knowledge about the decision and the act of starting a business, as well as for the creation and management of enterprises, clearly micro and small ones.

It is worth highlighting that the factor Entrepreneurial Women and the approaches of entrepreneurial career for women who undertake and gender entrepreneurial intention are evinced in this research. In Liñán and Fayolle (2015), the entrepreneurial woman is found in gender, in Personal – level variables. In Souza (2015), the personal level is revealed in class 5, with the Entrepreneur – influence, impact, and gender, among other relations. In Santos, Martins, and Silveira (2016) entrepreneurial women is presented in the category of Theoretical Component, it is



part of the human behavior, and this subject (entrepreneurial women) is of interest in the scientific production of 2014 and 2015.

The two subjects seen as New research areas in Liñán and Fayolle (2015) – sustainable entrepreneurship and social entrepreneurship – were not revealed as factors or approaches in this research, they continue as items for new researches.

Within the identified factors and approaches, studies that do not consider specifically the small businesses are not presented. The existing contributions for this kind of organization are diluted in the articles considered in this research and in the citations analyzed. Based on the review performed, it is possible to point out the small companies as a gap. This factor is not revealed, neither is the approach referred to the small companies.

## **5 CONCLUSION**

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This study enabled to move forward the investigation about EI. In first place, it is possible to say that the objective of research was achieved. The factors and approaches present in 59 articles published in journals indexed in WoS, from January 2013 to January 2016, were identified.

For this research, the bibliometric technique was adopted for the analysis of the citations, and the software Bibexcel was used to generate a matrix of citations. This matrix, in turn, was analyzed through the Statistical Package for Social Sciences (SPSS) and the exploratory factor analysis (EFA). With this methodological understanding, it was possible to identify seven factors and 17 approaches referring to the factors. This model adopted in the methodological design was suitable for the development of the research and enabled to ensure higher accuracy and commitment to the results, since the narrative reviews may present subjective interpretations.

There was a consistency between the factors and approaches analyzed when reflected in the results of the analyses performed in the studies of Liñán and Fayolle (2015), Souza (2015), and Santos, Martins, and Silveira (2016). Emerged, therefore, indications that the Entrepreneurship has been a prominent factor and approach, just as Cultural Influence, Personal Factors, Entrepreneurial Education, and Entrepreneurial Women. There was a connectivity between the authors, the factors, and the approaches appearing in the reviewed literature on EI.



It is perceived that the literature remains growing in WoS, year after year, and in quantity of citations. The significant increase of articles from 2013 to 2015 is evident. It is also evolving and expanding in relation to the number of approaches to the theme.

As a limiting factor of the study, the access to only one database must be pointed out, even if this database is WoS, which is recognized worldwide for its excellence. This fact, however, does not invalidate the research.

The continuity of this research is suggested, although with a greater number of international databases, with full articles, to expand the scope of the study and allow comparisons. It is also recommended to consider current periods of time, with works published in 2016 and so on. In addition, subjects that were not sufficiently considered in this literature on EI are potential themes of interest. One of them refers to the small enterprises. Sustainable orientation is configured as theme of interest as well. Both are important for they are directly related to the entrepreneurship, the intention and the entrepreneurial process. Besides, both affect, positively, environments with economic crisis and decline of growth. Both imply the form of creation and management of businesses. Small sustainable companies are part of a greater understanding: the sustainable entrepreneurship, which emerges as one of the alternatives allied to the social and environmental responsibility. This relation is important and deserves specific analysis.

To conclude, it can be affirmed that this article contributed to the research field of EI because, with methodological precision, it enabled to identify what has been produced concerning the literature on this theme in recent years. Besides, it provided the broadening of knowledge about the factors and approaches that were revealed in the actuality by comparing classes, categories, classifications, and constructs that emerged in similar and recent reviews. Therefore, the contribution of this research widens and complements the overview that has recently been performed about the published literature on EI at the individual level.

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