

Students' Entrepreneurial Intention and Its Influencing Factors: A Systematic Literature Review

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Abstract: Many researchers have studied the factors that impact on students' entrepreneurial intention; however, findings are conflicting. The present study attempts, through an extensive review of the literature, to provide a holistic view and deeper knowledge of the most significant factors that influence university students' decisions to be self-employed or to start a business. A systematic review as well as a bibliometric analysis of the literature was implemented, using a three-step literature mapping protocol to search, select, evaluate, and validate the literature by examining and analyzing numerous papers from the scientific community. The process ended up with 677 papers, from which the forty-three most cited were used as our research sample. Findings revealed that there are four primary categories of factors: the contextual factors, such as the economic, social, and political environment, the motivational factors, such as individuals' personal needs, personality traits, and characteristics, and the factors related with the personal background of individuals such as family, education, and peers. We also examined the countries with the maximum number of papers on university students' entrepreneurial intentions. These findings can be useful for policy makers and educators and will serve as a basis for future research, while they also contribute to the literature by highlighting the factors that most affect the entrepreneurial intention of university students.

Keywords: entrepreneurial intention; university students; entrepreneurship; systematic literature review; bibliometric analysis



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1. Introduction

Entrepreneurship as a career option is of great importance in increasing the economic growth of national economies and in reducing the chronic problems of unemployment and poverty (Zacharias et al. 2021; Sahinidis et al. 2021). According to Laine and Kibler (2022), entrepreneurship is a social practice that involves creating something new, which can be a product, service, or organization, by identifying and exploiting opportunities in a particular socioeconomic context. Additionally, entrepreneurship boosts productivity by creating new markets, industries, technologies, and employment opportunities. Therefore, promoting entrepreneurship is crucial and has been one of the main issues in the public policy agenda. A variety of studies have attempted to answer the question of why someone desires to become an entrepreneur and what drives that person's intention to start a new business. Thus, intention, according to Sheeran (2002), explains individuals' behaviors and determinants of entrepreneurial intention, and it has been a subject of significant research interest, as shown in the recent number of studies and citations. Entrepreneurial intention is a key determinant of entrepreneurial behavior and represents an individual's planned and conscious effort to start a new venture in the future (Chen et al. 2022). There are many definitions of entrepreneurship; however, a common view is that it refers to the process of identifying opportunities within a market, finding and using the resources needed to exploit these opportunities for long-term personal gain (Uddin and Bose 2012). According to Shepherd et al. (2019), entrepreneurship is the creation, realization, and

harvest of new ventures or the renewal of existing ones in response to perceived opportunities. Xanthopoulou and Sahinidis (2022) further add that entrepreneurship is developing something new and valuable while investing the necessary time and effort, undertaking financial, psychological, and social risks, and reaping ensuing benefits. The importance of entrepreneurial intention, which refers to the desire and commitment to launch a new venture and be self-employed, has been questioned by a few scholars. Doanh et al. (2021) found that people with high levels of entrepreneurial intention are more likely to launch a firm than those who have lower levels. However, the strongest indicator of actual behavior is intention, which explains why entrepreneurial intention has been one of the rapidly evolving subfields of the broader field of entrepreneurship research (Ajzen 1991; Liñán and Fayolle 2015; Soria-Barreto et al. 2017).

This study focuses on the key factors that directly affect entrepreneurial intention among university students. The aim of this research is to determine and investigate the factors that impact the entrepreneurial intention of future entrepreneurs who can shape a country's welfare. Taking these into account, several researchers came up with the following research question: "Which factors influence mostly the students' entrepreneurial intention?" This study uses a systematic literature review approach to identify the factors that influence students' entrepreneurial intention and provides a comprehensive overview of the current state of knowledge on university students' entrepreneurial intention and its influencing factors. This systematic literature review draws on a range of sources, including academic journals, book chapters, and published reports. The review will be conducted using a systematic and rigorous approach, including a detailed search strategy and inclusion criteria to ensure that the findings are robust and reliable.

The novelty of this study lies in its focus on identifying the key factors that directly impact the entrepreneurial intention of university students, as they emerge from the extant literature. While previous research has been conducted on entrepreneurial intention, this study seeks to contribute to the field by providing a clearer picture of the sub-fields in entrepreneurial intention research and using thematic analysis with NVivo12 software to determine the themes from the papers that were used as a sample. Furthermore, this research is important because it aims to understand the factors that influence the entrepreneurial intention (EI) of future entrepreneurs who can shape a country's welfare. By identifying these factors, this study can potentially provide insights into how universities can better support and cultivate entrepreneurial attitudes and behaviors among their students. Furthermore, despite the fact that EI significantly impacts the growth of entrepreneurship, which is considered a key factor for the sustained growth and development of nations, non-quantitative studies on the factors affecting EI have not received much attention (Maheshwari et al. 2022).

Universities can play a crucial role in supporting students from diverse backgrounds, including low-income families, by providing access to resources and programs that promote entrepreneurship and innovation. For example, universities can offer mentorship programs, networking opportunities, and funding for student startups to help them overcome financial and other barriers to entrepreneurship. The study of students' EI and its influencing factors is considered to be a considerable research gap for several reasons. First, university students represent a significant portion of the population who may consider starting a business in the future. Understanding their EI and the factors that influence it can inform policies and programs aimed at promoting entrepreneurship (Jiang and Sun 2015; Reuel et al. 2016; Wen and Xin 2012). Second, students' entrepreneurial intention is closely linked to their entrepreneurial aspirations, attitudes, and beliefs, which are shaped by their educational experiences, family background, and social environment. By examining these factors, researchers can gain insight into how education, family, and society can promote or hinder the development of an entrepreneurial mindset among students. Third, the study of students' entrepreneurial intentions can shed light on the process by which individuals become entrepreneurs. By identifying the factors that influence students' intentions to start a business, researchers can develop a better understanding of the early stages of

the entrepreneurial process and the factors that facilitate or impede the transition from intention to action (Maheshwari et al. 2022).

In conclusion, the study of students' entrepreneurial intention is addressing an important research gap that can provide valuable insights into the early stages of the entrepreneurial process and inform policies and programs aimed at promoting entrepreneurship. It is important to synthesize the literature to obtain the holistic picture and contribute towards this research field (Kuckertz and Block 2021). This study combines systematic literature review with bibliometric analysis to maximize the benefits of both quantitative and qualitative research methodologies. While systematic reviews offer a critical study of the content and caliber of the empirical data, bibliometric methods assist in identifying and visualizing the structural features of the research network (Soh et al. 2023). By highlighting the major themes and trends and critically analyzing the breadth and validity of the study contributions, this combination deepens our comprehension. It guarantees a comprehensive perspective on the depth and breadth of scholarly investigation into entrepreneurial objectives, enabling a more comprehensive and knowledgeable examination of the area. Combining integrative methods with methodological rigor ensures the depth of analysis. We utilize bibliometric analysis in conjunction with a methodical literature evaluation to guarantee a thorough investigation of the area. This dual method ensures a well-informed and thorough view on entrepreneurial intention and its determinants.

Furthermore, by offering theoretical and practical contributions, this study will add to the expanding body of literature on the elements influencing university students' intentions to become entrepreneurs.

The study's findings will be helpful to researchers working in this field. They will also benefit policy makers who will better understand how to support the development of entrepreneurial activities that will in turn boost the nation's economic growth as well as educational institutions that support and encourage students in their entrepreneurial intentions. The remainder of the paper is organized as follows. In the next section, we provide a brief introduction to the research materials and methods used for the research question we seek to answer. The third section presents the results of our analysis, including tables and figures that help to illustrate our findings. In the fourth section, we discuss our results and draw conclusions based on our findings.

2. Research Methods

2.1. Materials and Methods

The present research suggests the integration of bibliometric analysis with a systematic literature review (SLR). Pulsiri and Vatananan-Thesenvitz (2018) mention that automation and bibliometrics can be applied to the SLR process to relieve human effort, increase efficiency, and save cost and time. According to Linnenluecke et al. (2020), literature reviews are crucial in academic research, as they gather existing knowledge and examine the state of a field. However, despite their importance, researchers in business, management, and related disciplines continue to rely on cursory and narrative reviews that lack a systematic investigation of the literature. There was one research question guiding the literature review, which is "Which factors influence the students' entrepreneurial intention (EI)". Given the large quantity of EI research, it would be practically difficult to conduct a comprehensive review of the literature. The second option for the researchers was to use a narrative literature review; however, it is also under question and it has received a lot of criticism, as there are only few resources and no specific protocols for this method (Baumeister and Leary 1997). As a result, a systematic literature review (SLR) was implemented, aiming in a transparent and understandable review of the literature. Transparency, clarity, equality, accessibility, unification, and focus are the hallmarks of this approach (Thorpe et al. 2005). Additionally, an SLR offers a useful approach for conceptually outlining the topic of study and enables a holistic perspective. It also connects studies that have not been connected before (Pittaway and Cope 2007). SLR is often carried out at many and different phases, varying from study to study, depending on the research aim.

Apart from the qualitative ones, there are several methods to communicate the findings of a systematic literature review. In particular, researchers have a wide range of alternatives at their disposal for presenting their findings, including different software programs and bibliographic mapping techniques. When thousands of articles have been published on a subject, visualization can be helpful in identifying which ones have had a significant influence on research objectives (Linnenluecke et al. 2020).

The process followed in this study is based on the systematic literature review stages proposed by Kitchenham and Brereton (2013), which is presented in Figure 1 below.

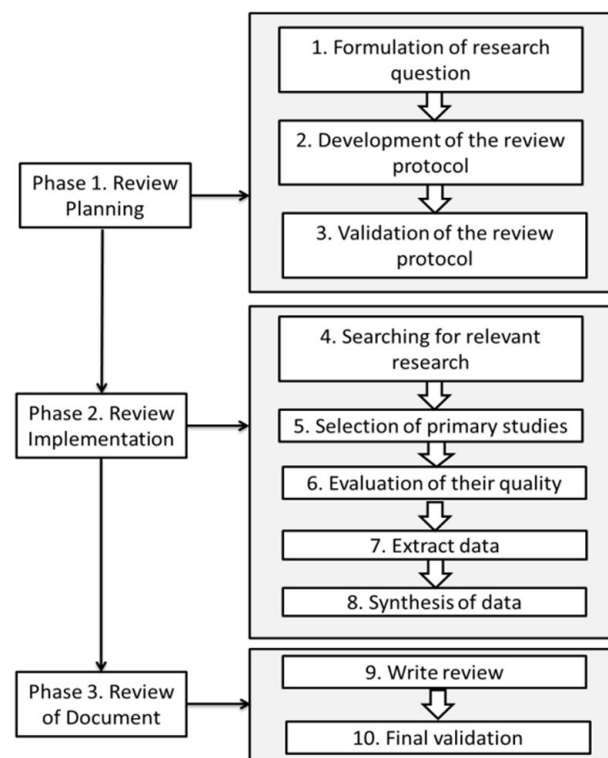


Figure 1. The SLR process (adapted from Kitchenham and Brereton 2013).

Using web-based search engines, the search was restricted to the students' entrepreneurial intention and its determinants. Publications with references to entrepreneurial intention in their title, abstract, and keywords were found using a topic search. The search was further restricted to articles written in English and released during the last 11 years (2012–2023). Only refereed journal articles were included in the search; books, theses, press publications, and conference proceedings were not included. The Scopus database was used, searching for papers published from 2012 to 2023 with specific keywords and keyphrases that are presented in Table 1 below (Cornelius et al. 2006). A systematic and repeatable approach was selected in order to find relevant papers that describe the content of interest. This procedure included the use of carefully chosen words and phrases that made it possible to conduct a more thorough search of the database's contents. Table 1 lists the key phrases, keywords, and the Boolean expressions that were used in the literature search.

Table 1. Key terms, keywords, and Boolean expressions.

<p>TITLE-ABS-KEY("entrepreneurial intention*" OR "entrepreneurship*" AND intention*) AND TITLE-ABS-KEY (intention* OR desire* OR motivation* OR determinants* OR personality* OR interest* OR attitude* OR behavior*) AND ALL (method OR literature review OR research OR study OR analysis) AND ALL (universit* OR student* OR education* OR "higher education"* OR traits*) AND LIMIT-TO (LANGUAGE, English)</p>
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We used Boolean operators to simplify and improve the search for unique documents in our dataset. ‘AND’ (‘and’) restricted our search by overlapping terms, making sure it was relevant; ‘OR’ (‘or’) expanded it, capturing a large number of documents. To filter and identify pertinent entries carefully while avoiding duplicates, these operators were applied in a structured search strategy, as shown in Table 1. This strategy combined keywords and phrases such as “entrepreneurial intention*”, “motivation*”, and academic contexts, all within the confines of English-language documents. The ‘AND ALL’ approach made sure that all relevant phrases from the academic setting as well as research method were included. Moreover, ‘LIMIT-TO (LANGUAGE, English)’ was used to narrow the search results to include only publications in the English language. The asterisk wildcard (*) was used because we wanted to include all the grammatical forms of the specific terms mentioned in Table 1. For instance, when the term “entrepreneurial intention*” is used, the asterisk allows the search to include any words that start with “entrepreneurial intention” followed by any other characters. This can capture variations like “entrepreneurial intentions”, “entrepreneurial intentionality”, and any other suffixes that might occur in different scholarly discussions or writings. Similarly, using “motivation*” would include “motivation”, “motivations”, “motivational”, and so forth.

The Scopus database was chosen because of its wide coverage of journals (Akçayır et al. 2020; Dolhey 2019; Maheshwari et al. 2022). Although all the above-mentioned tools are powerful databases, Scopus offers several advantages. For instance, Van Eck and Waltman (2017) compared the coverage and overlap of Scopus and WoS in terms of publications included in a set of twenty-one systematic literature reviews. They found that Scopus provided a more comprehensive coverage of the literature than WoS, with an average overlap of 86% between the two databases. They also found that Scopus indexed a larger number of journals and conference proceedings, increasing the likelihood of finding relevant articles. Additionally, Scopus was more up-to-date than WoS, with a shorter time lag between publication and inclusion in the database. According to Mongeon and Paul-Hus (2016), WoS provides extensive coverage of natural sciences and engineering, whereas Scopus provides a higher level of social science coverage (Kumpulainen and Seppänen 2022).

The protocol was drafted using the PRISMA 2020 statement (Page et al. 2021). A PRISMA flow diagram is shown in Figure 2. As shown in the PRISMA flow diagram, the initial search yielded 802 documents from the SCOPUS database. After deleting duplicate entries ($n = 125$), the dataset was initially refined and 677 articles were checked for eligibility. A total of 149 papers were eliminated during the screening stage due to factors such as language problems ($n = 24$) and inappropriate document type ($n = 125$). Of the 528 items requested to be retrieved, 175 could not be retrieved because of insufficient data. Eligibility was subsequently evaluated for 353 articles.

Reasons for excluding reports included factors such as relevance and scope (reason 1), the research method (the authors finally excluded the articles that followed the method of systematic or descriptive literature review—reason 2), and the publication time (reason 3), leading to the exclusion of 200 for reason 1, 75 for reason 2, and 35 for reason 3. More specifically, 200 papers were initially excluded because they did not directly address the research question of the present study, which focused on the factors that affect university students’ entrepreneurial intention. In addition, 75 articles that employed systematic or descriptive literature review methodologies were also excluded, as the present study aimed to synthesize empirical research findings rather than reviews of the literature, thus ensuring that the current analysis is based on primary data and direct investigations related to university students’ entrepreneurial intention. Finally, the authors excluded 35 papers published outside the defined time frame from 2012 to 2023. This criterion was applied to focus on the most recent and relevant data, reflecting current trends and insights into the factors influencing entrepreneurial intention among university students.

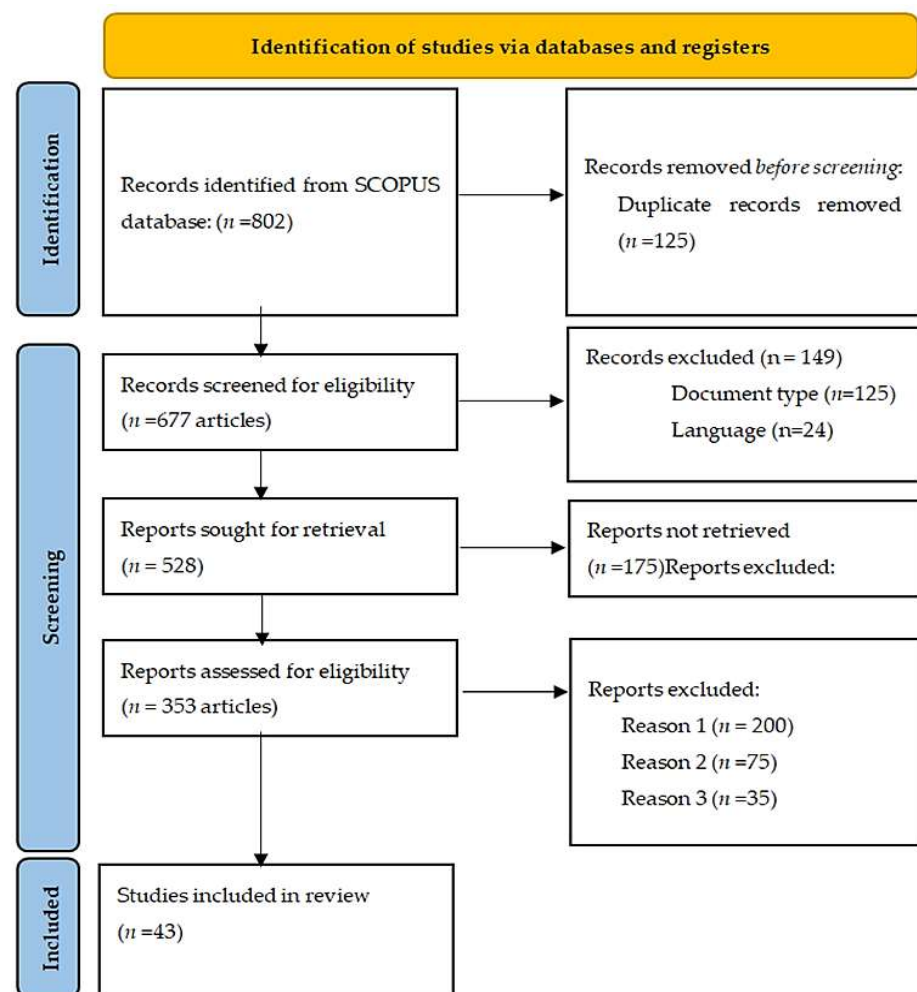


Figure 2. Flowchart indicating identification and selection of studies used in the present analysis following PRISMA statement guidelines.

2.2. Methodology Overview

As previously mentioned, the current research methodology incorporates both bibliometric analysis and a systematic literature review. The following paragraphs explain the process of each method as well as the methods and tools used for analyzing and presenting their data. In general, bibliometric analysis allows researchers to quantitatively map the structural features of the research landscape and enhance the identification of important developments and gaps in the literature. Furthermore, the systematic literature review provides qualitative depth, as it involves a detailed examination of selected studies to understand the nuances and complexities of how various factors influence entrepreneurial intentions among university students. A critical analysis of these studies regarding their content, methodologies, findings, and theoretical contributions ensures a holistic view of the specific field. More specifically:

Bibliometric Analysis: A preliminary literature scan yielded key phrases that we used to structure our search for papers pertaining to entrepreneurial intention from 2012 to 2023. The Scopus database was used in this study. The authors used co-authorship network analysis to understand the patterns of collaboration between researchers and institutions, keyword co-occurrence analysis to track the central themes and their development within the field, and citation analysis to identify the most influential papers and observe trends in research prominence. VosViewer was used to visualize the bibliometric data throughout this procedure, which improved our capacity to identify important research clusters and their relationships.

Systematic Literature Review: This systematic literature review aimed to assess the significance and practical applications of research results regarding entrepreneurial goals. We conducted a thorough literature search using the Scopus database and fine-tuned a set of keywords using an iterative procedure. Using inclusion/exclusion criteria based on publication timeliness, methodological rigor, and relevance, each chosen study's quality was evaluated using standardized checklists during the screening and selection process. Essential data points, such as study objectives, methodologies, key findings, and theoretical contributions from each study, were extracted for data extraction and synthesis. A thematic synthesis was then carried out to identify recurrent patterns and concepts, thereby creating a narrative that reflected the gaps in the field and the state of knowledge at the time. Throughout this process, the NVivo tool was used to manage and categorize qualitative data, facilitating efficient theme identification and data synthesis.

The results from both the bibliometric analysis and systematic literature review were integrated to provide a holistic view of the research field. The bibliometric data highlighted the structural and quantitative aspects of the research landscape, whereas the systematic review provided a deep dive into the qualitative content of the studies. This integration allowed us to map the trajectory of research development and synthesize comprehensive insights into the factors driving entrepreneurial intentions among university students.

3. Results

The first results for research articles included the 802 documents with 677 articles, and as we can see in Figure 3, the number of papers related with the determinants of student entrepreneurial intention in general has significantly increased through the last ten years. The full list of them is not included due to space constraints, but it is available from the authors upon request.

Documents by year

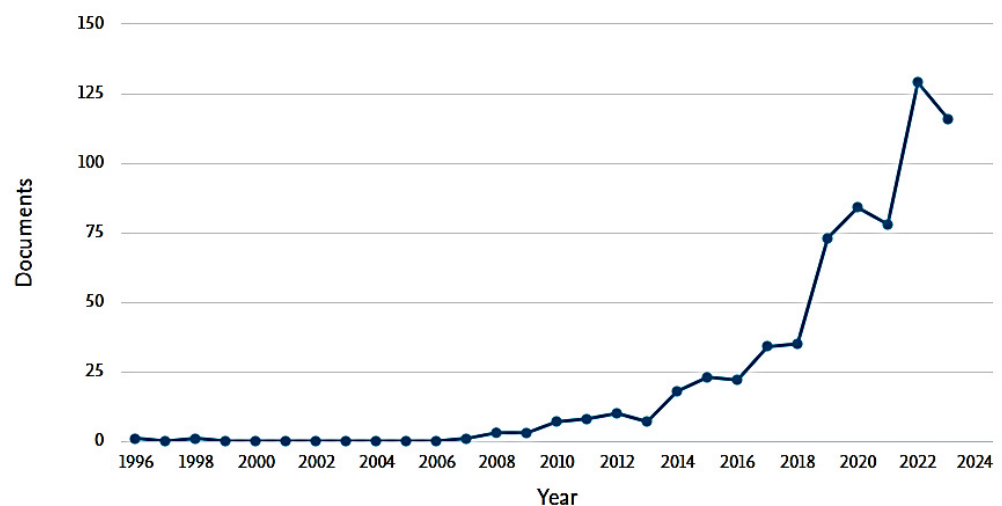


Figure 3. No. of papers published from 1996 to 2023 (source: Science Direct).

It can be seen from Figure 3 that the research on entrepreneurial intention has been growing over the years. The number of published papers was minimal during the years 1996, 1998, and 2007. Further, it can be seen that the maximum number of papers (129) was published in 2022, when we observe an impressive increase, while the number of papers for 2023 was 116. These numbers confirm that in recent years, researchers' interest in this topic has increased significantly.

In order to ensure the relevance of the research articles, the two reviewers (P.X and A.S) carefully read the titles and keywords of the 677 papers, and they settled on a final sample of 353. Then, a citation analysis was conducted, as the number of citations shows the importance and quality of the publication, as determined by other studies (Xi et al.

2015). The citation analysis produced a ranking of studies sorted from the most cited to the least cited ones. The most cited forty-three papers (presented in Table 2) were analyzed to examine the factors impacting the entrepreneurial intention of university students. After reading the papers, the QNVivo12 software tool was used to perform coding of studies describing the determinants of entrepreneurial intention. NVIVO 12 software helps with the structuring, storing, and retrieval of qualitative data and is frequently used for qualitative content analysis. NVivo was originally only used to obtain the first codes from the literature review due to the nature of this study, which is built around a systematic review rather than a thematic qualitative analysis (O'Neill et al. 2018). Coding was useful for identifying, naming, categorizing, and describing the relevant contents found in the texts. The four categories and sub-categories (also called “codes” and “sub-codes”) of determinants are presented in Figure 4.

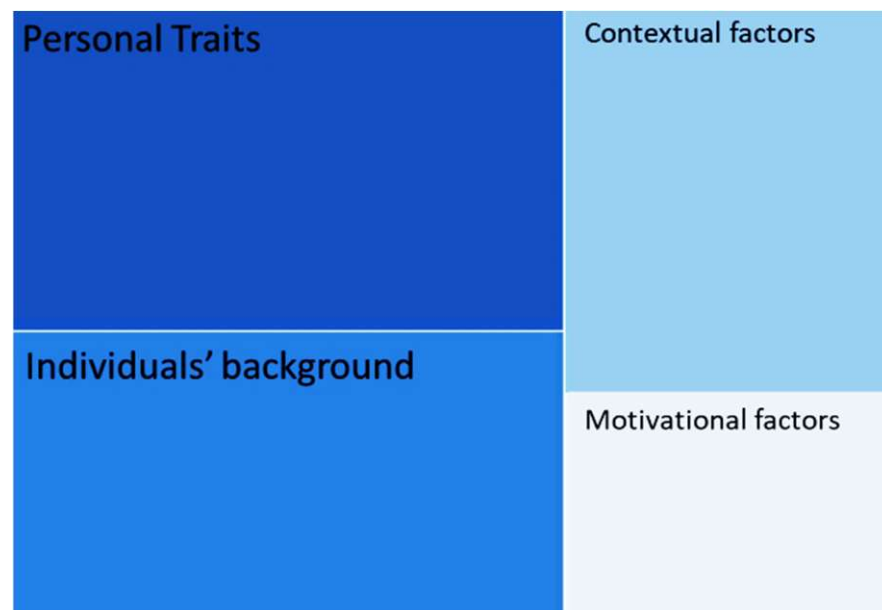


Figure 4. Codes of students' entrepreneurial intention determinants.

In a QNVIVO analysis, quadrants are often used to categorize data based on two dimensions. The size of each quadrant represents the number of data points in this category. Differences in quadrant sizes indicate the frequency or prevalence of certain codes. Larger areas indicate a larger number of references or instances of the code in the project. However, it is important to note that the size of a code in a code diagram alone does not necessarily provide a complete picture of its significance or relevance to the research question or objectives. A code with a smaller area may still be important if it represents a key aspect of the research topic or if it is closely related to other important codes in the diagram. It is also worth noting that the size of each code in the present code diagram is related to the specific research question and can change depending on the data being analyzed or the coding criteria used.

Table 2. Determinants of Students' Entrepreneurial Intention.

[illegible]

Table 2. *Cont.*[illegible]

Table 2. *Cont.*[illegible]

Table 2. *Cont.*[illegible]

Table 2 illustrates key studies that have discussed various factors influencing students' entrepreneurial intentions. It is worth noting that some of them have been referred to differently in the literature. Table 2 also focuses on Scopus content and lists the top forty-three publications by the number of citations. The most cited paper for students' entrepreneurial intention published from 2012 to 2023 according to the Scopus database is the research by "[Kautonen et al. \(2015\)](#)", Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. "Entrepreneurship Theory and Practice, 39 (3), 655–674." with 1440 citations (as of March 2023). Table 2 presents the four main categories of factors identified in the literature as well as their subcategories. Specifically, the first category, named "Personality Traits", which is also one of the most widely researched, includes Risk-taking/tolerance (thirteen papers), Self-confidence (twenty-four papers), Innovativeness/opportunity identification (nine papers), and Perceived behavioral control (seventeen papers). The factors concerning the "external environment" refer to social factors (eleven papers), cultural factors (seven papers), political factors (three papers), and economic factors (four papers). The third category refers to personal "motivation" factors such as increased income (two papers), sense of security, previous/current job dissatisfaction (three papers), need for status (two papers), and need for achievement/need for work autonomy (twelve papers). Finally, the last category refers to the "background" of individuals, such as their Family/social environment (nine papers), Age (two papers), Gender (eight papers), Education (fifteen papers) and previous working experience (nine papers).

Figure 5 illustrates the determinants of student entrepreneurial intention that were mainly studied during the last decade (2012–2023).

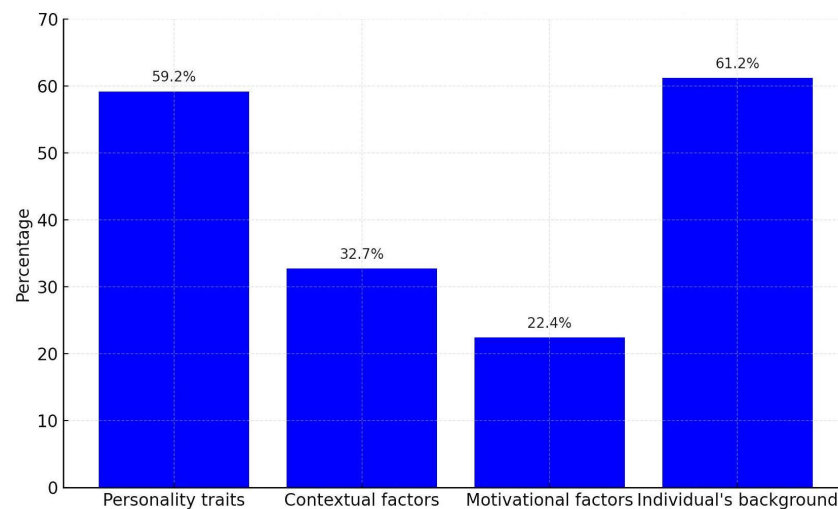


Figure 5. Most studied determinants of students' entrepreneurial intention.

As we observe, the most studied determinants refer to individual's background factors, mainly to family's environment (mainly father's occupation) and education (mainly higher education), while the next most common studied determinants are those of individuals' personality-related factors, mainly explained by the TPB or Hexaco model of personality structure ([Xanthopoulou and Sahinidis 2023](#); [Nabi et al. 2017](#)). The impact of age and gender on entrepreneurial intention still remains a subject that should be further investigated.

3.1. Personality Traits

Personality traits refer to persistent, predictable aspects of an individual's behavior that explain how different people behave in different situations. An individual's special, tacit, subjective knowledge, values/beliefs, perceptions, and experiences that are difficult to imitate have an impact on personal characteristics. Personality traits may act as catalysts

for changing how entrepreneurs perceive risk when making decisions (Mahfud et al. 2020; Kautonen et al. 2015).

Entrepreneurial goals have been found to be significantly predicted by proactive personality; however, this impact diminishes over time as business matures (Oishi et al. 2021). Entrepreneurial intention among university students was found to be affected by personality traits, such as self-confidence, need for achievement, risk-taking tolerance, internal locus of control, innovativeness, and autonomy (Do and Dadvari 2017). Compared to non-entrepreneurs, entrepreneurs have been found to have higher scores on risk tolerance, internal locus of control, proactive personality, self-efficacy, and need for achievement.

According to relevant research, personality factors play a vital role in determining whether someone will start a business. For instance, the main objective of Kautonen et al. (2015) tested the robustness of the Theory of Planned Behavior (TPB) in predicting entrepreneurial intentions and actions. This study was conducted in the context of entrepreneurship education in Finland, Germany, and the United Kingdom. The authors found that attitudes, subjective norms, and perceived behavioral control factors were significant predictors of entrepreneurial intention. In addition, the study found that the TPB model was equally effective in predicting intentions among male and female students, and across different age groups. They also found that personal characteristics such as self-efficacy and risk-taking propensity moderated the relationship between TPB constructs and entrepreneurial intentions.

Environmental factors such as institutional support for entrepreneurship have a positive impact on entrepreneurial intention.

Self-confidence is a significant asset that increases personal success, as it makes people happier; it also helps them to convince others and has a strong impact on them, and motivates individuals to undertake tasks and achieve their goals (Shirokova et al. 2016).

Risk-taking refers to a person's predisposition to take or avoid risks. Individuals with high levels of entrepreneurial intention showed significantly higher risk-taking scores than those with lower entrepreneurial intention levels.

Another key factor that strongly influences individuals' intentions towards entrepreneurship is their need for achievement. People with a high need for achievement tend to engage in entrepreneurial behavior (Verheul et al. 2012). They were zealous about their achievements. They aspire to identify as business owners capable of building profitable enterprises in the marketplace. Locus of control refers to the control an individual believes they have over their life. While external locus of control (LoC) indicates that a person's life is influenced by things other than his or her own actions, such as fate, luck, and other people, internal LoC indicates that a person feels that his or her decisions may guide his or her life. People with internal LoCs are supposed to be able to make professional choices, have entrepreneurial aspirations, and launch their own ventures (Barba-Sánchez et al. 2022).

Innovativeness is an individual's ability to create something new, such as new products or products of different quality, new methods of production, new ways to enter a market or to identify a new one. This also refers to the creation of new sources, ventures, and business structures. People with high scores of innovativeness can explore opportunities that are not obvious to others and identify them by linking a variety of information in new ways (Liñán and Fayolle 2016).

Autonomy is fundamental to entrepreneurship. People's desire to act independently and as they like is quite strong. Successful entrepreneurs want to be independent. They are capable of acting autonomously, taking independent actions, enjoying problem solving, and effectively finishing things on their own. All these traits are key drivers of students' entrepreneurial intentions.

3.2. Contextual Factors

Every organization operates within an environment, and thus, it is influenced by external factors. These factors in strategic management have been illustrated by the use of the PESTEL framework in order for organizations to identify issues in their political,

economic, social, technological, physical (or environmental), and legal environment that affect their operations. Although the individual is the key factor in the process of creating a new venture, this process takes place in a specific environment, so these contextual factors may influence the perceived cost–benefit ratio of starting a new business by helping or hindering entrepreneurial efforts.

Within societies, cultural beliefs that support entrepreneurs can create a dynamic and innovative economy by encouraging individuals to pursue their entrepreneurial dreams and create new businesses and products (Kautonen et al. 2015). Compared with other cultures, these are more likely to generate more entrepreneurs. The influence of social networks on people's intention to become entrepreneurs is also significant.

Social networks refer to a series of formal and informal links through which entrepreneurs have access to essential resources for a company's start-up, development, and success. By lowering transaction costs, fostering commercial possibilities, and fostering knowledge spillovers, social networks and the social environment generally promote entrepreneurial success and growth. Elnadi and Gheith (2021) state that governments in every nation have increased funding for initiatives that promote entrepreneurship, encourage a business-minded culture, and make nations more entrepreneur-friendly. It has also been mentioned that a nation's social, economic, political, and cultural factors support the growth of creative start-ups and promote new business venture risk taking. The process of deciding whether to launch a firm entails an economic analysis, in which individuals consider the advantages and disadvantages of being entrepreneurs. Undoubtedly, they may feel more inspired to launch a firm if they do not believe that the external conditions are difficult.

Political roles have a considerable and advantageous influence on students' entrepreneurial intention, as many issues such as bureaucracy, funding, legislation, and tax policy may inhibit or promote someone's intention to start a business. Perceived degree of support is a key element of an entrepreneurial mindset. Finally, several researchers, such as Ali et al. (2017), Barba-Sánchez et al. (2022), and Shirokova et al. (2016), propose that entrepreneurial intention is influenced by a country's culture. For example, entrepreneurial intentions are stronger in low-uncertainty-avoidance countries than in high ones, while individualistic, masculine cultures rank high on power distance and low on uncertainty avoidance, create favorable environments for entrepreneurship, and potentially increase the percentage of the self-employed among the population (Shinnar et al. 2012).

3.3. Motivational Factors

Many researchers, such as Barba-Sánchez and Atienza-Sahuquillo (2018, p. 6), mentioned that the need for more income, the desire for a higher social and professional status, as well as the lack of appropriate job opportunities are key motivators for starting a new business. They pointed out that “new ventures are created not only by those who can do it—that is, by the people who are able to do it— but also by those who have the required motivation to do that”.

Several academics have hypothesized and suggested through empirical studies that the need for achievement can motivate entrepreneurs to start a business and ultimately achieve entrepreneurial success, in addition to necessity-based entrepreneurship and self-actualization-related behaviors (Kautonen et al. 2015). Additionally, Barba-Sánchez and Atienza-Sahuquillo (2018) noted that entrepreneurs with a strong need for achievement frequently plan ahead, take charge of their own lives, and look for fast feedback on their actions. Consequently, it has been suggested that the need for achievement serves as a precognitive motivator that encourages participation in entrepreneurship.

Stephan et al. (2015) demonstrated that entrepreneurial motivation matters for entrepreneurial success and for the strategic choices made by entrepreneurs to create their own businesses. Entrepreneurs are driven to launch their own businesses to raise their income and provide a safe future for themselves and their families. “Status” describes a person's standing among other people in a certain social setting. The literature has made

the case that entrepreneurs' social status may be considered when deciding whether to be self-employed.

Finally, many individuals express the intention to be self-employed because of their personal needs that they have not fulfilled in the past (Shirokova et al. 2016) or because of previous dissatisfaction with their jobs (Ferreira et al. 2018). In such circumstances, people are more likely to choose entrepreneurship as an employment option that provides them with an optimal combination of income, autonomy, risk, work effort, and job satisfaction. This study investigates the motivations of student entrepreneurs and how they differ according to gender and entrepreneurial experience. This suggests that the desire for independence and achievement, dissatisfaction with previous jobs, and need for self-actualization are significant motivations for student entrepreneurs. The sample included university students in Spain and Portugal.

3.4. Individual Background

Various studies have found that a family's business experience and level of education significantly impact individuals' entrepreneurial intention.

Although many researchers have questioned the determinants of age and gender regarding their impact on start-ups, Ramachandran et al. (2021) revealed that older individuals may be less likely to pursue entrepreneurship due to factors such as financial constraints, lack of social support, and a preference for more stable forms of employment. The same findings come from Lu et al. (2021), who found that university students in China have a higher intention to become entrepreneurs than other forms of employment and that this intention is influenced by factors such as perceived support from family and friends, entrepreneurial self-efficacy, and prior entrepreneurial experience. They also found that younger students were more likely to have entrepreneurial intentions than older students were.

Traditionally, men are considered to have a higher inclination toward self-employment than women. Sullivan and Meek (2012) found that women are less likely to engage in entrepreneurship than men due to a variety of factors, including societal norms, access to resources, and personal characteristics.

Significantly, education and entrepreneurial training play a more crucial role in improving people's entrepreneurial activities (Küttim et al. 2014; Liñán et al. 2011). In general, entrepreneurship education is positively associated with students' entrepreneurial intention; however, studies such as Maresch et al. (2016) and Nabi et al. (2017) propose that there are differences between business students and students from other disciplines (such as engineering).

A family's background, especially the father's occupation, is also a key determinant that affects attitudes towards entrepreneurship (Nowiński and Haddoud 2019). The findings imply that the family business provides a favorable setting for achieving more efficient and affordable use of resources, whether for new or corporate venturing, franchising, or exit. Regarding the influence of fathers' self-employment, a positive relationship was found with children's entrepreneurial success and with their intention to start their own business upon completion of their studies (López-Fernández et al. 2016).

Finally, previous work experience encouraged people to start their own businesses (Miranda et al. 2017; Shirokova et al. 2016). Koe et al. (2012) argued that individuals with prior work experience show higher levels of entrepreneurial intention than those without such experience.

Concluding the review of the literature, we found that there is a keyword co-occurrence, which is presented as a network in Figure 6A below with the use of VOS Viewer software version 1.6.20. VosViewer is utilized for constructing and visualizing bibliometric networks. It is valuable for analyzing patterns within the scientific literature (Van Eck and Waltman 2017). The term "entrepreneurial intention" has co-occurred mostly with a number of other keywords, such as "education", "students", "personality", and more. The word's frequency in the article and its association to other keywords are displayed on the cloud

map. Each term in the network is represented by a circle, the size of which corresponds to the number of publications in which the term appears. This network map can offer a quick overview of the many approaches, topics, and areas on which the researchers have commonly focused in relation to entrepreneurial intention. For instance, the co-occurrence of the keywords “university student” and “entrepreneurial intention” suggests that a large number of studies have been conducted about the impact of education on entrepreneurial intentions of university students. Similarly, the co-occurrence of the keywords “Theory of Planned Behavior” and “entrepreneurial intention” suggests that the impact of personality traits and characteristics has been also studied by lot of researchers in this context.

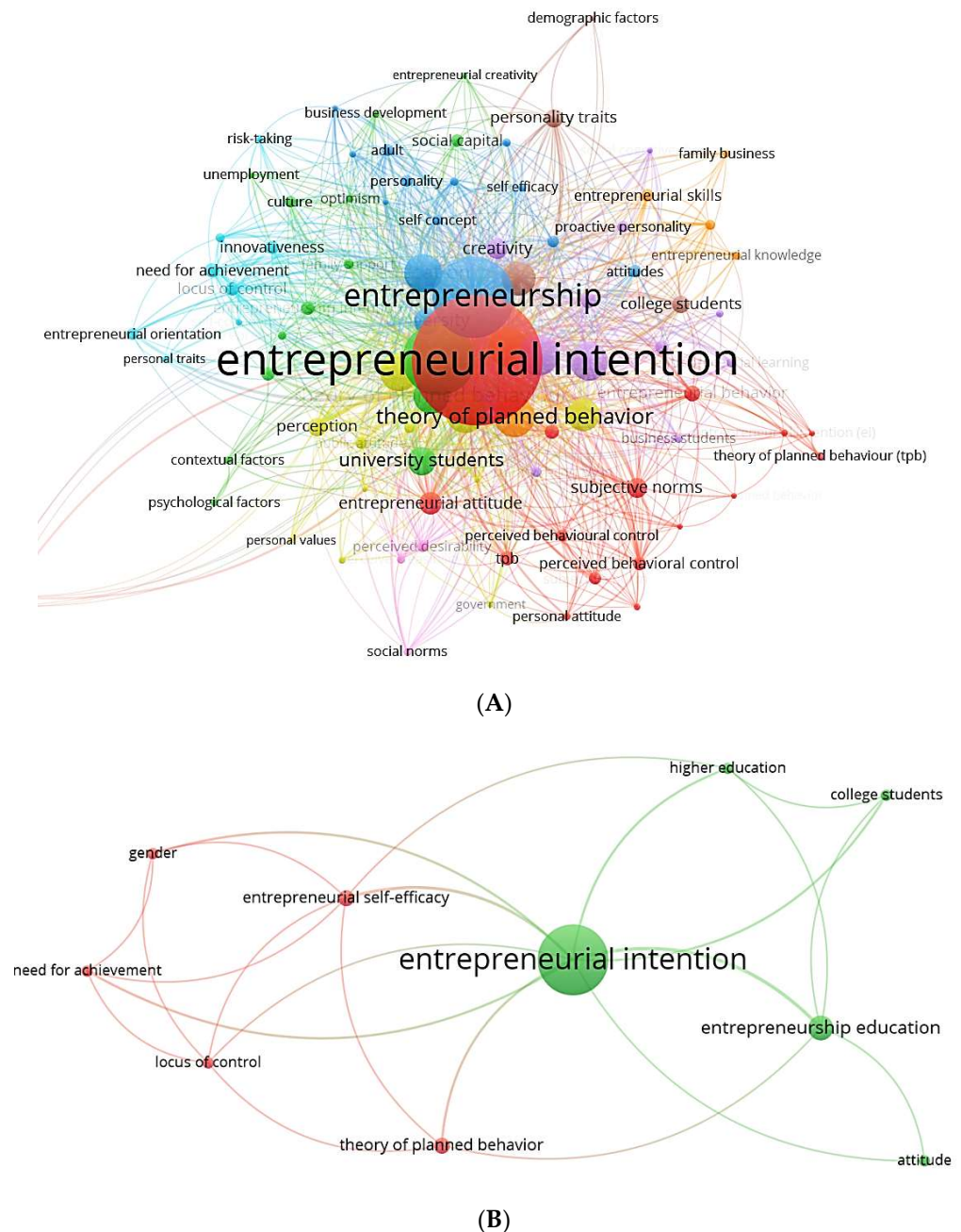


Figure 6. (A) Keyword co-occurrence network map (VOS Viewer). (B) Keyword link network map (VOS Viewer).

Figure 6B shows the links between the main keywords that are used in the research of entrepreneurial intention. It can be seen that articles that examine entrepreneurial intention mainly refer to educational factors and secondly to personality-related factors.

Figure 7 illustrates the breadth of research on the subject. The more academics study the subject matter, the more intense the color concentrations. Entrepreneurship, Theory of Planned Behavior (TPB), university students, need for achievement, opportunity perception, as well as personality traits, risk-taking attitude, innovativeness, and contextual and psychological factors are among other widely discussed topics.

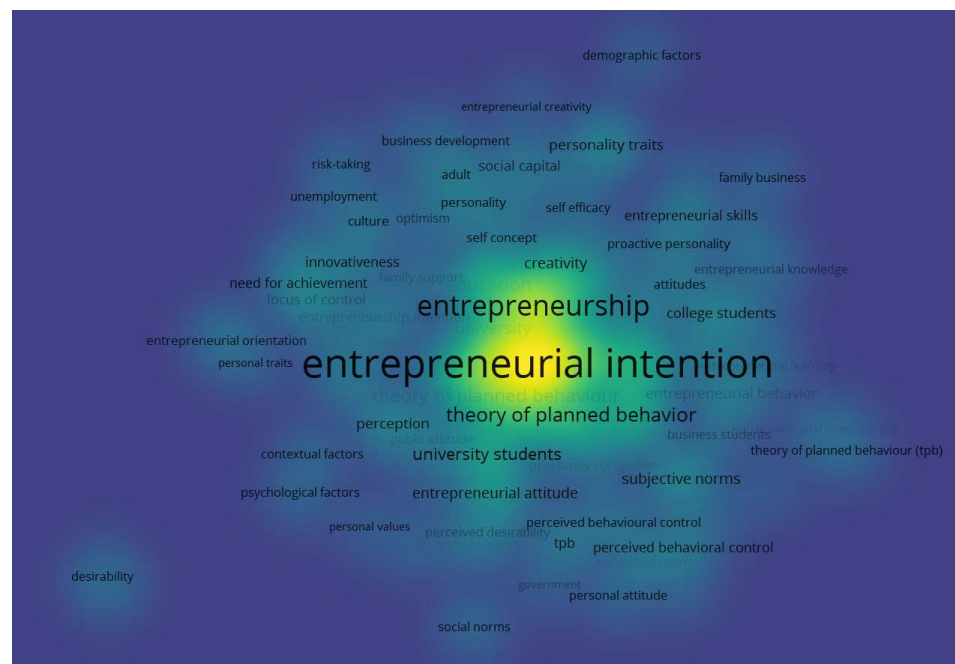


Figure 7. Density visualization (VOS Viewer).

Regarding the most prolific countries, it is observed that the country with the largest number of studies on entrepreneurial intention's determinants is Malaysia, with 48 studies. China (42) and Spain (28) are the next highest countries with the most research in the field. It is worth mentioning that the author with the maximum number of studies on this subject is Wibowo Agus from Universitas Negeri Jakarta, Jakarta, Indonesia (Figure 8).

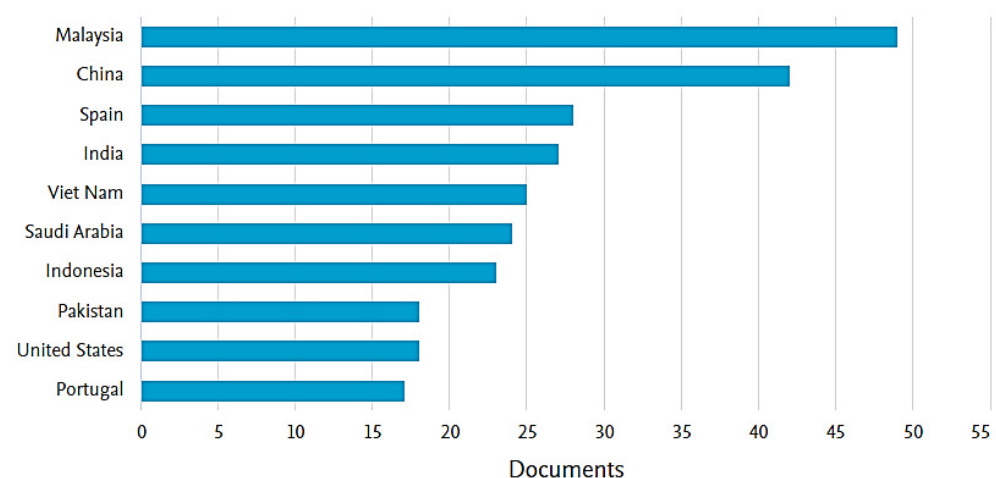


Figure 8. Documents by country (Scopus database).

Figure 9A,B highlight all the countries which have published studies on entrepreneurial intention of university students and its determinants. These data include countries with at least one study in the field. For this information, the authors used the Tableau Public software (version of Tableau Public).

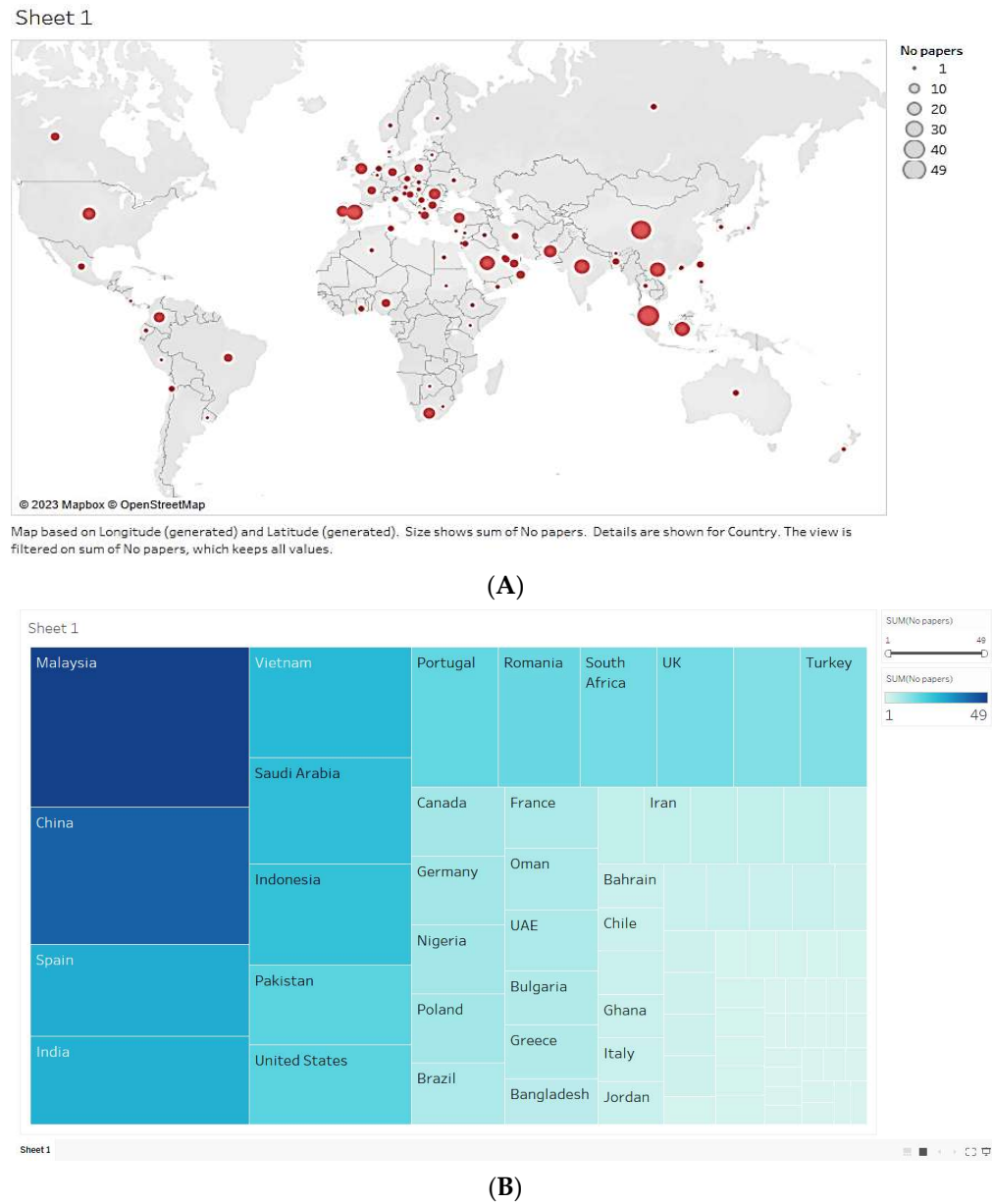


Figure 9. (A) Map view of papers contributed by various countries. (B) Tree Map view of papers contributed by various countries.

3.5. Comparative Analysis of Key Studies on Determinants of Entrepreneurial Intentions

After presenting the main findings of the literature, this paragraph includes a comparative analysis of the studies listed in Table 2, addressing different factors from personality traits to the impact of the external environment, motivational aspects, and personal background (see Appendix A). First, personality traits, such as risk tolerance, self-confidence, innovativeness, and perceived behavioral control, have been consistently highlighted in several studies. For instance, Küttim et al. (2014) emphasized risk taking and self-confidence as critical determinants of university students’ entrepreneurial intention. Similarly, Kautonen et al. (2015), the most cited study, correlate these traits with robust predictive capabilities concerning entrepreneurial intentions and actions. Another significant determinant is the

external environment in which individuals live and receive stimuli. The external environment, including social, cultural, political, and economic factors, has been discussed in many studies, such as [Mahfud et al. \(2020\)](#) and [Meoli et al. \(2020\)](#), showing that supportive social and economic environments can positively influence entrepreneurial intentions. Moreover, motivational factors, such as the desire for increased income, job security, and higher social status, have been explored in studies by [Ahmed et al. \(2020\)](#) and [Shirokova et al. \(2016\)](#). These studies reveal that personal motivation can significantly impact university students' entrepreneurial intentions. The last, but most discussed, determinants refer to individuals' backgrounds, such as their family environment, age, gender, education level, and previous working experience. These are discussed in the context of their influence on entrepreneurial intentions by [Nabi et al. \(2017\)](#) and other scholars, who underline how family background and education level can shape entrepreneurial intentions.

From the above analysis, a recurring theme across many studies was observed that emphasizes personality traits such as self-confidence, risk taking, and innovativeness. For instance, [Küttim et al. \(2014\)](#) and [Shirokova et al. \(2016\)](#) highlight the importance of self-confidence and risk tolerance. These traits are often associated with an individual's likelihood of pursuing entrepreneurial ventures, suggesting that personal confidence and comfort with risk are crucial for fostering an entrepreneurial spirit. Next, Perceived Behavioral Control is considered a key component of the Theory of Planned Behavior, which is frequently cited in studies by [Kautonen et al. \(2015\)](#) and [Esfandiar et al. \(2019\)](#). This refers to the perceived ease or difficulty of performing the behavior of interest, indicating that if students feel capable of starting a business, they are more likely to harbor entrepreneurial intentions. Several studies underscore the influence of broader economic and cultural contexts. For example, [Lu et al. \(2021\)](#) and [Barba-Sánchez and Atienza-Sahuquillo \(2018\)](#) discuss how economic and cultural environments shape entrepreneurial intention. This suggests that entrepreneurship does not occur in a vacuum but is deeply embedded within the socioeconomic fabric of a region, where economic stability and cultural norms can either facilitate or hinder entrepreneurial activity. Education and its positive relationship with the development of an entrepreneurial mindset and intention are also highly discussed factors. The impact of education on EI is a critical factor explored in numerous studies, such as [Nabi et al. \(2017\)](#) and [Maresch et al. \(2016\)](#). These studies highlight how educational setting and content can significantly influence students' entrepreneurial aspirations. Education is not just about imparting knowledge, but also about shaping attitudes and capabilities, suggesting that curricula that include entrepreneurial education can significantly boost students' intentions to engage in entrepreneurship.

Apart from the common findings of the studies included in Table 2, there is also some theoretical diversity regarding their theoretical frameworks that should be mentioned. More specifically, the studies utilized a variety of theoretical frameworks to explore EI, from the Theory of Planned Behavior in [Kautonen et al. \(2015\)](#) to Social Capital Theory by [Mahfud et al. \(2020\)](#). This diversity of theoretical approaches enriches the understanding of EI, showing that different theoretical lenses can shed light on various aspects of entrepreneurship, from psychological predispositions to the influence of external social networks. In addition, the analysis suggests that EI is the result of complex interactions between various factors. For instance, [Elnadi and Gheith \(2021\)](#) combined personality traits with cultural and economic factors, pointing out the multifaceted nature of influences on EI. This complexity underscores the need for a holistic approach in educational and policy frameworks to effectively nurture and support young entrepreneurs. Finally, citation numbers, such as the high citations by [Kautonen et al. \(2015\)](#) and [Nabi et al. \(2017\)](#), reflect the academic impact and recognition of the findings. Studies with higher citations have likely influenced subsequent research and policymaking, highlighting the importance of these findings in shaping discussions and decisions related to entrepreneurship education and support systems.

4. Discussion Conclusions

As previously stated, entrepreneurship helps economies grow and leads to social welfare. Knowing the elements that influence people's entrepreneurial intention is important for determining how interested people are in creating a new venture. The purpose of this study was to identify the most researched determinants of university students' entrepreneurial intentions through a systematic literature review. It concentrates on four groups of determinants: motivational, contextual, individual traits, and personal background.

The key finding of this study is that personality-related factors, such as self-confidence, risk-taking need for achievement requirements, internal locus of control, and autonomy, as well as individuals' background-related factors, mainly education's impact on entrepreneurial intention, are the ones that have been the most thoroughly researched in the extant literature.

Entrepreneurship has gained significant attention in recent years because of its potential for economic growth, innovation, and job creation (Zacharias et al. 2021; Sahinidis et al. 2021). Consequently, many universities have developed entrepreneurship programs to promote entrepreneurial activities among their students. In this systematic literature review, we aimed to synthesize the findings of studies on the determinants of entrepreneurial intention among university students. Our analysis revealed several determinants of entrepreneurial intention among university students, including entrepreneurial education, prior entrepreneurial experience, perceived behavioral control, and subjective norms. These findings are consistent with the theory of planned behavior, which posits that attitudes, subjective norms, and perceived behavioral control are the key determinants of intentions, which in turn predict behavior (Kautonen et al. 2015; Shirokova et al. 2016; Do and Dadvari 2017; Verheul et al. 2012).

Entrepreneurial education was found to be a significant determinant of entrepreneurial intention among university students. Several studies have found that entrepreneurship courses, training programs, and workshops positively influence entrepreneurial intention (Xanthopoulou and Sahinidis 2023; Nabi et al. 2017; Kautonen et al. 2015; Küttim et al. 2014; Liñán et al. 2011). However, Maresch et al. (2016) and Nabi et al. (2017) suggest that there are differences between business students and students from other fields (such as engineering); thus, entrepreneurship education among different departments should be further examined. This finding suggests that universities should provide entrepreneurship education to students to enhance their entrepreneurial intention.

Prior entrepreneurial experience was also found to be a significant determinant of entrepreneurial intention. Several previous studies (Lu et al. 2021; Miranda et al. 2017; Shirokova et al. 2016) found that students with prior entrepreneurial experience were more likely to have higher levels of entrepreneurial intention. This finding highlights the importance of providing students with opportunities to gain entrepreneurial experience through internships, incubators, and other entrepreneurship programs.

Perceived behavioral control is another determinant of entrepreneurial intention among university students. Many studies have found that students who perceived themselves as having control over their behavior in starting a business were more likely to have higher levels of entrepreneurial intention (for example, Küttim et al. 2014; Mahfud et al. 2020; Kautonen et al. 2015; Esfandiar et al. 2019; Maresch et al. 2016; Ambad and Damit 2016; Shinnar et al. 2012). This finding suggests that universities should provide students with the necessary resources and support to increase their perceived behavioral control. Subjective norms were also found to be significant determinants of entrepreneurial intention. Several studies have found that students who perceived that their peers and family supported entrepreneurship were more likely to have higher levels of entrepreneurial intention (Meoli et al. 2020; Ahmed et al. 2020; Lu et al. 2021; Koe et al. 2012). This finding underscores the importance of social norms and support for entrepreneurship.

Regarding the rest of the descriptive data, we observed that Malaysia has the largest number of publications on the factors influencing university students' entrepreneurial

intentions. Malaysia's prominence in the number of publications on factors influencing university students' entrepreneurial intention can be attributed to a multifaceted interplay of government policies, strategic emphasis on entrepreneurship as a catalyst for economic development, integration of entrepreneurship education within the academic system, substantial research funding and support, active international collaborations, and a cultural backdrop that values entrepreneurial success. The country's proactive approach to fostering an entrepreneurial ecosystem, coupled with a growing recognition of the global trend in entrepreneurship education, has likely spurred researchers to explore and contribute to understanding the factors shaping students' entrepreneurial intentions, positioning Malaysia as a notable hub for such academic discourse (Shamsudin et al. 2017). China is one of the largest economies in the world and has experienced impressive economic growth in recent years. This has encouraged increased research on entrepreneurial intention as entrepreneurial activity has emerged as a major economic factor.

In general, the socioeconomic context of each country plays a crucial role, as different social and political conditions can influence research and education on entrepreneurial intention (Meoli et al. 2020; Maes et al. 2014; Esfandiar et al. 2019; Koe et al. 2012; Ferreira et al. 2018; Elnadi and Gheith 2021; Barba-Sánchez et al. 2022). In addition, each country's socioeconomic challenges can encourage research on specific topics, such as entrepreneurial intention.

Analysis of the number of publications in different scientific fields offers an interesting picture of the distribution of academic research. Specifically, we observe that 32.6% of worldwide publications focus on the field of administration, demonstrating a high level of interest in this scientific area. This finding aligns with those of Kefis and Xanthopoulou (2015), Xanthopoulou and Sahinidis (2022), and Canziani and Welsh (2021), who underlined the need to expand this research topic to different academic disciplines beyond business and management. Researchers are likely to focus on subjects related to administration, business management, and other related aspects. In addition, 21.8% of the publications belonged to the broader field of social sciences. This is a representative category that includes research in sociology, psychology, economics, and other related sciences. The smallest percentage, only 2%, concerns the arts and humanities. This indicates that relatively little research and publication has been devoted to subjects such as literature, philosophy, the arts, and other humanities. These numbers reflect the concentration of research in specific scientific fields and how researchers distribute their efforts to advance their knowledge in the academic community.

The original contribution of this study lies in its comprehensive analysis of the factors that influence the entrepreneurial intention of university students. While previous studies have focused on specific factors such as personality traits or environmental factors, this study provides a more holistic view by examining the interplay between individual, environmental, and contextual factors. Another significant contribution is the use of bibliometrics to visualize and analyze the findings of the systematic literature review. As mentioned by Linnenluecke et al. (2020), researchers in business, management, and related disciplines continue to rely on narrative reviews, so there is a lack of systematic investigation of the literature in this field. This mixed approach of systematic literature review and bibliometric analysis allows for rigorous and systematic synthesis and evaluation of a large body of research.

It has been observed that the determinants most frequently studied in relation to entrepreneurial intention are factors related to an individual's background, particularly their family environment (specifically the occupation of the father) and education (primarily at the higher education level). The next most commonly studied determinants are those related to an individual's personality, or to the Theory of Planned Behavior (TPB), HEXACO, or the Big Five models of personality (Xanthopoulou and Sahinidis 2023). However, the influence of age and gender on entrepreneurial intention is still an area that requires further investigation.

The original contribution of this study lies in its comprehensive analysis of the factors that influence the entrepreneurial intention of university students. While previous studies have focused on specific factors, such as personality traits or environmental factors, this study provides a more holistic view by examining the interplay between individual, environmental, and contextual factors. Utilizing bibliometrics to analyze and visualize the results of a systematic literature review is another important advance. Researchers in business, management, and related fields still mostly use narrative reviews, as noted by [Linnenluecke et al. \(2020\)](#); therefore, there has not been a thorough analysis of the literature in this area. This combined method of bibliometric analysis and thorough literature review enables the rigorous and systematic combination and evaluation of a large body of research.

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The findings of this study have several implications for educational policymakers and program designers aiming to foster entrepreneurial capacities among students through practical entrepreneurship. In addition, educational institutions and universities should be encouraged to develop partnerships with the business community to facilitate networking opportunities for students. Policymakers can support such initiatives through grants or tax incentives to businesses that engage with educational institutions in promoting entrepreneurship. For university administrators and educators, the study underscores the importance of creating a supportive environment that nurtures entrepreneurial intent. To encourage a broader culture of creativity, universities should think about providing optional courses in entrepreneurship to students from non-business colleges or departments. More students may be inspired to explore entrepreneurship as a feasible career option by creating a campus culture that embraces entrepreneurial achievements and draws lessons from mistakes.

In order to expand upon the results of this research, a number of topics need more examination. Studies that follow the effects of certain educational changes or the introduction of entrepreneurship programs on students' entrepreneurial inclinations over time—such as longitudinal studies—may be very instructive in this regard. Research of this kind may be useful in determining the long-term effectiveness of various policy and educational measures. Comparative research in various cultural contexts may also shed further light on the ways in which students' entrepreneurial desire is influenced by their varied socioeconomic and cultural origins. Additionally, as a conceptual model to direct future studies into entrepreneurial aspirations among university students, future studies should concentrate on the analysis of an "Entrepreneurial Intentions Framework (EIF)." To provide a thorough understanding of how these elements influence entrepreneurial actions, the EIF could incorporate contextual modifiers, such as educational settings, economic conditions, and support systems, with core determinants mentioned in the results section, such as behavioral controls, motivational factors, and personal traits. These results will provide a clear picture of how entrepreneurial intentions and behaviors have changed, which may then be used to forecast or influence these changes using different approaches recommended by Social Cognitive Theory (SCT) and the Theory of Planned Behavior (TPB).

In conclusion, this study has several limitations that can be considered as recommendations for further research. First, only papers published from 2012 to August 2022 were included in this study. The scope of subsequent examinations might be widened further. Second, an extensive and diverse Scopus database was used to conduct a systematic literature review. Although there are many other databases, including Web of Science, Emerald, and Wiley Online Library, Scopus was chosen because of its greater coverage and effective

search function, which made it possible to find pertinent research that other databases did not contain (Akçayır et al. 2020; Dolhey 2019; Maheshwari et al. 2022). Third, only papers written in English were included, so it would be useful to analyze papers in other languages. Additionally, a comparison of the effects of various regional characteristics on students' EI, which was not examined in this study, would have provided insight and made our results more generalizable. Considering these limitations, it is safe to conclude that this study is not fully complete.

Nevertheless, a large number of significant publications have been included and we believe that a thorough, systematic analysis is presented. In conclusion, it is claimed that this study provides information on current trends of the literature on student entrepreneurial intention and highlights the importance of considering multiple factors when seeking to promote entrepreneurial intention, as well as the need to tailor interventions to the specific context in which individuals are situated. Overall, the present study provides valuable insights into the factors that influence entrepreneurial intention and offers guidance to policymakers, educators, and practitioners seeking to promote entrepreneurship.

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Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A. Overview of Comparative Analysis of Key Studies

Study Reference	Determinants/Factors	Citations
Küttim et al. (2014)	Risk-taking/tolerance, Self-confidence, Perceived behavioral control	430
Mahfud et al. (2020)	Risk-taking/tolerance, Self-confidence, Innovativeness, Perceived behavioral control, Social	114
Meoli et al. (2020)	Perceived behavioral control, Economic, Cultural	140
Ahmed et al. (2020)	Self-confidence, Increased income	150
Shirokova et al. (2016)	Risk-taking/tolerance, Self-confidence, Social	527
Kautonen et al. (2015)	Risk-taking/tolerance, Self-confidence, Perceived behavioral control, Need for achievement, Previous working experience	1440
Nabi et al. (2017)	Family/social environment, Education	1213
Fuller et al. (2018)	Self-confidence	180
Tolentino et al. (2014)	Self-confidence	398
Lu et al. (2021)	Self-confidence, Economic, Cultural, Previous working experience	45
Maes et al. (2014)	Economic, Education	295
Esfandiar et al. (2019)	Risk-taking/tolerance, Self-confidence, Perceived behavioral control	309
Maresch et al. (2016)	Economic, Education	559
Karimi et al. (2013)	Education	155
Barba-Sánchez and Aienza-Sahuquillo (2018)	Economic, Cultural, Increased income, Education	493
Mathieu and St-Jean (2013)	Risk-taking/tolerance, Self-confidence, Innovativeness, Perceived behavioral control	207
Koe et al. (2012)	Economic, Education, Previous working experience	248
Liñán and Fayolle (2016)	Risk-taking/tolerance, Economic, Cultural, Increased income, Education	161
Ali et al. (2017)	Cultural	108
Ferreira et al. (2018)	Economic, Increased income, Education	300

Study Reference	Determinants/Factors	Citations
Liñán et al. (2013)	Economic, Education	118
Barba-Sánchez and Atienza-Sahuquillo (2012)	Economic, Cultural, Increased income, Education	274
Elnadi and Gheith (2021)	Risk-taking/tolerance, Innovativeness, Perceived behavioral control, Economic, Cultural, Education	53
Sullivan and Meek (2012)	Economic	420

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