

QATAR UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

FACTORS THAT DRIVE QATAR UNIVERSITY STUDENTS TO DIGITAL  
ENTREPRENEURSHIP IN QATAR: MOTIVATIONAL FACTORS IDENTIFICATION.

BY

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## **ABSTRACT**

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Title: Factors That Drive Qatar University Students to Digital Entrepreneurship in Qatar: Motivational Factors Identification.

Supervisor of project: Marios, Katsiolouides.

As part of the Qatar National Vision 2030, transforming the State of Qatar into a global, knowledge-based, and diversified economy will be accomplished by enhancing the skills of human capital that are related to research and development, innovation, and entrepreneurship. Drawing upon the theory of planned behavior (TPB), this exploratory study aims to examine the relationship between personality characteristics and contextual factors with their association to the attitudes, the perceived behavioral control, and subjective norms, that determine digital entrepreneurial intentions (DEI) of students at Qatar University. It also seeks to test the association between entrepreneurial knowledge and DEI for the studied group of students. The integrated research model was created by combining the three introduced TPB motivational drivers and the level of digital entrepreneurial knowledge as an additional motivational factor related to DEI for students at Qatar University. A total of 203 students completed the digital entrepreneurial intention questionnaire. The study sample was collected randomly from students attending all of the different colleges at Qatar University. The results show that students' attitudes towards digital entrepreneurship are not associated with their propensity towards risk-taking and locus of control. It was also found that social and cultural views have no relation to the

students' DEI. However, perceived support and perceived barriers were found to have a strong relationship with Qatar University students' perceived behavioral control. Digital entrepreneurial knowledge showed a high association with the three TPB motivational factors; it was also found to have a direct positive relationship with DEI. While there were no significant differences were found between male and female students, students in the College of Business and Economics showed a higher DEI in comparison to students in other colleges at Qatar University. Very few previous studies have addressed the motivational factors associated with DEI among university students in Qatar, in general, and Qatar University students more specifically. Therefore, this study contributes to identifying the critical motivational factors associated with digital entrepreneurship among university students and it provides information that could be useful for policy- and decision-makers.

**Keywords:** Digital Entrepreneurship, Digital entrepreneurial intentions, Theory of planned behavior, Entrepreneurship, Entrepreneurial knowledge, Qatar university, Qatar.

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Thank you,

Heba Younis.

## **DEDICATION**

*To that voice who said “but, don’t give up”, to little sister, mom and dad.*

*Uncle, Thanks for always being there for me.*

*Al hamd le Allah above all.*

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## **INTRODUCTION**

Many researchers have noted that entrepreneurship adds boundless wealth to a country's economy by promoting innovation and creating employment opportunities that result in high levels of social and economic productivity (Karimi et al., 2017; Sartori et al., 2013; Farani et al., 2017). Moreover, the business world has recognized that innovation accessibility is the best advantage of the digital revolution; it is also important to note the positive impact it can have on a country's economy. This makes innovation much more attractive to most countries around the world. The existence of the Internet and the development of powerful and high-tech devices have created a significant body of information and communication technology (ICT) resources, which have changed the processes and practices of the business world (Farani et al., 2017). The massive growth of ICT development has affected firms as well as the market at different levels. The long-term changes that ICT creates have not previously been realized by any other type of technology (Carrier et al., 2004). Recently, new innovative digital technologies, such as three-dimensional (3D) printing, mobile phones, and cloud computing, have changed the way in which some entrepreneurial processes are conducted and the manner in which business products are developed and sold (Nambisan, 2018). In light of the rapid growth of digital activities in different industries, the use of digital technologies in business processes is likely to be most attractive for different types of entrepreneurship activities. Running businesses in this type of digital environment means utilizing the Internet and digital networks. This involvement provides entrepreneurs with exceptional opportunities to create their own ventures based on electronic commerce models.

The intersection between the newly introduced technologies and entrepreneurship has created interesting questions for researchers who study this relationship as well as the creation of this new term (digital entrepreneurship) and its characteristics. There is a great interest in digital entrepreneurship research due to the growing number of entrepreneurs who have established their businesses using the Internet and technology. However, scholars in the entrepreneurship research field have not yet studied the concept of digital entrepreneurship practices in Qatar. Thus, there is a great interest in studying the concept of digital entrepreneurship in Qatar, and further research on this subject is definitely needed to enrich the body of work on this topic. This would contribute to providing a clear understanding of the processes associated with digital entrepreneurship in Qatar. Most previous research has focused on traditional entrepreneurship. Therefore, studies on the digital entrepreneurship phenomena are needed. Because the number of information technology (IT) innovations and technology providers is increasing in Qatar, more entrepreneurs are paying attention to digital entrepreneurship.

Very few previous studies have addressed the motivational factors associated with digital entrepreneurship intentions (DEI) among university students in Qatar, in general, and Qatar University students, more specifically. In light of this gap, the present research project aims to identify and evaluate the motivational factors that drive the DEI of Qatar University students. It also seeks to evaluate the association between entrepreneurial knowledge and the students' intentions to engage in digital entrepreneurship. Finally, this study also aims to determine differences in the demographic factors that affect the students' DEI.

## **LITERATURE REVIEW**

### **Entrepreneurship and Digital Entrepreneurship**

There is a vast amount of literature on entrepreneurship. Previous studies have identified and discussed different aspects of its characteristics and traits (Timmons, 1999; Miller et al., 2009). Researchers have considered that entrepreneurship can encompass the identification of business opportunities and how to develop these opportunities, so they can be transformed into profitable goods or services to add value to the market. Researchers have also investigated the risks and rewards associated with these types of opportunities.

In like manner, digital entrepreneurship is an evolving concept that differs from traditional entrepreneurship. It has been studied for many years, and many conceptual studies have been conducted to determine its unique characteristics. In general, digital entrepreneurship has been viewed as a subsection of traditional entrepreneurship in which some or all of what is physical in a traditional business is digitalized (Hull et al., 2007). Digital entrepreneurship arises from the process of a digital business startup in the market or a new innovative idea that responds to a change that is implemented using technology. Researchers have used different terms to describe digital entrepreneurship, such as e-entrepreneurship, web entrepreneurship, Internet entrepreneurship, and digital entrepreneurship (Guthrie, 2014). They have defined it as a dot-com Internet-based business that creates revenue from digital goods using the Internet. Carrier et al. (2004) referred to it as cyber-entrepreneurship. In addition to addressing how information is sold, previous studies have considered the term to encompass the entire business process, including production, marketing, and distribution. Hence, digital entrepreneurship deploys

entrepreneurial activities that are associated with a certain level of digitalization (Clyde et al., 2006). In other words, digital entrepreneurship involves creating new values with digital products or services, in a digital marketplace, in a digital workplace, using digital distribution channels, or some combination of all of these.

The European Commission (2015) defined digital entrepreneurship as converting an existing business project into a technological project by creating digital technology or using it to conduct business. This type of digital entrepreneurship is viewed as a subcategory of traditional entrepreneurship because its characteristics are similar to the traditional form. However, it differs from traditional entrepreneurship in the way that entrepreneurs market their products using the power of technology. Several other definitions have been introduced to define the interface between two deep-rooted and related fields: entrepreneurship and technology innovation (Beckman et al., 2012). In terms of the ambiguously described characteristics of digital entrepreneurs, a conceptualization contest was launched to raise awareness about it between technology entrepreneurship researchers as they tend to study the new arrivals in the high-tech industry (Gans & Stern, 2003), which creates a market for new technology developed by entrepreneurs (Giones et al., 2013). Ferran and Alexander (2017) presented three related forms of technology entrepreneurship: 1) technology entrepreneurship, 2) digital technology entrepreneurship, and 3) digital entrepreneurship, which they used to create their Digital Entrepreneurship Theory.

Hull, Hair, Perotti, and DeMartino (2006) presented a typology that could clarify the term, digital entrepreneurship, and identify the degree to which digitalization is spread in a business environment (Clyde et al., 2006). The typology explores the level of digital

technology used in the business value chain and the degree of digitalization obtained from different departments within a firm. One level of digitalization refers to the nature of the goods or services a company offers. It is a crucial aspect, and most of the time it is what defines a new Internet business. Online advertising, social websites, and search engines have undergone substantial growth. Moreover, video programming and music, as types of entertainment products, have shifted to digitalized forms in a new digital domain to reach the market. The distribution channels for goods or services are another potential digitalization level. Digital goods and services, such as programming software and music, can be distributed electronically, and this type of digital potential could essentially impact a company's markets and competitive activities (Farani, 2016). Digital companies, such as eBay and Amazon.com, are enabling the digital distribution of traditional products and goods. Some traditional service companies, such as management consultant service providers, are now converting their face-to-face services into digital formats. Interacting with the key external stakeholders creates a factor that defines a company's digital environment (Karimi et al., 2017). Customer-managed relationships (CMRs), management information systems (MIS), and marketing can also be digitalized (Sartori et al., 2013). Different industries employ various digital methods to interact with their customers and suppliers. The last factor defining the digital environment is the virtual interactions associated with a firm's internal activities. New technologies have made it possible for team members to develop goods or services without being physically located in the same geographic area. These firms have moved to digitalize their organizational structure by implementing virtual and digital communication channels (Farani, 2016).

## **Qatari Context**

Transforming the State of Qatar into a global and knowledge-based economy is part of Qatar National Vision 2030 (ictQatar, 2014), which seeks to enhance the skills and competitiveness of human capital by enabling people to use their education and skills in research and development, innovation, and entrepreneurship. In fact, it is considered to be a key source of global economic growth. The Ministry of Transport and Communications (MoTC) is obligated to develop the knowledge-based economy of Qatar by developing and expanding its innovative ICT ecosystem (DTSME, 2018). The Qatari government is working on developing small and medium enterprises (SMEs) by initiating programs that encourage them to use information technology and increase their awareness of how modern technology benefits their business. Such programs are introduced by the digital transformation of SMEs and the creation of digital incubation centers, both of which are part of the MoTC. In addition to developing the digital infrastructure, in 2013 the Qatar National Cybersecurity Strategy was developed, as were several more e-commerce guidelines for security, technology, and user experience.

## **DEI and the Intention Model**

In general, entrepreneurial intentions have been defined as the state of mind (intentions) that would lead a person to perform actions to achieve a planned goal (Bird, 1998; Thompos, 2009). In the present study, the intended goal is to establish a new digital business. Previous research has shown that the decision to create new business needs concrete intentions to do so (Farani, 2017). Entrepreneurial intention to form a new venture is the first step and the key element to understanding the process of creating a new business;

it is often the longer step in this process (Gartner et al., 1994; Bird, 1998). Given that, Krueger (1994) has defined entrepreneurial intentions as the commitment to physically perform a behavior to start a new business. Because entrepreneurial intentions are such a crucial phenomenon, researchers have turned to cognitive models that study behaviors and entrepreneurial intentions. Cognitive models have ignited researchers' interest in exploring the tools that inspire entrepreneurial behaviors and decision-making (Farani, et al., 2017; Baron, 2004; Mitchell et al., 2002). In this model, behaviors are considered to be the consequences of the interactions between an individual and the situation that he/she is in (Linan et al., 2011). Entrepreneurship is a type of behavior that is considered to be an outcome of a person's interactions with the situation when it drives an individual to become self-employed rather than remain a salary-based employee. Entrepreneurial intentions are the components that are most often linked to the cognitive process of an individual that directly lead to establishing a new venture (Krueger et al., 2000). Most studies have supported the need to predict entrepreneurial actions before they occur (Pruett et al., 2009; Krueger et al., 2000). What we know is that because digital entrepreneurship is as a subcategory of traditional entrepreneurship, both share similar characteristics.

### **Theory of Planned Behavior (TPB)**

Several years ago, a considerable amount of social psychological research studies showed that an individual's intentions are the best predictor of their rare, hard to observe, and unpredictable behaviors (Krueger et al., 2000). Intention models used to be the tools employed to study entrepreneurial intentions. They offer a powerful rational framework to



better understand the processes of those intentions. In previous studies, several authors have used different theories to try to predict what drives entrepreneurial intentions. Even though there are several entrepreneurial intention models, such as the entrepreneurial event model, the maximization of the expected utility model, and the implementing entrepreneurial ideas model (Shapero & Sokol, 1982; Bird, 1998, Douglas & Shepherd, 2002), the most widely used and well-cited intention models are the theory of planned behavior (TPB), introduced by Ajzen (1991), and the theory of entrepreneurial event model, introduced by Shapero and Sokol (1982).

The present study is based on TPB because that theory addresses an individual's intention to start a new business, which is the purpose of this study. This model argues that entrepreneurial behaviors entail several conscious decisions that are planned and controlled into a series of actions that have significant consequences (Farani et al., 2017).

TPB aims to define and explain individual behaviors in different contexts. A dominant factor of the theory is the intention of an individual to engage in a certain behavior. According to Ajzen (1991), intentions are the motivational factors that influence a person's behavior. Motivational factors indicate the degree to which individuals are keen to do the work that is required, and how much effort they plan to exert in order to engage in a certain activity. Overall, TPB posits that the stronger the individual's intentions to execute a action, the more likely it is to be performed.

According to Ajzen (1991), the cognitive model of TPB stresses three motivational factors related to entrepreneurial intentions, which are assumed to be the best predictors. The three determinants of intention to act are:

- (1) Attitudes towards entrepreneurship (ATE). This refers to the positive valuation associated with creating a new business. (In our study, this will be used to present the valuation of initiating a business based on technology).
- (2) Subjective norms (SNs). This refers to the pressure an entrepreneur perceives from the social environment and the approval he/she receives from important individuals. (In our study, this refers to engaging in a digital business).
- (3) Perceived behavioral control (PBC). This refers to how difficult or easy it is for an individual to become an entrepreneur. (In our study, this will be used to measure how PBC impacts the students' intentions to become digital entrepreneurs).

In the present study, these three independent drivers of intentions will be used to test the students' intentions to engage in digital entrepreneurship. The first factor to be tested is the attitude towards intentions, which is the degree to which students have a positive or a negative evaluation of digital entrepreneurship. This factor is affected by three independent personality characteristics: the need for achievement (NA), risk-taking (RT) propensity, and locus of control (LC). The second predictor is SNs, which refers to an individual's perceived pressure from the social environment and the approval from important individuals that impact whether or not he/she will decide to become a digital entrepreneur. The third is PBC, which is the perceived ease and/or difficulty of becoming a digital entrepreneur. PBC is affected by the behavioral support and barriers an individual perceives as he/she attempts to become a digital entrepreneur.

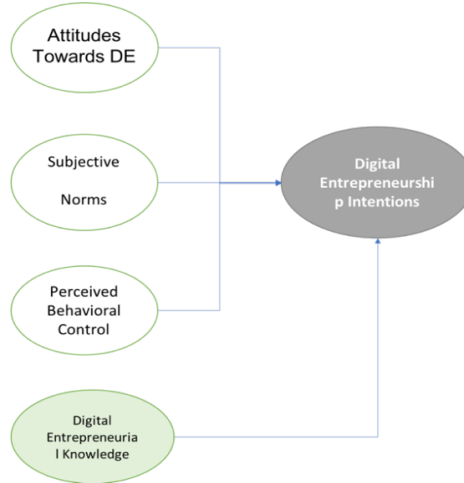
In the literature, many researchers have conducted empirical studies drawing upon TPB to measure the entrepreneurial intentions of students, and they have reported that ATE, SNs, and PBC play a significant role in students' intentions to start a new business (Karimi et al., 2017, 2014; Moriano et al., 2012; Lakovleva et al., 2011). Based on the findings from the literature on the effects that Ajzen's (1991) motivational factors have on digital entrepreneurship intentions, the following hypotheses were developed for the present study (Figure 1 illustrates the proposed relations):

H1: Attitudes towards digital entrepreneurship are positively related to Qatar University students' DEI.

H2: Subjective norms are positively related to Qatar University students' DEI.

H3: Perceived behavioral control is positively related to Qatar University students' DEI.

H4: Digital entrepreneurship knowledge is positively related to the Qatar University students' DEI.



*Figure 1. Proposed relationships between the three motivational factors and digital entrepreneurship intentions and digital entrepreneurship knowledge.*

TPB also recognizes that exogenous variables and background factors have an indirect impact on entrepreneurial intentions. According to TPB, personality characteristics and contextual conditions have an indirect effect on an individual's intentions and behaviors through ATE and PBC. Previous studies on entrepreneurship that applied TPB have shown that, among the three antecedents of entrepreneurship intentions (ATE, SNs, and PBC), ATE and PBC have a stronger effect on individual intentions than SNs (Nabi & Linan, 2013; Zhao, Seibert, & Hills, 2005). According to those studies, SN is less relevant to entrepreneurship intentions than ATE and PBC. They described several reasons for this outcome, all of which refer to the inner characteristics of entrepreneurs who are internally directed to engage in behaviors without paying attention to the social norms of the country they live in, in comparison to people who are not entrepreneurs (Goethner et al., 2012).

Gerba (2012) also included the SN factor in his study on Ethiopian students when combining TPB and the theory of entrepreneurial event model. Moreover, Karmini (2017) conducted a study on Iranian students and concluded that SNs have an impact on entrepreneurial intentions. Therefore, we believed it is worth testing this argument using a sample of Qatar University students.

### **Personality Characteristics and Attitudes**

Although scholars have criticized the use of personal characteristics as a factor that drives entrepreneur intentions, and although these characteristics have been found to have a weaker relationship to entrepreneurship intentions in comparison to the other two antecedents, they still play a curial role in the entrepreneurial process of creating a new business (Shaver & Scott, 1991). Nevertheless, while several studies ignored individual personality characteristics when investigating entrepreneurship intentions, they believed that it is still important to explore them (Baum, Locke, & Smith, 2001). Zhao and Seibert (2006) found that personal characteristics are an important element of the entrepreneur and business creation model; therefore, they must be treated as if they are as important as the other two factors. Ideally, personal characteristics have an effect on entrepreneurial intentions.

To identify some of the characteristics of digital entrepreneurs, which has been an area of interest for a long time, several studies were conducted. Kisfalvi (2002) found that personal characteristics, such as age and experience, can influence a person to choose to start his/her own digital business. It was found that young people, with an average age of 30, which is around the time they finish their graduate studies, have sufficient technology

experience to enable them to start their own e-business (Blais & Toulouse, 1992). Therefore, they are characterized as being passionate and optimistic about their own ability to develop and use technology. Siu (2002) compared traditional and digital entrepreneurs and found that digital entrepreneurs have a higher level of marketing education and a stronger background in technology than traditional entrepreneurs. Reid and Smith (2000) studied the aims and motivations of digital entrepreneurs. They found that what motivates most digital entrepreneurs is their desire to satisfy a need of self-development and to avoid unemployment. Therefore, they tend to seek and find digital market opportunities.

The research on personal characteristics of entrepreneurship has identified three types of characteristics: NA, RT propensity (Hisrich & Peters, 2002), and LC. The present study also employs these characteristics based on their frequent use by many other scholars that have identified them as being characteristics of entrepreneurs that have been proven to have an impact on their entrepreneurship.

### ***Need for Achievement***

Individuals with a high NA have been characterized as feeling responsible for solving problems and reaching set goals via their own efforts (McClelland, 1961). Furthermore, individuals with a high NA tend to be responsible, hard workers with a strong desire to succeed. They are more likely to act in an entrepreneurial way than the other people around them; for instance, they are able to spot an opportunity and take advantage of it. According to McClelland (1961), entrepreneurs should have a high NA because high NA directs an individual to look for an entrepreneurial position rather than be satisfied with a career position. Thus, high NA is expected to have a positive impact on entrepreneurial intentions.

Consequently, NA is considered to be an important factor to indirectly predict entrepreneurial intentions through entrepreneurs' attitudes towards entrepreneurship.

### ***Risk-taking Propensity***

Creating a new venture is a risk-associated process. For an individual to engage in an entrepreneurial process, he/she must deal with low structured and highly uncertain responsibilities throughout the process along with the uncertain outcomes. Risk-tolerant individuals are more likely to be entrepreneurial career seekers (Stewart & Roth, 2001). Entrepreneurship is considered to be a career path that is associated with risk and uncertainty; therefore, individuals with a high-risk tolerance are attracted to starting an entrepreneurial venture. As previously noted, individuals with a high RT propensity tend to have attitudes about entrepreneurship that are more positive than individuals without such a tolerance.

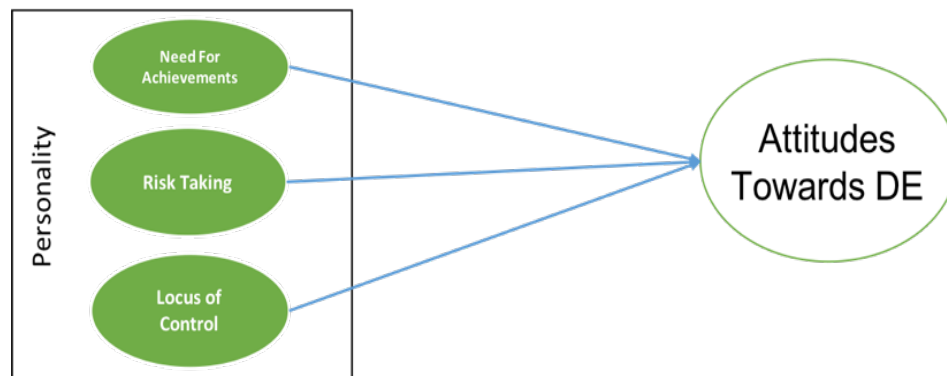
### ***Locus of Control***

According to Rotter (1966), the LC of an individual is the degree to which, generally, he/she perceives events to be under his/her control (inner locus) or under the control of others (external locus). Entrepreneurs should have high confidence in their ability to control their environment and take the risk of starting a new business in comparison to individuals with less confidence in their ability to control their own environment that are expected to avoid entrepreneurship. In all, individuals with a high level of confidence to control their own environment are more likely to have favorable attitudes towards

entrepreneurship than others. Drawing on these findings, the present study developed Hypothesis 5 (Figure 2 illustrates the proposed relations):

H5: Personality factors are positively related to attitudes towards digital entrepreneurship:

- a) NA is positively related to an individual's attitude towards digital entrepreneurship.
- b) Propensity toward RT is positively related to an individual's attitude towards digital entrepreneurship.
- c) LC is positively related to an individual's attitude towards digital entrepreneurship.



*Figure 2. The potential relationship between personality characteristics and attitudes towards digital entrepreneurship.*



We have assumed that high NA, high RT propensity, and greater internal and external LC are all associated with an individual's attitude towards entrepreneurship.

### **Subjective Norms**

The second predictor of entrepreneurial intentions is SNs. Ajzen (1991) recognized SNs as a social factor that determines the social pressure that pushes individuals to engage or not engage in entrepreneurial behavior (creating a new venture) (Tornikoski, 2013). SNs are related to an individual's perception of how relative groups (social reference groups), such as family, friends, or a very important person, feel about the individual performing such a behavior. In this line of research, the more positive the opinion of these groups, the more encouragement an individual receives to start a new business; thus, an individual will have a higher intention to perform the behavior. As stated in Hypothesis 2, we propose to test this finding:

**H2:** Subjective norms are positively related to Qatar University students' DEI.

### **Perceived Behavioral Control**

Although the motivational factors previously discussed explain how an individual creates intentions, to some degree, the availability of opportunity and needed resources (e.g., money, time, skills) are crucial to performing a behavior. These factors represent an individual's actual control over the behavior (Ajzen, 2001).

PBC is a vital component of TPB. However, scholars have debated whether or not there are similarities between the theory of PBC and the theory of LC. Ajzen (2001) stated that PBC reflects an individual's perception of the ease or difficulty of performing a

behavior. LC is a general expectation to act in a certain way that remains the same across situations. Thus, while individuals might believe that their outcomes are determined by their own actions (LC), at the same time, they might consider that their chance of implementing the planned behavior depends on the available opportunities and recourses (Karimi et al., 2017).

The theory of achievements is another approach to perceived control that was developed by Atkinson (1964). This theory addresses the probability of success in a given task. It views the same observations as PBC because it states a specific behavioral control. It assumes that, in general, achievement motivation is accompanied by situation expectancy and the incentive value of success, which depends on the situation itself. This is different from other perceived behavior theories that address the concept of an individual's perceived self-efficacy (Bandura, 1977, 1982). Such investigations could find that individuals' behaviors could be subjective to their confidence in their ability to perform a task.

Based on the findings reported in the literature, we proposed Hypothesis 3 to test the relationship:

**H3:** Perceived behavioral control is positively related to Qatar University students' DEI.

### ***Perceived Behavioral Support***

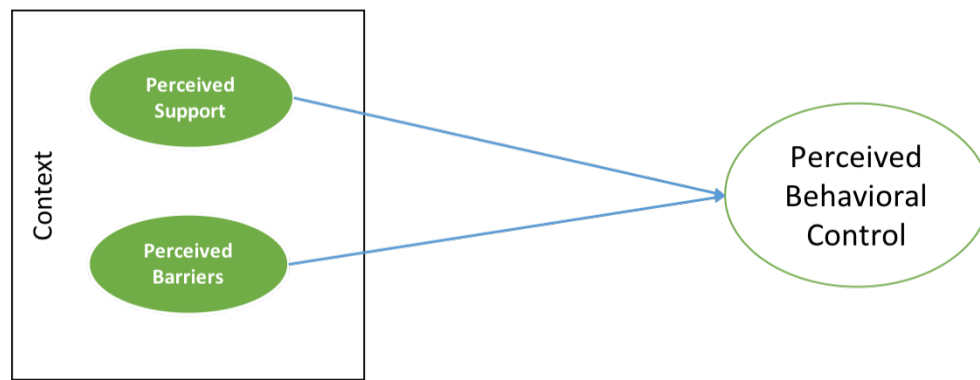
Shapero and Sokol (1982) argued that positive evaluations of and attitudes towards entrepreneurship are impacted by an individual's positive perceptions of contextual support. When individuals have social or financial support that is favorable to entrepreneurship, they are more apt to have a favorable attitude about starting a business (Karimi et al., 2017). However, it has been argued that perceived contextual support is more strongly correlated to PBC (Farani, 2016). In his theory of PBC, Ajzen (1991) noted that if individuals think they have contextual support, they will anticipate fewer problems. Thus, they will also have more PBC. Individuals will gain more confidence in their ability to start a risky journey (a new business) when they perceive that they have access to certain information or funds.

### ***Perceived Behavioral Barriers***

Using the same logic, when individuals perceive unfavorable environment conditions to start a new business, such as limited access to funds or high loan conditions that are difficult to meet, their attitudes towards entrepreneurship will be negatively affected (Ajzen, 1991). Perceived behavioral barriers will also decrease an individual's confidence in his/her ability to start a business if fewer resources are available. When students observe such unfavorable environmental conditions, they act negatively toward finding opportunities to start a business, which impacts their ability to succeed (Karimi et al., 2017). Hence, perceived behavioral control can be expected to be negatively related to entrepreneurial intention through PBC. Hypothesis 6 was developed based on the literature related to both of these factors (Figure 3 illustrates the proposed relationships):

**H6:** Contextual factors are positively related to PBC:

- a) Perceived contextual support is positively related to PBC.
- b) Perceived context barriers are negatively related to PBC.



*Figure 3. The proposed relationship between contextual factors and perceived behavioral control.*

### **Entrepreneurial Competencies**

Competence is a key concept of entrepreneurship research. It refers to an individual's ability to be productive in the workplace. Researchers have defined competence in different ways, depending on their perspectives and perceptions. Competence consists of knowledge, attitudes, and the abilities acquired through learning and experience (Farani et al., 2015). Accordingly, researchers have also looked at entrepreneurial competencies as the knowledge, attitudes, and abilities that enable entrepreneurs to effectively achieve a

planned goal and to carry out their business tasks (Baum et al., 2001). For the purpose of the present study, and to shed light on the effect that entrepreneurial knowledge has on digital entrepreneurship intentions, we focus on the type of entrepreneurial knowledge that enables individuals to properly and effectively perform a specific task.

### **Digital Entrepreneurial Knowledge**

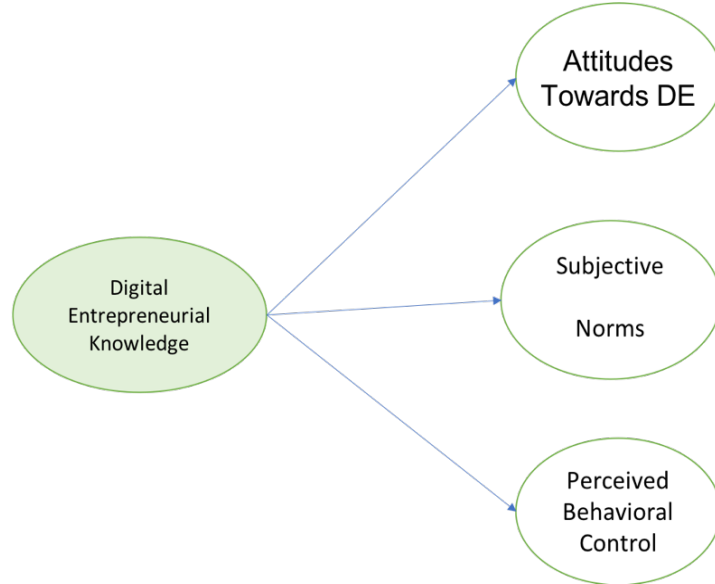
Knowledge is an important strategic resource of any firm. It enhances the performance of existing firms and startups (Farani et al., 2015). Knowledge and access to knowledge are essential resources in entrepreneurship, and they are necessary for creating entrepreneurial intentions (Widding, 2005). Franke (2003) investigated knowledge as a predictor of volitional action. Entrepreneurial knowledge is considered to be the heart of entrepreneurship, and it has a significant impact on the decision to engage in entrepreneurial actions. One of the conclusions extracted from TPB is that individuals with higher PBC have stronger intentions to learn more about engaging in a specific behavior. Using the same logic, an individual with less information about that behavior will have less perceived control and, thus fewer intentions to perform the behavior (Ajzen, 2001).

Even though Ajzen (2001) recognized the essential role of entrepreneurial knowledge, TPB does not consider it to have an effect on entrepreneurial intentions. Thus, and building on the findings reported by Roxas (2014) and Linan et al. (2013), the present study incorporates digital entrepreneur knowledge with TPB. The knowledge individuals acquire about starting new businesses by going through different phases of entrepreneurship, identifying opportunities, and determining the availability of support,

such as resources and funds, has a significant impact on their level entrepreneurial intentions. Linan (2004) also emphasized the direct relationship between an individual's entrepreneurial knowledge and entrepreneurial intentions. Sommer and Haug (2010) conducted a study on entrepreneurial knowledge and integrated it with TPB as a new predictor of entrepreneurial intentions; their results confirmed the direct significant relationship between these two factors. Based on this, Hypothesis 7 was developed to test that relationship (Figure 4 illustrates the proposed relationships):

**H7:** Digital entrepreneurship knowledge is positively related to motivational factors in TPB:

- a) Digital entrepreneurship knowledge is positively related to attitudes towards digital entrepreneurship.
- b) Digital entrepreneurship knowledge is positively related to SNs.
- c) Digital entrepreneurship knowledge is positively related to PBC.



*Figure 4. The proposed relationship between digital entrepreneurial knowledge and the three motivational factors of DEI.*

As previously noted, TPB addresses the demographics, socio-cultural, and personality factors that might indirectly be related to individual entrepreneurial intentions through three motivational factors. Some researchers have emphasized the importance of investigating other variables to better understand entrepreneurial intentions (Reid and Smith, 2000). Other researchers have surmised that personality traits, gender, and work experience shape the three antecedents of entrepreneurial intentions (Karimi et al., 2017; Gelderen et al., 2015). Other studies have shown that the three motivational drivers of digital entrepreneurship intentions are shaped by these variables (Linan et al., 2009; Karimi et al., 2017). Based on those findings, Hypothesis 8 was formulated (Figure 5 illustrates the proposed relationships), as follows:

**H8:** There is a difference in digital entrepreneurship intention levels based on demographic variables:

- a) There is a difference in the level of DEI between female and male students.
- b) There is a difference in the level of DEI between business and non-business students.
- c) There is a difference in the level of DEI between students with different nationalities.



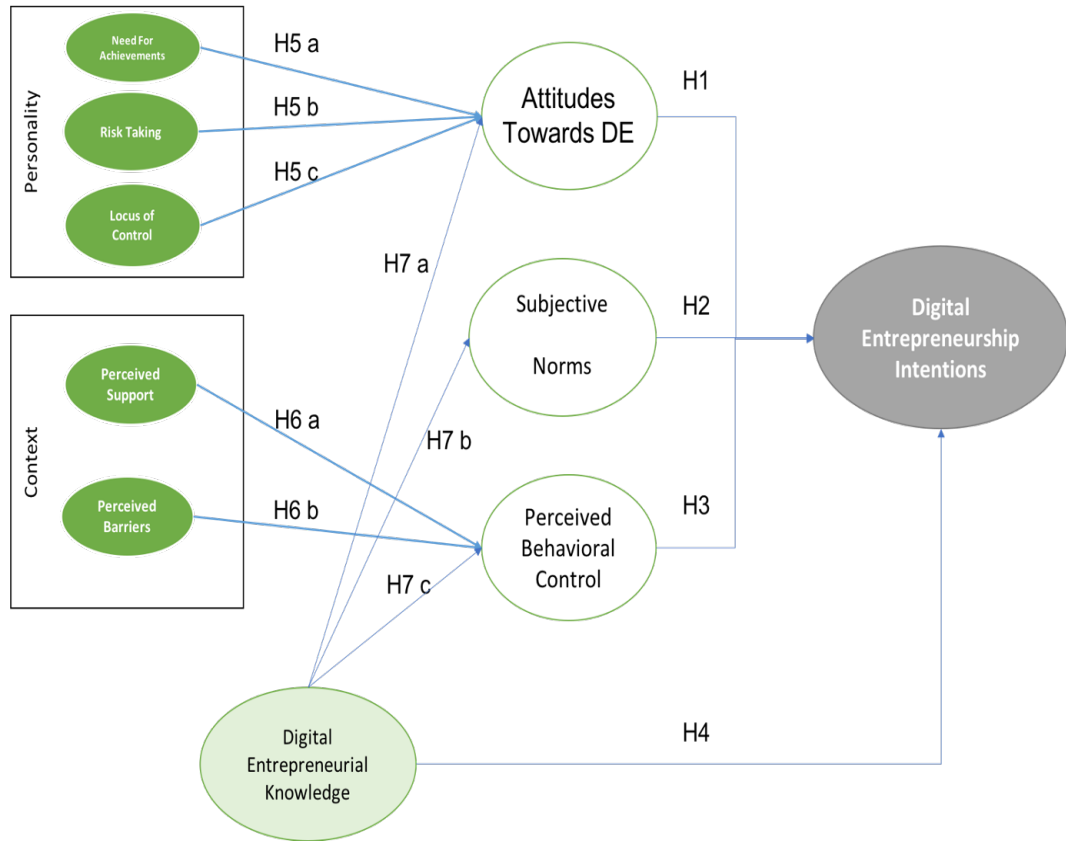


Figure 5. Proposed model for differences in the levels of DEI.

## **RESEARCH METHODOLOGY**

### **Data Collection and Description of the Sample**

In our study, data were collected using as questionnaire randomly distributed to students with different educational levels enrolled in different colleges at Qatar University during the 2018 academic year. The data were collected using Qualtrics.com, which enabled us to share our questionnaire using social media accounts related to Qatar University students. The questionnaire was also distributed through generic emails and by meeting students on the Qatar University campus so they could complete and return the questionnaire. This study followed the same questions used in Karimi (2017) and Linan et al. (2013), which measured the aspects of TPB because both previous studies showed that the questionnaire had the reliability and validity required for use in the present study. Although the questionnaire was proven to be reliable and valid, we ran a Cronbach's analysis. The items were modified to meet the framework of the present study.

DEI was measured using four items. A sample item stated: "I am enthusiastic about making any effort to practice being a digital entrepreneur." Two statements were used to measure attitudes towards digital entrepreneurship. For example, one item stated: "I believe being a digital entrepreneur is more advantageous than disadvantageous to me." Three statements were used to measure SNs. For example, one item stated: "My friends and other students would be proud when I become a digital entrepreneur." PBC was measured using two statements; for example: "I believe it is going to be easy for me to start a digital business in Qatar." Digital entrepreneurship knowledge was measured using two

statements, one of which was: “I think I have the adequate knowledge about digital entrepreneurship.”

Each of the personality characteristics and contextual factors were also measured using two statements. A sample statement used to measure NA was: “I believe there are many different possible digital businesses in Qatar.” To measure the RT propensity, two statements were added to the survey. One revised statement was: “I believe risk on a job should be avoided at all costs.” LC was measured in two statements, one of which was: “My own actions determine my life.” The following statements were used to measure perceived support and perceived barriers, respectively: “There are qualified digital entrepreneurship centers that provide incubation services by expert consultants” and “Business rules and regulations in Qatar make it hard to run digital businesses.” In the questionnaire, Statements 14, 17, and 19 were revised; they were re-coded using SPSS software, accordingly. These questions were revised to test the reliability and quality of the participants’ answers. All items (excluding demographic data) were measured using five-point Likert scales, ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The “Not applicable” response option was added to the answer sheet to give the participants the option to skip the item. Full details about the statements used in the questionnaire are provided in the Appendix.

A total of 229 questionnaires were returned. The received questionnaires were screened for missing data and outliers. Following this, 203 questionnaires proved to be useful and were included in the data analysis. Participants had to meet the following inclusion criteria: Qatar University student, 18 years of age or older. Students were not

confined to one college; the study randomly targeted students in different colleges. The different backgrounds of the selected sample were based upon the argument that digital entrepreneurship intentions are not only reserved for business students because technology can be associated with different industries (Maresch, 2015).

### **Statistical Tools**

We analyzed data using SPSS software program v. 25, 23, and Microsoft Excel 2017. Qualitative data analysis tools were used. Descriptive statistics were used to describe the characteristics of the participants who completed the questionnaire. Although the subscales that were used were proven to be reliable and valid in previous studies, Cronbach's alpha was used to test reliability across all of the scaled statements and to measure the degree to which the statements explained the variables. Pearson's correlation tests were used to test the correlations among different variables. Running simple and multiple linear regression analysis was a crucial part of evaluating the research results, and they were used to test the multiple hypotheses proposed in the study. As part of the conditions to use the regression test, the variables were checked for normality before conducting the test. To meet this condition, two variables were squared coded. An independent t-test was also used to test the last research hypothesis 8.

The sample included 153 female students (75% of the total sample) and 50 male students. As seen in Table 1, the sample contained more females than males because Qatar University has more female students than male students. Students ranging in age from 18 to 24 had the highest frequency response to the survey (135 respondents). This result was not surprising because the majority of the students at Qatar University are undergraduates,

which is also applicable to the level of education because more students in the sample were pursuing a bachelor's degree with 144 responds. In terms of the academic majors, 56.7% of the students were business majors (115 respondents) and 43.3% of the students were non-business majors (88 respondents), including students from the College of Arts and Sciences, the College of Education, the College of Engineering, the College of Health Sciences, the College of Law, the College of Medicine, the College of Pharmacy, and the College of Sharia and Islamic Studies.

*Table 1. Analysis of the Demographic Data*

<b>Variable</b>	<b>Value</b>		
	<b>Item</b>	<b>Frequency</b>	<b>%</b>
Age	18 to 24-year-old students	135*	66.50%
	25 to 34-year-old students	51	25.10%
	Students aged 35 and older	17	8.40%
Gender	Male	50	24.60%
	Female	153*	75.40%
Level of Education	PhD	7	3.40%
	Master's Degree	37	18.20%
	Bachelor's Degree.	144*	70.90%
	Diploma	15	7.40%
Academic Major	College of Business and Economics	115*	56.70%
	Other colleges: non-business majors	88	43.30%

\*Highest frequency

Cronbach's alpha analysis was conducted on the different variables in the model. The overall model scored an alpha value of 0.8 for 23 items. It was found that the alpha value for the "Digital entrepreneurship intentions" subscale was 0.79, which indicates that the subscale has an adequate level of inter-item reliability. The alpha value for the "Attitudes towards digital entrepreneurship" subscale was 0.52, which indicates that the subscale does not have an adequate level of inter-items reliability. The same results were observed for "Need for achievements", "Risk Taking", "Locus of Control", and "Perceived Support", with alpha values of 0.21, 0.29, and 0.438, respectively. Most probably the lower number of the questions referring to this variable is the reason for this outcome; two questions in the survey referred to these variables. Further analysis found that deleting any of the items would not have significantly increased their alpha values. However, these scales were based upon a previous study by Karimi et al. (2017), which used the same scale items. Karimi et al. (2017) reported relatively lower alpha values for "Need for achievements" and "Perceived Support" (0.67 and 0.65, respectively); however, they reported higher alpha scores for "Risk Taking" and "Locus of Control" (0.8 and 0.79, respectively). From these results, we were able to support our findings and be assured that the multiple Likert scales used for the items in our questionnaire are reliable enough.

Cronbach's alpha analysis was also conducted on the "Subjective Norms", which was scaled to test the social factors that determine the social pressure felt by Qatar University students. The results showed that the alpha value for this subscale was 0.72, which indicates that it has an adequate level of inter-item reliability. The same results were obtained when

testing the reliability for the subscales, “Perceived Behavioral Control” and “Perceived Barriers” (alpha values of 0.635 and 0.637, respectively).

## **RESEARCH FINDINGS**

### **Results**

This section presents the results obtained after running the appropriate tests based on the proposed hypotheses. The inter-correlation between the main variables of the TPB, and digital entrepreneurial knowledge, have an impact on Qatar University students' intentions to digital entrepreneurship. It was supposed that when these factors are highly and positively related to the determinants of DEI the values of those intentions will also be high. Surprisingly, the proposed personality factors that influence the students' attitudes towards digital entrepreneurship were not all correlated, as proposed. As shown Table 2, NA was found to have a positive correlation with ATE, while RT propensity and LC had no significant correlation with attitudes towards digital entrepreneurship. There was a significant positive correlation between PBC and perceived support; however, that correlation was not statistically significant with Perceived barriers.



Table 2. Mean, Standard Deviation, and the Correlations between all Variables in the Model.

Variable	Mean	SD	DEI	ATE	SN	PBC	DEK	NA	RT	LC	PS	PB
<b>DEI</b>	3.4815	0.8545	1									
<b>ATE</b>	3.7611	0.82852	0.544	1								
<b>SN</b>	3.8095	0.80486	0.292	0.503	1							
<b>PBC</b>	3.234	0.97401	0.463	0.369	0.313	1						
<b>DEK</b>	3.3473	0.79374	0.511	0.366	0.296	0.562	1					
<b>NA</b>	3.7562	0.80278	0.219	0.191	0.109*	0.076*	0.042*	1				
<b>RT</b>	3.0172	0.79972	0.175	0.122*	0.063*	0.025*	0.024*	0.018*	1			
<b>LC</b>	3.9729	0.79945	0.228	0.110*	0.129*	0.218	0.146	0.31	0.099*	1		
<b>PS</b>	3.7266	0.82976	0.400	0.250	0.240	0.286	0.286	0.204	0.071*	0.145	1	
<b>PB</b>	3.2956	0.94598	0.084*	0.054*	0.01*	-0.089*	0.046*	0.05*	-	-	0.278	1
									0.071*	0.132*		

All the variables are significant at  $P < 0.001$ , except those marked with \* ( $p > 0.05$ ).

H1 proposed that the attitudes towards digital entrepreneurship would be positively correlated to the Qatar University students' DEI. The multiple linear regression analysis indicated a significant correlation between attitudes and intentions ( $\beta = 0.37$  and  $P < 0.01$ ). However, the correlation between SNs and DEI was not statistically significant ( $\beta = -0.017$ ,  $P > 0.05$ ) as proposed in H2. Therefore, we reject this null hypothesis. For H3, there was a statistically significant positive relationship between PBC and the students' DEI ( $\beta = 0.194$ ,  $P < 0.05$ ). Interestingly, there was also a significant positive relationship between digital education knowledge and DEI for Qatar University students. Table 3 presents the multiple linear regression results to test the first four study hypotheses. This indicates the extent to which these four variables explain the students' DEI ( $R^2 = 0.41$ ). Therefore, we accept Hypotheses 1 to 4, but we rejected Hypothesis 2.

*Table 3. Results of the Relationships among the TPB Factors*

<b>Relationships</b>	<b>R<sup>2</sup></b>	<b><math>\beta</math></b>	<b>T</b>	<b>Sign.</b>
Attitudes Towards Digital Entrepreneurship > Digital Entrepreneurship Intentions		0.373	5.681	0.000
Subjective Norms > Digital Entrepreneurship Intentions		-0.017	-0.266	0.790
Digital Entrepreneurship Intentions > Perceived Behavioral Control	0.418	0.194	2.871	0.005
Digital Entrepreneurship Intentions > Digital Entrepreneurship Knowledge		0.264	3.933	0.000

Unexpectedly, the results for H5, which tested the three personality factors related to ATE, did not reflect the findings reported in previous studies. As shown in Table 4, of the personality characteristics, only NA was found to have a statistically significant positive relationship with ATE ( $\beta = 0.155$ ,  $P < 0.05$ ). While, the analysis did not show a significant positive relationship between RT propensity and LC, each was found to be correlated with ATE ( $\beta = 0.109$ ,  $P > 0.05$ ;  $\beta = 0.038$ ,  $P > 0.05$ , respectively). Therefore, we accept Hypothesis 5a and we reject Hypothesis 5b, c.

*Table 4. Results of the Relationships between the Personality Factors and Attitudes towards Entrepreneurship*

<b>Relationships</b>	<b><math>R^2</math></b>	<b><math>\beta</math></b>	<b><math>t</math></b>	<b><i>Sign.</i></b>
Need for Achievement >		0.155	2.126	0.035
Attitude Towards Entrepreneurship Propensity Toward Risk-Taking >	0.043	0.109	1.568	0.118
Attitude Towards Entrepreneurship Locus of Control >		0.038	0.523	0.602
Attitude Towards Entrepreneurship				

For Hypothesis 6, we tested the relationship between contextual factors and PBC; we found that perceived support is significantly and positively associated with PBC ( $\beta = 0.33, P < 0.05$ ). Table 5 presents a summary of these results. Thus, we accept H6 as a null hypothesis. We accepted the null hypothesis H6b because perceived barriers was found to have a significantly negative relationship with PBC ( $\beta = -0.183, P < 0.05$ ).

*Table 5. Results of the Relationships between Contextual Factors and Perceived Behavioral Control*

<b>Relationships</b>	<b>R<sup>2</sup></b>	<b><math>\beta</math></b>	<b>T</b>	<b>Sign.</b>
Perceived Support				
>		0.337	4.862	0.000
Perceived Behavior Control	0.113			
Perceived Barriers				
>		-0.183	-2.635	0.009
Perceived Behavior Control				

Regression analysis was conducted on digital entrepreneurship knowledge and the three motivational TPB factors and DEI. Significant, positive relationships were found between digital entrepreneurship knowledge and all the other regressed TPB variables. As seen in Table 6, digital entrepreneurship knowledge was found to be significantly and

positively related to ATE ( $\beta = 0.35$ ,  $P < 0.01$ ), SNs ( $\beta = 0.29$ ,  $P < 0.01$ ), and PBC ( $\beta = 0.56$ ,  $P < 0.001$ ). Based on these results we accept Hypothesis 7a, b and c.

*Table 6. Results of the Relationships between Digital Entrepreneurship Knowledge and Motivational Factors*

<b>Relationships</b>	<b>R<sup>2</sup></b>	<b><math>\beta</math></b>	<b>T</b>	<b>Sign.</b>
Digital Entrepreneurship Knowledge				
>				
Attitudes Towards Digital Entrepreneurship	0.123	0.351	5.308	0.000
Digital Entrepreneurship Knowledge				
>	0.088	0.296	4.401	0.000
Subjective Norms				
Digital Entrepreneurship Knowledge				
>	0.316	0.562	9.631	0.000
Perceived Behavioral Control				

The demographic variables of Qatar University students were analyzed to determine if they had an impact on the students' DEI (Hypothesis 8). No significant difference in DEI was found between male and female students. Male students had a mean of 13.1 while females had a mean of 12.7 ( $t$ -value = 0.406,  $P > 0.05$ ).

Table 7. Demographic Analysis Results

Dimensions		N	Mean	Std. Deviation	T	Df	Sig. (2-Tailed)
Gender	Male	50	13.1313	5.62869	0.406	201	0.685
	Female	153	12.7549	5.70786			
Educational Background	Non-Business	88	11.8168	5.58426	-2.287	201	0.023
	Business	115	13.6364	5.64427			
Nationality	Non-Qatari	78	13.8317	5.53348	1.965	201	0.051
	Qatari	125	12.2335	5.70052			

Hypothesis 8b stated that there is a difference in DEI between students in the College of Business and Economics in comparison to students from the other colleges. The result from the t-test indicated that there is statistically significant difference in DEI between business and non-business students at Qatar University (Table 7). The mean for business students (13.6) was higher than the mean (11.8) for non-business students (t-value = -2.287,  $P < 0.05$ ).

Although the mean score for DEI was lower for Qatari students (12.2) than non-Qatari students (13.8), the difference was not statistically significant ( $P < 0.05$ , t-value = 1.96). Therefore, we rejected Hypothesis 7c.

## Discussion

This research study aimed to explore the motivational factors that would correlate to DEI for Qatar University students based on TPB (Ajzen, 1991). The proposed model incorporates personal characteristics and contextual factors into TPB to explore the extent to which these factors correlate to the motivational factors stated by TPB. Moreover, this study tested if digital entrepreneurship knowledge is correlated to the TPB motivational factors and to DEI.

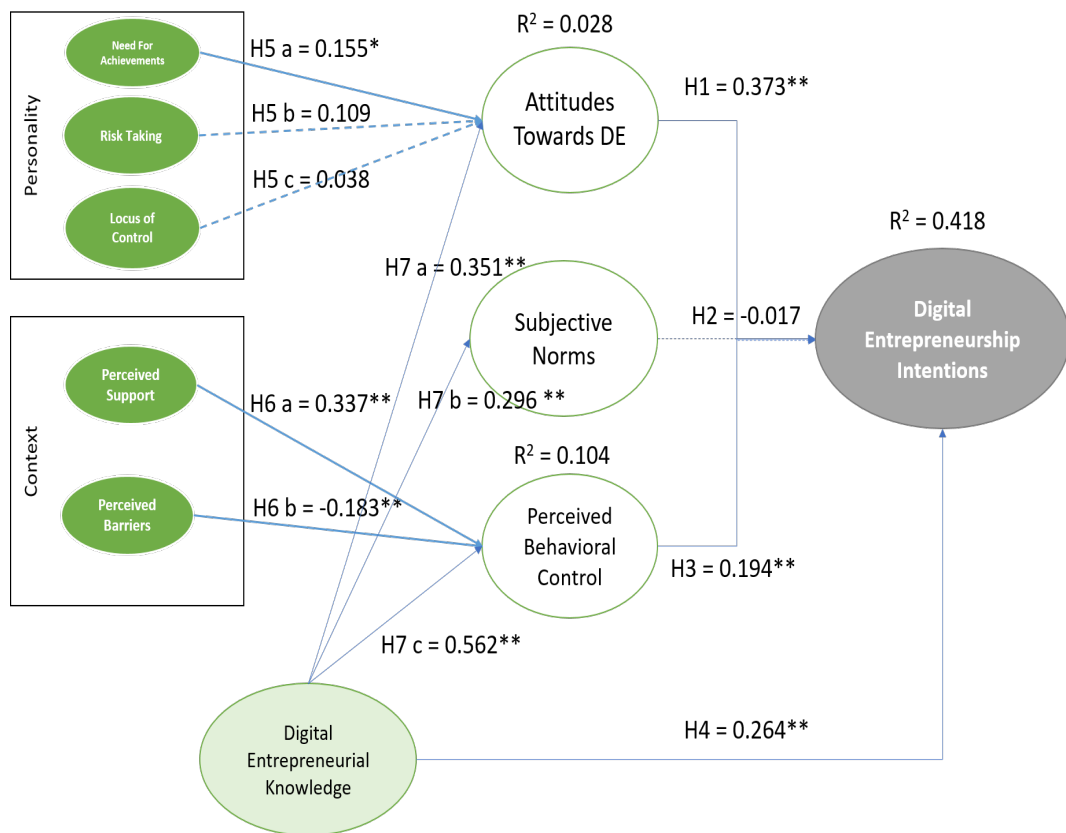


Figure 6. Results of the proposed model.

As shown in Figure 6, our results confirm the significant positive correlation between DEI and two of the TPB motivational factors (ATE and PBC); it also found that digital entrepreneurial knowledge was a new factor correlated to the students' DEI levels, but SNs were not a factor. Notably, these results are comparable with those reported in previous research studies. For example, Karimi et al.'s (2017) study on Iranian students reported that TPB can be used to examine developing countries, not just developed countries as Bruton et al. (2008) stated. In addition, the findings of the present study are similar to results reported by Farani et al. (2017) in a study conducted on Iranian students; that study did not find a significant relationship between SNs and the DEI of those students. This finding is in line with the results reported by Karimi et al. (2017) and Moriano et al. (2012), which revealed that SNs were the weakest predictors of DEI when tested using TPB. Our study results show that the entrepreneurial career decisions of Qatar University students depends on individual considerations, not on social norms or views. It is possible that young people are not influenced by the opinions of others, so they rely heavily on their own thoughts and beliefs when making entrepreneurial decisions.

Of the three personality characteristics included in our model that are indirectly related to DEI through attitude, only NA was proven to be positively and significantly related to attitude. Our study results did not show that RT propensity and LC are significantly correlated to Qatar University students' attitude towards starting a new digital business. That result was not the case in the study conducted by Karimi et al. (2017), who reported that these three personality characteristics are significantly and positively correlated to Iranian students' attitudes. Nevertheless, additional research is needed to



unravel the lack of correlations between these personality characteristics and students' attitudes about digital entrepreneurship. Our study's finding might be explained by the personal characteristics and contextual factors of the study sample.

As expected, and relative to what previous studies have reported, PBC was found to have a significant relationship with the contextual factors. Again, the study by Karimi et al. (2017) found a direct, positive, and significant relationship between PBC and perceived support; it also found a direct, negative, and significant relationship between PBC and perceived barriers. That finding is comparable to our study results. When conditions are unfavorable for creating a new business venture, an individual's intentions decrease. However, favorable conditions increase an individual's intentions to create a new business venture.

Interestingly, digital entrepreneurial knowledge was found to have positive direct relationship with all of the TPB variables. This result has further strengthened our confidence that digital entrepreneurial knowledge has a positive impact on the intentions to create a digital business. Digital entrepreneurial knowledge was found to have a positive relationship with PBC. These findings are equivalent to those reported by Roxas (2014) and Linan et al. (2013). Thus, digital entrepreneurial knowledge will boost an individual's self-confidence and enable him/her to create a new business and observe its creditability and success. This increases the attractiveness of digital entrepreneurship by inspiring students to engage in this behavior by strengthening their LC and PBC.

In contrast to earlier findings reported by Gerba (2012), which found significant differences in DEI between male and female students at a business college, we found no

differences between male and female students at Qatar University in terms of their intentions to start a digital business. This outcome is similar to that reported by Indarti and Karistiansen (2003) and Pruett et al. (2009), who found no significant differences between males and females in terms of the level of DEI.

Regarding the difference in the students' educational background, business students had a higher level of DEI than the other students in our study sample. Based on this finding, the null hypothesis was proved. Lastly, the study tested the differences between the nationalities of the students in the sample. The analysis did not show any significant difference between Qatari students and non-Qatari students. That finding might be due to the lower governmental restrictions on digital businesses and that fact that the nationality of the entrepreneur is not heavily considered. Further studies are recommended to reveal the specific factors that led to this result.

### Conclusion, Research Limits, and Future Research Directions

In conclusion, and as stated in the Introduction, this research study contributes to the Qatari digital entrepreneurship literature in different ways. It extends the literature by investigating Qatar University students' intentions to engage in digital entrepreneurship. Not all of the motivational factors were found to have a positive relationship with the students' DEI, which TPB proposes. Our study found that RT propensity and LC do not have an impact on ATE. Again, our study revealed that digital entrepreneurship knowledge has an uplifting, positive effect on the entrepreneurial intentions of Qatar University students, even though differences were found between business students and non-business students. Based on this information, Qatar University could enhance its lists of policies to

include those that will create a DEI mindset for Qatar University students and encourage them to engage to this type of entrepreneurial behavior. In addition, Qatar University could focus on the revealed motivational factors and address them in its activities and curriculums. Previous studies have found that focusing on physiological characteristics is an effective way to change behaviors and intentions. Therefore, educators and policymakers should consider motivational factors and educational initiatives to enhance the students' level of competencies and their knowledge about digital entrepreneurship. That can be achieved through the use of media, workshops, awareness seminars, and annual events, as well as by integrating knowledge about digital entrepreneurship into formal university courses.

This study has some limitations that could have an impact on future studies. The study results could be more accurate if the sample size was larger. In comparison to the total number of Qatar University students, the study sample (203 students) is very small. The study also targeted students in different colleges; future studies could compare two different groups of students, for example in the Business and Economics College and in the Engineering College (computer science). The results of the present study would be more generalizable if the study had been conducted at other universities in Qatar to gain a greater sense of other university level students in Qatar. The present study was limited by our statistical knowledge and the statistical software we used to create the structural model. This study adopted some of the different personality characteristics of digital entrepreneurs reported in previous studies as part of its research. However, studying all the possible specific characteristics of digital enterprises and digital entrepreneurs would enable a study

to make a strong contribution to digital entrepreneurship literature. It would be appreciated if the results of the present study could be defended by future studies on existing digital entrepreneurs in Qatar.

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## APPENDICES

### Appendix A: Copy of Study Questionnaire in Both Languages.

Intro:

I invite you to participate to the following research study which is part of my MBA graduation project at Qatar University where it looks into emphasizing the motivational factors for university students in Qatar to tend to digital entrepreneurship and trying to measure their intentions to such a type of entrepreneurship. The Following survey should not take more than 10 minutes of your time.

The information collected will be kept strictly confidential. Your participation is completely voluntary and you may withdraw from this study at any time.

If you have any questions you may contact me at 200760675@qu.edu.qa.

Thank you,

Heba Younis,  
MBA student, College of Business and Economics,  
Qatar University.

Part 1: This section is about general information about students (demographic Section):

Kindly provide the following information

Age:

- 18 to 24.
- 25 to 34.
- 35 or older.

Gender:

- Male.
- Female.

Education:

Degree:

- PHD.
- Masters.
- Bachelor.
- None.

Major:

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Part 2:

Kindly indicate your level of agreement with the following statements about entrepreneurial activities?

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not Applicable
1- I am enthusiastic to do any effort to practice Digital Entrepreneur. Y1						
2- I am in a suitable state to start my own digital business within 5 years. Y1						
3- My goal is to create my own digital business within 5 years. Y1						
4- I have made a firm decision to start a digital business in the near future within 5 years. Y1						
5- I believe being Digital entrepreneur suggests more advantage than disadvantage to me. X1						
6- A career as entrepreneur is attractive to me. X1						
7- My Family members would be proud when I became a digital entrepreneur. X2						
8- My Friends and other student would be proud when I became a digital entrepreneur. X2.						
9- In Qatar, Digital entrepreneurship considered to be beneficial. X2						
10- I believe It is going to be easy for me to start a digital business in Qatar. X3						
11- It is going to be easy for me to develop a						

digital business idea. X3						
12- I think I have the adequate knowledge about digital entrepreneurship. X4						

Kindly indicate your level of agreement with the following sentences describing your entrepreneurial thoughts?

13- I believe there are many different possible digital businesses in Qatar. X5						
14- I like to avoid hard work tasks in business. X6						
15- I think it is important to me to be performing better than others around me. X6						
16- I prefer to have a low security and high reward job than a high security and stable salary job. X7						
17- I believe risk on a job should be avoided on any cost. X7						
18- My own actions determine my life. X8						
19- I get what I want just because I am a lucky person. X8						

Indicate your level of agreement with the following sentences describing Qatari business environment?

20- Digital entrepreneurs have a positive image in the Qatari Society. X9						
21- There are qualified digital entrepreneurship centers that provide incubation services by expert consultants. X9						
22- Business rules and regulations in Qatar make it hard to run a digital business. X10						
23- Banks in Qatar don't easily give loans for digital business startup. X10						

Kindly answer with Yes or No to the following questions:

Question	Yes	No
24- Have you attended a digital entrepreneurship related course before? X11		
25- Do you have a digital business in Qatar, or have you been to a digital business course where you have simulated the startup? X12		



In Arabic language

أدعوكم للمشاركة في البحث التالي، وهو دراسة مسحية تهدف إلى كشف الأسباب المحفزة التي تشجع طلاب الجامعات في قطر للإقبال على ادارة المشاريع الرقمية، ومحاولة قياس مدى تطلعهم لمثل هذا النوع من المشاريع خاصة في قطر مستقبلا.

الدراسة المسحية التالية لن تستغرق أكثر من 10 دقائق من وقتك. علما بان المعلومات التي سيتم جمعها ستبقى سرية وسيتم استخدامها لأغراض البحث فقط.

مشاركتم في هذا الاستبيان اختيارية وفي حال وجود اي استفسار او تعليق يخص هذا الاستبيان او الدراسة يرجى التواصل معي عبر البريد الالكتروني: qu.edu.qa@200760675

شكرا على تعاونكم.

هبة يونس،  
طالبة ماجستير إدارة اعمال في كلية الإدارة والاقتصاد،  
جامعة قطر.

الجزء الأول: معلومات أساسية.

العمر:

- 18 الى 24.
- 25 الى 34.
- 35 عام أو أكبر.

الجنس:

- ذكر
- انثى.

المستوى التعليمي:

- دكتورا.
- ماجستير.
- بكالوريوس.
- لا يوجد.

التخصص: .....

الجزء الثاني:

يرجى تحديد الى أي مدى توافق أو لا توافق على كل من العبارات التالية:

العبارات	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة	غير لائق
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						انا متحمس للقيام بأي جهد مطلوب لإنشاء مشروع رقمي في قطر.
						انا في حالة مادية ومعنوية مناسبة لبدء أي من الاعمال الرقمية الخاصة بي في حدود الخمس سنوات القادمة.
						هدفي خلال الخمس سنوات القادمة أن أقوم بإنشاء مشروع رقمي.
						لقد قمت باتخاذ قراري بإنشاء مشروع رقمي في المستقبل.
						اعتقد ان اقامة الاعمال الرقمية يعود علي بالنفع في جميع جوانب الحياة.
						أجد ان وظيفة منظمي المشاريع الرقمية تناسبني.
						اعتقد ان عائلتي ستكون فخوة بي عندما انشئ مشروع رقمي.
						اعتقد ان أصدقائي سيفخرون بي عندما انشئ مشروع رقمي.
						اعتقد ان المجتمع القطري ينظر الى المشاريع الرقمية كمصدر نفع للدولة.
						شخصيا، اعتقد انه سيكون من السهل على ان ابدأ مشروع رقمي في قطر.
						سيكون من السهل على إيجاد وتطوير فكرة المشروع الرقمي.
						اعتقد ان لدي المعرفة الكافية والخبرة الملمة بإدارة المشاريع الرقمية في قطر.

يرجى تحديد الى أي مدى توافق أو لا توافق على كل من العبارات التالية

العبارات	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة	غير لائق
اعتقد ان هناك الكثير من المشاريع الرقمية المختلفة التي ممكن ان تقام بدولة قطر.						
أفضل ان تجنب أي من مهام العمل الجاد في إقامة الاعمال التجارية.						
من المهم بالنسبة لي ان اقوم بأداء أفضل من من حولي في مجال العمل الجماعي.						
أفضل بان أحظى بوظيفة عمل غير ثابتة ويدخل عالي المستوى من ان أحظى بوظيفة عمل ثابتة ويدخل محدود.						
اعتقد ان المخاطرة بمجال العمل هو شيء يجب تجنبه مهما كلف الأمر.						
انا أو من ان حياتي قائمة على الأفعال التي أقوم بها.						
انا احصل على كل ما اريد فقط لأنني شخص محظوظ.						

يرجى تحديد الى أي مدى توافق أو لا توافق على كل من العبارات التالية

العبارات	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة	غير لائق
ينظر المجتمع القطري الى إدارة المشاريع الرقمية بنظرة إيجابية.						
هناك العديد من المراكز وحاضنات الاعمال الرقمية في قطر التي تدعم المشاريع الرقمية بالعديد من الخدمات اللازمة.						
القواعد والانظمة التجارية في قطر تجعل من الصعب القيام بالمشاريع الرقمية.						
ليس من السهل الحصول على قرض من البنوك في قطر للبدء بالمشاريع الرقمية.						

يرجى الإجابة بنعم او لا على كل من العبارات التالية:

السؤال	نعم	لا
هل حصلت على شهادة حضور لأي ورشة معتمدة او ساعات دراسية، لكيفية إدارة المشاريع الرقمية.		
هل تملك أي مشروع رقمي او هل قمت بتجربة انشاء أي من المشاريع الرقمية حتى وان كانت من ضمن نشاطات لدورات معتمدة.		

**Appendix B: Copy of Raw Data of Study Results – Retrieved from SPSS.**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647 <sup>a</sup>	0.418	0.407	4.37269

a. Predictors: (Constant), DEK, SN, ATE, PBC

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.284	1.828		-3.437	0.001
	ATE	2.557	0.450	0.373	5.681	0.000
	SN	-0.120	0.449	-0.017	-0.266	0.790
	PBC	1.128	0.393	0.194	2.871	0.005
	DEK	1.888	0.480	0.264	3.933	0.000

a. Dependent Variable: DEI

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.206 <sup>a</sup>	.043	.028	5.79423

a. Predictors: (Constant), LC, RT, NA

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.020	2.817		2.492	.014
	NA	1.135	.534	.155	2.126	.035

RT	.804	.512	.109	1.568	.118
LC	.282	.539	.038	.523	.602

a. Dependent Variable: ATE

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.336 <sup>a</sup>	0.113	0.104	0.92202

a. Predictors: (Constant), PB, PS

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.379	0.334		7.115	0.000
	PS	0.396	0.081	0.337	4.862	0.000
	PB	-0.188	0.071	-0.183	-2.635	0.009

a. Dependent Variable: PBC

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.351 <sup>a</sup>	0.123	0.119	5.51812

a. Predictors: (Constant), DEK

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.138	1.682		3.648	0.000
	DEK	2.596	0.489	0.351	5.308	0.000

a. Dependent Variable: ATE

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.562 <sup>a</sup>	0.316	0.312	0.80770

a. Predictors: (Constant), DEK

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.926	0.246		3.760	0.000
	DEK	0.690	0.072	0.562	9.631	0.000

a. Dependent Variable: PBC

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.296 <sup>a</sup>	0.088	0.083	0.77058

a. Predictors: (Constant), DEK

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.803	0.235		11.931	0.000
	DEK	0.301	0.068	0.296	4.401	0.000

a. Dependent Variable: SN

### Group Statistics

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	50	13.1313	5.62869	0.79602

DEI Square	Female	153	12.7549	5.70786	0.46145
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### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
DEI Square	Equal variances assumed	0.002	0.963	0.406	201	0.685

### Group Statistics

CLG		N	Mean	Std. Deviation	Std. Error Mean
DEI Square	Non-Business	88	11.8168	5.58426	0.59528
	Business	115	13.6364	5.64427	0.52633

### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
DEI Square	Equal variances assumed	0.012	0.915	-2.287	201	0.023

### Group Statistics

Nationality		N	Mean	Std. Deviation	Std. Error Mean
DEI	Non-Qatari.	78	13.8317	5.53348	0.62654
Square	Qatari.	125	12.2335	5.70052	0.50987

### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
DEI	Equal variances assumed	0.924	0.338	1.965	201	0.051