
THE INTENTION OF APPLYING DIGITAL ENTREPRENEURSHIP (DE) AMONG UNDERGRADUATE TOURISM STUDENTS IN EGYPT

SHAYMAA ABDUL-WAHAB MOHAMED EL-SISI

FACULTY OF TOURISM AND HOTEL MANAGEMENT, HELWAN UNIVERSITY, EGYPT

ABSTRACT

Entrepreneurship is an economic tool that aims to enhance people's lives. Digital entrepreneurship is one of the latest theories that academic research tries to cover. This study examines the factors that influence undergraduate tourism students to apply digital entrepreneurship. Despite the presence of several studies that tackled different aspects of entrepreneurship in Egypt, there is limited research about applying digital entrepreneurship, especially among undergraduate tourism students. So, the current study tries to fill this gap. In this context, the research depended on the quantitative method in which the researcher distributed questionnaires to the third and fourth-year students enrolled in the Tourism Studies Department, Faculty of Tourism and Hotel Management, Helwan University. The valid questionnaires are 213 out of 250. The research used regression analysis to prove that DL, AE, PT, and ATDE affect the DEIs of undergraduate tourism students. In this regard, the study hypotheses are supported. It is worth mentioning that the field study points out the main barriers that hinder applying digital entrepreneurship among undergraduate tourism students. Finally, the study provided many recommendations and proposed a framework to enhance the application of digital entrepreneurship among undergraduate tourism students.

KEYWORDS: Digital Entrepreneurship; Entrepreneurial Intention; Tourism; Students.

INTRODUCTION

Entrepreneurship is a tool for economic prosperity and poverty alleviation (Chowdhury et al., 2019; Shepherd et al., 2021). Entrepreneurship provides opportunities, adds a new value, applies new methods in production processes, and enhances competitive advantages (Beliaeva et al., 2019). Upadhyay et al. (2021) mentioned that entrepreneurship is the engine that improves industry transformation. In

this context, digital technologies such as social media platforms and digital 3D painting systems (Nambisan, 2017) enable entrepreneurs to develop innovative enterprises (Giones and Brem, 2017; Abubakre et al.,2020). Digital technologies can play a variety of roles and take many forms, including products (Lyytinen et al., 2016), service platforms, infrastructure tools or systems and digital applications (Berger et al., 2021). Recently, research has paid attention to digital entrepreneurship as an emerging economic trend (Kraus et al., 2019; Sahut, et al., 2021). Lately, the world has focused its attention on applying digital entrepreneurship (Ngoasong, 2018). Digital entrepreneurship means adapting to new technologies or converting existing ventures by using new digital technologies (Franco et al., 2021). Namely, the main variance between traditional entrepreneurship and digital entrepreneurship is the method that entrepreneurs follow to market their products (Dutot and Van Horne,2015). Entrepreneurial intention is at the core of the entrepreneurship process (Al-Jubari et al., 2019).

Digital Entrepreneurship Intention (DEI) means that establishing a new business via using digital technologies/ internet facilities (Younis, 2018; Alkhalaileh, 2021a). Entrepreneurial intention is influenced by both internal and external variables, events and individuals (Dutot and Van Horne, 2015), such as personality traits and educational environment (Youssef et al., 2021; Alkhalaileh,2021b), as well as attitude towards entrepreneurship (Lai and To,2020). Although there is extensive research about entrepreneurship, there is little research about Digital Entrepreneurial Intention (DEI) (Alkhalaileh, 2021a; Younis, 2018; Nambisan et al., 2019). Most academic studies addressed entrepreneurship theory among students (e.g., Al-Jubari et al., 2021; Al-Jubari et al., 2019). In Egypt, studies about entrepreneurship were focused on traditional entrepreneurship, such as Soliman (2011), who revealed the factors affecting undergraduate tourism students' entrepreneurial intentions after graduation. In addition, Hattab (2014) examined the role of entrepreneurship education on entrepreneurial Intentions applied to British University in Egypt. Sharaf et al. (2018) examined the role of planned behavior theory on students' intentions towards entrepreneurship in Egypt. Subsequently, the present study contributes to determining the factors that influence DEIs of students, especially undergraduate tourism students. The results of this study are also very important for tourism faculties in Egypt, as the study helps tourism faculties to know what makes students involved in digital entrepreneurship and what tourism faculties should do to increase the number of digital entrepreneurs in the tourism field in the future. So, the research objectives are :

- 1- Spotlight on digital entrepreneurship.
- 2- Determine the factors affecting digital entrepreneurship intention.
- 3- Determine the factors influencing undergraduate tourism students to apply digital entrepreneurship.
- 4- Measure the obstacles that prevent undergraduate tourism students from applying digital entrepreneurship in Egypt.

LITERATURE REVIEW

DIGITAL ENTREPRENEURSHIP

Digital entrepreneurship can be defined as "*the practice of pursuing new venture opportunities presented by new media and internet technologies*" (Ngoasong, 2018:2). Digitalization refers to the usage of digital technologies such as cloud computing, artificial intelligence, mobile computing, and 3D printing to operate organizations (Gregori and Holzmann,2020). Digital entrepreneurship is a subcategory of entrepreneurship in which some or all of the operations in a traditional organization have been digitized, relying on information technology to create, market, distribute, transform, or provide the product (Hull et al. , 2007). There are three types of digital entrepreneurship as follows: mild, moderate, and extreme (Grzeslo, 2020). The first one is "mild digital entrepreneurship", where firms use digital technology as a complement to traditional entrepreneurship, this type is similar to "click and mortar" (Hafezieh et al.,2011). The second one is called "moderate digital entrepreneurship", where the company invests a significant amount of resources in applying digital technologies such as digital products, digital delivery or other components of its value chain (Dutot and Horne,2015). The third type is "extreme digital entrepreneurship", in which the company totally depends on digital technology from production to customers (Rosin et al., 2020).

Digital Entrepreneurship (DE) is a main economic pillar in different countries as it provides job opportunities (Ladeira et al., 2019). Furthermore, Zhao and Collier (2016) ; Dy et al.,(2017) demonstrated that DE enables firms to penetrate more markets and improve their positioning because digital technologies have a greater reach and lower costs because infrastructure is no longer required to store products and stakeholder involvement was developed. Applying digital entrepreneurship enables entrepreneurs to get accurate and quick feedback on their products, which contributes to upgrading their products later (Wardani et al, 2020; Soluk et al., 2021). Digital entrepreneurship doesn't need capital to start, in contrast to e-commerce, which needs adequate capital to run the business (Zamzami,2021). Kheirabadi and

Rafeian (2019) mentioned that Amazon.com, Google.com, and eBay.com have transformed into digital entrepreneur platforms in order to enhance their revenues and increase customer satisfaction (Hänninen et al., 2018). Accordingly, a digital entrepreneur is a person who performs key business activities, such as production, marketing, distribution, and stakeholder management, by depending on ICT (Papageorgiou et al., 2021).

DIGITAL ENTREPRENEURIAL INTENTION (DEI)

Entrepreneurial intention is generally defined as "*a self-acknowledged conviction by individuals that they intend to set up a new business venture and consciously plan to do so at some point in the future*" (Tomy and Pardede, 2020:1425). In this context, entrepreneurial intention is the main motivation to apply entrepreneurship (Mueller, 2011; Al-Jubari et al., 2019). Digital entrepreneurship intention is a person's ambition to find knowledge and establish business goals on the internet by putting forth several efforts (Mugiono et al., 2020). Although using digital technology has become an essential element in the entrepreneurship process (Rippa and Secundo, 2019), there are a few studies that clearly investigate the factors that influence digital entrepreneurship intention. In this regard, some of these studies include the study of Ramadani et al. (2021), who revealed the factors that influence digital entrepreneurial intention applied to Kosovo companies. Another study is by Younis (2018), who studied in depth the factors that affect digital entrepreneurs as applied to university students in Qatar. Furthermore, Lai and to (2020) examined e-entrepreneurial intentions among young Chinese adults.

Digital technologies have an effective role in students' entrepreneurship intentions (Alkhalaleh, 2021b), information and communication technologies give a chance for students to develop their skills to be entrepreneurs (Sousa et al., 2019). In general, there are internal and external factors that affect entrepreneurial intention (Ahmed et al., 2020; Gulzar and Fayaz, 2021). These factors include attitude towards entrepreneurship and the propensity to take risks (Ohanu and Ogbuanya, 2018). Some researchers consider digital literacy and entrepreneurship education to be some of the factors that could influence students to start their digital businesses (Permatasari and Anggadwita, 2019; Suparno et al., 2020). Digital literacy is a prerequisite to being a digital entrepreneur (Bayrakdaroğlu and Bayrakdaroğlu, 2017). University education is primarily responsible for developing students' entrepreneurial skills all over the world (Hahn et al., 2017).

UNIVERSITY STUDENTS AND DIGITAL ENTREPRENEURSHIP

Nowadays, computers are the foremost learning tool for students (Lindqvist and Pettersson, 2019). In this regard, new generations of students have a high technological awareness where they get used to interacting daily with mobile devices, platforms, and social networks (Hernandez-de-Menendez and Morales-Menendez, 2019; Arango-Morales et al., 2019). Academics describe the new generation of students as the Net Generation or Digital Generation (Mishra et al., 2017). University students have a high readiness to work in digitalized jobs (Primahendra et al., 2021). In this line, Scutto and Morellato (2013) confirmed that student entrepreneurs are characterized by a desire to get high benefits from digital media and technology; they use, for example, electronic social networks as a knowledge-sharing tool. Gialamas et al. (2013) pointed out that university students consider the internet very essential for their future careers.

DIGITAL LITERACY (DL)

Digital literacy constitutes a set of skills and abilities that a person or social group uses when interacting with digital technologies (Kozanoglu and Abedin, 2021). Digital literacy includes computer and internet literacy (Islami, 2019). Digital literacy can be defined as "the ability to find, evaluate, utilize, share, and create content using information technologies and the Internet" (Walton, 2016:1). Computer literacy means the ability and understanding of how to use computer programs (Tsai et al., 2019), while Berman (2021) explained that computer literacy should include knowledge of basic software and effective performance of tasks related to computers without help. Internet literacy includes three dimensions "access-understanding-creation" (AK, 2020). Internet literacy can be defined as "the ability to access, analyze, evaluate, and create online content, which can be measured based on the specific skill sets required of the individual to navigate and interact effectively on the Internet (e.g., ability to download a file or access a video on the internet" (Vijayalakshmi et al., 2020 :4).

In Egypt, Internet users have had a continuous increase over the years from 2013 to 2019 to reach approximately 51 million users, where 73.81% of them are university students, and 44.3% of their Internet activities are for educational purposes (El-Sayad et al., 2021). The number of internet mobile users was 52.40 in 2019 (MCIT, 2020). Moreover, Badr and Elmaghraby (2021) mentioned that Egyptian students tend to use IT tools as a learning method to increase their skills and knowledge. Finally, Mugiono et al. (2020) confirmed that there is a

strong relationship between digital literacy and entrepreneurship. Based on this, the following assumption was proposed:

H1: DL affects DEI positively.

ACADEMIC ENVIRONMENT (AE)

University education is one of the main pillars responsible for developing entrepreneurial skills among students (Bae et al., 2014; Li and WU, 2019). Concerning digital entrepreneurship, higher education is responsible for developing digital entrepreneurship competencies among students (Kurmanov et al., 2020). Due to the importance of digital technologies in business and management (Lombardi, 2019), some universities have paid attention to applying digital entrepreneurship education, such as Georgia Tech University, applying Massive Open Online Courses (MOOCs) to their engineering undergraduate students (Secundo et al., 2020). In this context, entrepreneurship encourages students to be up-to-date and very interactive in business life (Papageorgiou et al., 2021). So, it is necessary to apply digital tools, such as MOOCs, 3D printing, social media, big data analytics, and cloud platforms in universities to reinforce digital entrepreneurship among students (Rippa and Secundo, 2019; Guerrero et al., 2021; Castillo-Abdul et al., 2021). In short, education is one of the most important factors that influences digital entrepreneurship among students (Frolova et al., 2019) as it solidifies new skills and digital knowledge among students in universities (Secundo et al., 2021). In addition, education increases the entrepreneurial competence of students (Birtchnell et al., 2017). According to the previous literature, the following hypothesis was assumed:

H2: AE affects DEI positively.

PERSONALITY TRAITS (PT)

A personality trait is "a characteristic pattern of thinking, feeling, or behaving that tends to be consistent over time and across relevant situations" (Soto, 2019:711). According to Karami et al. (2017) and Youssef et al. (2021), entrepreneurial personality traits are one of the most effective factors affecting the intention of applying digital entrepreneurship among students. Digital entrepreneurs have a greater readiness to take risks than traditional entrepreneurs (Bandera and Passerini, 2020). Also, digital entrepreneurs are characterized by hard work and innovativeness (Suparno et al., 2020). Zaheer et al. (2019) illustrated that digital entrepreneurs' experience, and motivation, incorporated with personal skills, are considered very essential factors for

successful digital entrepreneurship. Thus, the study assumed the following hypothesis:

H3: PT affects DEI positively.

ATTITUDES TOWARDS APPLYING DIGITAL ENTREPRENEURSHIP (ATDE)

The term "entrepreneurial attitude" is defined "as an individual response of information, events, and critics toward the existing opportunities" (Wardana et al., 2020:1). Attitude towards entrepreneurship is considered the highest motive (50%) that encourages people to apply entrepreneurship (Zabelina et al., 2019; Alzamel, 2021). Attitude is an essential factor beyond entrepreneurial intention because it is the determinant factor that shapes entrepreneurial behavior (Mahfud et al., 2020). The need for achievement, personal behavior control, innovation, and self-esteem are the four dimensions of entrepreneurial attitude (Jena, 2020). Regarding digital entrepreneurs, Younis (2018) illustrated that entrepreneurs mainly seek to apply digital entrepreneurship to achieve their self-esteem. In this line, there are some studies that confirm that Attitudes Towards Digital Entrepreneurship(ATDE) highly affect digital entrepreneurship intentions, such as Alzamel et al. (2020), who revealed that attitudes towards e-entrepreneurship affect digital entrepreneurship intentions as a part of a study applied to female students in Saudi Arabia. Accordingly, the following hypothesis was proposed:

H4: ATDE affects DEI positively.

METHODOLOGY

RESEARCH SAMPLE

The research relied on the purposive sampling technique to identify the target sample, which aims to identify and select individuals or groups who are proficient and well-informed about the research interest point (Etikan et al., 2016). The research sample consists of the students who are enrolled in the third and fourth academic years in the Faculty of Tourism and Hotel Management at Helwan University. The target sample is the students who are enrolled in the Tourism Studies Department. The researcher chose this sample because these students have good knowledge of the work environment and digital business.

RESEARCH INSTRUMENT AND CONSTRUCT MEASURES

The questionnaire consists of seven sections. The first section represents the profile of the sample, which was adapted from Youssef et al. (2021). The second section includes seven statements that measure the digital literacy of the students according to the scale of Infante-Moro et

al.(2019). The third section consists of seven statements reflecting the academic environment of the students (Lubis, 2019). The fourth section includes five statements that measure digital entrepreneurship intentions. The fifth section comprises five statements reflecting the personality traits of students. The six-section refers to the students' attitude towards digital entrepreneurship. Both the fourth, fifth, and sixth sections are adapted from Lai and To (2020). The seventh section tries to reveal the obstacles facing the application of digital entrepreneurship in Egypt in accordance with Simić (2020), who tries to give details about the challenges facing digital entrepreneurship in tourism.

The researcher relied on the pilot questionnaire method to test the validity of the questionnaire statements (Bowden et al., 2002). The questionnaire was administered face-to-face. Consequently, there are some amendments to the questionnaire according to the opinion of the students, where the researcher distributed 70 pilot questionnaires. It is worth mentioning that the concept of digital entrepreneurship is not widespread, especially among tourism students, so the research target sample was not large enough. Thus, the researcher relied on distributing the questionnaires to students who have sufficient awareness of digital entrepreneurship. In this regard, 250 questionnaires were distributed, 250 questionnaires were returned, and the valid questionnaires were 213. Consequently, the response rate is 92.6%. The distribution process took around three months, from October to December 2021. The questionnaire employed a Likert scale, which consists of five degrees: 1=strongly disagree; 2 =disagree; 3 =neutral; 4 =agree; and 5=strongly agree. The research used the Statistical Package for the Social Sciences (SPSS) version 22 to analyze the different responses of the sample.

DATA VALIDITY AND RELIABILITY

This part measures the reliability of the questionnaires by using Cronbach's alpha measure.

Table (1) Cronbach's Alpha of the Factors Affecting Digital Entrepreneurship Intention Among Tourism Students

| Variables | No. of Items | Cronbach's Alpha | Validity Coefficient |
|--|---------------------|-------------------------|-----------------------------|
| Digital Literacy | 7 | .728 | 0.853 |
| Academic Environment | 7 | .841 | 0.917 |
| Personality Traits | 5 | .679 | 0.824 |
| Attitudes Towards Digital Entrepreneurship | 4 | .832 | 0.912 |

| | | | |
|---|---|------|-------|
| Digital Entrepreneurship Intention | 5 | .793 | 0.890 |
| Obstacles Facing Digital Entrepreneurship | 5 | .692 | 0.831 |

Table 1 shows the reliability and validity of the questionnaire by using Cronbach's Alpha measure, which is considered the most common measure of the internal consistency of questionnaires (Heale and Twycross, 2015). There is no unified minimum value for reliability (Bonet and Wright, 2015). It is noticeable from table 1 that Cronbach's Alpha value ranges between 0.679 and 0.841, which means that the internal reliability of variables is acceptable and sufficient according to Taber (2018), who mentioned that Cronbach's Alpha value is acceptable and sufficient between "0.45 to 0.98" and the value is considered high between " 0.73 to 0.95". In terms of validity, it was determined that the lowest value is 0.831.

RESULTS AND DISCUSSION

The following table illustrates the sample profile of the students, which includes information about their age, gender, and academic year.

Table (2) The Profile of the Sample

| Attributes | Frequency | Percent |
|----------------------|-----------|---------|
| Age | | |
| 18-21 | 135 | 63.4 |
| 22-25 | 77 | 36.2 |
| 26-30 | 1 | .5 |
| Gender | | |
| Male | 64 | 30.0 |
| Female | 149 | 70.0 |
| Academic Year | | |
| Third year | 85 | 39.9 |
| Fourth year | 128 | 60.1 |

It is concluded from Table 2 that the most majority of students are between 18-21 and most of them are female.

The following part shows the means and standard deviations for the constructs of the questionnaire, which represent digital literacy, academic environment, digital entrepreneurship intention, personality traits, attitudes towards digital entrepreneurship, and obstacles facing applying digital entrepreneurship.

Table (3) Digital Literacy

| Variables | Mean | Standard deviation | Rank |
|--|-------------|---------------------------|-------------|
| I have enough knowledge to use internet tools | 4.33 | .744 | 3 |
| I have a rapid responses to any changes on the digital platforms | 3.54 | 1.007 | 6 |
| I use the internet to facilitate my work life | 4.21 | .929 | 4 |
| I can establish a web page by using computer programs | 2.84 | 1.204 | 7 |
| I use the internet to increase my knowledge | 4.57 | .687 | 1 |
| The internet is the most important source of useful information | 4.46 | .773 | 2 |
| I have knowledge of digital marketing | 3.92 | 1.039 | 5 |
| Total of mean and standard deviation | 3.98 | .571 | |

Table 3 shows that students have good digital literacy where the total mean is "3.98". The highest rank is for " I use the internet to increase my knowledge" (mean= 4.57 standard deviation =.687). The internet is the most important source of useful information (mean =4.46, standard deviation=.773). Moreover, students have good knowledge about how to use internet tools with a mean of 4.33. In addition, students are able to use the internet to facilitate their work life with a mean of 4.21 and a standard deviation of .929. Unfortunately, few students are able to establish a web page as a working digital tool with a mean of 2.84.

Table (4) Academic Environment

| Variables | Mean | Standard deviation | Rank |
|---|-------------|---------------------------|-------------|
| Curriculum copes with market needs | 3.13 | 1.112 | 4 |
| Assignments depend on using IT | 3.33 | .984 | 2 |
| The curriculum includes technological skills | 3.31 | 1.073 | 3 |
| The curriculum provides a real-life simulation for digital entrepreneurship | 2.79 | 1.049 | 6 |
| My academic curriculum prepares me to be a professional in digital tourism entrepreneurship | 2.98 | 1.157 | 5 |
| Providing workshops on the use of technology in tourism | 3.33 | 1.238 | 2 |

| | | | |
|---|-------------|-------------|---|
| Assignments motivate me to get innovative ideas for my future project | 3.50 | 1.084 | 1 |
| Total of mean and standard deviation | 3.19 | .788 | |

Table 4 points out the role of the academic environment in encouraging students towards applying digital entrepreneurship. It seems that the faculty started to prepare students to be digital entrepreneurs with a total mean (3.19). The table shows that assignments motivate students to create ideas for their future careers with a mean of 3.50 and a standard deviation of 1.084. Most of the students confirmed that the curriculum provides workshops about applying IT in tourism (mean=3.33, standard deviation =1.238). In addition, the curriculum enhances technological skills (mean= 3.31, standard deviation=1.073). The faculty's curriculum is not preparing students enough for digital entrepreneurship (mean = 2.79, standard deviation= 1.049).

Table (5) Personality Traits

| Variables | Mean | Standard deviation | Rank |
|---|-------------|---------------------------|-------------|
| Being entrepreneurial is an advantage | 3.57 | .875 | 5 |
| Being a businessman or woman is a very attractive job | 4.15 | .861 | 2 |
| If I have the chance, I will apply IT to my project | 4.14 | .900 | 3 |
| I want to be an entrepreneur rather than have any job | 3.78 | .892 | 4 |
| I can take responsibility for my decisions | 4.16 | .854 | 1 |
| Total of mean and standard deviation | 3.95 | .579 | |

Table 5 shows that personality traits can prepare students to start their digital careers in the future, with a total mean (3.95). It shows that the majority of students are responsible for their decisions with a mean of 4.16 and a standard deviation of .854. Furthermore, most students prefer to be businessman/woman (mean=4.15, standard deviation=.861). In addition, students are highly prepared to use information technology in their future careers (mean=4.14, standard deviation=.900).

Table (6) Attitudes towards Applying Digital Entrepreneurship

| Variables | Mean | Standard deviation | Rank |
|--|-------------|---------------------------|-------------|
| Digital Entrepreneurship is attractive to me as it's a challenge | 3.66 | .970 | 4 |

| | | | |
|---|-------------|-------------|---|
| Digital entrepreneurship is attractive as it's an achievement | 3.80 | .975 | 3 |
| For me, digital entrepreneurship is a form of personal autonomy | 3.91 | .932 | 2 |
| If I have a chance, I will establish my own business | 4.22 | .882 | 1 |
| Total of mean and standard deviation | 3.89 | .768 | |

Table 6 aims to measure the attitudes of students towards applying digital entrepreneurship. It seems that students have high attitudes towards applying digital entrepreneurship, with total mean (3.89). The responses confirmed that students have a tendency to apply digital entrepreneurship where the highest mean is for " if I have the chance, I will establish my own business" (mean=4.22, standard deviation= .882). Students believe that digital entrepreneurship can help them gain personal autonomy (mean=3.91, standard deviation=.932). Additionally, students are drawn to digital entrepreneurship because it is regarded as an achievement (mean = 3.80, standard deviation = .975).

Table (7) Digital Entrepreneurship Intention

| Variables | Mean | Standard deviation | Rank |
|---|-------------|---------------------------|-------------|
| I plan to establish my digital work | 3.24 | 1.054 | 2 |
| I insist on establishing my own work despite obstacles | 3.21 | 1.031 | 3 |
| I plan for digital projects in the next five years | 3.24 | 1.126 | 2 |
| I've already considered starting my own digital project. | 3.20 | 1.140 | 4 |
| I am ready to make any effort to establish my digital project | 3.42 | 1.676 | 1 |
| Total of mean and standard deviation | 3.26 | .909 | |

Table 7 measures the intention of applying digital entrepreneurship among students. The table confirmed that the majority of students intend to pursue digital entrepreneurship. In this regard, the total mean is (3.26), which indicates that a good proportion of respondents have a high readiness to apply digital entrepreneurship. It is clear from the table that the highest rank is for "I am ready to make any effort to establish my digital project" (mean=3.42, standard deviation=1.676),

followed by "I plan for digital projects in the next five years" (mean=3.24, standard deviation=1.126). Moreover, there are some students who have already applied digital projects with a mean of 3.20.

Table (8) Obstacles Facing Applying Digital Entrepreneurship among Students

| Variables | Mean | Standard deviation | Rank |
|---|-------------|--------------------|------|
| Lack of educational support to encourage digital entrepreneurship | 3.38 | 1.090 | 4 |
| Lack of knowledge to establish digital entrepreneurship | 3.38 | 1.043 | 4 |
| Lack of financial resources to establish digital enterprises | 3.72 | .933 | 2 |
| The high cost of training courses | 3.78 | .952 | 1 |
| A shortage of courses about digital entrepreneurship | 3.62 | 1.015 | 3 |
| Total of mean and standard deviation | 3.57 | .675 | |

It is concluded from Table 8 that the vast majority of students face different obstacles that prevent them from applying digital entrepreneurship, with a total mean (3.57). It seems that the vast majority of students are unable to afford the cost of training courses, with a mean of 3.78 and a standard deviation of .952. In addition, students are not able to establish their digital enterprise due to a lack of financial resources (mean=3.72, standard deviation =.933). Furthermore, digital entrepreneurship courses are insufficient (mean=3.62, standard deviation= 1.015).

REGRESSIONS

Table 9 shows how regression analysis was used to measure the change that DL, AE, PT, and ATDE can cause in DEI. It is clear that DL has a positive and statistically significant impact on DEI ($\beta= .425, P.< 0.05$), which is consistent with the findings of Primahendra et al. (2021), who investigated the high impact of digital literacy on digital entrepreneurship. AE affects positively DEI ($\beta=.256, P <0.05$), this finding is consistent with Lubis (2019), who demonstrated that the academic environment is a critical factor in applying DE. Personality traits (PT) have a positive and significant impact on Digital Entrepreneurship Intention (DEI) ($\beta=.582, P<0.05$). The finding is consistent with the hypotheses of Younis (2018) and Abdel Fattah et al. (2022), who hypothesized that personality traits influence digital entrepreneurship intention. ATDE (Attitudes Towards Digital

Entrepreneurship Intention) has a significant effect on DEI ($\beta = .794$, $P < 0.05$). this finding is compatible with the finding of Alzamel et al. (2020), who discovered that attitudes toward e-entrepreneurship influence digital entrepreneurship intentions.

Table (9) Testing Hypotheses via Regression Analysis

| Hypotheses | β | T-Value | P-Value | Decision |
|---------------------------------|---------|---------|---------|-----------|
| H1: DL affects DEI positively | .425 | 5.866 | .000 | Supported |
| H2: AE affects DEI positively | .256 | 4.764 | .000 | Supported |
| H3: PT affects DEI positively | .582 | 5.808 | .000 | Supported |
| H4: ATDE affects DEI positively | .794 | 9.159 | .000 | Supported |

CONCLUSION AND IMPLICATIONS

The theoretical part emphasized the role of Digital Entrepreneurship (DE) in upgrading the business environment. DE enables young start-up entrepreneurs to enhance their positioning in the markets. DE is a part of traditional entrepreneurship; the main difference between digital and traditional entrepreneurship is the use of digital tools, such as the internet. In order to apply digital entrepreneurship, it is necessary to have a clear intention. In this regard, both internal and external factors influence students' intentions to engage in digital entrepreneurship. These factors include digital literacy, academic environment, personality traits, and attitude towards applying digital entrepreneurship. Regarding obstacles facing applying digital entrepreneurship among students, the field study revealed that almost all students suffer from financial burdens, which are summarized by the lack of financial resources to establish their own digital business and the high training course costs. Furthermore, existing digital entrepreneurship courses are insufficient. The study proposed four hypotheses related to applying digital entrepreneurship. In this regard, the study assumed that each of digital literacy, academic environment, personality traits, and attitudes towards digital entrepreneurship affect digital entrepreneurship intention. In this context, the study used regression analysis to prove that DL, AE, PT, and ATDE can be the motivating factors beyond the decision to apply digital entrepreneurship among students.

RECOMMENDATIONS

- Due to the lack of research about digital entrepreneurship in Egypt, especially in the tourism field, research units in universities have to start providing research and blueprints to apply digital entrepreneurship successfully in Egypt.
- Universities should provide courses and programs about digital entrepreneurship in cooperation with the pioneers in this field, such as Uber and SWVL. In addition, universities have to make a protocol with incubators such as AUC Venture Lab to enhance the application of IT methods in entrepreneurship.
- The Ministry of Higher Education and Scientific Research must establish a protocol between faculties of information technology and communication and those specializing in business administration in order to solidify the concept of digital entrepreneurship in Egyptian higher education.
- Tourism faculties and institutes should seek to apply advanced MOOCs with affordable fees for students.
- Education is the primary pillar of digital entrepreneurship. So, the teaching staff has a big role in motivating university students to run digital businesses in their future careers. From this point, the majority of university teaching members need training courses about digital entrepreneurship dimensions, concepts, and applications. Regarding the tourism field, the Ministry of Communications and Information Technology should make a memorandum with the Ministry of Tourism and Antiquities to provide digital entrepreneurship courses for teaching staff in tourism faculties.
- The Ministry of Higher Education and Scientific Research should create a protocol between Egyptian tourism institutes and faculties to exchange academic experiences specializing in entrepreneurship and its updates. In addition, the Ministry has to make cooperation agreements between Egyptian universities and the prominent digital entrepreneurship universities outside Egypt, such as EU Business School, which is spread in many European countries, and Stanford University, which provides "The Innovation and Entrepreneurship Program".
- Finally, the study highly recommends a coordinated paradigm among Egyptian universities, the Ministry of Higher Education and Scientific Research, and prominent digital entrepreneurs as a vision that should be applied by decision-makers to enhance digital entrepreneurship among undergraduate tourism students.

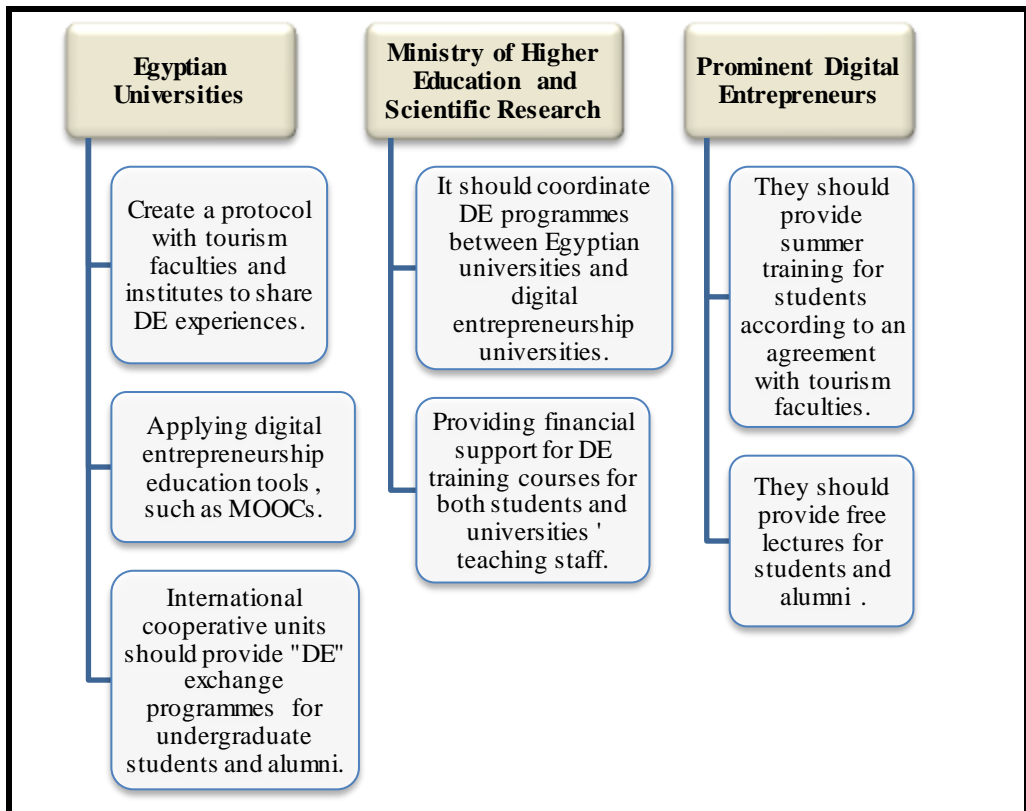


Figure (1) a proposed Relationship Paradigm among Egyptian Universities, Ministry of Higher Education and Scientific Research, and Prominent Digital Entrepreneurs. Source: The Author.

LIMITATIONS AND FURTHER RESEARCH

In the present research, there are two limitations. The first limitation is related to the literature review, where there are insufficient studies about digital entrepreneurship (DE) in the tourism industry. In addition, there is a lack of studies that illustrate the concept of digital entrepreneurship in Egypt. Regarding the obstacles section, there are no sufficient studies illustrating the obstacles that face university students when applying DE theory, especially for tourism students. Consequently, this led to a gap in the literature review of the current study. The second limitation is related to field study, where it was difficult to find an appropriate scale for tourism students as most of the research focused on small entrepreneurs who had already established their digital businesses. Also, the concept of digital entrepreneurship is not widespread among tourism students, which led to the sample size not being large enough. Thusly, the researcher can't distribute more than 250 questionnaires. Based on this, further research should be conducted on the application of digital entrepreneurship theory among tourism students. Furthermore,

researchers should pay attention to studying the obstacles facing the application of digital entrepreneurship in Egypt.

REFERENCES

- Abdel Fattah, f., Al Halbusi, H., & Al-Brwani, R. (2022). (In press) Influence of Self-Perceived Creativity and Social Media Use in Predicting E-Entrepreneurial Intention. *International Journal of Innovation Studies*.
- Abubakre, M., Zhou, Y., & Zhou, Z. (2020). The Impact of Information Technology Culture and Personal Innovativeness in Information Technology on Digital Entrepreneurship Success. *Information Technology & People*, 35(1),204-231.
- Ahmed, I., Islam, T., & Usman, A. (2020). Predicting Entrepreneurial Intentions Through Self-Efficacy, Family Support, and Regret: A Moderated Mediation Explanation. *Journal of Entrepreneurship in Emerging Economies*,13(1),26-38.
- Ak, N. Y. (2020). Development of Internet Literacy Self-Efficacy Scale for Pre-Service Teachers. *Turkish Journal of Education*, 9(2), 179-204.
- Al-Jubari, I., Hassan, A., & Liñán, F. (2019). Entrepreneurial Intention among University Students in Malaysia: Integrating Self-Determination Theory and the Theory of Planned Behavior. *International Entrepreneurship and Management Journal*, 15, 1323-1342.
- Al-Jubari, I., Mosbah, A., & Anor Salim, F. A. B. (2021). Motivational and Attitudinal Determinants of Entrepreneurial Intention: Hospitality and Tourism Students' Perspectives. *Journal of Hospitality & Tourism Education*, 1-11.
- Alkhalailah, M. (2021a). Systematic Review: Digital Entrepreneurship Intention. *Network Intelligence Studies*, 9(17),25-34.
- Alkhalailah, M. Y. (2021b). The Role of Universities In Promoting Digital Entrepreneurial Intention Among University Students In Jordan. *Network Intelligence Studies*, IX(18), 107-115.
- Alzamel, S. (2021). The Moderating Role of Resource Accessibility to the Theory of Planned Behaviour Components: A Study of E-Entrepreneurship Intention among Saudi Women. *Polish Journal of Management Studies*, 24(1), 30-44.
- Alzamel, S., Nazri, M., & Omar, S. (2020). Factors Influencing E-Entrepreneurial Intention among Female Students in Saudi Arabia. *International Journal of Criminology and Sociology*, 9, 1996-2003.

- Arango-Morales, A. J., Delgado-Cruz, A., & Tamayo-Salcedo, A. L. (2019). Digital Competence of Tourism Students: Explanatory Power of Professional Training. *European Journal of Investigation in Health, Psychology and Education*, 10(1), 310-326.
- Badr, H., & Elmaghraby, S. (2021). How Higher Education Faculty in Egypt Perceive the Effects of Covid-19 on Teaching Journalism and Mass Communication: Perspectives from the Global South. *Journalism & Mass Communication Educator*, 76(4), 394-411.
- Bae, T.J., Qian, S., Miao, C. and Fiet, J.O. (2014). The Relationship between Entrepreneurship Education and Entrepreneurial Intentions: A Meta-Analytic Review. *Entrepreneurship Theory and Practice*, 38(2), 217-254.
- Bandera, C., & Passerini, K. (2020). Personality Traits and the Digital Entrepreneur: Much of the Same Thing or a New Breed?. *Journal of the International Council for Small Business*, 1(2), 81-105.
- Bayrakdaroğlu, F., & Bayrakdaroğlu, A. (2017). A Comparative Analysis Regarding the Effects of Financial Literacy and Digital Literacy on Internet Entrepreneurship Intention. *Journal of Entrepreneurship and Development*, 12(2), 27-38.
- Beliaeva, T., Ferasso, M., Kraus, S., & Damke, E. J. (2019). Dynamics of Digital Entrepreneurship and the Innovation Ecosystem: A Multilevel Perspective. *International Journal of Entrepreneurial Behavior & Research*, 26(2), 266-284.
- Berger, E. S., Von Briel, F., Davidsson, P., & Kuckertz, A. (2021). Digital or not—The Future of Entrepreneurship and Innovation: Introduction to the Special Issue. *Journal of Business Research* 125, 436–442.
- Berman, D. C. (2021). *The Internet Computer Literacy Scale (Icls): Scale Modification and Validation with Older Adults* (Doctoral dissertation), Albizu University, Miami.
- Birtchnell, T., Böhme, T. and Gorkin, R. (2017). 3D Printing and the Third Mission: The University in the Materialization of Intellectual Capital. *Technological Forecasting and Social Change*, 123, 240- 249.
- Bonett, D., and Wright, T. (2015). Cronbach's Alpha Reliability: Interval Estimation, Hypothesis Testing, and Sample Size Planning. *Journal of Organizational Behavior*, 36(1), 3-15.
- Bowden, A., Fox-Rushby, J. A., Nyandieka, L., & Wanjau, J. (2002). Methods for Pre-testing and Piloting Survey Questions: Illustrations from the KENQOL Survey of Health-Related Quality of Life. *Health Policy and Planning*, 17(3), 322-330.

- Castillo-Abdul, B., González-Carrión, E. L., & Cabrero, J. D. (2021). Involvement Of MOOCs In The Teaching Learning Process. *Journal of Entrepreneurship Education*, 24(2), 1-10.
- Chowdhury, F., Audretsch, D. B., & Belitski, M. (2019). Institutions and Entrepreneurship Quality. *Entrepreneurship Theory and Practice*, 43(1), 51-81.
- Dutot, V., & Van Horne, C. (2015). Digital Entrepreneurship Intention in a Developed Vs. Emerging Country: An Exploratory Study in France and the UAE. *Transnational Corporations Review*, 7(1), 79-96.
- Dy, A. M., Marlow, S., & Martin, L. (2017). A Web of Opportunity or the Same Old Story? Women Digital Entrepreneurs and Intersectionality Theory. *Human Relations*, 70(3), 286-311.
- El-Sayad, G., Md Saad, N. H., & Thurasamy, R. (2021). How Higher Education Students in Egypt Perceived Online Learning Engagement and Satisfaction During the COVID-19 Pandemic. *Journal of Computers in Education*, 8(4), 527-550.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American journal of Theoretical and Applied Statistics*, 5(1), 1-4.
- Franco, M., Godinho, L., & Rodrigues, M. (2021). Exploring the Influence of Digital Entrepreneurship on SME Digitalization and Management. *Small Enterprise Research*, 28(3), 269-292.
- Frolova, Y., Zotov, V., Kurilova, A., Mukhin, K., & Tyutrin, N. (2019). Discussion on key Concepts in Modern Entrepreneurship Education. *Journal of Entrepreneurship Education*, 22(4), 1-9.
- Gialamas, V., Nikolopoulou, K., & Koutromanos, G. (2013). Student Teachers' Perceptions about the Impact of Internet Usage on Their Learning and Jobs. *Computers & Education*, 62 :1-7.
- Giones, F. & Brem, A. (2017). Digital Technology Entrepreneurship: A Definition and Research Agenda. *Technology Innovation Management Review*, 7(5), 44-51.
- Gregori, P., & Holzmann, P. (2020). Digital Sustainable Entrepreneurship: A Business Model Perspective on Embedding Digital Technologies for Social and Environmental Value Creation. *Journal of Cleaner Production*, 272, 1-9.
- Grzeslo, J. (2020). A Generation of Bricoleurs: Digital Entrepreneurship in Kenya. *World Journal of Entrepreneurship, Management and Sustainable Development*, 16(4), 403-412.
- Guerrero, M., Heaton, S., & Urbano, D. (2021). Building Universities' Intrapreneurial Capabilities in the Digital Era: The Role and Impacts of Massive Open Online Courses (MOOCs). *Technovation*, 99.

- Gulzar, F., & Fayaz, A. (2021). Youth Entrepreneurial Intentions: An Integrated Model of Individual and Contextual Factors. *International Journal of Organizational Analysis*.
- Hafezieh, N., Akhavan, P., & Eshraghian, F. (2011). Exploration of Process and Competitive Factors of Entrepreneurship in Digital Space: A Multiple Case Study in Iran. *Education, Business and Society: Contemporary Middle Eastern Issues*, 4(4), 267 - 279.
- Hahn, D., Minola, T., Van Gils, A. and Huybrechts, J. (2017). Entrepreneurial Education and Learning at Universities: Exploring Multilevel Contingencies. *Entrepreneurship and Regional Development*, 29 (9-10), 945-974.
- Hänninen, M., Smedlund, A., & Mitronen, L. (2018). Digitalization in Retailing: Multi-Sided Platforms as Drivers of Industry Transformation. *Baltic Journal of Management*, 13(2), 152-168.
- Hattab, H. W. (2014). Impact of Entrepreneurship Education on Entrepreneurial Intentions of University Students in Egypt. *The Journal of Entrepreneurship*, 23(1), 1-18.
- Heale, R., & Twycross, A. (2015). Validity and Reliability in Qualitative Studies. *Evidence -Based Nursing*, 18(3), 66-67.
- Hernandez-de-Menendez, M., & Morales-Menendez, R. (2019). Technological Innovations and Practices in Engineering Education: A Review. *International Journal on Interactive Design and Manufacturing*, 13(2), 713-728.
- Hull CE, Hung Y-TC, Hair, N. & Perotti, V. (2007) Taking Advantage of Digital Opportunities: A Typology of Digital Entrepreneurship. *International Journal of Networking and Virtual Organisations*, 4 (3), 290-303.
- Infante-Moro, A., Infante-Moro, J. C., & Gallardo-Pérez, J. (2019). The Importance of ICTs for Students As a Competence for Their Future Professional Performance: The Case of the Faculty of Business Studies and Tourism of the University of Huelva. *Journal of New Approaches in Educational Research*, 8(2), 201-213.
- Islami, N. (2019). The Effect of Digital Literacy Toward Entrepreneur Behaviors Through Students' Intention Entrepreneurship on Economics Education Study Program at Jember. *IOP Conference Series: Earth and Environmental Science*, 243, 1-9.
- Jena, R.K. (2020). Measuring the Impact of Business Management Student's Attitude Towards Entrepreneurship Education on Entrepreneurial Intention: A Case Study. *Computers in Human Behavior*, 107, 1-10.
- Karimi, S., Biemans, H.J.A., Mahdei, K.N., Lans, T., Chizari, M. and Mulder, M. (2017). Testing the Relationship between Personality

- Characteristics, Contextual Factors and Entrepreneurial Intentions in a Developing Country. *International Journal of Psychology*, 52 (3),227-240.
- Kheirabadi M and Rafeian J. (2019) A Review of E-Entrepreneurship In The Net Economy And Its Economic Impacts. *Journal of Humanities Insights*, 3(4),215–219.
- Kozanoglu, D. C., & Abedin, B. (2021). Understanding the Role of Employees in Digital Transformation: Conceptualization of Digital Literacy of Employees As A Multi-Dimensional Organizational Affordance. *Journal of Enterprise Information Management*, 34(6), 1649-1672.
- Kraus, S., Palmer, C., Kailer, N., Kallinger, F.L. & Spitzer, J. (2019). Digital Entrepreneurship: A Research Agenda on New Business Models for the Twenty-First Century. *International Journal of Entrepreneurial Behavior & Research*, 25(2), 353-375.
- Kurmanov, N., Aliyeva, Z., Kabdullina, G., & Mutaliyeva, L. (2020). Digital Entrepreneurship Competencies among Students: Methodological Aspects of the Maturity Level and Development Program Making. *Journal of Entrepreneurship Education*, 23(2), 1-11.
- Ladeira, M. J., Ferreira, F. A., Ferreira, J. J., Fang, W., Falcão, P. F., & Rosa, Á. A. (2019). Exploring the Determinants of Digital Entrepreneurship Using Fuzzy Cognitive Maps. *International Entrepreneurship and Management Journal*, 15, 1077-1101.
- Lai, L. S., & To, W. M. (2020). E-Entrepreneurial Intention among Young Chinese Adults. *Asian Journal of Technology Innovation*, 28(1), 119-137.
- Li, L., & Wu, D. (2019). Entrepreneurial Education and Students' Entrepreneurial Intention: Does Team Cooperation Matter?. *Journal of Global Entrepreneurship Research*, 9(35), 1-13.
- Lindqvist, M. H., & Pettersson, F. (2019). Digitalization and School Leadership: On the Complexity of Leading for Digitalization in School. *The International Journal of Information and Learning Technology*, 36(3), 218-230.
- Lombardi, R. (2019). Knowledge Transfer and Organizational Performance and Business Process: Past, Present and Future Researches. *Business Process Management Journal*, 25 (1), 2-9.
- Lubis, R. L. (2019). Digital Entrepreneurship In Academic Environment: Are We There Yet? . *Journal of Teaching and Education*, 9(1), 167-194.

- Lyytinen, K., Yoo, Y., & Boland, R. (2016). Digital Product Innovation Within Four Classes of Innovation Networks. *Information Systems Journal*, 26(1), 47–75.
- Mahfud, T., Triyono, M. B., Sudira, P., & Mulyani, Y. (2020). The Influence of Social Capital and Entrepreneurial Attitude Orientation on Entrepreneurial Intentions: The Mediating Role of Psychological Capital. *European Research on Management and Business Economics*, 26(1): 33-39.
- Ministry of Communications and Information Technology "MCIT" (2020). *ICT Indicator Bulletin: December 2020, Quarterly Issue*. Cairo, Egypt :MCIT.
- Mishra, K. E., Wilder, K., & Mishra, A. K. (2017). Digital Literacy in the Marketing Curriculum: Are Female College Students Prepared for Digital Jobs?. *Industry and Higher Education*, 31(3), 204-211.
- Mueller, S. (2011). Increasing Entrepreneurial Intention: Effective Entrepreneurship Course Characteristics. *International Journal of Entrepreneurship and Small Business*, 13 (1), 55-74.
- Mugiono, M., Prajanti, S. D. & Wahyono, W. (2020). The Effect of Digital Literacy and Entrepreneurship Education Towards Online Entrepreneurship Intention through Online Business Learning and Creativity at Marketing Department in Batang Regency. *Journal of Economic Education*, 10(1), 21-27.
- Nambisan, S. (2017). Digital entrepreneurship: Toward a Digital Technology Perspective of Entrepreneurship. *Entrepreneurship Theory and Practice*, 41(6), 1029-1055.
- Nambisan, S., Wright, M. and Feldman, M. (2019). The Digital Transformation of Innovation and Entrepreneurship: Progress, Challenges and Key Themes. *Research Policy*, 48(8), 1-9.
- Ngoasong, M. Z. (2018). Digital entrepreneurship in a Resource-Scarce Context: A Focus on Entrepreneurial Digital Competencies. *Journal of Small Business and Enterprise Development*, 25(3), 483-500.
- Ngoasong, M.Z. (2018). Digital entrepreneurship in a Resource-Scarce Context: A Focus on Entrepreneurial Digital Competencies. *Journal of Small Business and Enterprise Development*, 25 (3), 483-500.
- Ohanu, I. B., & Ogbuanya, T. C. (2018). Determinant Factors of Entrepreneurship Intentions of Electronic Technology Education Students in Nigerian Universities. *Journal of Global Entrepreneurship Research*, 8(1), 1-17.
- Papageorgiou, G., Mihai-Yiannaki, S., Ioannou, M., Varnava-Marouchou, D., & Marneros, S. (2021, February). Entrepreneurship Education in an Era of Digital Communications.

In Universities and Entrepreneurship: Meeting the Educational and Social Challenges. Emerald Publishing Limited.

- Permatasari, A., & Anggadwita, G. (2019). Digital Entrepreneurship Education in Emerging Countries: Opportunities and Challenges. in Pablos, P., Lytras, M., Zhang, X. & Chui, K. (Eds). *Opening up Education for Inclusivity Across Digital Economies and Societies* (pp. 156-169). USA, IGI Global.
- Primahendra, R., Purba, J., Ugut, G. & Budiono, S. (2021). Do Digital Literacy and Digital Entrepreneurship among University Students Contribute to Digital Economy?. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 4(3), 7387-7394.
- Ramadani, V., Jashari, F., Gërguri-Rashiti, S., & Palalić, R. (2021). Digital Entrepreneurship Intentions: Evidence from Kosovo. *International Journal of Technology Transfer and Commercialisation*, 18(4), 399-417.
- Rippa, P., & Secundo, G. (2019). Digital Academic Entrepreneurship: The Potential of Digital Technologies on Academic Entrepreneurship. *Technological Forecasting and Social Change*, 146: 900-911.
- Rosin, A. F., Proksch, D., Stubner, S., & Pinkwart, A. (2020). Digital New Ventures: Assessing the Benefits of Digitalization in Entrepreneurship. *Journal of Small Business Strategy*, 30(2):59-71.
- Sahut, J. M., Iandoli, L., & Teulon, F. (2021). The Age of Digital Entrepreneurship. *Small Business Economics*, 56(3), 1159-1169.
- Scuotto, V., & Morellato, M. (2013). Entrepreneurial knowledge and Digital Competence: Keys for a Success of Student Entrepreneurship. *Journal of the Knowledge Economy*, 4(3), 293-303.
- Secundo, G., Mele, G., Del Vecchio, P., Elia, G., Margherita, A., & NDOU, V. (2021). Threat or Opportunity? a Case Study of Digital-Enabled Redesign of Entrepreneurship Education in the COVID-19 Emergency. *Technological Forecasting and Social Change*, 166, 1-13.
- Secundo, G., Rippa, P., & Meoli, M. (2020). Digital Transformation in Entrepreneurship Education Centres: Preliminary Evidence from the Italian Contamination Labs Network. *International Journal of Entrepreneurial Behavior & Research*, 26(7), 1589-1605.
- Sharaf, A., El-Gharbawy, A., & Ragheb, M. A. (2018). Factors that Influence Entrepreneurial Intention within University Students in Egypt. *Open Access Library Journal*, 5(10), 1-14.

- Shepherd, D. A., Parida, V., & Wincent, J. (2021). Entrepreneurship and Poverty Alleviation: the Importance of Health and Children's Education for Slum Entrepreneurs. *Entrepreneurship Theory and Practice*, 45(2),350-385.
- Simić, I. (2020). Challenges and Opportunities for Digital Entrepreneurship in Tourism. Paper presented at: *Tourism International Scientific Conference Vrnjačka Banja-TISC*, 5-3 September 2020 , Vrnjačka Banja, Serbia.
- Soliman, D. M. (2011). Entrepreneurial Intention among Tourism Undergraduate Students in Egypt. *Tourism Analysis*, 16(4), 471-481.
- Soluk, J., Kammerlander, N., & Darwin, S. (2021). Digital Entrepreneurship in Developing Countries: The Role of Institutional Voids. *Technological Forecasting and Social Change*, 170,1-13.
- Soto, C. J. (2019). How Replicable Are Links between Personality Traits and Consequential Life Outcomes? The Life Outcomes of Personality Replication Project. *Psychological Science*, 30(5), 711-727.
- Sousa, M. J., Carmo, M., Gonçalves, A. C., Cruz, R., & Martins, J. M. (2019). Creating knowledge and Entrepreneurial Capacity for HE Students with Digital Education Methodologies: Differences in the Perceptions of Students and Entrepreneurs. *Journal of Business Research*, 94, 227-240.
- Suparno, S., Saptono, A., Wibowo, A., & Shandy, B. (2020). Factors Influencing Students' Intention to Establish a Digital Business (Start-Up). *International Journal of Innovation, Creativity and Change*, 12(8), 73-91.
- Suparno, S., Saptono, A., Wibowo, A., & Shandy, B. (2020). Factors Influencing Students' Intention to Establish a Digital Business (Start-Up). *International Journal of Innovation, Creativity and Change*, 12(8), 73-91.
- Taber,K.(2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, 48(6),1273-1296.
- Tomy, S., & Pardede, E. (2020). An Entrepreneurial Intention Model Focusing on Higher Education. *International Journal of Entrepreneurial Behavior & Research*, 26(7), 1423-1447.
- Tsai, M. J., Wang, C. Y., & Hsu, P. F. (2019). Developing the Computer Programming Self-Efficacy Scale for Computer Literacy Education. *Journal of Educational Computing Research*, 56(8), 1345-1360.

- Upadhyay, N., Upadhyay, S., & Dwivedi, Y. K. (2021). Theorizing Artificial Intelligence Acceptance and Digital Entrepreneurship Model. *International Journal of Entrepreneurial Behavior & Research*.
- Vijayalakshmi, A., Lin, M. H., & Laczniak, R. N. (2020). Evaluating Adolescents' Responses to Internet Ads: Role of Ad Skepticism, Internet Literacy, and Parental Mediation. *Journal of Advertising*, 49(3), 292-308.
- Walton, G. (2016). Digital literacy (DL): Establishing the Boundaries and Identifying the Partners. *New Review of Academic Librarianship*, 22(1), 1-14.
- Wardana, L. W., Narmaditya, B. S., Wibowo, A., Mahendra, A. M., Wibowo, N. A., Harwida, G., & Rohman, A. N. (2020). The Impact of Entrepreneurship Education and Students' Entrepreneurial Mindset: the Mediating Role of Attitude and Self-Efficacy. *Heliyon*, 6(9): 1-7.
- Wardani, D. K., Baedhowi, L. C. P., & Pratiwi, A. D. (2020). The Digital Economic Literacy of Entrepreneurs Managing Small and Medium Enterprises in the Era of Industrial Revolution 4.0. *International Journal of English Literature and Social Sciences*, 5(6), 1957-1962.
- Younis, H. A. (2018). Factors That Drive Qatar University Students to Digital Entrepreneurship in Qatar: Motivational Factors Identification (Master Thesis). Qatar University, College of Business and Economics, Qatar.
- Youssef, A., Boubaker, S., Dedaj, B., & Carabregu-Vokshi, M. (2021). Digitalization of the Economy and Entrepreneurship Intention. *Technological Forecasting and Social Change*, 164.
- Zabelina, E., Deyneka, O., & Tsiring, D. (2019). Entrepreneurial Attitudes in the Structure of Students' Economic Minds. *International Journal of Entrepreneurial Behavior & Research*, 25(8), 1621-1633.
- Zaheer, H., Breyer, Y., Dumay, J. and Enjeti, M. (2019). Straight from the Horse's Mouth: Founders' Perspectives on Achieving 'Traction' in Digital Start-Ups. *Computers in Human Behavior*, 95, 262-274.
- Zamzami, I. F. (2021). The key Enabling Criteria of E-Entrepreneurship Evolving Practices and Implementation in Saudi Arabia. *SN Business & Economics*, 1(9), 1-22.
- Zhao, F., & Collier, A. (2016). Digital Entrepreneurship: Research and Practice. Paper Presented at: *the 9th Annual Conference of the EuroMed Academy Business*, 14-16 September 2016, Warsaw, Poland.