

Martins, José Moleiro; Shahzad, Muhammad Farrukh; Xu, Shuo

Article

Factors influencing entrepreneurial intention to initiate new ventures: Evidence from university students

Journal of Innovation and Entrepreneurship

Provided in Cooperation with:

Springer Nature

Suggested Citation: Martins, José Moleiro; Shahzad, Muhammad Farrukh; Xu, Shuo (2023) : Factors influencing entrepreneurial intention to initiate new ventures: Evidence from university students, Journal of Innovation and Entrepreneurship, ISSN 2192-5372, Springer, Heidelberg, Vol. 12, Iss. 1, pp. 1-27,
<https://doi.org/10.1186/s13731-023-00333-9>

This Version is available at:

<https://hdl.handle.net/10419/290316>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.




<https://creativecommons.org/licenses/by/4.0/>

RESEARCH

Open Access



Factors influencing entrepreneurial intention to initiate new ventures: evidence from university students

José Moleiro Martins^{1,2}, Muhammad Farrukh Shahzad^{3*}  and Shuo Xu³

*Correspondence:
farrukhshahzad207@gmail.com

¹ ISCAL (Instituto Superior de Contabilidade e Administração de Lisboa), Instituto Politécnico de Lisboa, Avenida Miguel Bombarda, 20, 1069-035 Lisbon, Portugal

² Instituto Universitário de Lisboa (ISCTE-IUL), Business Research Unit (BRU-IUL), Lisbon, Portugal

³ College of Economics and Management, Beijing University of Technology, Beijing 100124, People's Republic of China

Abstract

As worldwide unemployment is an extensive problem with the increasing population every day, job opportunities did not increase with a similar ratio. Unemployment is increasing, affecting developing countries' economies like Pakistan. This attempt to solve this problem is commonly acknowledged by creating new opportunities and starting new business ventures. Considering this aspect, this study inspects the aspects that create and affect entrepreneurial intention in young entrepreneurs to start entrepreneurial projects. This study explores the effect of self-efficacy, family, institutional, and peer support on entrepreneurial intention. These factors are expected to create entrepreneurial intention in young graduates to start their business ventures. All these factors and the mediating role of knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness motivate young entrepreneurs to take startups. For results, a survey method with a questionnaire has been utilized to gather data. The collected data were evaluated through descriptive and inferential statistics. SPSS and SMART-PLS 3.3 were used for the analysis of results. 716 respondents participated in the data collection process. Data have been gathered from the master's students who registered in Pakistan's top business sector universities. The results of this study showed that self-efficacy, peers support, institutional support, and family support positively impact entrepreneurial intention. Additionally, knowledge of entrepreneurial skills, the ability to take risks, and entrepreneurial innovativeness also significantly affect entrepreneurial intention. In this study, all these results have been discussed. This study also discusses various theoretical and practical factors with substantial policy-making significance.

Keywords: Self-efficacy, Entrepreneurial intention, Family support, Ability to take risks, Institutional support, Peers support, Knowledge of entrepreneurial skills, Entrepreneurial innovativeness

Introduction

Startups are born every day, yet most of them die at the same pace as well. Entrepreneurship takes part an essential role in the economy of every country (Ferreira et al., 2023). The total percentage of entrepreneurs worldwide is approximately 583 million, but 22.6% of small businesses fail within a year (Khan et al., 2021). In Pakistan, startups have less

than a 2% success rate (Shahzad et al., 2021). That is why it attracts more researchers' interest and makes people more self-employed. There are economic problems in developing countries, so technical entrepreneurship teaches the method to reduce most social and economic problems (Liao et al., 2022). Technical entrepreneurship is an idea to relieve the maximum social addition to economic growth in developing nations (Al-Mamary & Alshallaqi, 2022). Entrepreneurs generate jobs, boost innovation, intensify competition, and adapt to shifting market conditions and societal trends (Gujrati et al., 2019). However, it is interesting to note in Pakistan's financial system struggle with entrepreneurial startups, which might be in the main non-technical, like small and medium entrepreneurship, where people are less inventive in becoming an entrepreneur (Farhangmehr et al., 2016). There is a method to expand the interest in people, and this study involves managing the self-employed and starting their own businesses that also play a role in a stable country's economy. Russia, Brazil, China, India, South Africa, and Pakistan have the lowest attractiveness for entrepreneurship and low career option (Pradana et al., 2020). According to the National Commission Labor of Pakistan (NCLP) (2002), emphasis on the probability of education and training highlights entrepreneurship development that leads to the creation of more jobs (Lingappa et al., 2020).

Different programs and initiatives also help to approach their career in the right direction (Al-Jubari, 2019). The government of Pakistan also offers different entrepreneurial activities in terms of offering youth loans and different courses to encourage and make skillful entrepreneurs (Liu et al., 2019). The concept of entrepreneurial intention narrates to take entrepreneurial as deliberate and the foundation of an aim to initiate new activities at a pace in establishing a corporation's intentions (Kautonen et al., 2015). After all, observe that entrepreneurship is all about actions rather than trivial ones. Entrepreneurship is becoming a relevant tool to promote any country's financial progress and development (Ferreira et al., 2023). Entrepreneurship helped not only satisfy individual needs but also assist the government in enhancing economic development and growth because of the economic contribution of entrepreneurs (Liu et al., 2019). Once they open new process opportunities, the growth of human beings creates values for society, and they cease to modify the economic growth of a country (Malang, 2019). The development of entrepreneurship inside society plays a very important role. However, most youngsters are still reluctant to move toward entrepreneurship. That is why our study investigated different factors to make people aware of entrepreneurial intention.

Discussing entrepreneurship in Pakistan in 2022 national statistics bureau released information that the success rate of startups locally is remarkably low as it ranges between 10 and 20% (Al-Mamary & Alshallaqi, 2022). Comparing these numbers to nearby Asian countries is a small ratio of successful startups (Wang et al., 2018). Realizing this situation, the government of Pakistan has been enforcing different guidelines and policies to increase people's entrepreneurial intentions (Soomro et al., 2019). Government implements different policies in terms of offering economic incentives for new entrepreneurial projects, giving smooth loans, providing basic training to young entrepreneurs, accomplishing all styles of entrepreneurial improvement programs as well as training to improve their abilities and skills, enhance their knowledge and intention to move their startups (Rachmawan et al., 2015). Different kinds of entrepreneurship projects and programs are provided to older and young people and university students

(Farrukh et al., 2017). Nowadays, institutions will show a greater energetic role in boom entrepreneurial intention, especially by imparting their students with education and guidance to make an entrepreneurial profession easier to handle (Palmer et al., 2019). The participation of universities is vital to improve their career road and is becoming an extra commonplace and important choice for students (Shahzad et al., 2021). Based on this, previous studies (Al-Mamary & Alshallaqi, 2022) cleared their students' entrepreneurial aims. Different theories support our study arguments, such as the conservation of resources (COR) theory and the theory of planned behavior (TPB) that improve the knowledge of young people to understand the environment where they start their business ventures (Huang et al., 2022). These theories make them more familiar with the social and psychological atmosphere and people's trust towards entrepreneurial projects.

This proposed study suggests addressing the gap of the earlier studies (Lingappa et al., 2020; Shahzad et al., 2021) by considering the dimensions of entrepreneurship, such as self-efficacy, institutional support, family support, and peer support in the people of Pakistan. With all factors, those people who have entrepreneurial skills, risk-taking ability, and innovative techniques, that lead to the market as new entrepreneurs. This study will find the impact of these different factors with a mediating role on entrepreneurial intention in university graduates. This study aims to recognize the major provocation of all factors which are creating the entrepreneurial intention with the help of mediators; it also enhances the significant correlation between entrepreneurial intention and their factors, which leads university students to start their projects and improves their entrepreneurial intention. Although without debate, entrepreneurial behavior might be distinct as the detection and assessment and lead toward work opportunities (Liñán et al., 2011). This behavior would be best projected by entrepreneurial intention. All these factors lead to creating an opportunity to understand the entrepreneurial intention. Entrepreneurial intention study is like a technical study to see its context in developing countries (Finch et al., 2016). In different past studies, academies' role was hypothesized on entrepreneurial intention. The entrepreneurial purpose was narrated as the aware country of thoughts that lead up to movement and directs interest in entrepreneurial behaviors, including initiating new enterprises to become successful entrepreneurs (Lingappa et al., 2020).

Literature review

Importance of entrepreneurial intention in young generations

The element of entrepreneurial intention guides to a grip on entrepreneurial projects, the reason behind pursuing and starting a business that is organized by self-interest. Entrepreneurial intention is important to producing a new journey in the entrepreneurial operation. Many people are already entangled in entrepreneurship ideas that have a clear prospect of enhancing their business journey (Baskaran et al., 2020). According to researchers (Amirkhanpour, 2014) three basic types of measuring people's interests are desire, forecasting, and behavioral intention (Malang, 2019). In business, the entrepreneurial intention is the determination of a new entrepreneur who starts his business with commitment. Entrepreneurial projects can be observable as a primary platform of the entrepreneurial process (Shahzad et al., 2021). In entrepreneurship, past researchers observed that entrepreneurial intention shows a vital role in predicting entrepreneurial

projects (Shirokova et al., 2016). A prior study measured different personal and circumstantial variables that directly affect entrepreneurship via Entrepreneurial intention recognized through new startups (Wang et al., 2010). When individuals get hold of entrepreneurial startups, they will be more attracted to this profession's desire and higher effort towards goals (Fayolle & Liñán, 2014). In a country like Pakistan, entrepreneurship is important to create intention in young people, especially university students. However, Pakistan's economic structure is inappropriately lacking in such business ventures and projects (Azhar et al., 2014). It is far vital that in conjunction with enhancing entrepreneurial intention with the role of government ideology and behavior of people towards startups (Fayolle & Liñán, 2014). Knowledge of entrepreneurial intention is developed strength among business students and young graduate students. These young people are approximate to enter a startup (Palmer et al., 2019).

A previous study used different variables, such as entrepreneurial know-how, expert enchantment, social valuation, and entrepreneurial ability, which are the main determinants of entrepreneurial intention among younger entrepreneurs (Farrukh et al., 2017). These arguments supported our study to start innovative business ideas. The entrepreneurial initiative is key to performing good results in good profits for better results. The entrepreneurial project also introduces high flexibility for increasing revenue. The initiative inspired the owner of a company venture to overcome losses and try to succeed once again (Schlaegel & Koenig, 2014). The key point of this study is how to create and enhance entrepreneurial intention in university graduates, which is why the researcher used different factors to check the relation of entrepreneurial intention with self-efficacy, peer support, family support, and institutional support. Using these factors, the researcher will learn about university student's behaviors, attention, and action toward entrepreneurial projects. In a past study (Kallas, 2019), young entrepreneurs in Pakistan utilized that growing understanding of the extraordinary cultural and historical past, supplying gender-related challenges and opportunities. The researchers (Bose et al., 2007) concluded that amplifying the entrepreneurial base in which government reform to restrict lease-searching, encourage innovation, and foster employment are vital and proposed approaches for new businesses, increase and empowerment of young people to take essential steps towards startups. Prior studies have proposed and empirically investigated the supervision of many determinants of entrepreneurial intention to understand this intention better, using a range of theoretical backgrounds to clarify very easily why certain people who are additional entrepreneurial intention and ideas than others that support our study augments (Schlaegel & Koenig, 2014).

Factors affecting entrepreneurial intention

Self-efficacy and entrepreneurial intention

A personality element such as Self-efficacy is deeply observed in the individual and affects different situations. Individual perception also leads to his life through punishment to reward (Yang et al., 2021). Self-efficacy in every character could be exceptional from other entities founded on three dimensions: magnitude, strength, and generality (Malang, 2019). Entrepreneurial intention is the activity or steps towards the entrepreneurial process. High self-efficacy is the energy of self-reliance that belongs to people, which permits them to reach achievement in entrepreneurship roles, challenges, and

activities (Omar et al., 2019). In this regard, someone with high self-efficacy can be excessively assured of achieving their desires and goals. The level of self-efficacy can even affect the number of efforts a person will allocate to complete their jobs. People with a sense who can get a good enough education, including different entrepreneurial activities, have resources. They have enough information and excessive confidence to emerge as entrepreneurs (Rachmawan et al., 2015). Self-efficacy is the academic period for believing you can execute a goal and set a target. It is established on people's wisdom of awareness and their competencies and abilities. It displays people's innermost mind on whether they have been challenged to successfully bring out a certain challenge (Arshad et al., 2016).

Self-efficacy that guides motivation to entrepreneurial projects can be explained as a motivation that could inspire an individual to start business projects. They have accomplished a full of life, innovative, revolutionary, and venture to take the risk of wanting to get revenue, either in the form of cash (Siregar & Marwan, 2020). According to previous research (Marques et al., 2019), there is a significant and good-sized correlation between high entrepreneurship efficacies that developed students' interest in starting an entrepreneurial project within destiny. Generally, self-efficacy is a situation in which personalities consider that conduct is simple or tough to evaluate the situation and reach towards goals (Wirtschaft, 2018). According to Arshad et al. (2016), self-efficacy is important in enterprise techniques because efficacy is connected to the career-minded capability of someone to evaluate inner obstacles and possibilities. This self-efficacy also motivated entrepreneurial intention to run startups (Bullough & Renko, 2013). Self-efficacy plays an important role that substantially impacts entrepreneurial passion (Tsai et al., 2016). Entrepreneurial affection also has a wonderful and massive impact on the enterprise's success (Karimi et al., 2014). With increasingly competitive competition in filling existing jobs and an imbalance in job opportunities, graduates must be able and efficacy to create new opportunities to ensure their survival (Siregar & Marwan, 2020).

Family support and entrepreneurial intention

Entrepreneurial intention acknowledges that the family role is crucial to attracting their child to start the business. Specifically, it emphasized that the parents play vibrant roles in the belief that undertaking desirability and feasibility are treated (Farrukh et al., 2017). Besides, the families supply a suitable environment to become an entrepreneur because it gives the kid an effective and efficient demonstration. The researchers (Kolveid, 1996) mentioned that family support is a constant source of motivation for an entrepreneur's attitude and entrepreneurial motivation, strengthening the relationship between career versatility. Children of entrepreneurs are acquainted with the one-of-a-kind duties carried out by terms of a leader in their family firm (Xu et al., 2020). This family support contributes to advanced entrepreneurial competencies appropriate for beginning or developing a firm. Independent parents assist their children in continuing a career as an entrepreneur. These parents become mentors for their children (Yang et al., 2021). Role models and mentors affect entrepreneurial intention by changing the attitudes and ideals of their children (Palmer et al., 2019). The family plays an imperative role in entrepreneurial startups due to strong associations between family cognition in commercial enterprises and entrepreneurial project results (Xu et al., 2020).

Family support has enabled business owners to involve in projects that can be used to address corporate concerns and lessen the emotive distress imposed by financial problems (Sieger & Minola, 2017). Besides, better tiers of own family aid assist marketers in adjusting to their everyday entrepreneurial dreams associated with financial troubles (Olson et al., 2003).

Family support indicates that family participation can be involved in accessing debt financing in begin-up projects (Bird & Wennberg, 2016). Regarding project development, several studies suggest that family support assists entrepreneurs in enlarging their social networks, together with financial and political networks. There is also proof that family support resources are helpful for expatriates and consecutive entrepreneurship (Shen et al., 2017). Family individuals are directly involved in apprehending business possibilities and opportunities that affect their financial decision to improve planning (Klyver & Terjesen, 2007). University students are given monetary and emotional dependency based on their families and constrained lifestyle studies (Sequeira et al., 2007). When a student considers professional options besides entrepreneurship, it is crucial since it reinforces and generates new ideas (Zellweger et al., 2011). Young students are more pregnant in the organization of entrepreneurs due to insufficient information about the entrepreneurial process, lack of experience, and insufficient financial resources (Lee, 2006). Prior researches endorse that the advantages of family support participation are magnified beneath pathetic institutional authorities (Manolova et al., 2019). Families are a crucial source of new startups. In addition, family support, association, and quotation are critical in overcoming and connecting the voids in the prison machine (Hall et al., 2001). Family monetary and social capital can be used for entrepreneurial projects by supplying resources and facilitating transactions (Manolova et al., 2019).

Peer's support and entrepreneurial intention

Peers, which affect the social influence in preference to institutions, are acknowledged to greatly influence a student's alteration to business (Markussen & Røed, 2017). Peers effect is more potent spatially near university peers. Among the place of business colleagues, peers not most effective encouraged entrepreneurial intention undoubtedly but also changed into the most powerful for employees with little earlier publicity of entrepreneurship (Field et al., 2014). The past study examined the premise that peers could have more effect on the students, leading to interaction in entrepreneurial behavior (Lingappa et al., 2020). Organizational principles designate by the founding for an unbiased journey that reflects an undertaking with a high outcome. University peers have more decision power to adjust as an entrepreneur. When squeezed to accept entrepreneurial conduct will grow with the wide variety of university colleagues and peers who have already transformed into entrepreneurs (Kacperczyk, 2013). In past studies, peers affect the individual character with an extended and wealthy history within the social sciences (Markussen & Røed, 2017). For instance, a substantial amount of literature has affected neighborhoods, which led to profound results that community peers could have on people (Bellò et al., 2018). However, it has been dedicated to the position that peers in the place of business might play in impacting personnel profession choices and decisions of access to entrepreneurship (Moog et al., 2015). According to Falck et al., (2012),

peers support always affects young people and produces entrepreneurial intention, such as startups are given to people in various capabilities. Our study highlights individual's peers and their access and association with startups.

Entrepreneurial activities have been increasing returns based on the premise that peer influence is simply a gift within corporations (Field et al., 2016). In a past study (Nanda, 2006), the researchers tried out the affiliation among individual peers and their tendency to grow to become a young entrepreneurs, which is essential to create intention in people. Peer strain can be a highly influential factor in the achievement or failure of individuals in business startups. Peers have huge traits that might impact a man or woman's attitudes and decisions (Kacperczyk, 2013). In entrepreneurship, peer influence positively impacts the decision to start entrepreneurial projects. According to Nanda and Sørensen (2010), individuals worked with teammates concerned with startups, discussed with peers, and got support. Peers affect personality characteristics or elements of someone's existence, and with their education, peer strain can affect any element of a person's existence, including their education (Falck et al., 2012). However, peer talents, experience, and skills developed through interaction with successful entrepreneurs must be used to identify more personal entrepreneurial aspirations. Peers also support the steps necessary to launch new business endeavors (Moog et al., 2015).

Institutional support and entrepreneurial intention

Institutional support is very vital in entrepreneurial intention. Institutional support boosts individuals to become entrepreneurs, spreading entrepreneurial recognition (Shahzad et al., 2021). The past study discussed institutional support showing significant impact, which leads to determining new strategies for entrepreneurs and financial, and economic development (Basu & Virick, 2008). Through enterprise education and knowledge, initiatives focus on participants who have already participated in entrepreneurial projects and recognized an opportunity (Mustafa et al., 2016). The intent of a businessperson is observed to stay a certain forecaster of real entrepreneurial affiancing (Engle et al., 2011). In Pakistani graduates connecting with courses of entrepreneurship included in their syllabus, they have more desire to become entrepreneurs than other graduates (Yusoff et al., 2016). Institutional support in the entrepreneurial intention where entrepreneurship workshops and seminars are offered to grip on entrepreneurship techniques (Aloulou, 2016). In a previous study (Peterman & Kennedy, 2003), entrepreneurship education is a standard and significant role in university education. Institutional support substantially determines university students' entrepreneurial goals (Fayolle & Liñán, 2014). With educational support, educational institutions added to assist the entrepreneurial intention of young students through developing surroundings that is beneficial for entrepreneurship (Coduras et al., 2008). A previous study established that such institutional supportive environments might also provide students the self-assurance to provoke their commercial enterprise challenge (Zhang et al., 2014).

According to Kraaijenbrink et al. (2010), the survival of a helpful environment is not to educate the circumstance to elevate young entrepreneurs to keep up their entrepreneurial intention. However, it is essential to measure the volume to what extent affects students to move toward business setups (Turker & Selcuk, 2009). Institutional support usually refers to the financial or economic environment of industry and business

comprising government and other authorities taking the decisions and operations that affect business (Audretsch et al., 2014; Guerrero & Urbano, 2014). A young entrepreneur who wishes to start a business unit or with his friends is meant to know the numerous institutions that guide new projects (Mustafa et al., 2016). Institutional support has assessed the effect of enterprise education on business activities (Trivedi, 2016). Furthermore, institutional support and entrepreneurship training must be extended to optimistic knowledge and self-experiential techniques (Peterman & Kennedy, 2003). Institutional support refers to people's interest in the business arrangement and influences assets to establish new institutions or renovate present ones (Solevik, 2013). This study estimates how institutional support people develop entrepreneurial intention among individuals and motives to start their entrepreneurial projects and take them as a profession. Based on all these arguments, we investigate the role of institutional support and other factors, such as self-efficacy, peers, and family support, on entrepreneurial intention. Therefore, we suggest the hypothesis:

Hypothesis 1: There is a positive impact of self-efficacy, family support, peer support, and institutional support on entrepreneurial intention.

Mediating role of knowledge of entrepreneurial skills

Knowledge of entrepreneurial skills are abilities you need to succeed in entrepreneurship. The knowledge of entrepreneurial skills is a crucial determinant of a chance of recognition for entrepreneurs in uncertain environments (Shabbir et al., 2017). A previous study (Faherty, 2015) linked knowledge of entrepreneurial skills with entrepreneurial intention in young students. Entrepreneurial skills are more appropriate for entrepreneurial intention. Entrepreneurial success is set up that largely relies upon entrepreneurial skills instead of experience or schooling (Asad, 2016). In addition, the rugged nature of present day surroundings and the validity of any entrepreneur reclines their entrepreneurial skills that lead to acceptance and response to obscurity and insecurity (Hahn et al., 2020). Knowledge of entrepreneurial skills could be expressed in step with the conceptualization of these skills, which includes skills to avail opportunities. The talent to develop vast social networks collect economic resources, and high competition respond effectively (Johnen, 2017). Knowledge of entrepreneurial skills is a crucial contributing factor to recognition or value creation (Kucel & Vilalta-Buff, 2018). Past researchers (Liñán, 2008) have described positive consequences between positive knowledge of entrepreneurial skills and entrepreneurial intention in the young generation. It is also established from a previous study that entrepreneurial achievement largely relies upon entrepreneurial skills in preference to experience or education in young people (Olutase et al., 2020). In Pakistan, the effects of entrepreneurship programs and plans are not predicted to influence their youth unemployment and financial contribution. That is why the role of entrepreneurial skills enhances the ability to earn (Seuneke et al., 2013).

According to the researcher (Pyysiainen et al., 2006), interpersonal skills and abilities have contributed to individual life to pursue a career in the right direction. Knowledge of entrepreneurial skills is related to discovering consumer desires (Entrialgo, 2017). Therefore, the important techniques for skills are exploitation and documentation of new business success (Lumpkin et al., 2011). A university education also polishes an individual's

innovative competencies and creative skills, leading to a better diploma of entrepreneurial intention (Loué & Baronet, 2012). Past research (Journal et al., 2014) defined that the subjective norm supported by the environment and circle of relatives led to high-quality association among entrepreneurial intention (Michelacci, 2003). In a previous study, entrepreneurial skills knowledge still falls overdue compared to other entrepreneurial knowledge (Chatterjee & Das, 2016). Therefore, it is a need for higher know-how of those constructs of high-quality importance, particularly in a growing economic system like Pakistan. That is why this study pays attention to the role of KES in enhancing the relationship among factors that influence entrepreneurial intentions. Another attempt to offer a particular extra rationalization for the effect of critical and knowledge of entrepreneurial skills towards EI (Collins et al., 2004). Therefore, covering all these aspects, this study investigated the mediating role of knowledge of entrepreneurial skills with the help of factors of EI such as self-efficacy, family support, peer support, and institutional support to enhance the relationship with entrepreneurial intention. Through the above discussion, we have proposed the hypothesis:

Hypothesis 2: Knowledge of entrepreneurial skills positively mediates the relationship between family support, peer and institutional support, self-efficacy, and entrepreneurial intention.

Mediating role of ability to take risk

The risk-taking ability is the characteristics of entrepreneurs and is considered important for the selection or decision to enter entrepreneurship (Sharaf et al., 2018). There are four elements of an entrepreneur's achievement: a want for achievement, past reports, locus of control, and confidence in self-belief (Al-Mamary & Alshallaqi, 2022). Freedom is connected with entrepreneurs when they make decisions that lead to entrepreneurial intention and awareness (Zainon et al., 2020). Risk-taking ability improves confidence which can guide their propensity to make decisions. It enhances the entrepreneurial intention and activities treasured in innovative intellectual and thoughts near high-risk decisions toward entrepreneurial achievement (Butt et al., 2015). Entrepreneurs are extra self-assured than other people like non-entrepreneurs since they are more willing to take risks to succeed (Yurtkoru & Seray, 2014). A prior study (Rauch et al., 2018) investigated gender variations in the willingness to take the entrepreneurial risk, indicating that young entrepreneurs are extra danger-averse than experienced people. Past studies (Castillo & Freer, 2018) enabled us to identify the risk-taking ability of youngsters in the direction of business success. In addition, previous studies explained how risk-taking abilities successfully enhance young people's confidence to start projects (Lozano-Serrano et al., 2013). Furthermore, a study (Ventura & Quero, 2013) observed that positive attitudes play a beneficial role in unstable entrepreneurship projects that also test the young entrepreneur's temperament.

According to Butt et al. (2015), young entrepreneurs are believed to take risks and understand the number of hazards in business activities. However, the researchers (Robinson & Marino, 2013) accepted that their capability to negotiate while selecting and making decisions could influence the extra extent of self-assurance. Another study (Boyko et al., 2018) observed that assured experiences and different business projects

benefit innovative thinking of new ideas towards highly risky situations, leading to entrepreneurial success. Researchers (Ferreiro and Carmen et al., 2013) explained businesspersons have extra self-possession than others, as they are willing to take more risks for achievement. Thus, the above discussion of our study explains easily projects and abilities of a risk-taking character will represent an entrepreneur's popularity, either low, high, or mild, contributing to the entrepreneur's achievement in startups. Risk propensity is crucial in entrepreneurial intention to begin new projects (Zainon et al., 2020). Successful entrepreneurs entail taking risks; if they do not include those characteristics, it means reconsidering being a business proprietor project (Palma et al., 2014). Taking entrepreneurship risks includes cautious planning and hard painting in startups (Zainon et al., 2020). The current study stated the mediating role of the ability to take a risk also enhances entrepreneurial intentions among young generations. Students with self-efficacy, family support, peer support, and institutional support can also take the risk that connection to the business's success. Thus, it hypothesized that:

Hypothesis 3: The ability to take risks positively mediates the relationship among self-efficacy, peer support, institutional support, family support, and entrepreneurial intention.

Mediating role of entrepreneurial innovativeness

Entrepreneurial innovativeness is expressed to innovate services and products and discover new methods of manufacturing goods and services. Innovation could be useful for entrepreneurship and business production (Ng et al., 2019). Prior study innovation (Haider et al., 2017) looked at the impact and overall performance of the business strategy in the organization. Entrepreneurial innovativeness is especially increased openness to work on new thoughts and existing ideas using new technology and intention (Domi et al., 2020). Our study highlights the customer-focused business's attempts to innovate new products and services, which will surely impact people's businesses. The achievement of entrepreneurial projects builds upon the volume they attempt to transfer to open innovation (Kyrgidou & Spyropoulou, 2013). Accepting the innovation strategy appears helpful for social businesses to advance and grow their business operations (Ebrahimi et al., n.d.). Entrepreneurial innovativeness mentions a company's ability to utilize opportunities (Covin & Wales, 2012). Entrepreneurial innovativeness is essential in entrepreneurship in a relatively competitive world that stays with innovativeness, and progressive ideas will separate you from the rest (Ndubisi & Iftikhar, 2012). We must adopt innovativeness to produce a super product and build our patron network (Domi et al., 2020). Previous studies (Amirkhanpour, 2014) described the interactions between innovativeness and organization strategies. There is still confusion about which strategic selections, such as research and development expansion, bring greater performance and innovation to a revolutionary business enterprise (Naldi et al., 2007). Therefore, our study's primary goal is to decorate the overall performance using entrepreneurial intention.

The government provided the policy schedule to people with entrepreneurial improvement and endowments with the assessment of their projects. They developed the right direction for people using technology and techniques in the entrepreneur sector (Lee

et al., 2010). In fact, Ng and Kee (2017) emphasized the need for entrepreneurship intention for individuals to innovate technological changes that help them to continue their entrepreneurial projects. Entrepreneurial intention and entrepreneurial innovativeness are essential abilities that could have a wonderful effect on the presentation of the new business (Madanoglu et al., 2016). In a past study, the researchers (Lozano-Serrano et al., 2013) had proven that entrepreneurial intention in a young entrepreneur is more innovative with new technology. That is why from the above discussion, our study focuses on entrepreneurial innovativeness. However, entrepreneurial projects are not always clear on how to use their abilities (Lu & Beamish, 2001). Usually, entrepreneurial intention is considered because of the mixture of innovative ideas and hazard-taking awareness (Aloulou & Fayolle, 2005). Arguments elevated confusion in a previous study (Hafeez et al., 2018) that stated innovativeness is the outcome of perception and risk-taking. Therefore, the present study pays attention to innovation's role in creating entrepreneurial intention among students who enrolled in universities. Innovativeness is associated with the tendency to accept newness, and it enhances the competitiveness of the business and leads it to gain advanced overall performance of your business activities (Mueller & Thomas, 2001). Innovativeness is considered a core fee-developing capability that leads the relationship between factors of entrepreneurial intention such as self-efficacy, family support, peer support, and institutional support. That is why we suggest the hypothesis:

Hypothesis 4: Entrepreneurial innovativeness positively mediates the relationship between self-efficacy, family support, institutional support, peer support, and entrepreneurial intentions.

Model of proposed research study

This study has focused on different entrepreneurship factors that create motivation and intention among the youngster to start their businesses and contribute to the country's economy. There are different economic problems globally, especially in a country like Pakistan that lacks job opportunities. The current study makes it easy to move people to start their own ventures and creates more opportunities. This projected study combined two factors to present the considered model. Firstly, the current study investigates the direct relationship between different factors of entrepreneurship, such as self-efficacy, family support, peer support, institutional support, and entrepreneurial intention. Secondly, knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness mediate the relationship between interdependent variables such as self-efficacy, family support, peer support, institutional support, and dependent variables, entrepreneurial intention.

Figure 1 represents a research framework in-depth as in literature review as already introduced above to clarify the model shown below.

Material and methods

The objective of the current study is to select entrepreneurship sectors to reduce unemployment, which has an adverse effect on the nation's economy. In this study, we investigated the entrepreneurial intentions of recent graduates motivated to start their

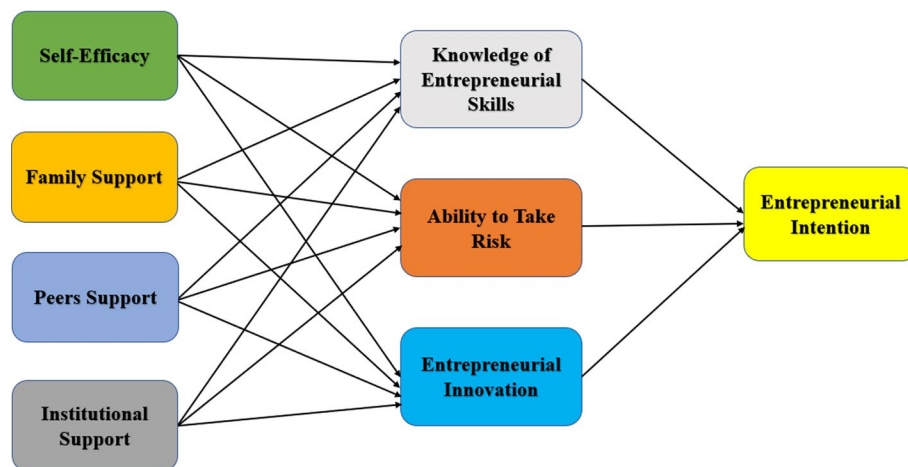


Fig. 1 Conceptual framework

businesses. We concentrated on the factors like self-efficacy, family support, peer support, and institutional support that are essential in improving entrepreneurial intention among youngsters. Entrepreneurship is a key driver of job creation in developing economies like Pakistan, which is experiencing a financial crisis. All these aspects motivate young generations to increase opportunities and create a friendly atmosphere for entrepreneurs to probe their contribution to the country's economy. Startups have a vital role in entrepreneurship sectors that produce the environment and rises opportunities for individuals, reviving economic development. The Pakistani government recently focused on improving the business environment for young people to initiate new business ventures in the country. Pakistan presently has the most important ratio of young entrepreneurs. The Pakistani administration has concentrated on improving the country's business environment to address unemployment (Shahzad et al., 2021). Covering this aspect, this study selects the young generations, such as university students with a master's degree in management, including demographic profiles such as gender, age, education, and working experience in the entrepreneurship sector. During the data collection, the participants ensured that the information they collected did not share with any authority. They have collected all information used for this study.

Collection of data from university students was completed through an online survey. The questionnaire was distributed to the students, and data were gathered through online platforms. The data were gathered from 716 master-level students who enrolled in a business degree program in the field of management sciences. The top six universities from the HEC website were selected for data collection purposes in the public and private sectors. The collection of data process was held in the last quarter of 2022. They were located in the capital city of Pakistan (Islamabad). Demographic details include gender, age, education, training courses, and income of university students. University students were selected as respondents the reason behind these students have a management background and also have information about entrepreneurship and skills to start new ventures. Out of 716 respondents, 453 were male, and 263 were female; their percentages were 63% and 37%. Three categories of age were added, 160 respondents were in the first category, which is 20–25 years, with 23%, 433 respondents were from the

second category with 60%, and 123 respondents were from the third category with 17%. Qualification of respondents which, 151 were bachelor qualified with 21%. The majority of 553 respondents belong to post-graduation and their percentage was 77%. 12% of respondents were from Ph.D. with 2%. The occupation composition of the sample was included in determining the number of students who had taken technical courses and were educated about the market. 321 respondents had no training course and their percentage was 45%. 287 respondents had training courses of less than 6 months; their percentage is 40%. 108 respondents had training courses for more than 6 months, and their percentage was 15%. Monthly family income was categorized as 401 respondents had below 1 lac, and their percentage was 56%. 196 respondents had an income of 1 lac to 10 lac, and their percentage was 27%. 119 respondents had income greater than 10 lac, and their percentage was 17% (Table 1).

Knowledge of entrepreneurial intentions has developed strength among business students. Entrepreneurial intentions five items were calculated by (Liñán & Chen, 2009). Self-efficacy is the physiological process concerned with the power to make decisions and the patience of behavior. Self-efficacy was assessed by five items adopted from Omar et al., (2019). Peers always assist a founder as a network that belongs in a sense to support startups. Peers support four items calculated by Lingappa et al., (2020). Knowledge of entrepreneurial skills is an essential situation and technique for entrepreneurs to apply in unbalanced environments, the absence of which might avert innovation. Knowledge of entrepreneurial skills was measured with 5 items using the scale (Liñán, 2008). Institutional supports are administrative records processing, area control, worker employees, and information. Institutional support was evaluated by five items adopted from Lingappa et al., (2020). Young entrepreneurs' ability to take risks indicates the potential to tolerate uncertainty. The ability to take was measured with six items by Yurtkoru and Seray (2014). Family support is expressed as small commercial entrepreneurship proprietors relying on a circle of relatives to guide past financing. Family support

Table 1 Demographical profile

Profile	Distribution	Frequency % (n = 716)
Gender	Male	453 (63%)
	Female	263 (37%)
Age	20–25	160 (23%)
	25–30	433 (60%)
	Above 30	123 (17%)
Education	Bachelor	151 (21%)
	Masters	553 (77%)
	PhD	12 (2%)
Training courses	No training courses	321 (45%)
	Training course less than 6 months duration	287 (40%)
	Training course of more than 6 months duration	108 (15%)
Monthly family income	Below 100,000	401 (56%)
	100,000–1,000,000	196 (27%)
	< 1,000,000	119 (17%)

was evaluated by three items adopted from Lingappa et al. (2020). Entrepreneurial innovativeness is connected with moral and experimental probity shielding new beliefs and techniques. Entrepreneurial innovativeness five items were calculated by Mueller and Thomas (2001).

Data analysis and findings

Composite reliability and measurement loadings

This study uses Smart PLS to examine the measurement model. All responses from respondents were listed in software SPSS and Excel. Smart PLS is used for a measurement model analysis of our study. Initially, composite reliability measures the internal coherence of the scale. Furthermore, composite reliability shows at which level the evaluation of reliable results is free from invalidity (Shahzad et al., 2022). For this purpose, composite reliability, Cronbach's alpha, and average variance extracted (AVE) have been measured. According to Sekaran & Bougie, (2016), Cronbach alpha values represent the data's internal consistency, which means how much this data is consistent and valid in this set. However, the values of Cronbach's alpha are above 0.7, showing excellent consistency and reliability in the given data set (Numally & Bestein 1994; Leung et al., 2001). Another hand composite reliability test has just measured the reliability of construct variables by measuring their outer loading (Hair et al., 2011). It showed the composite reliability value of 0.7 or more for each item is examined as the valid and significant of construct reliability. AVE, the average value extracted should be greater than 0.5, which also shows the reliability of constructs (Fornell & Larcker, 1994). In Table 2, it is shown that in every case, the values lie in the accepted range.

The reliability of every item is observed through the outer loading model. Outer loading determines an item's absolute involvement in its allotted construct. Outer loading values always represent the relationship between the reflective measurement model. Outer loading of all factors should be more than 0.705 (Hair et al., 2011). Multicollinearity is detected in regression analysis through variance inflation factor VIF. Moreover, VIF also detects the relationship among two or more independent constructs where multicollinearity occurs in a multiple linear regression model. It can also be utilized to assess the relationship between variables' strengths and to model the future relationship among variables. The accepted range for VIF is less than ± 5 (Hair et al., 2014).

Discriminant validity

Table 3 displays the results of discriminant validity. Discriminant validity is like discrimination that can be seen in variables and how much the characteristics of these variables are distinct from each other (Hair et al., 2011). The square root values of the AVE coefficient are diagonally attainable in the correlation matrix (Fornell & Larcker, 1994). These values showed clearly that discrimination is present with each other, ensuring that scale is distinct from other similar concepts. To achieve discriminant validity, the outer loading of the self-construct should be below and high (Irvin et al. 1954, Chin & Wang 2010). The values of discriminant validity are shown as entrepreneurial intentions (0.848), knowledge of entrepreneurial skills (0.830), family support (0.883), institutional support (0.929), self-efficacy (0.845), ability to take risk (0.889), entrepreneurial innovativeness (0.847), peer support (0.803).

Table 2 Composite reliability

Constructs	FL	A	CR	AVE	VIF
Entrepreneurial intention		0.902	0.927	0.719	
EI1	0.821				2.706
EI2	0.853				3.124
EI3	0.883				2.895
EI4	0.844				2.817
EI5	0.837				2.582
Knowledge of entrepreneurial skills		0.887	0.917	0.690	
KES1	0.705				3.042
KES2	0.902				4.294
KES3	0.889				3.780
KES4	0.879				3.458
KES5	0.758				3.334
Family support		0.910	0.943	0.847	
FS1	0.917				2.859
FS2	0.925				3.264
FS3	0.919				3.071
Institutional support		0.929	0.946	0.779	
IS1	0.864				2.715
IS2	0.842				2.723
IS3	0.898				3.617
IS4	0.913				4.593
IS5	0.895				3.672
Self-efficacy		0.899	0.925	0.713	
SF1	0.881				3.329
SF2	0.877				3.406
SF3	0.808				2.007
SF4	0.859				2.833
SF5	0.794				2.313
Ability to take risk		0.947	0.958	0.790	
ATR1	0.879				3.250
ATR2	0.899				3.727
ATR3	0.839				2.611
ATR4	0.916				3.644
ATR5	0.901				4.417
ATR6	0.896				4.067
Entrepreneurial innovativeness		0.902	0.927	0.718	
EINNO1	0.834				3.648
EINNO2	0.835				2.210
EINNO3	0.835				3.558
EINNO4	0.878				2.853
EINNO5	0.853				2.506
Peers support		0.816	0.879	0.645	
PS1	0.816				1.814
PS2	0.830				1.950
PS3	0.745				1.400
PS4	0.819				1.845

FL: factor loadings; α : Cronbach's alpha coefficient; CR: composite reliability; AVE: average variance extracted; VIF: variance inflation factor

Table 3 Discriminant validity

Constructs	ATR	EINNO	EI	FS	IS	KES	PS	SE
ATR	0.889							
EINNO	0.298	0.847						
EI	0.343	0.842	0.848					
FS	0.428	0.352	0.371	0.920				
IS	0.594	0.509	0.436	0.393	0.883			
KES	0.307	0.638	0.695	0.391	0.532	0.830		
PS	0.515	0.531	0.523	0.267	0.603	0.580	0.803	
SE	0.380	0.379	0.417	0.287	0.342	0.358	0.341	0.845

Bold values are the square root of relevant AVE

EI: entrepreneurial intention; ATR: ability to take risk; EINNO: entrepreneurial innovativeness; FS: family support; KES: knowledge of entrepreneurial skills; IS: institutional support; PS: peers support; SE: self-efficacy

Estimation model

R-square values show regression which explains how much change can bring independent variables into the dependent variables. This picture shows that the R-square value for knowledge of entrepreneurial skills is (0.433). It means that knowledge of entrepreneurial skills brought a 43.3% change toward entrepreneurial intention with other constructs such as self-efficacy, family support, peer support, and institutional support. Also, the value of R-square for the ability to take risk is (0.448), so the ability to take risk brought a 44.8% change in constructs. The R-square value for entrepreneurial innovativeness is (0.383). It is clearly determined that entrepreneurial innovativeness 38.3% brought a change toward the entrepreneurial intention. The R-square is known as the coefficient of determination. There are three levels to evaluate R-square. The first one is if the obtained value of the R-square is close to 0.75, then the R-square is substantial. Second, if the value of the R-square is close to 0.50, then the R-square is moderate. Third, the last value of the R-square is close to 0.25; then the R-square is a weak (Hair et al., 2014) (Fig. 2).

Hypothesis testing

In this study, path coefficient assessment shows the correlation among all variables of the proposed hypothesis. The significance value (p) should be ≥ 0.05 ; if, in any case, the p -value is greater than 0.05, then it means the path coefficient does not count as valid or significant (Hair et al., 2014). The values of a direct effect of paths are revealed in the table: β -value, t -statistics, and p -values. The path coefficient and standardized β coefficient in the regression analysis were the same in PLS. Through the β value, every path of the hypothesized model is tested. The greater value of β , the more substantial the effect on endogenous variables. This β value had to be substantiated for significance level through the t -statistics test. The applicability of the hypothesis is evaluated using PLS bootstrapping methods for the path model. The β values showed a dependent construct for one unit variation in independent constructs. The t -statistics threshold value is $|t| \geq 1.96$, and the threshold value of the significance level is $p < 0.05$. In table hypothesis testing, it had found that self-efficacy has a positive impact on knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness demonstrated by ($\beta = 0.111, 0.134, 0.160$); ($t = 2.440, 2.748, 3.578$) and ($p = 0.015, 0.006,$

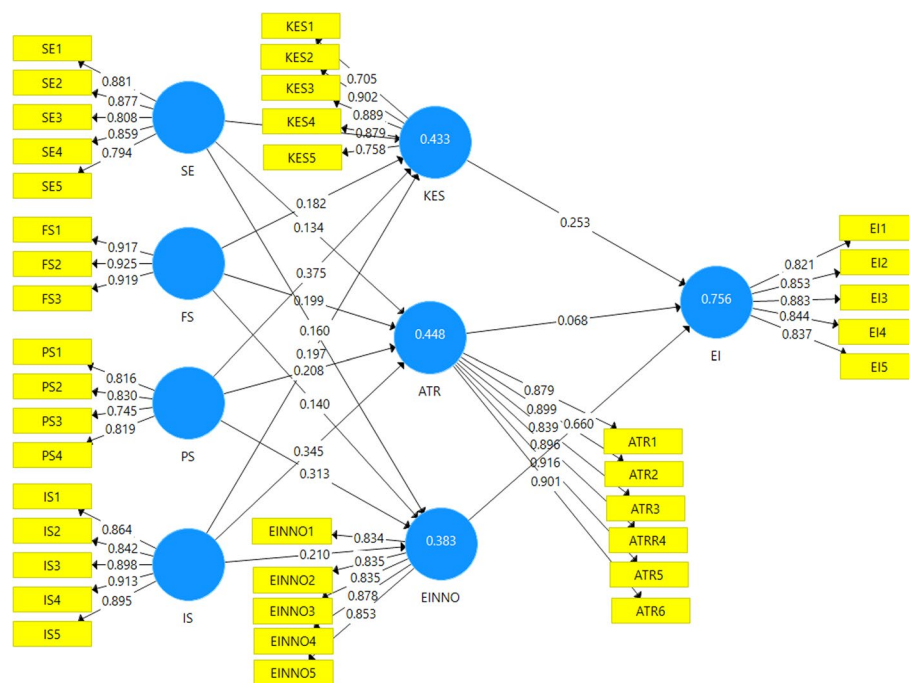


Fig. 2 Estimation model (partial least squares (PLS-SEM) algorithm)

0.000) correspondingly. Family support has a positive impact on knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness as evidenced by ($\beta=0.182, 0.199, 0.140$); ($t=4.134, 4.199, 3.014$) and ($p=0.000, 0.000, 0.003$). Peers support has a positive impact on knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness as evidenced by ($\beta=0.375, 0.208, 0.313$); ($t=7.047, 3.727, 5.717$) and ($p=0.000, 0.000, 0.000$). Institutional support has a significant impact on knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness as evidenced by ($\beta=0.197, 0.345, 0.210$); ($t=3.843, 5.726, 3.351$) and ($p=0.000, 0.000, 0.001$). Knowledge of entrepreneurial skills has a positive impact on entrepreneurial intention, as demonstrated by ($\beta=0.253$), ($t=5.266$), and ($p=0.000$). The ability to take risks has a positive impact on entrepreneurial intention, as evidenced by ($\beta=0.068$), ($t=2.469$), and ($p=0.014$). Entrepreneurial innovativeness has a significant impact on entrepreneurial intention, as shown by ($\beta=0.060$), ($t=15.213$), and ($p=0.000$). The literature study supports these results (Chen & Aklikokou, 2020) (Table 4).

Mediation analysis

The result of the bootstrapping algorithm in PLS-SEM represented the indirect effect between all constructs. By calculating bootstrapping and the specific indirect effect, the mediation role of constructs was assessed through SmartPLS software (Fornell & Bookstein, 1982). The mediation effect of knowledge of entrepreneurial skills between self-efficacy, family support, peers support, institutional support, and entrepreneurial intention is significant and mediates with gained values ($\beta=0.028, 0.046, 0.095, 0.050$); ($t=1.993, 3.235, 4.179, 3.352$) and ($p=0.036, 0.001, 0.000, 0.001$). The ability to take risks also mediated the association between self-efficacy, family support,

Table 4 Direct effect

Constructs	β -values	t-statistics	p-values	Results
ATR \rightarrow EI	0.068	2.469	0.014	Accepted
EINNO \rightarrow EI	0.060	15.213	0.000	Accepted
FS \rightarrow ATR	0.199	4.199	0.000	Accepted
FS \rightarrow EINNO	0.140	3.014	0.003	Accepted
FS \rightarrow KES	0.182	4.134	0.000	Accepted
IS \rightarrow ATR	0.345	5.726	0.000	Accepted
IS \rightarrow EINNO	0.210	3.351	0.001	Accepted
IS \rightarrow KES	0.197	3.843	0.000	Accepted
KES \rightarrow EI	0.253	5.266	0.000	Accepted
PS \rightarrow ATR	0.208	3.727	0.000	Accepted
PS \rightarrow EINNO	0.313	5.717	0.000	Accepted
PS \rightarrow KES	0.375	7.047	0.000	Accepted
SE \rightarrow ATR	0.134	2.748	0.006	Accepted
SE \rightarrow EINNO	0.160	3.578	0.000	Accepted
SE \rightarrow KES	0.111	2.440	0.015	Accepted

EI: entrepreneurial intention; ATR: ability to take risk; EINNO: entrepreneurial innovativeness; FS: family support; KES: knowledge of entrepreneurial skills; IS: institutional support; PS: peers support; SE: self-efficacy

Table 5 Indirect effect

Constructs	β -values	t-statistics	p-values	Results
FS \rightarrow ATR \rightarrow EI	0.014	2.067	0.039	Accepted
IS \rightarrow ATR \rightarrow EI	0.024	2.400	0.017	Accepted
PS \rightarrow ATR \rightarrow EI	0.013	1.998	0.040	Accepted
SE \rightarrow ATR \rightarrow EI	0.012	1.886	0.030	Accepted
FS \rightarrow EINNO \rightarrow EI	0.093	2.930	0.004	Accepted
IS \rightarrow EINNO \rightarrow EI	0.139	3.496	0.001	Accepted
PS \rightarrow EINNO \rightarrow EI	0.206	5.145	0.000	Accepted
SE \rightarrow EINNO \rightarrow EI	0.106	3.313	0.001	Accepted
FS \rightarrow KES \rightarrow EI	0.046	3.235	0.001	Accepted
IS \rightarrow KES \rightarrow EI	0.050	3.352	0.001	Accepted
PS \rightarrow KES \rightarrow EI	0.095	4.179	0.000	Accepted
SE \rightarrow KES \rightarrow EI	0.028	1.993	0.036	Accepted

EI: entrepreneurial intention; ATR: ability to take risk; EINNO: entrepreneurial innovativeness; FS: family support; KES: knowledge of entrepreneurial skills; IS: institutional support; PS: peers support; SE: self-efficacy

peers support, institutional support, and entrepreneurial intention is significant and mediates with acquired values ($\beta = 0.012, 0.014, 0.013, 0.024$); ($t = 1.886, 2.067, 1.998, 2.400$) and ($p = 0.030, 0.039, 0.040, 0.017$). The mediation effect of entrepreneurial innovativeness between self-efficacy, family support, peers support, institutional support, and entrepreneurial intention is significant and mediate with obtained values ($\beta = 0.106, 0.093, 0.206, 0.139$); ($t = 3.313, 2.930, 5.145, 3.496$) and ($p = 0.001, 0.004, 0.000, 0.001$). Results revealed that all constructs mediate the relationship, and the hypothesis is accepted (Table 5).

Discussion

This study is directed to measure the impact of self-efficacy, family support, peer support, and institutional support on an individual's entrepreneurial intention with the knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness. The data were gathered from 716 students who were aspiring business owners. The questionnaires were divided into a sample of targeted people to take their judgment about startups. The results are deliberated in two major portions: first, results show that self-efficacy, family support, peer support, and institutional support significantly influence entrepreneurial intention. Second, current study findings revealed that all the mediating variables (knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness) mediate the affiliation between self-efficacy, family support, peer support, and institutional support towards the individual's entrepreneurial intention. These constructs, supported by earlier literature, foster entrepreneurial intent among young businesspeople for new ventures.

A previous study (Siregar & Marwan, 2020) examined the case of self-efficacy, which motivates someone to begin business ventures and see them through to completion with passion. Self-efficacy, knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness have played the role of mediators, which enhance the significant effect on entrepreneurial intention. An important component of family support that significantly contributes to improving entrepreneurial intention. Family support always strengthens entrepreneurial intention and motivation, mediating the relationship between career versatility (Xu et al., 2020). It was also proved from previous studies that family support significantly impacts EI and minimizes startups' failure. The results exhibited a positive correlation between family support and entrepreneurial intention. Our study proved significant relationships between family support and knowledge of entrepreneurial skills, a propensity to take a risk, entrepreneurial innovativeness and entrepreneurial intention.

Since peer support has a greater effect on EI, its purpose has grown over the past few decades. Previous studies established a significant and positive impact of peer support on entrepreneurial intention (Shahzad et al., 2021). According to the researcher Lingappa et al., (2020), the study examined the premise that peers could have more effect on the student; it leads to more interaction in entrepreneurial intention and conduct. The current study positively impacts and enhances peer support's role in entrepreneurial intention in young university graduates. Knowledge of entrepreneurial skills also significantly enhances entrepreneurial intention with the help of peer support and the ability to take a risk. Entrepreneurial innovativeness also positively and significantly impacts peer and entrepreneurial intention. It is commonly recognized that institutional support also significantly influences individuals' entrepreneurial intentions to start their own business, because IS has determined that students who engage with entrepreneurial courses that are part of their curriculum, entrepreneurship workshops, and seminars are offered to grip entrepreneurship practices. As part of institutional support promotes networking and awareness to increase entrepreneurial intention (Mousa & Othman, 2020). In this study, institutional support significantly impacts entrepreneurial intention. With institutional support, the knowledge of entrepreneurial skills, the ability to take a risk, and entrepreneurial innovativeness also positively impact entrepreneurial intention.

Furthermore, we offer a significant theoretical contribution by combining COR and TPB theory with the entrepreneurial literature. We contend that COR theory has much to contribute in enhancing our comprehension of how entrepreneurs utilize business network ties to accomplish various aims at various stages of their careers. At the same time, COR implies that the beneficial association between social and psychological resources strengthens the entrepreneurial intention of individuals. TPB theory explains people's attitudes and behavior to achieve the objective and decision-making process. Finally, the findings demonstrate that the personal characteristics of potential employees and entrepreneurial intention are crucial components of business success. In instruction to expand a viable advantage in the market, they also highlight the integration of open innovation policies into business models. This encourages an evolving economic system capable of managing technical and industry complexities through innovation strategies, knowledge of entrepreneurial skills, and the ability to take risks under certain circumstances. The results showed that all entrepreneurial intention factors play crucial roles in business success. The degree to which these businesses work to advance open innovation will determine their level of success. These results may aid in establishing policy and offer direction to aspiring entrepreneurs in selecting their professional pathways.

Research implications

This study guides entrepreneurs who might profit from launching their business ventures and assists them in strengthening their position in Pakistan's growing entrepreneurship market. This study also deliberates on the importance of entrepreneurial intention and how it motivates people to launch new businesses. This study has a beneficial contribution to the entrepreneurship industry, such as the entrepreneurial projects playing a vibrant role in the economy of any country. The current study and research have described the importance of entrepreneurial intention and discussed different factors that positively impact entrepreneurial intention, such as self-efficacy, family support, peer support, and institutional support. Entrepreneurial intention benefits the business sector and improves the performance of existing entrepreneurial projects. This study creates awareness in young entrepreneurs to start their business setups. Through entrepreneurial intention, reduce the unemployment rate. Entrepreneurial intention is very important for any individual to start a new startup in business. Most entrepreneurial startups fail due to poor initiative toward achieving goals. Unemployment is increasing constantly, which affects the job market as the world-wise population increases, but job opportunities are not increased, which also affects the economy. This study creates entrepreneurial intention in young people and other people to take their startups instead of job opportunities. The purpose of the study is described as the aware country of thoughts that succeed movement and direct interest towards entrepreneurial intention, including starting business projects and becoming an entrepreneur.

This study highlights the need to give young graduates the knowledge and abilities they need to launch their firms. Additionally, students will absorb how to overcome obstacles and develop a stronger desire to launch a firm. The entrepreneurship culture fosters the development of knowledge, skills, and creative approaches. Additionally, it aids in overcoming obstacles brought on by the economic crisis. The recommendations provided by this study will be helpful to recent graduates as they attempt to develop successful

entrepreneurs and negotiate in the market environment. Finally, it emphasizes the significance of the government and banking institutions in boosting business endeavors nationwide. The government should implement supportive initiatives to promote entrepreneurial activity, provide financial support, and reform the legal background that enables fresh people to start businesses as careers. Additionally, it will positively impact Pakistan's entrepreneurial authorities, motivating them to support recent graduates in enhancing their entrepreneurial skills.

Conclusions and policy recommendations

This study enlightens the role of factors affecting entrepreneurial intention in starting business projects. It has two significant findings: first, a positive impact of self-efficacy, family support, peer support, and institutional support on entrepreneurial intention was inspected. Secondly, a significant mediating role of knowledge of entrepreneurial skills, ability to take risks, and entrepreneurial innovativeness between self-efficacy, family support, peer support, and institutional support on entrepreneurial intention were examined. This study contributed to the field of entrepreneurship, especially in countries like Pakistan, where the joblessness ratio is increasing compared to jobs. This study aims to create intentions in young people to initiate their businesses instead of doing jobs. Through their startups, they are creating opportunities for other people and themselves. This study demonstrates the significance of comprehending the proposed model; different factors and mediating roles are essential to start a new business project. A young entrepreneur with all these abilities should start an entrepreneurial project. These entrepreneurship projects are crucial in the small and medium industries directly influencing a country's economy.

Limitations and future recommendations

This research has some limitations that are essential to discourse to intensify the research scope. Limitation in every research has existed due to various constraints in research methodology due to different factors. First, the limitation is the selection of the sample size. The data were collected only from the field of management students only. To expand the scope of the current study, we can extend it to examine the opinions of additional students from various disciplines of study. Future study is still feasible in this area. Second, this study is cross-sectional; the data were collected once. Therefore, it is recommended that future studies be longitudinal to obtain more appropriate results. Third, in this study, it is investigated that the data through the questionnaire survey have been collected from the students enrolled in business in top universities of Islamabad, Pakistan, by HEC ranking. Therefore, for future studies, researchers should increase the number of universities at the whole Punjab province or Pakistan level. Fourth, Fourth, various factors of entrepreneurial intention were applied in this study. To examine people's entrepreneurial intentions, it is advised to incorporate other variables provided by theories of entrepreneurial performance and empirical research, such as family history, social culture, and self-motivation. It will aid in the study's generalization. Fifth, this study concentrated on entrepreneurial intention, the main element driving a person to establish their own business. Despite our emphasis on entrepreneurial initiatives, we used a variety of elements that had an impact on our understanding of entrepreneurial

concepts. Lastly, in this study, we explored the numerous predisposing factors for entrepreneurial ambition in a developing nation like Pakistan; it is advised to conduct a multi-country investigation to simplify the findings for follow-up research.

Abbreviations

COR	Conservation of resources
HEC	Higher Education Commission
TBP	Theory and theory of planned behavior
SPSS	Statistical Package for the Social Sciences
KES	Knowledge of entrepreneurial skills
EI	Entrepreneurial intention

Acknowledgements

The researchers acknowledge all the parties involved in the study, including the Beijing University of Technology, for its permission to conduct the study. Authors also acknowledge the source of primary data for availing their data open access. We thank Instituto Politécnico de Lisboa for providing funding for this study.

Author contributions

Conceptualization: MFS and SX. Methodology: JMM. Software: MFS. Validation: SX and JMM. Formal analysis: MFS. Investigation: JMM. Resources: SX. Writing—original draft preparation: MFS. Writing—review and editing: JMM. Visualization: MFS. Supervision: SX. Project administration: JMM. All authors have read and agreed to the published version of the manuscript.

Funding

This research was supported by Instituto Politécnico de Lisboa.

Data availability

Data can be obtained upon reasonable request.

Declarations

Ethics approval and consent to participate

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Ethics Committee of the Beijing University of Technology, China.

Informed consent

Informed consent was obtained from all subjects involved in the study.

Competing interests

The authors declare that they have no competing interests.

Received: 7 March 2023 Accepted: 17 August 2023

Published online: 19 September 2023

References

- Al-Jubari, I. (2019). College students' entrepreneurial intention: Testing an integrated model of SDT and TPB. *SAGE Open*, 9(2), 1–15. <https://doi.org/10.1177/2158244019853467>
- Al-Mamary, Y. H., & Alshallaqi, M. (2022). Impact of autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness on students' intention to start a new venture. *Journal of Innovation and Knowledge*, 7(4), 100239. <https://doi.org/10.1016/j.jik.2022.100239>
- Aloulou, W. J. (2016). Predicting entrepreneurial intentions of final year Saudi university business students by applying the theory of planned behavior. *Journal of Small Business and Enterprise Development*, 23(4), 1142–1164. <https://doi.org/10.1108/JSBED-02-2016-0028>
- Aloulou, W., & Fayolle, A. (2005). A conceptual approach of entrepreneurial orientation within small business context. *Journal of Enterprising Culture*, 13(01), 21–45. <https://doi.org/10.1142/s0218495805000045>
- Amirkhanpour M. (2014). The future of entrepreneurship. In *Future of Entrepreneurship*.
- Arshad, M., Farooq, O., Sultana, N., & Farooq, M. (2016). Determinants of individuals' entrepreneurial intentions: A gender-comparative study. *Career Development International*, 21(4), 318–339. <https://doi.org/10.1108/CDI-10-2015-0135>
- Asad, M. (2016). Mediating effect of entrepreneurial skills on the relationship between entrepreneurial orientation and entrepreneurial intention. 28(2), 1551–1556.
- Asad, M., Shabbir, M., Salman, R., Haider, S., & Ahmad, I. (2017). Do entrepreneurial orientation and size of enterprise influence the performance of micro and small enterprises? A study on mediating role of innovation. *Management Science Letters*, 8(10), 1015–1026. <https://doi.org/10.5267/j.msl.2018.7.008>
- Audretsch, D. B., Coad, A., & Segarra, A. (2014). Firm growth and innovation. *Small Business Economics*, 43(4), 743–749. <https://doi.org/10.1007/s11187-014-9560-x>.

- Azhar, A., Javaid, A., Rehman, M., & Hyder, A. (2014). Entrepreneurial intentions among business students in Pakistan. *Journal of Law and Governance*, 5(2), 13–21. <https://doi.org/10.15209/jbsge.v5i2.181>
- Baskaran, S., Samtharam, S. R., Raman, D. K., & Mahadi, N. (2020). MBA Education: Curriculum to Creation (C2C) of Potential Entrepreneurs. 14(2).
- Basu, A., & Virick, M. (2008). Assessing entrepreneurial intentions amongst students: a comparative study. 12th Annual Meeting of the National Collegiate ..., 2000, 79–86. <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Assessing+Entrepreneurial+Intentions+Amongst+Students+:+A+Comparative+Study+Peer-Review+Papers#0%5Cnhttp://www.nciia.net/conf08/assets/pub/basu2.pdf>
- Bellò, B., Mattana, V., & Loi, M. (2018). The power of peers: A new look at the impact of creativity, social context and self-efficacy on entrepreneurial intentions. *International Journal of Entrepreneurial Behaviour and Research*, 24(1), 214–233. <https://doi.org/10.1108/IJEBR-07-2016-0205>
- Bestein, N. (1994). The stability of undergraduate students' cognitive test anxiety levels. *Practical Assessment, Research and Evaluation*, 7(20), 2000–2001.
- Bird, M., & Wennberg, K. (2016). Why family matters: The impact of family resources on immigrant entrepreneurs' exit from entrepreneurship. *Journal of Business Venturing*, 31(6), 687–704. <https://doi.org/10.1016/j.jbusvent.2016.09.002>
- Bose, N., Haque, M. E., & Osborn, D. R. (2007). Public expenditure and economic growth: a disaggregated analysis for developing countries financial structure view project corruption (governance) and development view project public expenditure and economic growth: a disaggregated analysis for developing. *Journal Compilation*, 75(5), 533.
- Bougje, S. (2016). *Research-methods-for-business-a-skill-building-approach-1993 uma Sakran's*. 136.
- Boyko, E. J., Seelig, A. D., & Ahroni, J. H. (2018). Limb-and person-level risk factors for lower-limb amputation in the prospective Seattle diabetic foot study. *Diabetes Care*, 41(4), 891–898. <https://doi.org/10.2337/dc17-2210>
- Bullough, A., & Renko, M. (2013). Entrepreneurial resilience during challenging times. *Business Horizons*, 56(3), 343–350. <https://doi.org/10.1016/j.bushor.2013.01.001>
- Butt, M., Jamil, N., & Nawaz, R. (2015). The mediating role of risk perception among cognitive biases towards decision to start a new venture. *International Letters of Social and Humanistic Sciences*, 54(2012), 88–95. <https://doi.org/10.18052/www.scipress.com/ilshs.54.88>
- Castillo, M., & Freer, M. (2018). Revealed differences. *Journal of Economic Behavior and Organization*, 145, 202–217. <https://doi.org/10.1016/j.jebo.2017.10.017>
- Chatterjee, N., & Das, N. (2016). A study on the impact of key entrepreneurial skills on business success of Indian micro-entrepreneurs: A case of Jharkhand Region. *Global Business Review*, 17(1), 226–237. <https://doi.org/10.1177/0972150915610729>
- Chen, L., & Aklakokou, A. K. (2020). Determinants of E-government adoption: Testing the mediating effects of perceived usefulness and perceived ease of use. *International Journal of Public Administration*, 43(10), 850–865. <https://doi.org/10.1080/01900692.2019.1660989>
- Chin, Wang. (2010). The interaction of a 9-aminoacridine derivative with nucleic acids and nucleoproteins. In: *The Journal of biological chemistry* (Vol. 206, Issue 1). [https://doi.org/10.1016/S0021-9258\(18\)71293-3](https://doi.org/10.1016/S0021-9258(18)71293-3)
- Coduras, A., Urbano, D., Rojas, Á., & Martínez, S. (2008). The relationship between university support to entrepreneurship with entrepreneurial activity in Spain: A gem data based analysis. *International Advances in Economic Research*, 14(4), 395–406. <https://doi.org/10.1007/s11294-008-9173-8>
- Collins, L., Hannon, P. D., & Smith, A. (2004). Enacting entrepreneurial intent: The gaps between student needs and higher education capability. *Education Training*, 46, 454–463. <https://doi.org/10.1108/00400910410569579>
- Covin, J. G., & Wales, W. J. (2012). The measurement of entrepreneurial orientation. *Entrepreneurship Theory and Practice*, 36(4), 677–702. <https://doi.org/10.1111/j.1540-6520.2010.00432.x>
- Domi, S., Capelleras, J. L., & Musabelliu, B. (2020). Customer orientation and SME performance in Albania: A case study of the mediating role of innovativeness and innovation behavior. *Journal of Vacation Marketing*, 26(1), 130–146. <https://doi.org/10.1177/1356766719867374>
- Ebrahimi, P., Reza, H., Shirsavar, A., & Forootani, F. (n.d.). *Entrepreneurship and SMEs Performance : Studying the Mediating Role of Innovation and the Moderating Role of Firm Size*.
- Engle, R. L., Schlaegel, C., & Dimitriadis, N. (2011). Institutions and entrepreneurial intent: A cross-country study. *Journal of Developmental Entrepreneurship*. <https://doi.org/10.1142/S1084946711001811>
- Enríquez, M. (2017). Are the intentions to entrepreneurship of men and women shaped Differently? The impact of entrepreneurial role-model exposure and entrepreneurship education. *Entrepreneurship Research Journal*. <https://doi.org/10.1515/erj-2017-0013>
- Faherty, A. (2015). Developing enterprise skills through peer-assessed pitch presentations. *Education Training*. <https://doi.org/10.1108/ET-02-2014-0013>
- Falck, O., Heblich, S., & Luedemann, E. (2012). Identity and entrepreneurship: Do school peers shape entrepreneurial intentions? *Small Business Economics*, 39(1), 39–59. <https://doi.org/10.1007/s11187-010-9292-5>
- Farhangmehr, M., Gonçalves, P., & Sarmiento, M. (2016). Predicting entrepreneurial motivation among university students: The role of entrepreneurship education. *Education and Training*, 58(7–8), 861–881. <https://doi.org/10.1108/ET-01-2016-0019>
- Farrukh, M., Khan, A. A., Shahid Khan, M., Ravan Ramzani, S., & Soladoye, B. S. A. (2017). Entrepreneurial intentions: The role of family factors, personality traits and self-efficacy. *World Journal of Entrepreneurship, Management and Sustainable Development*, 13(4), 303–317. <https://doi.org/10.1108/wjemsd-03-2017-0018>
- Fayolle, A., & Liñán, F. (2014). The future of research on entrepreneurial intentions. *Journal of Business Research*, 67(5), 663–666. <https://doi.org/10.1016/j.jbusres.2013.11.024>
- Ferreira, J. M., Fernandes, C. I., & Mota, P. (2023). The role of entrepreneurial ecosystems in the SME internationalization. *Journal of Business Research*, 157(January), 1–9. <https://doi.org/10.1016/j.jbusres.2022.113603>
- Field, E., Jayachandran, S., Pande, R., & Rigol, N. (2014). *Friends at Work : Can Peer Support Stimulate Female Entrepreneurship?* 34.

- Field, E., Jayachandran, S., Pande, R., & Rigol, N. (2016). Friendship at work: Can peer effects catalyze female entrepreneurship? *American Economic Journal: Economic Policy*, 8(2), 125–153. <https://doi.org/10.1257/pol.20140215>
- Finch, D. J., Peacock, M., Levallet, N., Foster, W., Finch, D. J., Peacock, M., Levallet, N., Foster, W., McMurray, S., Dutton, M., McQuaid, R., Richard, A., Ishengoma, E., Vaaland, T. I., & Bell, R. (2016). A dynamic capabilities view of employability: Exploring the drivers of competitive advantage for university graduates. *Education Training Article Information*, 58(1), 61–81.
- Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research*, 19(4), 440. <https://doi.org/10.2307/3151718>
- Fornell, C., & Larcker, D. (1994). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18(3), 382–388.
- Guerrero, M., & Urbano, D. (2014). Academics' start-up intentions and knowledge filters: An individual perspective of the knowledge spillover theory of entrepreneurship. *Small Business Economics*, 43(1), 57–74. <https://doi.org/10.1007/s11187-013-9526-4>
- Gujrati, R., Tyagi, V., & Lawan, L. A. (2019). Family Financial Status and Students' Entrepreneurial Intention: the Mediatory Role of Entrepreneurship Education. *Journal of Management*, 10(3), 21–28. <https://doi.org/10.34218/jom.6.3.2019.003>
- Hafeez, M. H., Basheer, M. F., Rafique, M., & Siddiqui, S. H. (2018). Exploring the links between TQM practices, business innovativeness and firm performance: An emerging market perspective. *Pakistan Journal of Social Sciences (PJSS)*, 38(2), 485–500.
- Hahn, D., Minola, T., Bosio, G., & Cassia, L. (2020). The impact of entrepreneurship education on university students' entrepreneurial skills: A family embeddedness perspective. *Small Business Economics*, 55(1), 257–282. <https://doi.org/10.1007/s11187-019-00143-y>
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152. <https://doi.org/10.2753/MTP1069-6679190202>
- Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hall, A., Melin, L., & Nordqvist, M. (2001). Entrepreneurship as radical change in the family business: Exploring the role of cultural patterns. *Family Business Review*, 14(3), 193–208. <https://doi.org/10.1111/j.1741-6248.2001.00193.x>
- Huang, S., Zhu, Y., Ding, Z., & Chen, C. (2022). Internationalization speed and international performance among international new ventures: The moderating role of resource synchronization. *British Journal of Management*, 00, 1–29. <https://doi.org/10.1111/1467-8551.12697>
- Irvin, J. L., & Irvin, E. M. (1954). The interaction of a 9-aminoacridine derivative with nucleic acids and. *The Journal of Biological Chemistry*. [https://doi.org/10.1016/S0021-9258\(18\)71293-3](https://doi.org/10.1016/S0021-9258(18)71293-3)
- Johnen, C. (2017). *Affect and firm performance: The mediating role of entrepreneurial skills*. October, 25.
- Journal, I. M., Author, T., Reserved, A. R., & Development, P. (2014). *Exploring Dimensions of Entrepreneurial Skills among Student Enterprise at Higher Learning Institution in Malaysia: A Case of Student Enterprise of University Utara Malaysia Armanurah Mohamad 1, Muhammad Hussin 2 and Nor Aishah Buang 3*. 2(2), 37–51.
- Kacperczyk, A. J. (2013). Social influence and entrepreneurship: The effect of university peers on entrepreneurial entry. *Organization Science*, 24(3), 664–683. <https://doi.org/10.1287/orsc.1120.0773>
- Kallas, E. (2019). Environment-readiness entrepreneurship intention model: The case of Estonians and the Russian-speaking minority in Estonia. *SAGE Open*. <https://doi.org/10.1177/2158244018821759>
- Karimi, S., Biemans, H. J. A., Lans, T., Chizari, M., & Mulder, M. (2014). Effects of role models and gender on students' entrepreneurial intentions. *European Journal of Training and Development*, 38(8), 694–727. <https://doi.org/10.1108/EJTD-03-2013-0036>
- Kautonen, T., van Gelderen, M., & Fink, M. (2015). Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. *Entrepreneurship: Theory and Practice*, 39(3), 655–674. <https://doi.org/10.1111/etap.12056>
- Khan, K. I., Niazi, A., Nasir, A., & Hussain, M. (2021). The effect of COVID-19 on the hospitality industry: The implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7, 30.
- Klyver, K., & Terjesen, S. (2007). Entrepreneurial network composition: An analysis across venture development stage and gender. *Women in Management Review*, 22(8), 682–688. <https://doi.org/10.1108/09649420710836344>
- Kolvereid, L. (1996). Prediction of employment status choice intentions. *Entrepreneurship Theory and Practice*, 21(1), 47–58. <https://doi.org/10.1177/104225879602100104>
- Kraaijenbrink, J., Bos, G., & Groen, A. (2010). What do students think of the entrepreneurial support given by their Universities? Jeroen Kraaijenbrink *, Ger Bos and Aard Groen. *International Journal of Entrepreneurship and Small Business*, 9(1), 2010.
- Kucel, A., & Vilalta-Buff, M. (2018). Entrepreneurial skills and wage employment. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2759715>
- Kyrgidou, L. P., & Spyropoulou, S. (2013). Drivers and performance outcomes of innovativeness: An empirical study. *British Journal of Management*, 24(3), 281–298. <https://doi.org/10.1111/j.1467-8551.2011.00803.x>
- Lee, J. (2006). Impact of family relationships on attitudes of the second generation in family business. *Family Business Review*, 19(3), 175–191. <https://doi.org/10.1111/j.1741-6248.2006.00069.x>
- Lee, S., Park, G., Yoon, B., & Park, J. (2010). Open innovation in SMEs-An intermediated network model. *Research Policy*, 39(2), 290–300. <https://doi.org/10.1016/j.respol.2009.12.009>
- Leung, M. Y., Zhang, H., & Skitmore, M. (2008). Effects of organizational supports on the stress of construction estimation participants. *Journal of Construction Engineering and Management*, 134(2), 84–93. [https://doi.org/10.1061/\(asce\)0733-9364\(2008\)134:2\(84\)](https://doi.org/10.1061/(asce)0733-9364(2008)134:2(84))
- Liao, Y. K., Nguyen, V. H. A., Chi, H. K., & Nguyen, H. H. (2022). Unraveling the direct and indirect effects of entrepreneurial education and mindset on entrepreneurial intention: The moderating role of entrepreneurial passion. *Global Business and Organizational Excellence*, 41(3), 23–40. <https://doi.org/10.1002/joe.22151>

- Liñán, F. (2008). Skill and value perceptions: How do they affect entrepreneurial intentions? *International Entrepreneurship and Management Journal*, 4(3), 257–272. <https://doi.org/10.1007/s11365-008-0093-0>
- Liñán, F., & Chen, Y. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593–617.
- Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantucho, J. M. (2011). Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship and Management Journal*, 7(2), 195–218. <https://doi.org/10.1007/s11365-010-0154-z>
- Lingappa, A. K., Shah, A., & Mathew, A. O. (2020). Academic, family, and peer influence on entrepreneurial intention of engineering students. *SAGE Open*. <https://doi.org/10.1177/2158244020933877>
- Liu, X., Lin, C., Zhao, G., & Zhao, D. (2019). Research on the effects of entrepreneurial education and entrepreneurial self-efficacy on college students' entrepreneurial intention. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2019.00869>
- Loué, C., & Baronet, J. (2012). Toward a new entrepreneurial skills and competencies framework: A qualitative and quantitative study. *International Journal of Entrepreneurship and Small Business*, 17(4), 455–477. <https://doi.org/10.1504/IJESB.2012.050164>
- Lozano-Serrano, M., García-Seco, J. A., García-Seco, F., Lozano-Hernández, M. C., Seco-Segura, Á. M., Moreno-Fernández, J., Muñoz-Cazallas, P. A., Ferreira-Vicario, C., & Sánchez-Covisa, M. A. (2013). Valoración de la satisfacción y calidad de vida en pacientes con diabetes mellitus tipo 1 en tratamiento con infusión subcutánea continua de insulina comparado con multidosos de insulina. *Enfermería Clínica*, 23(3), 96–102. <https://doi.org/10.1016/j.enfcli.2013.02.004>
- Lu, J. W., & Beamish, P. W. (2001). The internationalization and performance of SMEs. *Strategic Management Journal*, 22(6–7), 565–586. <https://doi.org/10.1002/smj.184>
- Lumpkin, G. T., Steier, L., & Wright, M. (2011). Family business business and strategic. *Strategic Entrepreneurship Journal*, 306(November), 285–306. <https://doi.org/10.1002/sej>
- Madanoglu, M., Altinay, L., & Wang, X. (2016). Disentangling the effect of family involvement on innovativeness and risk taking: The role of decentralization. *Journal of Business Research*, 69(5), 1796–1800. <https://doi.org/10.1016/j.jbusres.2015.10.058>
- Malang, T. (2019). The effect of family environment, entrepreneurship education and self-efficacy on entrepreneurial intention in pondok pesantren at throughout Malang, Indonesia. *International Journal of Business, Economics and Law*, 20(5), 112–119.
- Manolova, T. S., Edelman, L. F., Shirokova, G., & Tsukanova, T. (2019). Youth entrepreneurship in emerging economies: Can family support help navigate institutional voids? *Journal of East-West Business*, 25(4), 363–395. <https://doi.org/10.1080/10669868.2019.1624672>
- Markussen, S., & Røed, K. (2017). The gender gap in entrepreneurship – The role of peer effects. *Journal of Economic Behavior and Organization*, 134(201336), 356–373. <https://doi.org/10.1016/j.jebo.2016.12.013>
- Marques, C. S., Marques, C. P., Ferreira, J. J. M., & Ferreira, F. A. F. (2019). Effects of traits, self-motivation and managerial skills on nursing intrapreneurship. *International Entrepreneurship and Management Journal*, 15(3), 733–748. <https://doi.org/10.1007/s11365-018-0520-9>
- Michelacci, C. (2003). Low returns in R&D due to the lack of entrepreneurial skills. *Economic Journal*, 113(484), 207–225. <https://doi.org/10.1111/1468-0297.00095>
- Moog, P., Werner, A., Houweling, S., & Backes-Gellner, U. (2015). The impact of skills, working time allocation and peer effects on the entrepreneurial intentions of scientists. *Journal of Technology Transfer*, 40(3), 493–511. <https://doi.org/10.1007/s10961-014-9347-x>
- Mousa, S. K., & Othman, M. (2020). The impact of green human resource management practices on sustainable performance in healthcare organisations: A conceptual framework. *Journal of Cleaner Production*, 243, 118595. <https://doi.org/10.1016/j.jclepro.2019.118595>
- Mueller, S. L., & Thomas, A. S. (2001). Culture and entrepreneurial potential: a nine country study of locus of control and innovativeness. *Journal of Business Venturing*, 9026(99), 51–75.
- Mustafa, M. J., Hernandez, E., Mahon, C., & Chee, L. K. (2016). Entrepreneurial intentions of university students in an emerging economy: The influence of university support and proactive personality on students' entrepreneurial intention. *Journal of Entrepreneurship in Emerging Economies*, 8(2), 162–179. <https://doi.org/10.1108/JEEE-10-2015-0058>
- Naldi, L., Nordqvist, M., Sjöberg, K., & Wiklund, J. (2007). Entrepreneurial orientation, risk taking, and performance in family firms. *Family Business Review*, 20(1), 33–47. <https://doi.org/10.1111/j.1741-6248.2007.00082.x>
- Nanda, R. (2006). *Peer-Effects and Entrepreneurship*. March, 26.
- Nanda, R., & Sørensen, J. B. (2010). Workplace peers and entrepreneurship. *Management Science*, 56(7), 1116–1126. <https://doi.org/10.1287/mnsc.1100.1179>
- Ndubisi, N. O., & Iftikhar, K. (2012). Relationship between entrepreneurship, innovation and performance: Comparing small and medium-size enterprises. *Journal of Research in Marketing and Entrepreneurship*, 14(2), 214–236. <https://doi.org/10.1108/14715201211271429>
- Ng, H. S., & Kee, D. M. H. (2017). Entrepreneurial SMEs surviving in the era of globalisation: Critical success factors. *Global Opportunities for Entrepreneurial Growth: Cooperation and Knowledge Dynamics within and across Firms*, 75–90. <https://doi.org/10.1108/978-1-78714-501-620171007>
- Ng, H. S., Kee, D. M. H., & Ramayah, T. (2019). Examining the mediating role of innovativeness in the link between core competencies and SME performance. *Journal of Small Business and Enterprise Development*, 27(1), 103–129. <https://doi.org/10.1108/JSBED-12-2018-0379>
- Olson, P. D., Zuiker, V. S., Danes, S. M., Stafford, K., Heck, R. K. Z., & Duncan, K. A. (2003). The impact of the family and the business on family business sustainability. *Journal of Business Venturing*, 18(5), 639–666. [https://doi.org/10.1016/S0883-9026\(03\)00014-4](https://doi.org/10.1016/S0883-9026(03)00014-4)
- Olutase, S. O., Brijlal, P., & Yan, B. (2020). Model for stimulating entrepreneurial skills through entrepreneurship education in an African context. *Journal of Small Business and Entrepreneurship*. <https://doi.org/10.1080/08276331.2020.1786645>

- Omar, N. A., Ullah Shah, N., Abu Hasan, N., & Ali, M. H. (2019). The influence of self-efficacy, motivation, and independence on students' entrepreneurial intentions. *Journal of Nusantara Studies JONUS*, 4(2), 1–28. <https://doi.org/10.24200/jonus.vol4iss2pp1-28>
- Palma, P., Köck-Schulmeyer, M., Alvarenga, P., Ledo, L., Barbosa, I. R., López de Alda, M., & Barceló, D. (2014). Risk assessment of pesticides detected in surface water of the Alqueva reservoir (Guadiana basin, southern of Portugal). *Science of the Total Environment*, 488–489(1), 208–219. <https://doi.org/10.1016/j.scitotenv.2014.04.088>
- Palmer, C., Fasbender, U., Kraus, S., Birkner, S., & Kailer, N. (2019). A chip off the old block? The role of dominance and parental entrepreneurship for entrepreneurial intention. *Review of Managerial Science*. <https://doi.org/10.1007/s11846-019-00342-7>
- Peterman, N. E., & Kennedy, J. (2003). Enterprise education: Influencing students' perceptions of entrepreneurship. *Entrepreneurship Theory and Practice*, 28, 129–144.
- Pradana, M., Wardhana, A., Wijayangka, C., Kartawinata, B. R., & Wahyuddin, S. (2020). Indonesian university students' entrepreneurial intention: A conceptual study. *Journal of Critical Reviews*, 7(7), 571–573. <https://doi.org/10.31838/jcr.07.07.101>
- Pyysäinen, et al. (2006). 기사 (Article) 와 안내문 (Information). *The Eletronic Library*, 34(1), 1–5.
- Rachmawan, A., Lizar, A. A., & Mangundjaya, W. L. (2015). The role of parent's influence and self-efficacy on entrepreneurial intention. *The Journal of Developing Areas*, 49(3), 417–430. <https://doi.org/10.1353/jda.2015.0157>
- Rauch, M., Wenzel, M., & Wagner, H. T. (2018). The impact of digital innovation on path-dependent decision-making: The mediating role of risk propensity and opportunity-threat perception. *ICIS 2017: Transforming Society with Digital Innovation*, December.
- Robinson, A. T., & Marino, L. D. (2013). Overconfidence and risk perceptions: Do they really matter for venture creation decisions? *International Entrepreneurship and Management Journal*, 11(1), 149–168. <https://doi.org/10.1007/s11365-013-0277-0>
- Schlaegel, C., & Koenig, M. (2014). Determinants of entrepreneurial intent: A meta-analytic test and integration of competing models. *Entrepreneurship: Theory and Practice*, 38(2), 291–332. <https://doi.org/10.1111/etap.12087>
- Sequeira, J., Mueller, S. L., McGee, J., & Jeffrey, E. (2007). The influence of social ties and self-efficacy in forming entrepreneurial. *Journal of Developmental Entrepreneurship*, 12(3), 275.
- Seuneke, P., Lans, T., & Wiskerke, J. S. C. (2013). Moving beyond entrepreneurial skills: Key factors driving entrepreneurial learning in multifunctional agriculture. *Journal of Rural Studies*, 32, 208–219. <https://doi.org/10.1016/j.jrurstud.2013.06.001>
- Shabbir, M. S., Mohd Shariff, M. N., Salman, R., & Shabbir, M. F. (2017). Exploring the link between entrepreneurial skills and entrepreneurial intentions: Proposing a hypothesized model for future. *Paradigms*, 11(1), 72–77. <https://doi.org/10.24312/paradigms110112>
- Shahzad, F., Shahzad, M. F., Dilanchiev, A., & Irfan, M. (2022). Modeling the influence of paternalistic leadership and personality characteristics on alienation and organizational culture in the aviation industry of Pakistan: The mediating role of cohesiveness. *Sustainability (switzerland)*, 14(22), 15473. <https://doi.org/10.3390/su142215473>
- Shahzad, M. F., Khan, K. I., Saleem, S., & Rashid, T. (2021). What factors affect the entrepreneurial intention to start-ups? The role of entrepreneurial skills, propensity to take risks, and innovativeness in open business models. *Journal of Open Innovation: Technology, Market, and Complexity*, 7, 173.
- Sharaf, A., El-Gharbawy, A., & Ragheb, M. A. (2018). Factors that influence entrepreneurial intention within University students in Egypt. *Oalib*, 05(10), 1–14. <https://doi.org/10.4236/oalib.1104881>
- Shen, T., Osorio, A. E., & Settles, A. (2017). Does family support matter? The influence of support factors on entrepreneurial attitudes and intentions of college students. *Academy of Entrepreneurship Journal*, 23(1), 24–43. <https://doi.org/10.5465/AMBPP.2017.10901abstract>
- Shirokova, G., Bogatyreva, K., Beliaeva, T., & Puffer, S. (2016). Entrepreneurial orientation and firm performance in different environmental settings. *Journal of Small Business and Enterprise Development*, 23(3), 703–727. <https://doi.org/10.1108/jsbed-09-2015-0132>
- Sieger, P., & Minola, T. (2017). The family's financial support as a "Poisoned Gift": A family embeddedness perspective on entrepreneurial intentions. *Journal of Small Business Management*, 55(00), 179–204. <https://doi.org/10.1111/jsbm.12273>
- Siregar, S. A. A., & Marwan. (2020). The effect of parents socioeconomic status. *Adversity Quotient, and Self-Efficacy, on Students' Entrepreneurship Interest.*, 124, 582–589. <https://doi.org/10.2991/aebmr.k.200305.122>
- Solesvik, M. Z. (2013). Entrepreneurial motivations and intentions: Investigating the role of education major. *Education and Training*, 55(3), 253–271. <https://doi.org/10.1108/00400911311309314>
- Soomro, M. A., Memon, M. S., & Bukhari, N. S. (2019). Entrepreneurial education and its impact on entrepreneurial intentions: A comparative analysis of business graduates of public and private Universities of Sindh. *Pacific Business Review International*, 12(6), 35–46.
- Trivedi, R. (2016). Does university play significant role in shaping entrepreneurial intention? A cross-country comparative analysis. *Journal of Small Business and Enterprise Development.*, 23(3), 23.
- Tsai, K. H., Chang, H. C., & Peng, C. Y. (2016). Extending the link between entrepreneurial self-efficacy and intention: A moderated mediation model. *International Entrepreneurship and Management Journal*, 12(2), 445–463. <https://doi.org/10.1007/s11365-014-0351-2>
- Turker, D., & Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students? *Journal of European Industrial Training*, 33(2), 142–159. <https://doi.org/10.1108/03090590910939049>
- Ventura, R., & Quero, M. J. (2013). Using Facebook in University teaching: a practical case study. *Procedia - Social and Behavioral Sciences*, 83(2008), 1032–1038. <https://doi.org/10.1016/j.sbspro.2013.06.192>
- Wang, J., Zhang, Y., & Goh, M. (2018). Moderating the role of firm size in sustainable performance improvement through sustainable supply chain management. *Sustainability (switzerland)*, 10(5), 1654. <https://doi.org/10.3390/su10051654>

- Wang, L., Ying, G. G., Zhao, J. L., Yang, X. B., Chen, F., Tao, R., Liu, S., & Zhou, L. J. (2010). Occurrence and risk assessment of acidic pharmaceuticals in the Yellow River, Hai River and Liao River of north China. *Science of the Total Environment*, 408(16), 3139–3147. <https://doi.org/10.1016/j.scitotenv.2010.04.047>
- Wirtschaft, Z. B. W. L. (2018). Influence of motivation and self-efficacy on entrepreneurial intention to run a business. *Expert Journal of Marketing*, 6(1), 14–21. <http://hdl.handle.net/11159/4490%0AKontakt/Contact>.
- Xu, F., Kellermanns, F. W., Jin, L., & Xi, J. (2020). Family support as social exchange in entrepreneurship: Its moderating impact on entrepreneurial stressors-well-being relationships. *Journal of Business Research*, 120(August), 59–73. <https://doi.org/10.1016/j.jbusres.2020.07.033>
- Yang, X., Zhang, M., Kong, L., Wang, Q., & Hong, J. C. (2021). The effects of scientific self-efficacy and cognitive anxiety on science engagement with the "Question-Observation-Doing-Explanation" model during school disruption in COVID-19 pandemic. *Journal of Science Education and Technology*, 30(3), 380–393. <https://doi.org/10.1007/s10956-020-09877-x>
- Yurtkoru, E. S., & Seray, B. (2014). Willingness to take risk and entrepreneurial intention of University Students: An empirical study comparing private and state Universities. *Procedia-Social and Behavioral Sciences*, 150, 834–840. <https://doi.org/10.1016/j.sbspro.2014.09.092>
- Yusoff, A., Ahmad, N. H., & Halim, H. A. (2016). Tailoring future agropreneurs: The impact of academic institutional variables on entrepreneurial drive and intentions. *Journal of Entrepreneurship Education*, 19(2), 156–182.
- Zainon, C. M., Bin Yusoff, M. N. H., Zainol, F. A., & Afthanorhan, A. (2020). Risk-taking propensity & personality of women entrepreneurs in Malaysia. *Journal of Critical Reviews*. <https://doi.org/10.31838/jcr.07.06.217>
- Zellweger, T., Sieger, P., & Halter, F. (2011). Should I stay or should I go? Career choice intentions of students with family business background. *Journal of Business Venturing*, 26(5), 521–536. <https://doi.org/10.1016/j.jbusvent.2010.04.001>
- Zhang, Y., Duysters, G., & Cloudt, M. (2014). The role of entrepreneurship education as a predictor of university students' entrepreneurial intention. *International Entrepreneurship and Management Journal*, 10(3), 623–641. <https://doi.org/10.1007/s11365-012-0246-z>

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Submit your manuscript to a SpringerOpen[®] journal and benefit from:

- Convenient online submission
- Rigorous peer review
- Open access: articles freely available online
- High visibility within the field
- Retaining the copyright to your article

Submit your next manuscript at ► [springeropen.com](https://www.springeropen.com)
