TESIS DOCTORAL

ELECTRONIC ENTREPRENEURIAL INTENTIONS IN JORDAN: ENTREPRENEURIAL CULTURE, RISK PROPENSITY AND THE MODERATING ROLE OF GENDER

By

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Abstract

The field of e-entrepreneurship is emerging and flourishing as the number of e-entrepreneurs who start an online business is continuously growing. This dissertation aims to investigate some of the factors that affect the e-entrepreneurial intentions to start a new online business in Jordan as one of the developing countries representing the Middle East and Northern Africa (MENA). The research firstly performed a qualitative case study analysis on three entrepreneurial centres in Jordan. This analysis showed increased attention and support for entrepreneurship in general, and e-entrepreneurship in particular. In addition, several programs were identified that specifically aimed at promoting women e-entrepreneurship, since it is seen as a way of overcoming some of the cultural barriers to female entrepreneurial activity.

Next, this research explored the past literature on e-entrepreneurship which showed that the field is still emerging and experiencing a lack of theories and models. Many researchers were deriving theories from other areas, such as economics, psychology, etc. The rapid increase in e-entrepreneurship studies emphasises the need for a systematic classification that can support the development of theories and research. Furthermore, this research seeks to explore, classify and assess previous research works to build a solid base for future research. In doing so, the research runs a systematic literature review (SLR) to categorise the theories and models found from a total of 105 e-entrepreneurship publications from 2008 to September 2020. A citation analysis is also performed to identify 25 influential works in this field. The review findings contribute to the extant literature of e-entrepreneurship as it revealed some critical research gaps, and mainly the need to develop new theoretical frameworks that can combine and extend the classical models of innovation, entrepreneurship, and technology to tackle the e-entrepreneurship field of research specifically.

The present dissertation conducts a quantitative empirical analysis with a focus on the perceived entrepreneurial culture, risk propensity and the moderating role of gender. This builds a theoretical framework based on the

theory of planned behaviour (TPB) to investigate what influences the e-entrepreneurial intentions to start a new online business in Jordan. A total of 480 responses were retrieved from university students and nascent e-entrepreneurs. Using a structural equation modelling analysis, both perceived entrepreneurial culture and risk propensity were found to affect the e-entrepreneurial intentions to start a new online business in Jordan. According to gender, in turn, no differences were identified between men and women in their e-entrepreneurial intentions. The thesis findings extended Ajzen's TPB by analysing the role of perceived entrepreneurial culture and risk propensity to describe Jordanians' intentions toward e-entrepreneurial activities. Finally, implications and recommendations for future studies are offered. They will be useful to support the shaping of youth e-entrepreneurs and their creative goals, and support e-entrepreneurship in Jordan.

Resumen

El campo de emprendimiento electrónico (e-emprendimiento) está creciendo a medida que aumenta el número de e-emprendedores que inician empresas online. Esta tesis doctoral tiene como objetivo investigar algunos de los factores que afectan a dichas intenciones e-emprendedoras en Jordania como uno de los países en desarrollo que representa al Medio Oriente y África del Norte (MENA). En primer lugar, se realizaron estudios de casos cualitativos en tres centros de emprendimiento de Jordania. Este análisis mostró una mayor atención y apoyo al emprendimiento en general, y al e-emprendimiento en particular. De hecho, se identificaron varios programas que concretamente promovían el e-emprendimiento femenino, ya que se ve como una forma de superar algunas de las barreras culturales respecto a la actividad emprendedora femenina.

A continuación, esta investigación analizó la literatura publicada sobre e-emprendimiento. Este análisis identificó que el campo de investigación está en auge. Por el contrario, también experimenta una escasez de teorías y modelos. Numerosos investigadores han utilizado teorías provenientes de otras áreas, como por ejemplo, la economía, la psicología, etc. El rápido crecimiento de los estudios sobre e-emprendimiento pone de relieve la necesidad de clasificaciones sistemáticas que puedan apoyar el desarrollo de teorías e investigación. En este sentido, esta investigación busca explorar, clasificar y evaluar trabajos de investigación previos para construir una base sólida para futuras investigaciones. Para ello, la investigación lleva a cabo una revisión sistemática de la literatura (SLR) especializada para clasificar las teorías y modelos encontrados. Siendo estos un total de 105 publicaciones sobre e-emprendimiento desde 2008 hasta septiembre de 2020. También se realizó un análisis de citas para identificar 25 trabajos influyentes en este campo. Los resultados de la revisión contribuyen a la literatura existente sobre el emprendimiento electrónico, mostrando algunas lagunas importantes en las investigaciones, y principalmente, subrayando la necesidad de desarrollar nuevos marcos teóricos que puedan combinar y ampliar los modelos actuales de innovación, emprendimiento y tecnología para abordar específicamente la investigación en e-emprendimiento.

La presente tesis realiza un análisis empírico cuantitativo centrado en la percepción de la cultura emprendedora, la propensión al riesgo y el rol moderador del género. Se construye un marco teórico basado en la Teoría de la Acción Planificada (TAP) para evaluar qué influye en las intenciones e-emprendedoras de creación de nuevos negocios electrónicos. Un total de 480 respuestas se obtuvieron de estudiantes universitarios y e-emprendedores nacientes. Se emplearon técnicas de Modelos de Ecuaciones Estructurales. Como resultado, se encontró que la cultura emprendedora percibida y la propensión al riesgo afectan a las intenciones de e-emprendimiento en Jordania. Respecto al género, no se encontraron diferencias significativas entre mujeres y hombres. Los hallazgos de la tesis complementan los efectos de la TAP de Ajzen analizando el papel de la cultura emprendedora percibida y la propensión al riesgo. Finalmente, se ofrecen implicaciones y recomendaciones para futuros. Los cuales serán útiles para estimular a los jóvenes e-emprendedores y sus metas creativas, y apoyar el e-emprendimiento en Jordania.

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Chapter 1: Introduction

This chapter outlines an overview of the research; it begins with a brief introduction (section 1.1). Followed by the purpose of this study and its scope (section 1.2). Then, section 1.3 explains the research objectives and its main questions. Next, a short brief of the research framework as well as defining its hypotheses (section 1.4). Afterwards, section 1.51.6 describes the research methodology for data analysis and the limitation of the research (section 1.6). Finally, section 1.7 includes an outline of the remaining chapters of the thesis.

1.1 RESEARCH BACKGROUND

Entrepreneurship is a key tool in developing economies and an effective solution to troubled ones. It produces self-employment in addition to plenty of opportunities for those unemployed. The importance of entrepreneurship results from its capabilities to help developing economies, societies and individuals grow and flourish. Globalisation opened new techniques for entrepreneurs to deploy globally. The internet made it possible to trade globally within international customers. Hence, entrepreneurs have used it to develop their skill and abilities to reach new markets and regions. The Net Economy is a derived economy on the internet that explains how business works over the internet (Christofor 2008).

Nowadays, electronic entrepreneurship (e-entrepreneurship) is recognised as a business running by e-entrepreneurs electronically over the internet. In fact, the first and broader definition of e-entrepreneurship was proposed by (Kollmann 2006, p. 12), as he defined it "E-entrepreneurship refers to establishing a new company with an innovative business idea within the Net Economy, which, using an electronic platform in data networks, offers its products and/or services based upon a purely electronic creation of value. Essential is the fact that this value offer was only made possible through the development of information technology".

E-entrepreneurship has several features that encourage entrepreneurs to innovate electronically. It allows them to perform and manage their business operations remotely from anyplace. Easy access and spread to tens of thousands of consumers, and flexibility in time, are available through internet access to business platform. E-entrepreneurs focus on e-commerce platforms to create

digital products and services for online distributing and supporting. Although e-commerce deals with selling physical and digital products online, e-entrepreneurs need to focus on the digital products that are fully marketed, delivered and promoted online. Nonetheless, They also need to recognise all new emerging opportunities to provide them with an interactive platform to achieve success on the web (Islam and Alghobiri 2019).

Since the past decade, the Middle East and North Africa region (MENA) has witnessed a remarkable digital transformation in which citizens, governments and companies are now contributing online more than ever. Companies in the MENA region are enhancing their capabilities to explore and find available online resources to invest and achieve great success. This transformation made it more accessible for entrepreneurs in the MENA region to grow and expand their businesses across different geographical areas. The MENA region is witnessing impressive growth in the number of successful start-ups. It is also increasing the availability of financing to invest in those start-ups, both from a private sector such as investment companies and from a public investment such as governments (Kamel 2017).

The Hashemite Kingdom of Jordan is one of the Middle East countries with few natural resources such as phosphates, potash, and shale oil. Nevertheless, the mining sector does not play a significant role in its economy. It is a small country with a population estimated at ten million. Although the Jordanians represent only 3% of the Arab World population, they still demonstrate 27% of the Arab entrepreneurs in the area. Substantial improvement in the entrepreneurship ecosystem sector has taken place in Jordan over the past decade. According to The Global Entrepreneurship Index 2018, Jordan ranks now 49 out of 137 countries analysed. Furthermore, it shows that Jordan's score is equivalent to the average score for the Arab region of 37% (Acs et al. 2018).

Entrepreneurship grabbed the attention of government and policymakers in Jordan ever since. Throughout the past years, it has attained greater performance even while facing many issues such as the high rate of unemployment or the need to promote entrepreneurship and its essential effect on the economy to achieve growth and lower poverty rate (Omet et al. 2015). This

stresses the need for more studies on the strength of entrepreneurship and how entrepreneurial activities impact positively on it. Given this absence of information, policymakers have to explore potential entrepreneurial opportunities as it has a significant role improving and developing such efforts in Jordan.

Nowadays, many programs and projects are supporting and promoting entrepreneurship, together with e-entrepreneurship. The entrepreneurship ecosystem in Jordan developed rapidly over the past few years. Market investigation and research programs have been implemented to help rural entrepreneurs incubating and networking micro start-ups to reach maturity, and provide them with access to consultants and workspace to accelerate their business. Currently, the number of such companies is high and the ecosystem is flourishing. Jordanian start-ups are getting stronger in the market and getting more attention from customers within the global market (Al-Shamaileh, Yildirim Saatci, and Eyamba 2020).

The World Economic Forum has selected 100 start-ups in the Arab World that are shaping the transformation of the MENA region in the future within the context of the Fourth Industrial Revolution (4IR). Jordan took second place with a total of 21 out of those 100 start-ups (World Economic Forum 2019). The entrepreneurial ecosystem in Jordan looks promising and developing rapidly. The information and communication technology (ICT) development in all sectors is growing and getting more governmental attention. In particular, Jordanian entrepreneurs should look more into online start-ups toward getting more access to the Arab World.

This study contributes to investigating what affect the entrepreneurial intentions in Jordan toward electronic entrepreneurship. More precisely, it will examine the effect of entrepreneurial culture and risk perception on their e-entrepreneurial intentions. Furthermore, it also explores the differences according to gender.

1.2 PURPOSE AND SCOPE

Becoming an entrepreneur is a real challenge as creating a company is not easy (Cosenz and Noto 2017). Yet, it helps individuals to have a positive impact on their personal life and society by developing their skills and others. Entrepreneurial ventures are generating wealth and prosperity, furthermore, new products and services produced by e-entrepreneurs are creating new income to any country and contributing to its national economy (Acs, Szerb, and Lloyd 2017). Also, e-entrepreneurs can create social change by improving the quality of life. The technology has made it possible even for developing countries to reach international markets. With the massive availability of smartphones and mobile applications, many businesses start to deploy quickly across the globe (Alderete 2017).

The entrepreneurship ecosystem in Jordan is emerging and receiving more attention. The Jordanian entrepreneurs are capable to get more financing comparing to other countries in the Arab World (Schiff, Schmidt, and Troncoso 2015). Furthermore, the Jordanian government has supported entrepreneurship through many projects. It increased the awareness of technology and its benefits to the emergence of innovative ICT for e-entrepreneurs (Yousef, Andrea, and Dave 2008).

There are numerous studies that address the entrepreneurial intentions and what affect individuals' behaviour to start an entrepreneurial business (Liñán and Fayolle 2015). However, few studies have been done on the e-entrepreneurial intentions and what affect people's intentions to start an online business (Lai and To 2020; Wang et al. 2016). In Jordan, thousands of university students graduate every year with intentions to be employed. Being entrepreneurial and try to become self-employed is not usually the first option for Jordanians to achieve. This study sheds light on the entrepreneurship intentions in Jordan. Specifically, this study aims to explore the Jordanian entrepreneurial outlook and their intentions in starting a new online business. It will be examining the perceived entrepreneurial culture in Jordan and discover the differences according to gender if found. As one of the developing countries, the study will try to find a pattern and generalise the results on the Arab World.

1.3 OBJECTIVES AND RESEARCH QUESTIONS

This study contributes to the entrepreneurial intentions field of study. More specifically, it will help describe the entrepreneurship position in Jordan and the Arab World. The main objective is to understand how e-entrepreneurial intentions are formed in Jordan. The findings and conclusions from this dissertation may help develop a better image for entrepreneurship that could be reinforced in this country and, thus, help the growth of the local economy and reduce the unemployment rate.

The study has addressed four main questions that can summarise its objectives. Those questions are as follows:

Q1: Does perceived entrepreneurial culture influence the e-entrepreneurial intentions to start a new online business in Jordan?

Q2: Are there any differences between men and women in their e-entrepreneurial intentions to start a new online business in Jordan?

Q3. Are there any interactions between gender and perceived entrepreneurial culture affecting the formation of the e-entrepreneurial intentions to start a new online business in Jordan?

Q4: Does risk propensity influence the e-entrepreneurial intentions to start a new online business in Jordan?

The study expects that the answers to those questions can give a better understanding of the current entrepreneurship position in Jordan. Furthermore, it may enrich academic knowledge of the online business formation process.

1.4 THEORETICAL FRAMEWORK AND HYPOTHESES

The study emphasizes the entrepreneurial intentions in Jordan. The entrepreneurial intentions has been studied by many authors (Liñán and Fayolle 2015). Different variables have been investigated to explore what affects it. This study will focus on the perceived entrepreneurial culture, gender and risk propensity of Jordanians. To do so, the study will adopt the theory of Planned Behaviour (TPB) (Ajzen 1991), to investigate their intentions. Moreover, the

dissertation develops an extended conceptual framework of the TPB and validate it with results from a developing country. The study argues that external factors other than the TPB antecedents are important and indirectly impact people's e-intentions. Precisely, the study formulates the following hypotheses to be tested in the empirical analysis:

H1a: There is a positive relationship between personal attitude and e-entrepreneurial intentions to start a new online business in Jordan.

H1b: There is a positive relationship between subjective norms and e-entrepreneurial intentions to start a new online business in Jordan.

H1c: There is a positive relationship between perceived behavioural control and e-entrepreneurial intentions to start a new online business in Jordan.

H2a: There is a positive relationship between perceived entrepreneurial culture and personal attitude to start a new online business in Jordan.

H2b: There is a positive relationship between perceived entrepreneurial culture and subjective norms to start a new online business in Jordan.

H2c: There is a positive relationship between perceived entrepreneurial culture and perceived behavioural control to start a new online business in Jordan.

H3a: There are significant differences between men and women in the relationships between their perceived entrepreneurial culture and attitude to start a new online business in Jordan.

H3b: There are significant differences exist between men and women in the relationships between their perceived entrepreneurial culture and subjective norms to start a new online business in Jordan.

H3c: There are significant differences exist between men and women in the relationships between their perceived entrepreneurial culture and perceived behavioural control to start a new online business in Jordan.

H4: There is a positive relationship between risk propensity and perceived behavioural control to start a new online business in Jordan.

According to the previous hypotheses, the framework in Figure 1.1 is proposed by the author to represent the conceptual model for this study:

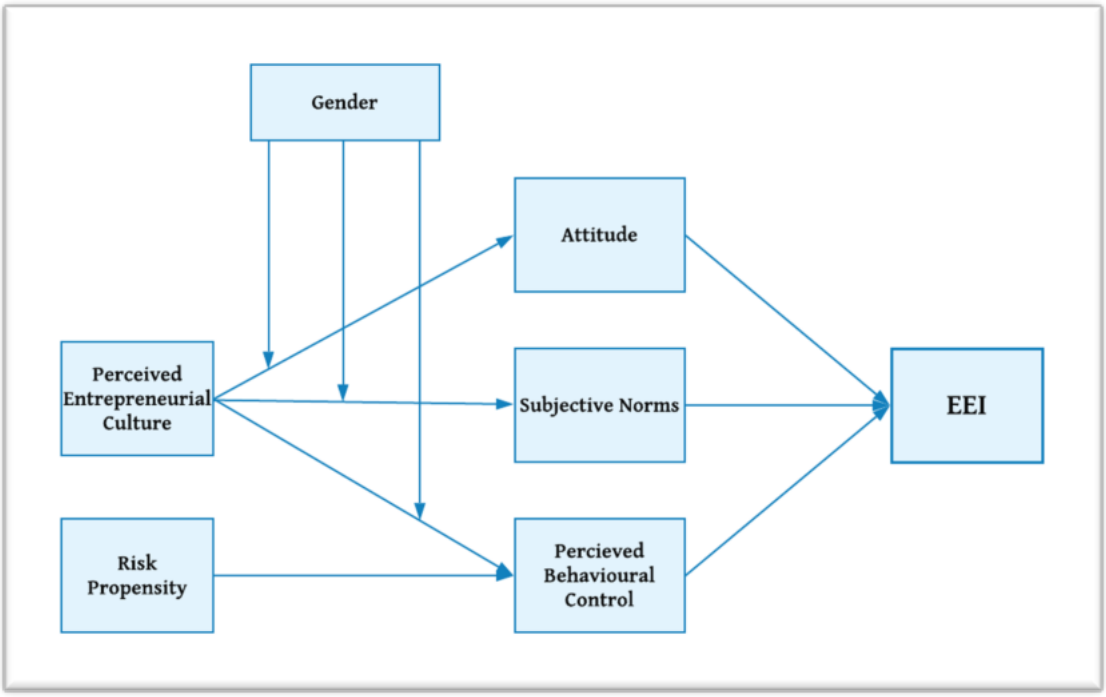

Figure 1.1: Conceptual model of the study

1.5 RESEARCH METHODOLOGY

The study is adopting different methodologies to discuss the e-entrepreneurial intentions in Jordan. As mentioned above, this study is focusing on the perceived entrepreneurial culture in Jordan. Moreover, how people's values and beliefs affect their intentions to engage in an online business. Additionally, the study wants to analyse the existence of gender differences among them. But before measuring and examining this intentions, the study has to go through the current literature and assess the knowledge in previous studies.

For this reason, the dissertation starts firstly by performing a qualitative study of three case studies to explore the current situation of entrepreneurship in Jordan. Next, it performs a systematic literature analysis of the current literature to contribute to the current theoretical literature of entrepreneurial

intentions. Later, the study will perform a quantitative analysis to study and analyse the Jordanians' e-entrepreneurial intentions empirically.

Data analysis for this study uses SPSS in order to show the descriptive analysis of the sample. In addition, the study performs a Structural Equation Modelling (SEM) to test its hypotheses using SmartPLS software and analyse the data.

1.6 RESEARCH LIMITATION

This thesis, as others, suffers from a number of limitations. First, the time frame for the systematic review is set between 2008 and September 2020. The purpose of this is to concentrate on recent studies in the field. Given the wide coverage of the selected databases for this research, the systematic review is limited to journal articles only that have been listed in one of the four selected databases. Regarding the empirical study, the survey distribution has been conducted electronically and through online social channels such as WhatsApp, Facebook, etc. It also benefitted from some students' help to spread the word-of-mouth among university students in different specialisations.

Nevertheless, the sample of the empirical study is examining the Jordanian culture; thus, this study is limited to the Jordanian society. All respondents from other nationalities were dropped off the sample. Finally, all precautions were taken to avoid any other limitation that could affect the results of this research. Therefore, the author trusts that the review performed in this dissertation gives a comprehensive illustration of recent research in the field of e-entrepreneurship. Additionally, the empirical analysis hopefully offers a realistic picture of the current e-entrepreneurship in Jordan.

1.7 THESIS OUTLINE

This dissertation is divided into seven chapters (Figure 1.2). The first chapter, *Introduction*, presents an overview of the thesis that includes the purpose, scope and objectives of this study, in addition to the research questions, hypotheses and research model. It gives a short summary of the adopted

methodology and the limitation of this study. In the second chapter, *Literature Review*, the electronic entrepreneurship will be presented and previous empirical studies will be examined. An overview of the e-entrepreneurship in Jordan is well-presented in the third chapter. The theoretical framework of this study and its hypotheses are developed in the fourth chapter, *Theoretical Framework*, and the primary model of the study is illustrated.

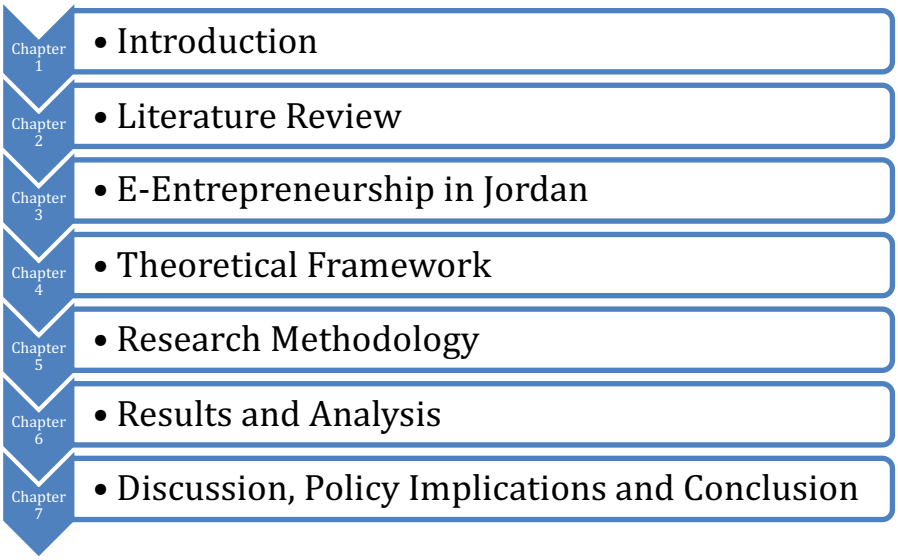

Figure 1.2: Thesis outline

Next, the methodology and descriptive statistics of this study are discussed in the fifth chapter, *Research Methodology*, in addition to the study survey and sample. The sixth chapter, *Results and Analysis*, is providing the study results according to hypotheses testing. The last chapter, *Discussion, policy implications and Conclusion*, provides a discussion of the study literature and its analysis, the conclusions and implications of this research are stated. Finally, this dissertation's publications are enclosed under the title *Published Articles* at the end of this dissertation.

Chapter 2: Literature Review

This chapter aims to review the current literature on e-entrepreneurship to identify relevant and essentials works. Consequently, it will consider the existing empirical literature of e-entrepreneurship that is based on a clear theory in order to address the research questions. Moreover, it will identify the most relevant theoretical bases of current research in this area.

2.1 SYSTEMATIC LITERATURE REVIEW

Since the beginning of the 21st century, e-entrepreneurship has grabbed the attention of many scholars and practitioners. It describes the use of electronic platforms by entrepreneurs to create a new innovative online business in the Net Economy (Kollmann 2006). As the benefits of online business activities grow in the virtual economy, for both companies and their customers (Badzinska and Brzozowska-Woś 2017), many organisations have moved to the Net Economy to successfully perform online in the virtual marketplace (Sigfusson and Chetty 2013). Additionally, the number of virtual entrepreneurial firms has been rising, all while deriving new online business models that have become very important for doing business on the Internet (Kollmann and Hasel 2008). The growth of the online mobile community persuades e-entrepreneurs to invest in e-enterprises utilising mobile communications and social software technologies (Ratten 2013). E-entrepreneurship has evolved into an essential tool for entrepreneurs in troubled economies (Truong and Bhuiyan 2011), in addition to growing and reaching the international market (Etemad, Wilkinson, and Dana 2010).

The Net Economy or virtual economy has illustrated the development progress of the business environment in cyberspace (Badzinska and Brzozowska-Woś 2017). The success of electronic commerce (e-commerce) has generated new digital platforms and technologies that developed the Net Economy (Bai 2015). Technological opportunities have been transformed into reality in most organisational processes through e-entrepreneurship (Shkurkin et al. 2015). Also, the contributions of digital communication networks and e-commerce have improved the technological platforms that help many firms who run online business operations (Qasim, Bany Mohammed, and Liñán 2018). Ever since, entrepreneurial strategies have shown the emergence of e-commerce

entrepreneurial firms, practices and entrepreneurial roles that have created new business models to support the prediction of success factors for e-commerce firms (Gundry and Kickul 2004). This inspired several governmental and private organisations to invest in e-entrepreneurs and digital incubators (Facet 2011). Furthermore, research works promoted e-entrepreneurship instead of traditional entrepreneurship and recommended investing in e-entrepreneurs (Matlay and Martin 2009).

Several studies have been carried out on e-entrepreneurship since Matlay (2004) proposed a research agenda on e-entrepreneurship. The last few years have seen several articles that tackle e-entrepreneurship to help organisations and entrepreneurs to plan and implement successful start-ups online. Various studies have been conducted in different areas to cover diverse topics, such as entrepreneurs' intentions of starting an e-entrepreneurial business (Wang et al. 2016; Chang et al. 2020; Lai and To 2020), e-commerce entrepreneurial firm and its advantages (Abebe 2014; Anwar 2017; S.-H. Chang et al. 2018; Deng and Wang 2016), or the success factors of e-commerce ventures (Guo et al. 2017; Imran Khan et al. 2016; Wongkhamdi, Cooharojananone and Khlaisang 2020). Some researchers referred to e-entrepreneurship as cyber entrepreneurship, and use cyber traders or cyber entrepreneurs to term those who start their business online on the Internet (Serarols and Urbano 2008; Carrier, Raymond, and Eltaief 2004; Wang et al. 2016). In this sense, this research will use the term "e-entrepreneurship" in this thesis to refer to all businesses operating online as their primary strategy, as this is the most common term among other similar synonyms such as e-commerce entrepreneurship or cyber entrepreneurship (Kollmann 2006; Quinones, Nicholson, and Heeks 2015; Al Omoush, Al-Qirem, and Al Hawatmah 2018).

The significant literature on e-entrepreneurship was reviewed and showed that the research area is still in an emerging stage (Carrier, Raymond, and Eltaief 2004). Moreover, venture creation by e-entrepreneurs remains an emerging field (Serarols 2008). Furthermore, the main contributions use theories derived from other fields, such as entrepreneurship, economics, etc. The field of e-entrepreneurship continues emerging, and there is a notable lack of theories and

models. However, many studies are found in the field, and this number is rapidly increasing. Hence, this might result in a lack of categorisation and systematisation. Therefore, there is a need to assess the quality of previous studies to build a solid base for future work and prevent possible confusion in the field (Fayolle and Liñán 2014).

The main objective of this research is to summarise the knowledge base and to identify future research lines. That is, it aims at providing a transparent illustration of recent empirical contributions in the area of e-entrepreneurship that are based on a clear theory. Accordingly, the research performs a systematic literature review (SLR) to categorise and systemise the current results obtained from the e-entrepreneurship literature. Moreover, it will identify what theories are being used as the base in e-entrepreneurship. In order to accomplish its objectives, this research uses a citation analysis method to identify the previous primary literature used by authors in the field. This classification of main references will serve as a guide to categorise the contributions analysed in this review. It will help us identify the existing gaps in the e-entrepreneurship field and point out some critical elements of a future research agenda.

2.2 SLR METHODOLOGY

The research performs an SLR to ensure that the review is clear and transparent. This SLR has been implemented based on previous methodological and entrepreneurship literature recommendations to ensure it is systematic and replicable (Lourenço and Jones 2006; Tranfield, Denyer, and Smart 2003). Consequently, this research replicates the approach followed in similar previous studies (Liñán and Fayolle 2015). It classifies the empirical contributions made since 2008 in the area of e-entrepreneurship. The period under investigation is limited to the last twelve years due to the convenience of focusing on more recent contributions (Pautasso 2013). In this way, the author will be able to provide a general overview of current trends in the field. It makes sense to focus on the most recent contributions, given the dramatic changes undergone by e-entrepreneurship since its upsurge.

The SLR process goes through different steps to ensure systemisation. First, the selection of the keywords came after checking similar research work in the field. Then, the author used research constraints in order to target related literature articles and create a controllable sample. The search process was performed in four highly-used databases: Scopus, Web of Science (Social Science Citation Index), ABI-Inform/ProQuest, and Science Direct, due to their broader coverage of indexed journals (Meho and Yang 2007). The search process was executed through the articles' titles, abstracts and keywords in all the databases. The time frame set for all articles published was from 2008 to September 2020 (inclusive), and they had to contain one of the following keywords: "e-entrepreneur", "e-entrepreneurs", "e-entrepreneurship" or else the combination of "entrepren*" with one of the keywords "electronic commerce", "e-commerce" or "cyber*". Only journal articles have been included, as they are considered validated knowledge (Podsakoff et al. 2005). Therefore, conference papers and book chapters were excluded due to their restricted availability and less homogeneous review process (Jones, Coviello, and Tang 2011).

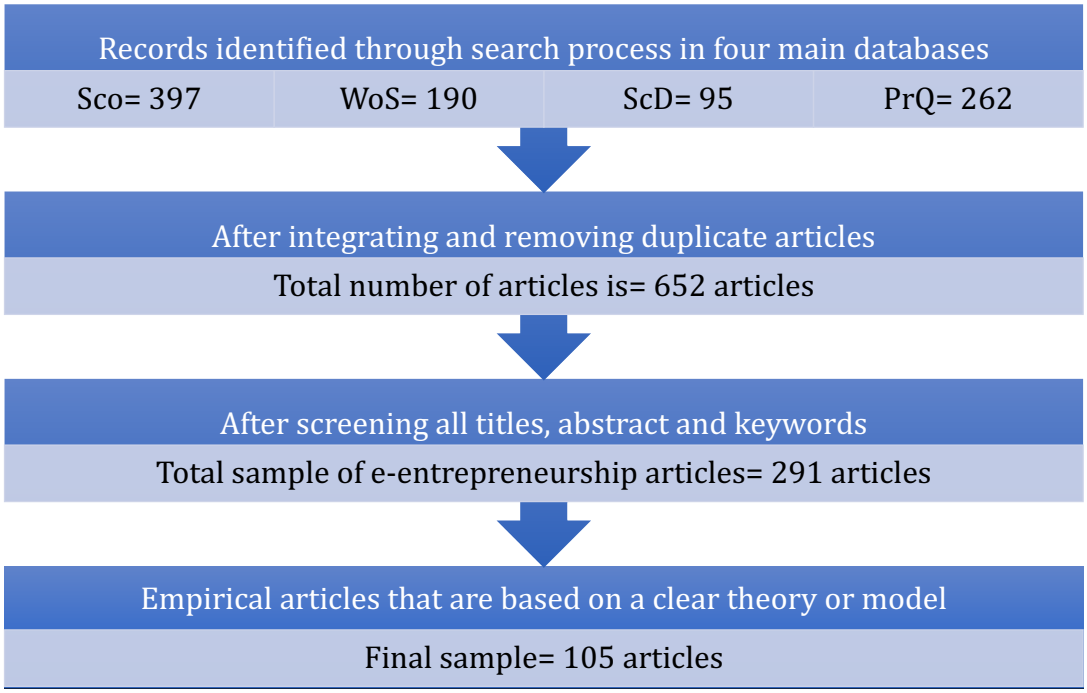

Figure 2.1. Article Selection Process

After gathering all those results, and removing redundant and non-English language publications, a total of 652 articles have been initially identified. All 652 abstracts were read and reviewed to ensure that the article indeed examines e-entrepreneurship. In case of doubt, the whole article was read to make sure it was related. This process found 361 unrelated articles and those were therefore eliminated. The remaining 291 articles were then read carefully to identify articles with a specific and reliable theoretical basis. At this stage, only empirical studies based on an explicit theory or model were selected. This process found that only 99 articles met these latter conditions. Additionally, six literature reviews were also included in the final sample. Consequently, only those 105 academic articles formed the final sample of this research and were included and taken into consideration for the citation analysis process, and the review of this thesis (Figure 2.1).

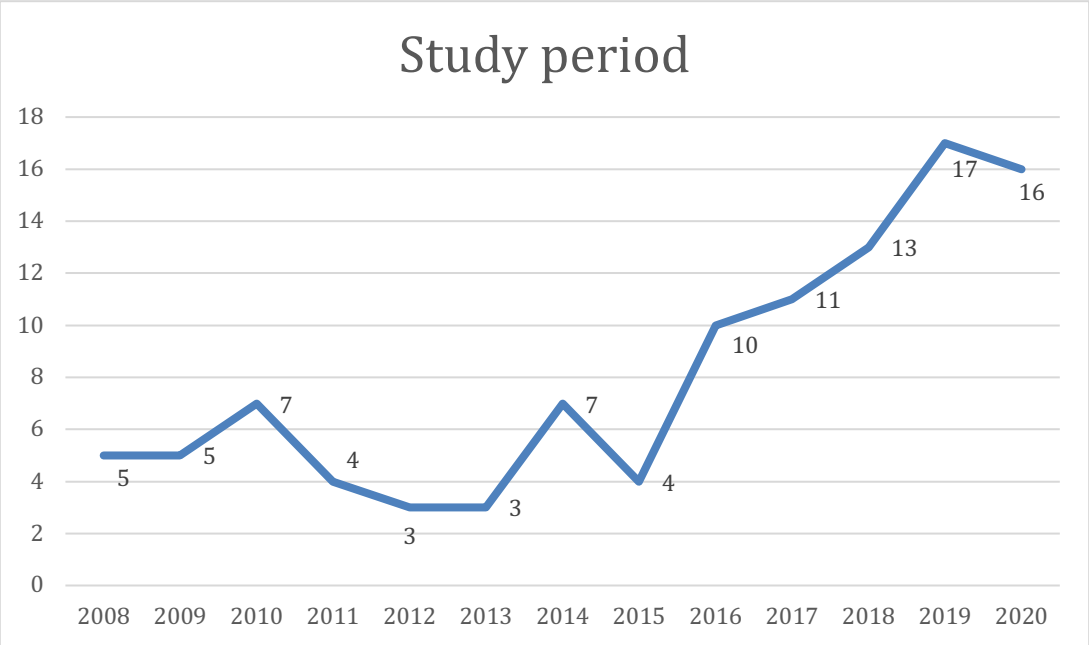

Figure 2.2 Growth in publications throughout the research period

The sample shows a noticeable increment in the number of articles published in e-entrepreneurship. This indicates that the field is growing and receiving increasing attention among researchers (Figure 2.2). This chapter will consist of citation analysis (first) and thematic analysis (second). The citation

analysis helps identifying the most influential works that have served as the basis for this research field.

2.3 CITATION ANALYSIS

Citation analysis is considered a powerful instrument which assumes that influential research is cited more than other research works (Meho 2007). It will help to identify the main areas of focus by reviewing the most frequently cited contributions in the field. After performing a citation analysis among the articles identified, a total of 25 influential papers were identified, which have been cited by at least seven articles of the sample (105 manuscripts). These works got the highest number of citations among the selected sample of articles (Table 2.1).

A first noteworthy circumstance is that these 25 most cited papers do not belong to the SLR sample of 105 selected articles. They are older and thus reflect the main fields from which e-entrepreneurship researchers are borrowing their theories. Almost half of those most-cited papers (12 articles) were published before 2000, while the others (13 papers) were published later. Papers from other fields are relatively old (from the year 2003 or older), except for (Hair et al. 2010). That probably indicates that the field is borrowing from well-established theories from psychology, economics, and entrepreneurship and innovation. Additionally, there is an essential emphasis on the method. On the other hand, the most-cited papers from the e-entrepreneurship field itself represent the foundational contributions in this area. They were all published in the period 2001-2007 (out of the survey period), except for Nambisan (2017), within the research period, yet, this is not an empirical study.

These 25 most-cited works represent the theoretical literature base for recent articles in e-entrepreneurship. Subsequently, the author carefully read all the 25 most-cited works to analyse them based on their main topics and categorise them depending on their area of research. Based on this methodology and analysis, the research identified five main categories of crucial literature in which the e-entrepreneurship research community tends to base its contributions. The following are the main categories of influential papers from citation analysis.

Table 2.1: Most cited papers (2008 – September 2020)

Main categories	Author(s)	Journal[1]	Cites
E-Entrepreneurship	(Amit and Zott 2001)	SMJ	15
	(Kollmann 2006)	IJTM	14
	(Matlay and Westhead 2005)	ISBJ	10
	(Matlay 2004)	JSBED	9
	(Carrier, Raymond, and Eltaief 2004)	IJEBR	8
	(Hull et al. 2007)	IJNVO	7
	(Nambisan 2017)	ETP	7
	(Pavlou and Fygenson 2006)	MISQ	7
Entrepreneurship & Innovation	(Shane and Venkataraman 2000)	AMR	14
	(Lumpkin and Dess 1996)	AMR	11
	(Rogers 1995)	TFP	10
	(Miller 1983)	MS	8
	(Oviatt and McDougall 2005)	ETP	7
Economics	(Barney 1991)	JOM	16
	(Porter 2001)	HBR	8
	(Teece, Pisano, and Shuen 1997)	SMJ	8
Psychology	(Davis 1989)	MISQ	12
	(Ajzen 1991)	OBHDP	10
	(Fishbein and Ajzen 1975)	AW	7
Methodology	(Fornell and Larcker 1981)	JMR	17
	(Eisenhardt 1989)	AMR	11
	(Nunnally 1978)	McGraw	10
	(J. Hair et al. 2010)	Pearson	8
	(Armstrong and Overton 1977)	JMR	7
	(Podsakoff et al. 2003)	JAP	7

1 AMR (3 papers): Academy of Management Review; AW: Addison-Wesley; ETP (2 papers): Entrepreneurship Theory and Practice; HBR: Harvard Business Review; IJEBR: International Journal of Entrepreneurial Behaviour & Research; IJNVO: International Journal of Networking and Virtual Organisations; IJTM: International Journal of Technology Management; ISBJ: International Small Business Journal; JAP: Journal of Applied Psychology; JMR (2 papers): Journal of Marketing Research; JOM: Journal of Management; JR: Journal of Retailing; JSBED: Journal of Small Business and Enterprise Development; McGraw: McGraw-Hill, New York, NY; MISQ (2 Papers): Management Information Systems Quarterly; MS: Management Science; OBHDP: Organisational Behaviour and Human Decision Processes; Pearson: Pearson Education International; SMJ (2 papers): Strategic Management Journal; TFP: The Free Press, New York, NY

2.3.1 E-Entrepreneurship, core and theoretical models

This category is the largest (8 papers), as these articles analyse the main core concepts of e-entrepreneurship. The most cited in this group was Amit and Zott (2001), they explained value creation in e-business and how e-commerce business models and Internet adoption strategies create added value for online entrepreneurial start-ups. Then Kollmann (2006) defined e-entrepreneurship as establishing a new online business. His broad definition made his article the primary reference to all e-entrepreneurship researchers. Later, Matlay and Westhead (2005) discussed the advantages and disadvantages of virtual teams of e-entrepreneurs. Matlay (2004) proposed a comparative research agenda in e-entrepreneurship and small e-business firms. The five cyber entrepreneurs multiple case-study by Carrier, Raymond, and Eltaief (2004) focused on venture creation on the internet using e-commerce technologies.

Likewise, Hull et al. (2007) presented a framework classifying new digital start-ups in e-entrepreneurship and discussing the success factors of each category of start-ups. A new framework was proposed to investigate customers' intentions to engage in online purchasing and their adoption level of e-commerce platforms (Pavlou and Fygenson 2006). Finally, a recent study by Nambisan (2017) presented the value of digital technologies in business, and proposed a new digital perspective of the traditional entrepreneurship. This study contributes to the current theoretical literature in the e-entrepreneurship field.

2.3.2 Entrepreneurship and innovation

This category contains articles with a central focus on entrepreneurship and innovation (5 papers). In the first article, Shane and Venkataraman (2000) developed a conceptual framework to explain the phenomenon of entrepreneurship based on the individual-opportunity nexus. The second work examined the relationship between entrepreneurial orientation and firm performance, moderated by environmental and organisational factors (Lumpkin and Dess 1996). Next, the Diffusion of Innovation DOI Theory (Rogers 1995) discussed the adoption of information technology in business. These two latter publications were used as a reference to classical theories in entrepreneurship

and innovation. The fourth study is an old one by Miller (1983) describing how entrepreneurship and innovation are key factor in firm success and sustainability. Finally, Oviatt and McDougall (2005) is the literature base for international entrepreneurship, discussing the ability to globalise rapidly through the utilisation of entrepreneurial opportunities.

2.3.3 Economics

Papers in this category discussed general economic theories (3 papers). The first paper, Barney (1991), considered strategic management topics within firms. It describes the resource-based view (RBV) focused on the achievement of competitive advantage. In turn, Teece, Pisano, and Shuen (1997) have developed a dynamic capabilities framework that analyses the rapid technological changes in the business environment. Finally, Porter (2001) examined strategic positioning in addition to the advantages and disadvantages of employing the internet within firms.

2.3.4 Psychology

This category contains (3 papers), that references to two leading psychological theories. The first is the technology acceptance model (TAM) for (Davis 1989), which developed and validated a new measurement to test user behaviour and acceptance towards information technology. The second is the theory of planned behaviour (TPB) for (Ajzen 1991) and its antecedent (Fishbein and Ajzen 1975), which is also used frequently to test the entrepreneur's intentions and behaviour. This group of psychological theories presented researchers with the psychological foundation of human-computer interaction needed to later explain the movement from just entrepreneurship to e-entrepreneurship.

2.3.5 Methodology

Research works in this group (6 papers), represent two main streams of methodological approaches used by researchers to test their proposed models. Based on citations, e-entrepreneur researchers have used both qualitative and

quantitative methodologies. First, it is noticeable that the qualitative case study methodology was a popular method used by Eisenhardt (1989), who explained building theories employing case study research. Secondly, among the quantitative techniques, structural equation modelling (SEM) (Fornell and Larcker 1981; J. Hair et al. 2010) is also frequently referenced by many empirical studies to test and measure several frameworks proposed by researchers, such as various frameworks discussing e-entrepreneurs' intentions to start their new venture. And, among both quantitative and qualitative studies, Podsakoff et al. (2003) served as a primary reference for different statistical methods. Given the frequent use of psychological models and questionnaires for data collection, it is not unusual for papers in the SLR sample to also cite the Psychometric Theory (Nunnally 1978), and the estimation of nonresponse bias in mail surveys (Armstrong and Overton 1977).

2.4 SLR RESULTS: THEMATIC ANALYSIS

The citation analysis previously has identified the most-cited works serving as the theoretical reference for the 105 papers in the SLR sample. Next, this thesis looks thoroughly across all the theories used by the papers in the SLR sample and classify them based on the theoretical approach or adopted model. First, the 105 articles in our sample were divided into four main groups based on the theory or model adopted by each study. Several studies were based on two or more theories to create a new framework or model; these articles were classified according to their primary theory.

The main theories used by the SLR articles are the following: economics, entrepreneurship and innovation, psychology and other theories. Thus, these articles were classified within each group based on the methodology used by the authors in their empirical analysis as quantitative, qualitative or mixed (in the case of using quantitative and qualitative methods together). The six literature review studies included in the sample were classified in a different methodological category. Table 2.2 classifies the 105 papers by their main theory and methodological approach.

Table 2.2 Theory groups – A Total of 105 Articles

Method	Economics (33 Articles)	Entrepreneurship & Innovation (28 Articles)	Psychology (38 Articles)	Other Theories (6 Articles)
Quantitative 62 Articles	(Al Omoush, Al-Qirem, and Al Hawatmah 2018; Boschma and Weltevreden 2008; Chandna and Salimath 2020; Colton, Roth, and Bearden 2010; Deng and Wang 2016; Glavas, Mathews, and Bianchi 2017; Gregg and Parthasarathy 2017; Häsel, Kollmann, and Breugst 2010; Kuhn and Galloway 2015; S.-G. Lee, Koo, and Nam 2010; Y. Y. Lee and Falahat 2019; Niu, Deng, and Hao 2020; Rana and Sørensen 2013; Saridakis et al. 2018; Shan et al. 2014; F. Wang 2020; S. Wang, Cavusoglu, and Deng 2016)	(Al-Omoush et al. 2019; Alam et al. 2018; Kyobe 2008; Lian and Yen 2017; Millman et al. 2009; Ramadani et al. 2014; Rasheed 2009; Truong and Bhuiyan 2011; Y.-M. Wang and Chiou 2020; Yu et al. 2019; Zhu and Lin 2019)	(Nawi et al. 2017; Matlay and Martin 2009; S. Wang, Cavusoglu, and Deng 2016; Abebe 2014; Imran Khan et al. 2016; Sebora, Lee, and Sukasame 2009; Kwun et al. 2010; Cordero-Gutiérrez and Santos-Requejo 2016; Jansen et al. 2016; Lane et al. 2014; Mariani, Muhamad, and Lamarauna 2017; Abdulwahab and Kabir 2014; Batool et al. 2015; Koe 2020; Yi-Shun et al. 2019; Chang et al. 2020; 2018; Wongkhamdi, Cooharojananone and Khlaisang 2020; Suvattanadilok 2020; Tanikan and Nittaya 2019; Hartoyo et al. 2019; Zolait et al. 2018; Oumlil and Juiz 2018; Chandna and Salimath 2020; Lai and To 2020; Adiandari et al. 2020; Dixit, Prakash, and Verma 2018; Isabelle 2020; Suleman, Zuniarti, and Sabil 2019; Han and Li 2020; Al Mamun et al. 2020)	(Guo et al. 2017; Martinez and Williams 2010; S. Wang, Mao, and Archer 2012)
Qualitative 31 Articles	(Che and Zhang 2019; Cui et al. 2017; Effah 2016; Grochal-Brejdak and Szymura-Tyc 2018; Hassan et al. 2012; Holland and Gutiérrez-Leefmans 2018; Li et al. 2018; Sala and Tańska 2010; Sell et al. 2019; Serarols and Urbano 2008; S. Wang et al. 2011; You, Shu, and Luo 2018)	(Godoe and Hansen 2009; Hevner and Malgonde 2019; Jain et al. 2019; McAdam, Crowley, and Harrison 2020; Pourhossein and Omran 2014; Ratten 2019; Sen and Ongsakul 2017; Serarols 2008; Shaheer and Li 2020; Stampfl, Prügl, and Osterloh 2013; Wentrup 2016; Zaheer et al. 2019)	(Beránek 2015; Dy, Marlow, and Martin 2017; Petersson McIntyre 2020; Shemi and Procter 2018; van Gelderen, Sayers, and Keen 2008)	(Hafezieh, Akhavan, and Eshraghian 2011; Yoshida and Iijima 2019)
Mixed 6 Articles	(Koch 2010; Sigfusson and Chetty 2013)	(Anwar 2017; Chung et al. 2016)	(Lichtenstein, Abbott, and Rechavi 2015; Yu et al. 2017)	–
Reviews 6 Articles	(Bailetti and Zijdemans 2014; Reuber and Fischer 2011)	(Rippa and Secundo 2019; Trimi and Berbegal-Mirabent 2012; Zaheer et al. 2019)	–	(Shabbir et al. 2016)

As it is clearly shown, the psychological theory group is the largest (38 out of 105), with a high usage of quantitative studies (31 out of 38). Likewise, the second (economics) group also showed that quantitative studies are dominant (17 out of 33), but the presence of qualitative studies is higher (12 out of 33). The e-entrepreneurship literature has also relied significantly on the field of entrepreneurship and innovation, since 28 of the papers are based on these theories. However, the qualitative studies (12 papers) in this group represent the most frequent approach, rather than the quantitative ones (11 papers). Finally, the last group is labelled as other theories. It contains six articles adopting theories or models from different literature streams (three quantitative, two qualitative and one review). Overall, most empirical studies in e-entrepreneurship used a quantitative method (62 out of 99, not counting the six literature reviews), while 31 of them were qualitative studies, and six additional papers adopted a mixed-method approach. Theory groups are demonstrated in a more detailed account of the research in each of these main groups.

2.4.1 Psychological theories

Generally, psychological theories focus on emotional or cognitive elements in individuals. In this group, researchers have referred to different psychological theories in their work to study e-entrepreneurs. According to Davis (1989), the TAM explains how users accept using new technologies. The unified theory of acceptance and use of technology (UTAUT) by Venkatesh et al. (2003) extends the TAM model. These two, together with the TPB (Ajzen 1991), are the most frequently adopted theories in this group. These studies have been carried out in several countries with a variety of samples, such as university students in developed countries (Czech Republic, Israel, USA) (Beránek 2015; Lichtenstein, Abbott, and Rechavi 2015; Yu et al. 2017), and students in developing countries (Indonesia, Malaysia, Taiwan) (Adiandari et al. 2020; Nawi et al. 2017; Wang et al. 2016). Several studies have been done on e-entrepreneurs who intend to start their online business using electronic platforms (Cordero-Gutiérrez and Santos-Requejo 2016; Isabelle 2020; Jansen et al. 2016; Lai and To 2020), as well as on business owners who are transforming some of their business operations in

order to grow online (Abebe 2014; Chandna and Salimath 2020; Kwun et al. 2010; Lane et al. 2014; van Gelderen, Sayers, and Keen 2008).

As mentioned above, the majority of these empirical studies follow a quantitative method (31 studies), using surveys and questionnaires for the data collection process (Batool et al. 2015; Han and Li 2020; Mariani, Muhamad, and Lamarauna 2017; Nawi et al. 2017). The most frequently adopted model in this group is the TAM, which is used to discuss the adoption of mobile commerce by e-entrepreneurs and its capabilities to strengthen their business (Wongkhamdi, Cooharojananone and Khlaisang 2020; Tanikan and Nittaya 2019), to examine customers' behaviour online and how they interact inside the company's website (Suvattanadilok 2020; Zolait et al. 2018), and also to discuss the perceived strategic value of adopting e-commerce in business (Hartoyo et al. 2019; Kwun et al. 2010; Lane et al. 2014). The second most used theory in this group is the TPB. This theory served in predicting e-entrepreneurial intentions among students (Adiandari et al. 2020; Isabelle 2020), and young people (Lai and To 2020). And the last study was exploring consumers behaviour online (Dixit, Prakash, and Verma 2018).

Additionally, some articles developed their research or framework based on both the TAM and TPB together (Abebe 2014; Cordero-Gutiérrez and Santos-Requejo 2016; Suleman, Zuniarti, and Sabil 2019), combining the focus of the TAM on the technological perspective with the emphasis of the TPB on behavioural intentions.

The next most used theory is the UTAUT, employed by researchers to investigate e-entrepreneurs usage of social media as business platforms (Al Mamun et al. 2020; Nawi et al. 2017), and customer-to-customer online shopping (Mariani, Muhamad, and Lamarauna 2017). Further, based on both the UTAUT and its antecedent, the TAM, Oumlil and Juiz (2018) proposed a model that explains the acceptance of e-entrepreneurship among entrepreneurs in the tourism industry. Similarly, and based on both UTAUT and TPB, Wang et al. (2016) proposed a model to explore the effect of e-entrepreneurial motivation on students' intentions. Their model suggested the moderation of education (IT/non-IT students). Their study revealed that business students with an IT

background showed a greater intentions to start an online business than other students (Wang et al. 2016).

Among other theories in this group, Bandura's (1977) social cognitive theory (SCT) is used to study self-efficacy among students and its relation to the intentions to start an online business (S.-H. Chang et al. 2018, 2020). Yi-Shun et al. (2019) develop a scale to measure e-entrepreneurial self-efficacy. Other authors combine the SCT with the expectation confirmation theory (ECT) from McKinney, Yoon, and Zahedi (2002) to study user stickiness and continuous usage and, thus, the increase in loyalty to business (Abdulwahab and Kabir 2014; Yu et al. 2017). Overall, authors in this research group have noticed that entrepreneurs are shifting to e-commerce businesses in order to realise opportunities and perceive their expected benefits (Imran Khan et al. 2016).

Several studies revealed the importance and strength of e-commerce technologies in online business for their capability to help better understanding customers' wishes, tastes and interests (Cordero-Gutiérrez and Santos-Requejo 2016), their positive influence on firms' performance (Abebe 2014), developing a competitive e-marketing platform in addition to other different e-business processes (Matlay and Martin 2009), and reinforcing the strategic value for SMEs (Lane et al. 2014). However, some researchers identified certain technical issues in e-entrepreneurship. According to Jansen et al. (2016), there is a need to improve security measures against online threats, and encourage young e-entrepreneurs to undertake more effective procedures to protect their systems and data.

Finally, several psychological characteristics are found to significantly affect the adoption of e-commerce technologies by e-entrepreneurs, such as the need for achievement, risk-taking ability and locus of control (Lane et al. 2014; Shemi and Procter 2018), in addition to competence, relatedness and autonomy (Koe 2020). E-commerce courses develop students' e-entrepreneurial skills to work in a risky and competitive business environment (Beránek 2015). Further, e-learning provides new entrepreneurial ways of teaching college students through the association of technologies which leads to a successful learning process (Lichtenstein, Abbott, and Rechavi 2015).

2.4.2 Economic theories

The e-entrepreneurship articles in this group are based on economic theories which focus on business resources and opportunities in entrepreneurship. Some authors stress the dynamic and open nature of market systems (Simpeh 2011). The most widely-adopted theory in this group is the RBV (Barney 1991), or the resource-based theory (RBT) (Barney, Ketchen, and Wright 2011). In general, the RBT stresses the way entrepreneurs leverage different resources to gain some entrepreneurial benefits. It emphasises the importance of firm resources in creating sustained competitive advantages for it. In addition, this research finds other economic theories, such as the early mover advantage theory (EMA, Deng and Wang 2016; Wang, Cavusoglu, and Deng 2016), the economic theory of competition to study long-term survival of online businesses (Gregg and Parthasarathy 2017), the economic theory of development that discusses the development in Poland over the past two decades (Sala and Tańska 2010), the RBV and theoretical reasoning approach (TRA) to analyse the relationship between entrepreneurial resources and organisational capabilities (Shan et al. 2014), the global value chain, as in Rana and Sørensen (2013), and the utility theory as per Häsel, Kollmann, and Breugst (2010) and others.

Articles based on the RBV or the RBT (12 out of 33) are classified according to their analysis method. Six of these articles followed a quantitative analysis that used a survey as their primary data-collection tool (e.g., Colton, Roth, and Bearden 2010; Lee and Falahat 2019). In these research works, the authors study e-commerce's effect on online firms' performance within the e-marketplace (Glavas, Mathews, and Bianchi 2017; Kuhn and Galloway 2015; Niu, Deng, and Hao 2020). Likewise, Shan et al. (2014) show that e-commerce is an entrepreneurial technological resource that positively affects organisational capabilities. Additionally, qualitative studies revealed the importance of e-commerce as it empowers social innovation by e-entrepreneurs in rural villages (Cui et al. 2017). It also leverages online business' competitive advantages to grow globally (Sigfusson and Chetty 2013; Wang et al. 2011; Bailetti and Zijdemans 2014) and successfully identifies international opportunities (Reuber and Fischer 2011). Another case study indicates that the educational level and

entrepreneurial antecedents in the entrepreneur's family positively affect the success of his/her online start-up (Serarols and Urbano 2008).

The remaining articles represent a diversity of economic theories. Three studies based on the institutional theory (DiMaggio and Powell 1983) analyse the use of e-entrepreneurial opportunities by entrepreneurs (Che and Zhang 2019), the adoption of e-payment entrepreneurship to grow globally (Effah 2016) and the long-term sustainability of e-firms (Al Omoush, Al-Qirem, and Al Hawatmah 2018). Another two quantitative studies based on the early mover advantage theory (EMA) find that customer relationship management (CRM) capabilities support the entrepreneurial existence in electronic marketplaces (Wang, Cavusoglu, and Deng 2016), and that e-commerce portals offer nascent entrepreneurs the opportunity to grow globally (Deng and Wang 2016). In line with this, early movers have more cumulative strategic capabilities than followers in the market and within innovative differentiation (Lee, Koo, and Nam 2010).

Other quantitative studies adopt different economic approaches. The long-term sustainability of online businesses is found to depend on venture size, age, and reputation (Gregg and Parthasarathy 2017), and also on the strategic planning by balancing business, technologies, and consumers (Sell et al. 2019). More importantly, strong digital capabilities, such as e-marketing, leverage small e-entrepreneurial firms' performance to compete with medium-sized firms (Wang 2020). Likewise, the likelihood of undertaking internet strategies rises when there is more demand by locals and less competition (Boschma and Weltevreden 2008).

Regarding the internationalisation process, this is influenced by the e-commerce level of adoption, entrepreneurs' managerial capabilities and language skills (Grochal-Brejdak and Szymura-Tyc 2018; Rana and Sørensen 2013). Furthermore, business owners with an e-entrepreneurs competence profile tend to be more innovative (Häsel, Kollmann, and Breugst 2010). Moreover, IT technologies are increasingly essential for e-commerce firms for the development of current or new economies (Sala and Tańska 2010). However, e-entrepreneurs should consider trust as the primary factor when dealing with

customers through an online platform (Hassan et al. 2012). Finally, a mixed-method study investigates two different electronic marketplaces (EMP) based on the dynamic capabilities framework. It finds entrepreneurial alertness and customer agility to be essential capabilities to develop a successful EMP (Koch 2010).

2.4.3 Entrepreneurship & Innovation theories

This category includes e-entrepreneurship studies grounded on theories or models derived from the entrepreneurship literature. Researchers in this group of articles mostly used the entrepreneurship theory by Shane and Venkataraman (2000) and the diffusion of innovation (DOI) theory by Rogers (1995). The Shell model (Kollmann 2006), international entrepreneurship (Oviatt and McDougall 2005), and other theories and models are also considered. Some studies have developed their own framework or model depending on the literature of entrepreneurship and e-entrepreneurship, such as the evaluation model of interactive website design (Chung et al. 2016), the comparison model between pure-play and click-and-mortar (Lian and Yen 2017), the interactive model of ethnic entrepreneurship (Ramadani et al. 2014), the cyber entrepreneurial process model (Serarols 2008) and the internationalisation process conceptual model (Wentrup 2016).

In this group of articles, 11 studies have followed a quantitative analysis method. According to the bricolage theory of entrepreneurship, market bricolage positively affects e-sales performance (Zhu and Lin 2019). E-entrepreneurship is found to empower entrepreneurs to generate and increase revenues by entering new markets through EMPs and achieve global growth (Rasheed 2009). Additionally, and based on the DOI theory (Rogers 1995), e-entrepreneurship positively influences the financial performance and customer management performance (Al-Omoush et al. 2019). E-entrepreneurship may be considered a substitute for entrepreneurs during crises and a troubled economy (Truong and Bhuiyan 2011). Additionally, e-entrepreneurs' innovativeness generally affects their technological innovativeness and life satisfaction (Lian and Yen 2017). Although e-entrepreneurship is an excellent alternative for entrepreneurs (Alam

et al. 2018), they need to be aware of the risks in handling e-commerce security systems (Kyobe 2008). Finally, two quantitative studies proposed that the technological background does not affect being an e-entrepreneur (Millman et al. 2009), and e-entrepreneurs were found to have a low level of education (Ramadani et al. 2014). Yet, e-entrepreneurship education is emerging and it is essential to enhance students' innovativeness (Wang and Chiou 2020).

Next, this research focuses on the 12 articles following a qualitative analysis method. Six of these studies use a case study method, four studies work with interviews, and two apply content analysis. The first case study found that some established e-entrepreneurs enjoy a high educational level, but they do not have a technological background (Serarols 2008). Pourhossein and Omran (2014) focus on some specific cases to conclude that the combination of e-business, innovation and entrepreneurship leads to successful e-entrepreneurship. Similarly, developing organisational processes in digital start-ups leads to early success (Zaheer et al. 2019). A case study of three online service providers (OSPs) sheds light on the globalisation process in an early stage, and how the online-offline balance is essential (Wentrup 2016). Some authors stressed the slow diffusion of mobile commerce (m-commerce), and the need to enhance some technological characteristics such as poor user interface (Godoe and Hansen 2009). In turn, the evolution of mobile apps nowadays is empowering firms to reach globalisation easily and rapidly (Shaheer and Li 2020).

Based on the diffusion of innovation theory, two content-analysis studies analyse the role of firm's digital platforms in improving interaction with customers at the EMPs (Hevner and Malgonde 2019), and the use of new digital technologies to develop m-commerce (Sen and Ongsakul 2017). Another two articles adopt a mixed-method analysis. Chung et al. (2016) used an analytic network process (ANP) and a case study in Taiwan to evaluate the design of an interactive e-entrepreneurial website. Anwar (2017) examined the Alibaba group in China and used the data and survey to research its entrepreneurial growth in the global market.

Four studies in this group follow an interview method. Two studies have explored online innovative business models. They found technology to be a

crucial factor in business model design (Stampfl, Prügl, and Osterloh 2013). Thus, internet reach and stability are important factors as connection interruption negatively affects both firms and customers (Jain et al. 2019). Moreover, firms' technologies have to be protected against cybercrime (Ratten 2019). In Saudi Arabia, women are running e-entrepreneurial businesses for their several benefits, such as specifically hiding their real identity or gender (McAdam, Crowley, and Harrison 2020).

The last three articles in this group are literature reviews of entrepreneurial business models. The first concludes that, in a rapid dynamic sector of innovation, a technology-based firm should develop practical solutions that match customer needs (Trimi and Berbegal-Mirabent 2012). Using a qualitative literature review, the second article assesses the impact of digital technologies on academic entrepreneurship (Rippa and Secundo 2019). The last study is a systematic review of digital entrepreneurship and accordingly mapping knowledge into clusters (Zaheer, Breyer, and Dumay 2019).

2.4.4 Other theories

Articles based on economic, entrepreneurship and psychological theories made up the main categories in this research, as explained before. The authors of the six articles in this group aim at studying e-entrepreneurship from a different perspective. Three of them use a quantitative method. The first study was based on the contingency theory. It found that efficiency and centred complementarities positively affect the value retention for e-entrepreneurship start-ups (Guo et al. 2017). According to Martinez and Williams (2010), the adoption of information and communication technology (ICT) may be viewed from an institutional perspective, with trust increasing ICT-based business transactions, particularly in developing countries. The third study explores the success factors in business-to-business (B2B) EMPs. Based on the organisational capabilities theory and market opportunity perspectives, market size and e-commerce awareness were found to affect e-market performance (Wang, Mao, and Archer 2012).

There are two qualitative case studies. One of them explores e-entrepreneurship competitive factors through interviews with young Iranian

entrepreneurs. A low internet speed and high prices were identified as relevant difficulties for e-entrepreneurship (Hafezieh, Akhavan, and Eshraghian 2011). The other uses grounded theory to explore the collaborative creation of media information literacy (Yoshida and Iijima 2019). Finally, the last study is a detailed literature review with a particular focus on Pakistan (Shabbir et al. 2016). The study presents recommendations and implications for the government and policymakers to help e-entrepreneurs with their start-ups in Pakistan, such as financial assistance and/or low-interest rates. It also recommends teaching e-entrepreneurship-related subjects to graduated students (Shabbir et al. 2016).

2.5 DISCUSSION AND SUMMARY

The SLR process has retrieved a total of 652 articles matching the predefined keywords. After reading and classifying those articles, the full valid sample for this study is 105 empirical studies clearly based on valid theory. This is an indication that the level of rigour varies notably within the publications in this field. The articles that have been selected seem to be the most promising to contribute to advancing in the field. The logical illustration of theory groups into the field of entrepreneurship appears in (Figure 2.3). The total number of studies in e-entrepreneurship is still relatively small when compared to empirical studies in other related fields, yet it has been increasing rapidly in the last few years. It is also shown that quantitative analysis methods are dominant across the study sample. This high number of quantitative studies raises the need for more qualitative or mixed-method analysis studies with a solid theoretical base in the field of e-entrepreneurship.

The importance of e-entrepreneurship comes from its potential in enabling a vast number of unemployed youths from all around the world to access new opportunities across the globe and become e-entrepreneurs. However, an e-entrepreneur is not just one who starts an online business, but also a person who can create digital value, improve business performance and contribute to the growth of both the online and the physical economy (Kollmann 2006). For this reason, more studies are being carried out on this topic.

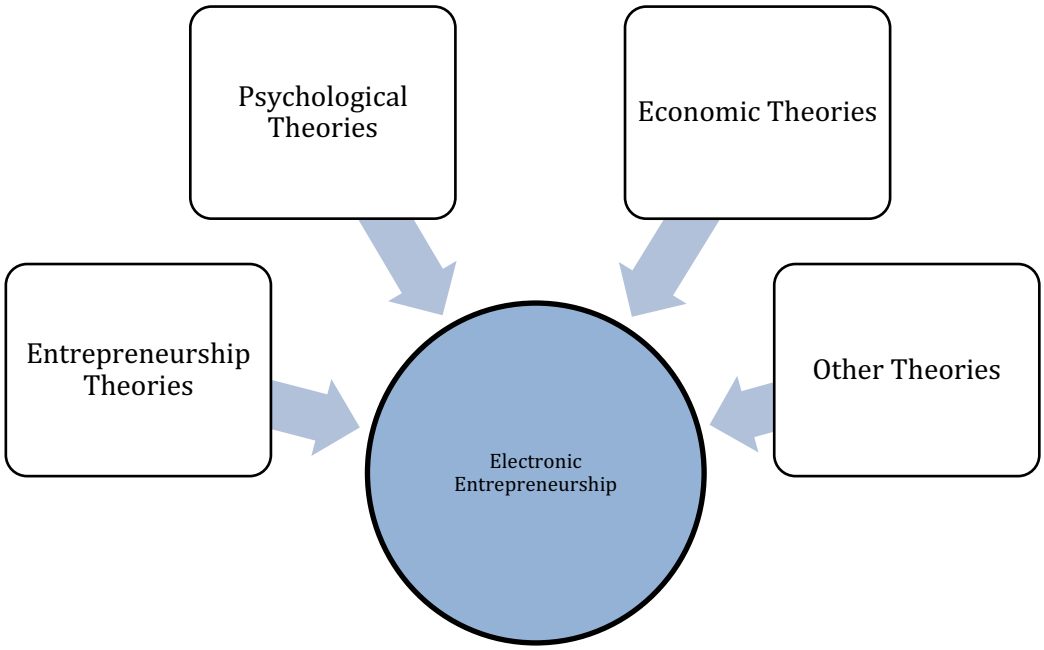

Figure 2.3: The logical illustration of theories

As per the citation analysis, research in this field tends to be based on older works from different fields (not only e-entrepreneurship itself, but also entrepreneurship and innovation, economics and psychology). They assist authors in developing their research and building the body of current literature. However, those works tend to be old, and more recent contributions may be cited. For instance, the RBV (Barney 1991) reached maturity to become the RBT (Barney, Ketchen, and Wright 2011). Nevertheless, authors are still to date citing the old RBV (Niu, Deng, and Hao 2020; Lee and Falahat 2019; Glavas, Mathews, and Bianchi 2017).

Nonetheless, the citation analysis has also pointed to the first comparative agenda that discussed e-entrepreneurship and online business models in detail (Matlay 2004). Besides, it leads us to the broader definition of e-entrepreneurship, which is mostly cited by authors when referring to e-entrepreneurship (Kollmann 2006). Still, this process has retrieved six methodological works that are not related to e-entrepreneurship. The SEM analysis has the most-cited among other empirical analysis methods (Fornell and Larcker 1981). These works had a high citation rate just because of the nature and capabilities of their framework and model to handle empirical data across

the study sample articles. This probably indicates a strong willingness of the research works analysed to show soundness in their empirical analyses. There seems to be a need to build legitimacy and rigorousness in the new field of e-entrepreneurship.

2.5.1 Implications

The cross-analysis between the four groups of theories enriches the current knowledge of e-entrepreneurship and identifies some gaps. It allows consolidating some findings that may be useful for practitioners, advisors/mentors, as well as for policymakers. E-entrepreneurship has been considered as a substitute for entrepreneurs during a crisis, with the ability to produce a dynamic and rapid positive change in emerging economies based on research from either entrepreneurship and innovation (Pourhossein and Omran 2014; Rasheed 2009; Truong and Bhuiyan 2011), economic (Che and Zhang 2019; Holland and Gutiérrez-Leefmans 2018), psychological (Beránek 2015; Lai and To 2020) and other theories (Hafezieh, Akhavan, and Eshraghian 2011). Well-planned strategies of e-entrepreneurial start-ups are found to positively affect the long-term sustainability of e-firms and raise their strategic value, based on research from either the economic (Gregg and Parthasarathy 2017; Al Omoush, Al-Qirem, and Al Hawatmah 2018), entrepreneurship and innovation (Anwar 2017; Sen and Ongsakul 2017), psychological (Kwun et al. 2010), and other theories groups (Guo et al. 2017; Wang, Mao, and Archer 2012).

Market strategies are relevant in the success of new e-entrepreneurship ventures. Thus, designing a flexible business model gives the firm an ability to adjust business operations on the internet and grow globally, and also allows customisation and interactivity with its customers. This is confirmed by papers in the economic (Bailetti and Zijdemans 2014; Lee and Falahat 2019) and the entrepreneurship and innovation theory groups (Chung et al. 2016; Shaheer and Li 2020; Stampfl, Prügl, and Osterloh 2013). Furthermore, the ability to enter new EMPs in different countries may lead to generating more revenue and increasing profits, based on research from the economic (Colton, Roth, and Bearden 2010),

entrepreneurship and innovation (Anwar 2017; Rasheed 2009), and psychological theory groups (Mariani, Muhamad, and Lamarauna 2017).

Entrepreneurs' educational background is also a hot topic, as it varies from one study to another. Generally, e-entrepreneurs were found to have a high level of education, which positively affects their business success (Beránek 2015; Serarols 2008). However, according to Ramadani et al. (2014), Albanian entrepreneurs were found to have a low level of education and their implementation of e-commerce in their business was noticeably slow. Nevertheless, there was no difference between e-entrepreneurs and traditional entrepreneurs with regard to their information-technology educational background (Millman et al. 2009; Serarols 2008). This might stress the need for more studies to be carried out on what could help traditional entrepreneurs to switch to e-entrepreneurship as the world is moving towards a digital life (Wang and Chiou 2020).

Nowadays, according to the diffusion of innovation theory, there is a noticeable rapid development in mobile commerce (m-commerce) business. The emergence of new digital technologies has created a revolution in the way of doing business according to the number of mobile users around the world (Sen and Ongsakul 2017; Tanikan and Nittaya 2019). Additionally, e-entrepreneurship offers entrepreneurs the ability to initiate start-ups from home, as enabled by information technology (Petersson McIntyre 2020; van Gelderen, Sayers, and Keen 2008). However, some online start-ups cannot survive in developing countries due to a poor technological infrastructure in general or to e-payment methods (Abdulwahab and Kabir 2014; Effah 2016), as well as the need to protect ventures and increase trust with their customers through careful precautions and measurements (Effah 2016; Jansen et al. 2016; Ratten 2019).

2.5.2 Future research lines

The e-entrepreneurship field of study is promising and is still receiving more attention among researchers. As a result of this research, this thesis identified the theoretical contributions from papers proposing a new model or theoretical framework. A total of 53 theoretical frameworks have been developed

out of the 105 studies analysed. They have been classified into five main avenues (based on their primary themes) to illustrate current knowledge and inform future research. The five main avenues are start-ups, performance, internationalisation, customers and others, as shown in (Table 2.3). The frameworks in each avenue are grouped based on the similarity of the themes or factors proposed.

The first avenue is *Start-ups*; 11 theoretical frameworks in this avenue examine the *e-entrepreneurial intentions* to start an online business. Some of them analyse the e-entrepreneurial intentions according to personal traits and self-efficacy (Batool et al. 2015; S.-H. Chang et al. 2020; Lai and To 2020), other studies consider the perceived risk and trust factors (Adiandari et al. 2020; Han and Li 2020), in addition to e-entrepreneurial motivation (Wang et al. 2016), and entrepreneurs' educational background (Cordero-Gutiérrez and Santos-Requejo 2016). Recently, entrepreneurs' intentions of using m-commerce and social media has been increasing and is becoming an interesting topic (Al Mamun et al. 2020; Tanikan and Nittaya 2019).

Additionally, there are five contributions discussing *e-entrepreneurial success* in digital start-ups. They consider organisational development by assessing its strengths and weaknesses (Wongkhamdi, Cooharojananone and Khlaisang 2020), and digital technologies to achieve early success (Zaheer et al. 2019). Furthermore, some personal traits were found to influence e-entrepreneurs' satisfaction with their business (Lian and Yen 2017). The relative importance of motivation and traits in deciding to start a new successful venture may deserve further attention. Stampfl, Prügl, and Osterloh (2013) have designed a Scalability business model that identifies several mechanisms throughout the successful creation process of an innovative web-based business model.

The last three approaches distinguish the *e-entrepreneurial process* in start-ups. They range from the exploration of e-entrepreneurial opportunities (Che and Zhang 2019) to the role of e-commerce technologies in helping e-entrepreneurs during the venture creation process (Martinez and Williams 2010), and to a model explaining the entire process of starting up a new e-entrepreneurial business (Serarols 2008).

The second avenue tackles the impact of e-entrepreneurship on businesses *Performance*. Eight theoretical models investigate *e-entrepreneurial firms' performance*. Several studies suggested that e-entrepreneurship technologies are enhancing firm performance (Al-Omoush et al. 2019). These technologies enable firms to locate new opportunities and seek growth (You, Shu, and Luo 2018). They also strengthen the relationship between suppliers and firm performance, hence supporting brand strength (Colton, Roth, and Bearden 2010; Hevner and Malgonde 2019). However, online firms' strategy differs from that of traditional competitive firms. Thus, e-entrepreneurs need to revise strategies and reconsider tactics when entering the cyber market (Lee, Koo, and Nam 2010; Zhu and Lin 2019).

Table 2.3: New avenues in e-entrepreneurship

Avenues	Themes	Contributions
Start-ups	E-entrepreneurial Intentions	(Chang et al. 2020; Adiandari et al. 2020; Lai and To 2020; Han and Li 2020; Al Mamun et al. 2020; Tanikan and Nittaya 2019; Oumlil and Juiz 2018; Chang et al. 2018; Wang et al. 2016; Cordero-Gutiérrez and Santos-Requejo 2016; Batool et al. 2015)
	E-entrepreneurial Success	(Wongkhamdi, Cooharojananone and Khlaisang 2020; Zaheer et al. 2019; Lian and Yen 2017; Stampfl, Prügl, and Osterloh 2013; Serarols and Urbano 2008)
	E-entrepreneurial Process	(Che and Zhang 2019; Martinez and Williams 2010; Serarols 2008)
Performance	E-entrepreneurial Firm's Performance	(Al-Omoush et al. 2019; Zhu and Lin 2019; Hevner and Malgonde 2019; Chandna and Salimath 2018; Alam et al. 2018; You, Shu, and Luo 2018; Lee, Koo, and Nam 2010; Colton, Roth, and Bearden 2010)
	E-entrepreneurial Firm's Sustainability	(Al Omoush, Al-Qirem, and Al Hawatmah 2018; Chandna and Salimath 2020; Deng and Wang 2016; Kwun et al. 2010; Shan et al. 2014; S. Wang et al. 2011)
	E-Market Performance	(Niu, Deng, and Hao 2020; Hartoyo et al. 2019; Wang, Cavusoglu, and Deng 2016; Wang, Mao, and Archer 2012)
Internationalisation	Early Globalisation	(Bailetti and Zijdemans 2014; Shaheer and Li 2020)
	Internationalisation Process	(Lee and Falahat 2019; Glavas, Mathews, and Bianchi 2017; Wentrup 2016; Rana and Sørensen 2013)
Customers	Online Behaviour	(Mariani, Muhamad, and Lamarauna 2017; Suleman, Zuniarti, and Sabil 2019; Suvattanadilok 2020; Zolait et al. 2018)
	E-Stickiness	(Abdulwahab and Kabir 2014; Yu et al. 2017)
Others	Technical / Design and Security	(Chung et al. 2016; Kyobe 2008)
	E-entrepreneurship Education	(Isabelle 2020; Wang and Chiou 2020)

The following theme is *e-entrepreneurial firm's sustainability*. Early movers were found to enjoy long-term sustainability (Deng and Wang 2016). At the same time, however, e-entrepreneurship innovations are crucial for beneficial outcomes and long-term sustainability (Al Omoush, Al-Qirem, and Al Hawatmah 2018; Chandna and Salimath 2020). In this sense, e-commerce is found to increase its relevance as an information technology resource for small online firms (Kwun et al. 2010), and such resources mediate the relationship between entrepreneurial resources and organisational capability (Shan et al. 2014). Finally, the motivation-capability framework explains how the internet supports firms' organisational capabilities using e-commerce technologies (Wang et al. 2011).

The last theme in this avenue is related to *e-market performance*. The online submission systems were found to positively influence the e-market performance (Hartoyo et al. 2019). Additionally, market research using e-commerce technologies plays a leading role in guiding online market support (Wang, Cavusoglu, and Deng 2016). According to Wang, Mao, and Archer (2012), B2B e-markets allow e-entrepreneurs to discover more online opportunities and create an innovative business model. In addition, entrepreneurial orientations and e-commerce enterprises influence e-market performance (Niu, Deng, and Hao 2020).

The third avenue is *Internationalisation*; two main themes are identified in this avenue. The first is the *early globalisation* of new online start-ups (Bailetti and Zijdemans 2014; Shaheer and Li 2020). These frameworks explain how digital start-ups can attain globalisation rapidly. In addition, four other papers can be grouped around the theme the *internationalisation process* of e-entrepreneurial firms (Wentrup 2016). The international market performance leads to global-operation businesses (Glavas, Mathews, and Bianchi 2017; Lee and Falahat 2019). All these models discuss how internet and e-commerce platforms help entrepreneurial firms to recognise opportunities in the e-marketplace. According to Rana and Sørensen (2013), internal factors such as the quality of an entrepreneur's leadership, and an entrepreneur's foreign language skills and e-commerce level of use serve to explain successful

internationalisation. Therefore, internationalisation becomes an important means for the success of both online start-ups and for e-entrepreneurship transformation in traditional businesses.

The fourth avenue contains six theoretical contributions around the theme of the *customers* of e-entrepreneurial firms. Four of these papers examine the *online behaviour* of customers. There is an essential need to improve adopted e-commerce technologies in the firm's website in order to make it more attractive for current and new customers (Suvattanadilok 2020). In their framework, Suleman, Zuniarti, and Sabil (2019), stressed the factors that affect customers' intentions and decision to buy from a particular venture. The behaviour differences between men and women' in buying decisions are also analysed (Zolait et al. 2018). E-entrepreneurial stores need to enrich social influence and trust based on age and gender (Mariani, Muhamad, and Lamarauna 2017). The other two customer-related contributions discuss the *e-stickiness* of customers to certain ventures. They focus on enhancing customer loyalty (Abdulwahab and Kabir 2014), and the word-of-mouth (WOM) of loyal customers to bring new customers (Yu et al. 2017).

The last avenue has been labelled as *others*, since it includes four contributions grouped into two different and diverging themes. The first of them examines the *technical* attributes of an e-entrepreneurial firm. According to Chung et al. (2016), the website design increases the interactivity of customers with the firm. On the other hand, e-entrepreneurs must adopt high-quality e-commerce security features against cybercrimes (Kyobe 2008). Finally, two contributions refer to *e-entrepreneurship education* (Isabelle 2020; Wang and Chiou 2020). This specific adaptation of entrepreneurship education programmes to focus on online businesses is relevant. E-entrepreneurship may become a main area of entrepreneurship development in the near future, contributing to generating opportunities and employment, especially for young people.

The five "avenues" evolved in chapter two represent relevant areas for future research. After analysing the SLR results, it is evident that there is a need to develop more models and theories, specifically on e-entrepreneurship.

Similarly, more research works and studies using a qualitative method analysis are also needed. They will contribute to understanding how and why some e-entrepreneurship processes take place. So far, most studies have discussed e-entrepreneurship and online start-ups in developed countries, such as the USA, the UK and the rest of Europe, and even China. Unfortunately, there is a limited number of studies exploring e-entrepreneurship in developing countries. For example, some online start-ups cannot survive in developing countries due to a poor technological infrastructure or e-payment methods (Abdulwahab and Kabir 2014; Effah 2016). In this regard, e-entrepreneurs have to protect their business through careful precautions and measures to increase the trust level with customers (Effah 2016; Jansen et al. 2016), although there is a need for high propensity risk handling concerning e-commerce security systems (Kyobe 2008).

Additionally, the poor adoption of technology, such as inadequate user interfaces, has resulted in a slow diffusion of m-commerce businesses (Godoe and Hansen 2009). Currently, many companies are aiming towards mobile applications, as they shape the new trend of doing business online (Tarute, Nikou, and Gatautis 2017). The cultural aspect is another major issue that needs research to explore its impact on e-entrepreneurship. Examining the cultural background of e-entrepreneurs and the impact of culture on the e-entrepreneurial process is necessary to understand the contextual influence on digital start-ups. The need for more studies on the e-entrepreneur's educational background to recognise its effect on their start-ups is also stressed. There is a critical need to build more solid frameworks that are based on influential theories to enhance the theoretical literature base in e-entrepreneurship.

Overall, therefore, the present SLR has presented a picture of the research so far. The field may be found to lack some unity, but several highly interesting avenues and themes are open for future research. This research expects that this review contributes to attracting additional research to the field.

2.5.3 Chapter Summary

E-entrepreneurship is a growing research field that presents a promising and critical field to explore, especially with the increase in the number and value

of online start-ups. Hence, it is no wonder that the number of publications in e-entrepreneurship is growing and receiving more attention. At the same time, however, there is a need to organise and categorise the growing research work in the field, not only to better understand the current status but to identify the gaps that need to be filled. Using a systematic literature review (SLR), the authors categorised and analysed the theories and models from 105 relevant papers out of a total of 291 articles in the literature of e-entrepreneurship from 2008 to September 2020. This has helped to reveal some very important findings that shed light on the gaps within the field. For instance, this analysis showed that most of the research reviewed in this work is not based on a solid theoretical framework that specifically considers the distinctive characteristics of e-entrepreneurship.

Moreover, the SLR revealed the existence of research gaps that need to be addressed, particularly those that focus on the success, challenges and opportunities e-entrepreneurs face in the digital world. The findings argue that these gaps, both in theory and practice, need to be developed into a comprehensive roadmap to help researchers draw on more relevant and needed work in this field. Besides, researchers can also focus on the development of more practical and empirical frameworks addressing the regional, cultural and environmental conditions in developing countries and across regions. Finally, online start-ups represent a massive opportunity for entrepreneurs worldwide. E-entrepreneurship and e-firm performance is a multidisciplinary field of research. Therefore, it is essential to integrate complementary research areas that need institutional and theoretical foundations to help develop better market-related research.

Chapter 3: E-Entrepreneurship in Jordan

This chapter demonstrates the context of e-entrepreneurship in Jordan through a qualitative case study research. The first section 3.1 provides a general overview of e-entrepreneurship in Jordan as it represents a case in the Middle East and North Africa (MENA). Next, it discusses e-commerce and its capabilities in developing and empowering potential e-entrepreneurs (section 3.2). Later, in section 3.3, it tackles the culture and gender within e-entrepreneurship in Jordan. Then, it represents three Jordanian case studies of initiatives to support the local entrepreneurs, with a particular focus on e-entrepreneurship (section 3.4). Finally, it provides a discussion and summary of the case studies analysis (section 3.5).

3.1 OVERVIEW

The rapid development in the online and e-commerce business sectors has linked different communities in the global online market. This has made many organisations launch their own websites to interact with their local customers and other potential customers worldwide. According to Turban et al. (2002), e-business involves the buying and selling or exchanging goods, services and information through computer networks via the internet. Because of the e-business sector's ultimate growth, venture capitalists and investors are coming to invest their funds in this sector. E-commerce is defined as sharing information, maintaining relationships, and conducting business transactions through telecommunications networks (Vladimir 1996). Other researchers support this view as e-commerce includes buying and selling activities in addition to include different processes across the organisation (Applegate 1999; Fellenstein and Wood 2000). E-commerce in a broader sense also includes servicing customers and collaboration among the business partners (David and Benamati 2002). Thus, e-commerce has increased rapidly and attracted more customers from Tier 2 and Tier 3 cities, where people have restricted access to brands with high brand equity.

Entrepreneurs are increasingly using e-commerce to start-up their own online business. A nascent entrepreneur is someone who starts carrying out a series of activities intended to culminate in a fertile business start-up (Reynolds

1994). It may include individuals or organisations engaged in the entrepreneurship process (Naffziger, Hornsby, and Kuratko 1994). Entrepreneurship is the process consisting of the creation of something new and related with the handling of risk and reward measures. It encompasses acts of organisational creation, renewal, or innovation that occur within or outside an existing organisation (Sharma and Chrisman 2007).

On the other hand, E-commerce and entrepreneurship generate income and sustain economic development and growth (Reynolds et al. 2005; UNCTAD 2003). Moreover, creating a successful e-commerce venture could be affected by factors such as entrepreneurial characteristics and other critical factors defined by Sebora, Lee, and Sukasame (2009). A successful E-commerce entrepreneur is one who has launched an e-commerce venture, profitable in monetary terms, and has also survived to external and internal factors. Nevertheless, e-business is also characterised by selling or buying a service or product (including rental and books, computers, cell phones, software) through online sources, such as email service. E-commerce enables the single computer owner to interact with the whole world of consumers and run their business with them. The concept has a broader scope and is not limited to small e-businesses or organisations, but also includes big corporate entrepreneurship (Burgelman 1983).

The use of Information and Communication Technologies (ICT) have been seen as a good opportunity for developing countries (Henari and Mahboob 2008; Kahttab et al. 2012). E-business activity may compensate for the lack of adequate physical infrastructure or the small local markets. For this reason, ICTs are being promoted in several of these countries. This is the case of Jordan, where the government is actively pursuing the modernisation and development of the ICT sector (UNCTAD 2003). In particular, special attention has been paid to e-business as a possibility to promote women empowerment and reduce gender inequality (Mellita and Cholil 2012).

3.2 E-COMMERCE ENTREPRENEURSHIP

The concept of infrastructure related to e-commerce is a relevant factor impacting on the adoption of e-commerce by developing nation entrepreneurs

for their business. The e-business firm's infrastructure includes the internet compatibility, technical skills, and experience of the employees with respect to the business. Internet compatibility refers to the availability of telecommunication systems, hardware and software and internet services, to the entrepreneur. It also includes knowledge about how to use and apply it to the business.

Grandon and Pearson (2004) identify different variables as useful to perceive the strategic value of e-commerce adoption, such as organisational support, decision-making abilities and managerial productivity in SMEs. This specific knowledge allows entrepreneurs and their employees to choose e-commerce as a beneficial business strategy. Technical computing skills and experience of the employees and the entrepreneurs will support implementing strategies to expand or develop their business through e-commerce. The customer's ability to use the internet and infrastructure is also considered the leading component for adopting e-commerce by the entrepreneur. The infrastructure is a prime component for e-commerce to work for the entrepreneurs and to support their business (Grandon and Pearson 2004).

The main concern for entrepreneurs while seeking new strategies are the customers. Whatever decisions an entrepreneur takes to expand her/his business depends on customers' -or potential customer's- acceptance. It is derived that the customers are a primary element for the entrepreneur to decide whether to adopt e-commerce for her/his business. The decision to take up e-commerce as a business strategy could be affected by the customers and their trust in e-commerce (Shuhaiber, Lehmann, and Hooper 2014). Change takes time to get accepted and the same applies to e-commerce, as there is lack a of awareness and popularity of e-marketing among customers. The existing culture of shopping can act as a barrier to the growth of e-commerce in developing countries.

Related to this situation, these countries' entrepreneurs are often afraid of trying new strategies (Alzubi, Aldhmour, and ALattraqchi 2015). According to them, this is related to some additional factors affecting the adoption of e-commerce management, including top management support (TMS), financial

resources (FR), University readiness (UR), attitudes and subjective norms (SNKS).

The market environment is also a factor that influences e-commerce entrepreneurship. Wymer and Regan (2005), studied the application of e-business and e-commerce information technology (EEIT) in small and medium enterprises (SMEs). The primary objective is to analyse the barriers and incentives found by SMEs in using EEIT and the influence of demographic characteristics on the adopter's decision. Market environment is a combination of competitors, suppliers, vendors and customers. The existence of competition in the market motivates vendors to stay one step ahead of their competitors. Competitors play a major role as they are the main element forcing entrepreneurs to present themselves with uniqueness and provide the customer with easy to access facilities to purchase their products.

Vendors may also attract customers by using alternative strategies: allowing them to access the market from the comfort of their homes, providing a variety of quality options, and allowing comparison of their products with other vendors' products. In this sense, e-commerce provides entrepreneurs with benefits attached to it, which allows them to cover wider markets with cost efficiency and less effort. The trends running in the market place will influence the decision of the entrepreneur to choose the promotion strategy for her/his products. If the trend is in favour of e-commerce, the entrepreneur tends to select it (Wymer and Regan 2005).

According to Kapurubandara and Lawson (2006), they reveal the significant barriers at different levels with regard to e-commerce Information and Communication Technology (ICT) adoption in developing countries. The nature of market changes with the transformation in government policies, rules and regulations related to market transactions. When the government introduces any new policies regarding taxes, subsidies or rules and regulations, all these factors provide some flexibility or stiffness in the working procedure of an entrepreneur. These aforementioned elements have a direct impact on the adoption of e-commerce by an entrepreneur. If these elements are in favour of e-commerce

with respect to a traditional business, then the entrepreneur will have an incentive to adopt e-commerce as her/his mode of transaction.

Contradictory to the preceding situation, entrepreneurs do not use e-commerce as their manner of dealing in the market if the government policies are not supporting their business through e-commerce. Thus, government policies, rules and regulations are considered as a crucial factor for the entrepreneur to take up e-commerce to promote their business and attract the attention of the customers (Kapurubandara and Lawson 2006).

According to Henari and Mahboob (2008), internet users have an experience in this field and are considering the internet technology to be new and possibly the most significant opportunity for commercialism in this century. This, at one time known as an information revolution, is now called the internet and e-commerce revolution (Henari and Mahboob 2008). There are many cultural and social aspects against different nations which are considered a major obstacle to the spread of e-commerce. E-commerce is considered a leading indicator for economic advancement and growth in developed and developing countries (Edvinsson and Stenfelt 1999).

3.3 CULTURE, GENDER AND E-ENTREPRENEURSHIP

Culture may be defined as the set of fundamental common values which contributes to shaping people's behaviour in society (Inglehart 1997). It also includes patterns of thinking, feeling and acting, which are learned and shared by people living within the same social environment (Hofstede, Hofstede, and Minkov 2005). The first and most common classification of cultures distinguishes between individualist and collectivist ones (Hofstede, Hofstede, and Minkov 2005; Schwartz 1999). The more general set of cultural dimensions defined by Hofstede (1980), have been frequently applied in the study of these countries. These four underlying value dimensions are used to position countries into cultural regions. These dimensions include power distance, uncertainty avoidance, individualism vs collectivism, and masculinity vs femininity. All of these dimensions are rated on a different scale from the lowest to the highest (Hofstede 1980).

The cultural dimension of collectivism appears to be a sort of functional, social closeness. It is measured with respect to parents, friends and others. The collectivist society consists of collective identity, emotional dependency, sharing of duties and obligations needed for stable and predetermined friendship, group decision, and participation. On the other hand, individualism is a multidimensional concept. The behavioural aspects of individualism act according to the personal attitudes and preferences of people, rather than being influenced by others' opinions and perception level (Buda, Richard; Elsayed-Elkhouly 1998). The cultural difference of both, individualism and collectivism, affects the business and the economy in several ways because of their interrelated functions (Hofstede, Hofstede, and Minkov 2005).

The findings of various research studies suggest that culture in the Arab countries could be a barrier to the internet usage because of the highly social and family-oriented culture of the Arab region. There could be a threatening effect of internet and e-commerce in the life of family and community. According to Lauzikas and Mokseckiene (2013), in a society, culture affects the decisions of young people about focussing on innovation, employment or starting a new venture. The role of a society's lifestyle, religion, customs, rules and other similar aspects on the business and organisations of a country are relatively under-explored. The influence of human resources, and their intercultural backgrounds are generally ignored when identifying the role of culture in entrepreneurship activities. Nevertheless, it has a deep impact on entrepreneurship. Entrepreneurs cannot get the desired results from their businesses activities without having adequate knowledge about the culture of the country where their business is located (Lauzikas and Mokseckiene 2013).

The lack of cultural awareness may also result in the vanishing of some financial benefits of the business. In the view of Sajjad and Dad (2012), the entrepreneur's intentions are substantially affected by the culture of a country. They propose the model of persuasion as consisting of Appropriateness, Consistency and Effectiveness (ACE). This model assumes entrepreneurs choose between adding a new concept to the existing trends of business or introducing an entirely new concept to generate a striking image of their venture in the

market. The decision will depend on the evaluation of appropriateness, consistency and effectiveness of alternative options.

The feasibility of the entrepreneur's ideas will depend on the customers' demand, which ultimately is influenced by their culture. Thus, the importance of culture is revealed by factors such as the customers' acceptance of the idea, or the entrepreneur's efficiency to stabilise her/his business. It is evident that the thinking, values and beliefs of people have impressions of the culture by which they are surrounded (Liñán, Moriano, and Jaén 2016). Similarly, the morals, actions, and behaviour of the people are developed under the same culture which is accepted by society (Leung and Morris 2015). Generally, it is observed that the entrepreneur's intentions are also influenced by individual thoughts, but which are nurtured by the cultural influence of the country or region (Liñán, Moriano, and Jaén 2016).

Thus, it is accepted that a nation's culture has a moderating impact on the intentions of the entrepreneur with regard to e-commerce (Sajjad and Dad 2012). Entrepreneurship is considered as the essential element that promotes competition, innovation and employment. The entrepreneurial intentions is one key step in the process of entrepreneurship (Sajjad and Dad 2012). However, entrepreneurial intentions influence entrepreneurial behaviour depending on previous specific business knowledge. Most people, even if they exhibit high entrepreneurial intentions, begin undertaking an employee position before they launch their own business, due to lack of sufficient start-up capital and specific knowledge

Chai and Pavlou (2002) developed a research instrument to measure collectivism and individualism along with the theory of planned behaviour constructs. The use of internet and the process of globalisation develop the activities of e-commerce across nations. These actions develop a new framework of online consumer behaviour that exceeds the national boundaries along with cross-cultural effects. They found a significant relationship between attitude and intentions for collectivistic cultures, but insignificant for individualistic cultures. However, the findings from various studies state that customer loyalty, in place of business to consumers in e-commerce, is not influenced by the individualism

or collectivism cultural dimension. Furthermore, individualism and collectivism explain the differences among online and offline commerce. Online shopping pulls in individualists because people do not have to interact with the cooperation of other individuals. Therefore, most users of online commerce express individualistic values (Frost, Goode, and Hart 2010). In Arab countries, such as Jordan, where collectivistic values tend to prevail, this would imply a hurdle for the development of e-entrepreneurship.

Shuhaiber, Lehmann, and Hooper (2014) introduced a factorial model for consumer trust in mobile payments via mobile, cell phone or smartphone handsets. The study was conducted in the United Arab Emirates – Middle Eastern country. One of the five main conceptualisations in the study model was environmental influences (social and cultural). It found that the word-of-mouth had a positive effect for the majority of people on trusting any online business, in addition to other factors related to the Emirates technological culture and environment (Shuhaiber, Lehmann, and Hooper 2014).

In this context, some studies have tried to identify the main factors retarding the spread of e-commerce in many countries, including social and cultural reasons as one relevant element (Gibbs, Kraemer, and Dedrick 2003). A recent study has also shown the influence of individualism and collectivism cultural values toward e-commerce intentions in Jordan, moderated by the gender factor (Kahttab et al. 2012).

Gender is a relevant variable determining various roles in society and lays different emphasis on the work goals and assertiveness in comparison to the personal goals and furtherance. According to the views of Sangwan, Siguaw, and Guan (2009), there is a significant role of gender on explaining the different motivational levels towards e-commerce of males and females. The study has also mentioned various factors are affecting males and females differently in their e-commerce purchase behaviour. These factors include: (a) reliable information is available while shopping online; (b) purchasing behaviour of others, (c) enjoying while shopping online; among others (Sangwan, Siguaw, and Guan 2009).

Various studies have identified a set of critical factors which underlie successful women entrepreneurs. In particular, government and institutional

support, involvement of societal environment, training and management, increased access to the market, and best managerial practices are stressed. Thus, Minniti, Pia, and Langowitz (2004), argue that men continue to exhibit more active participation in entrepreneurship, as compared to women. The data suggested that the shortfalls occur more likely with the middle-income nations where women are 25% of entrepreneurs. In contrast, women entrepreneurs are more active comparatively in high-income countries, with over 33% of the total, and in the remaining low-income countries, with a 41% participation rate (Minniti, Pia, and Langowitz 2004).

In the case of Jordan, as in other Arab countries, traditional roles assigned to women do not fit well with the entrepreneurial activity (Sidani 2005). In this sense, it has been argued that e-entrepreneurship may help overcome some of these traditional cultural beliefs in Arab countries. Hence, Information and Communication Technologies (ICTs) provide women's empowerment, according to Kelkar and Nathan (2002), ICTs may contribute to redefine the traditional gender roles as the use of IT services will benefit both men and women who have limited knowledge and money for higher education (Kelkar and Nathan 2002).

Mitchell (2004), found that stereotype behaviour influences the ways and targets of men and women. The stereotype indicators such as targets, negative perspective and self-appropriate behaviour are dangerous to their self-fulfilment cycle. Thus, many women entrepreneurs are motivated by the safety level measures for their families. Entrepreneurship combines caring for their families as well as bringing the money for them for their survival and fulfilment of their aspirations. This is visible in several Asian countries including Indonesia and Singapore (Mitchell 2004; Sebora, Lee, and Sukasame 2009).

According to the Women UN report (2015), about half of the world's human capital and business owners are women. However, only around one-third of the work done by women in developing countries is measured in the national economic reports. In contrast, in some developed countries such as Germany, women using government incentives for their ventures perform comparatively as satisfactorily as men are. Because of the thought that women bring fresh motivation and ideas in their professional work, women adjust better into the

new service society as compared to the old industrial society. In this regard, Mellita and Cholil (2012), identified several factors as helpful success motivator for females in e-commerce entrepreneurship in developing countries:

- new challenges and Opportunities for self-fulfilment,
- Education and qualification,
- Support from the family members,
- Role models to others,
- Bright future of their children,
- Need for additional income,
- Family Occupation,
- Authority in Independent decision making,
- Employment Generation, and
- Innovative Thinking

Meenakshi (2015), argues that the government is playing a vital role in influencing women to become entrepreneurs. The government's support is encouraging women to become an entrepreneur by developing entrepreneurial intentions among them. In support of these views, Ekpe, Mat, and Che Razak (2011), suggest that governmental policies are vital for encouraging women to become entrepreneurs. In their view, several factors affect the entrepreneurial activities of women, including education, attitude and experience level of the individual.

Education is found to be the most significant factor that affects the entrepreneurial development of women (Ekpe, Mat, and Che Razak 2011). In the Arab World, female education has a strong effect on their employment status as educated females are more likely to be employed than not educated females. However, 30 percent of educated females in Jordan were unemployed during the period 2011 and 2012, with an unemployment rate of 60 percent. Overall, employment increased by 18 percent during the period 1991-2011 which made an average gain for Arab women in the region without a substantial change in Jordan (Momani 2016).

Education provides knowledge about entrepreneurship and the confidence to become an entrepreneur. In addition to this, there are some environmental

factors that affect the entrepreneurial intentions and entrepreneurial development of women. These environmental factors include political and business market situations. Along with this, social and cultural factors like discrimination or preference of men over women are also considered as a significant factor that contributes towards the entrepreneurial intentions and entrepreneurial development of women (Ekpe, Mat, and Che Razak 2011).

3.4 CASE STUDIES IN JORDAN

This section describes three recent entrepreneurial projects. Two of them are aimed at promoting entrepreneurship in Jordan: Oasis5000 and ZINC. Although they are not precisely e-business ventures themselves, they both have a strong online presence. As entrepreneurial support centres, they aim at creating scalable businesses for which e-commerce and e-entrepreneurship components are given high priority. Additionally, they both commit to promote entrepreneurship among less well-off members of the Jordanian society. In the case of Oasis500, they have an explicit focus on the promotion of women entrepreneurship. The third case study (CashBasha) is an e-entrepreneurship project itself, which has come out with the support from ZINC.

3.4.1 Oasis500

The first case study is Oasis500. This is one of the leading seed investment companies and business accelerators in the tech and creative industries within the country. It aims to enable nascent entrepreneurs to transform their viable ideas or creative talents into scalable businesses. This includes finding those entrepreneurs, investing in their start-ups, bridging their know-how gap, and eventually helping them get follow-on funding. In the process, it became one of the most influential players in advancing the entrepreneurship and innovation ecosystem in Jordan specifically, and the MENA region in general. Oasis500 compels people to embrace the entrepreneurial drive and submit their start-up ideas.

It has made an impetus to redefine entrepreneurship by being a partner in Women Entrepreneurship Day (WED), the largest movement to support and

empower women across 144 countries including Jordan. WED launched a return-ship program which helped women return to work through training and internship after being away from the workforce for a while.

In addition to that, Oasis500 encouraged Jordanian entrepreneurs to participate in the Queen Rania National Entrepreneurship Competition (QRNEC) to achieve a well-developed entrepreneurial ecosystem in Jordan. It provides them with a platform to increase the Jordanian entrepreneurs and innovators interest, in addition to the national institutions in designing a path. The program pursues to advocate entrepreneurial skills as mature entrepreneurs and university students to merge their knowledge with the company resources to create a business plan that is both practical and innovative. Oasis500 statistics (March 2012), shows that Out of the 500 trained entrepreneurs 123 are women (25%), 18 companies out of 52 were founded/co-founded by women (35%), women mentors are 30 out of 150 total mentors (20%). Oasis 500 start-ups employed 48 women in between Sep, 2010 – Mar, 2012. Women who led start-ups at Oasis 500 have managed to attract 1million USD on funding in less than one year. Not to mention that 8 out of 11 of their team are females. That shows their concentrate toward the female entrepreneurs specifically.

3.4.2 ZINC

The second case study is Zain Innovation Campus (ZINC). In 2013, Zain Jordan established the Corporate Entrepreneurship Responsibility Division (CER), an independent business unit aiming to build and empower the entrepreneurial ecosystem in Jordan. CER's role was to establish partnerships that would strengthen the ecosystem and create a series of events, activities and workshops that are meant to enable entrepreneurs, build capacity, expose them to success stories and engage them with networks, mentors, potential partners and experiences. Two main roles of CER are: Zain Innovation Campus (ZINC), and Zain Al Mubadara. ZINC is a platform, launched in 2014 for entrepreneurs and interested youth to connect, meet, work, interact and engage with one another to activate and ignite the start-up and entrepreneurship ecosystem in Jordan. ZINC,

as well, links Jordanian entrepreneurs inside the country with start-ups, mentors and investors around the world.

According to the Zain 2016 thought leadership report; ZINC offers entrepreneurs free membership for the campus, meeting leading mentors and experts in workshops and lectures, also access to the latest ICT technology, and the opportunity to connect with investors worldwide. ZINC has evolved into a nationally recognised entrepreneurial hub. It has attracted representatives from Google, Yahoo, Microsoft, regional e-commerce powerhouse Souq, along with Ambassadors and international investors such as 500 Start-ups and Eureeca. It established a host of strategic partnership with the Jordanian Government to develop smart government solutions and mobile apps (e-government), and partnership with the venture capital firm 500 Start-ups to collaboratively invest $2 million USD in local start-ups.

A significant aspect of ZINC is the inclusive nature in which it offers Jordanian youth the opportunities to learn and develop. Moreover, it's accessible to all Jordanians; including those at the bottom of the pyramid that typically have difficulty attending educational forums and events. The events organised through ZINC in 2015 attracted more than 25,000 attendees. ZINC's leading successful start-ups are: A Minute Marvel, Amberley, AqarCirle, Cashbasha, Ekeif, Feesheh, Jobedu, LinaGas, Tamatem and Toffimelt.

The next project is to activate ZINC within universities in 2017, which will be the enterprise hosting workshops with public and private sector partners in an effort to promote students to pursue entrepreneurship and innovation in their future careers. ZINC Academy division is also planning new courses that will teach start-ups the fundament scaling and legitimising business models. Recently Oasis500 started a partnership with ZINC to explore the possible opportunities for entrepreneurship development in Jordan. Both parties have agreed to allow their members' have mutual access to the latest technology, knowledge sharing, mentoring and coaching sessions, training, speakers' series and access to networks. Oasis500 and ZINC are committed in benefiting entrepreneurs in Jordan by leveraging a holistic package of support services derived from the expertise and resources available in both organisations.

3.4.3 CashBasha

This is a cash collection network, where customers can shop online and pay for their purchases in cash at trusted locations near them, or at their doorsteps through the cash on delivery (COD) method. The decision to start CashBasha was a result of large-scale research by the team, which showed them that 80% of e-commerce retail in the MENA region was flowing from capital global e-commerce players. One of the success points was the ability to map how emerging market customers want to be served on international shopping sites in a way that completely hides all the complexities of purchasing from the customer.

The CashBasha team guaranteed that their solution supported any and all shopping sites. But at present, they are partnered with just one site, which is a great first partner to have, given that its global e-commerce major Amazon. The decision to begin with Amazon was a result of co-founders' research which showed that about 40% of any online purchases being made in (MENA) region all came from that one site. Without elaborating on the terms of the partnership with the e-commerce giant (owing to nondisclosure agreements), strategically, CashBasha is aligned with Amazon, designed with a personal distinctive technology to be agnostic and work on any e-commerce website by design. It resulted in requests from customers to integrate more sites, and they are considering it.

CashBasha was officially launched in May 2015, showing success in the early results. They were able to achieve those within the first two days of operation, showing a solution and considerable growth. Currently, in Jordan alone, CashBasha claims to be shipping nearly six tons of goods per month. In the cash-dominated markets served by CashBasha, only 20% of the transactions are digital in nature. Moreover, CashBasha's tools also sustain international sourcing, shipping, customs clearance and other allied needs, and are not just a means of payment. Their method on supporting COD, is "cash before delivery", and not COD, without necessarily advocating or overly encouraging cash payments, letting customers transact in whatever way they are comfortable with.

3.5 DISCUSSION AND SUMMARY

In this chapter, the dissertation tried to present an overview of the literature about the roles of culture and gender in e-commerce and e-entrepreneurship. It particularly focused on Jordan, as a representative of the Middle East and Northern Africa (MENA) countries. A collectivistic culture typically prevails in Arab countries. This kind of cultural values may act as a barrier to the development of innovative entrepreneurial projects, as is the case with e-entrepreneurship. A positive relation has been found between e-commerce and individualism.

In this regard, some of the environmental factors that are relevant in affecting entrepreneurial activity include the market situation and the role of the government. Regarding the former, infrastructure and customers' practices do not seem to be too favourable for the development of e-commerce entrepreneurship. Customers need to accept and get used to e-commerce by changing their traditional ways of shopping and do shopping online in place of face-to-face interaction. They need to get used to utilising the internet as their mode of shopping. The bargaining, interacting with the shopkeeper and getting the delivery of products directly from the hands of the shopkeeper will change to online transactions from their homes without direct personal contact.

In contrast, despite a not so positive initial situation, government policies and measures are being implemented to support entrepreneurship in general, and the use of ICT in entrepreneurship. Similarly, the Jordanian government is also encouraging women to become an entrepreneur by promoting the development of entrepreneurial intentions among them. Our review has found indications that there is a considerable gender bias in the developing countries and specifically in Jordan with respect to entrepreneurship. For this reason, many countries are starting to provide support to their female population, as e-commerce enables them to conduct their business from the comfort and safety of their homes.

In particular, some of the initiatives implemented through Oasis500 are potentially very relevant and maybe highly impactful in this respect. In this sense, the initiative of entrepreneurship education may be beneficial to motivate

women entrepreneurs to understand the importance of entrepreneurship. In order to promote women e-commerce entrepreneurs, the inclusion of ICT-specific contents is an essential factor to be considered.

Table 1: Doing Business Report on Starting a Business 2017

Indicator	Jordan	MENA	OECD high income
Procedure – Men (number)	7.0	7.8	4.8
Time – Men (days)	12.0	20.1	8.3
Cost – Men (% of income per capita)	22.4	26.3	3.1
Procedure – Women (number)	8.0	8.6	4.8
Time – Women (days)	13.0	20.9	8.3
Cost – Women (% of income per capita)	22.4	26.3	3.1
Paid-in min. capital (% of income per capita)	0.1	11.2	9.2

Source: World Bank Doing Business Project
(http://www.doingbusiness.org/data/exploreeconomies/jordan)

Regarding the case studies, the initiatives analysed represent important steps to develop Jordan as a vital environment for entrepreneurs. As shown in Table 1, Jordan compares fairly well with other MENA countries and there is no strong regulative discrimination against women in starting a business. Although one additional procedure is required (husband's permission), there is no extra cost for women when they are to launch a new venture. Additionally, recent initiatives as Oasis500 and ZINC are helping develop a more supportive environment for venture start-ups. As indicated above, there is still a relatively low percentage of newly funded companies launched by females.

Chapter 4: Theoretical Framework

This chapter argues the theoretical framework of this study, which is based on the TPB to investigate e-entrepreneurs' intentions (section 4.1). Next, section 4.2 discusses the development and construction of the study hypotheses. This section distinguishes in detail the TPB hypotheses and the wide usage of this theory among other empirical studies related to intentions. Moreover, it also develops the hypotheses regarding the perceived entrepreneurial culture, gender differences, and risk propensity. Finally, the conceptual framework of this study is drawn according to the developed hypotheses of this study (section 4.3).

4.1 THEORETICAL FRAMEWORK

The entrepreneurship field is growing and getting more attention from numerous researchers. In this research, we focus on e-entrepreneurship as a new field of research (Kollmann 2006; Matlay 2004). One of the early authors who considered studying e-business and entrepreneurship is Matlay (2004), as he was the first to refer to this field as "e-entrepreneurship" (Quinones, Nicholson, and Heeks 2015). He stressed out the need for more studies on the topic as the importance of internet business nowadays. Ever since, it has gradually taken on a serious curve in scientific research as a new field of research. For instance, the Shell Model offers a broader illustration of the e-entrepreneurship and its infrastructure (Kollmann 2006). Furthermore, various empirical works shaped the initial body of e-entrepreneurship literature (Gundry and Kickul 2006; Matlay and Westhead 2005; Millman et al. 2009; Tarres, Melendez, and Obra 2006).

Plenty of research is carried out on the entrepreneurial intentions (Liñán and Fayolle 2015), as well as on the social entrepreneurial intentions (Tan, Le, and Xuan 2019). Yet, relatively few studies focus on the e-entrepreneurial intentions (Batool et al. 2015; Y. S. Wang et al. 2016). Likewise, venture creation by e-entrepreneurs is still in an emerging state (Serarols 2008). Several models have been developed to examine the entrepreneurial intentions toward starting a new entrepreneurial business. For instance, the Theory of Reasoned Action (TRA) (Fishbein and Ajzen 1975); the Theory of Planned Behaviour (TPB) (Ajzen 1991; Ajzen and Klobas 2013); the Technology Acceptance Model (TAM) (Davis

1989); the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al. 2003).

In chapter 2, the citation analysis demonstrated the most influential studies that formed the literature base on the field of e-entrepreneurship. The psychological category embraced the two most influential empirical frameworks that have been used to study the e-entrepreneurial intentions among other studies as the Technology Acceptance Model (TAM, Davis 1989); and the TPB (Ajzen 1991). Nevertheless, both TAM and the Unified Theory of the Acceptance and Use of Technology (UTAUT) frameworks were mostly adopted to examine the ease of use and usefulness of technology use in business, furthermore, to embrace what kind of technology is better according to the business model (Cordero-Gutiérrez and Santos-Requejo 2016; Kwun et al. 2010; Nawi et al. 2017; Sudarmaji and Ambarwati 2018). In turn, many studies adopted the TPB in building theoretical frameworks as per the strength of its antecedents (Naimatullah and Ali 2017; Schlaegel and Koenig 2014). In fact, the TPB is the most common theory to test entrepreneur's intentions and behaviour (Liñán and Fayolle 2015). Thus, this study will adopt the TPB to examine the Jordanian entrepreneurs' intentions to start a new online business in Jordan.

4.2 RESEARCH HYPOTHESES

The theoretical base structures of e-entrepreneurship are still emerging as it focuses on those of similar disciplines and frameworks (Carrier, Raymond, and Eltaief 2004). Several studies have carried out the TPB framework to investigate the entrepreneurial intentions (Ajzen and Klobas 2013; Naimatullah and Ali 2017; Vodă and Florea 2019). In addition, it was the base for some frameworks to investigate the e-entrepreneurial intentions (Dutot and Van Horne 2015; Van Horne, Dutot, and Zhang 2016; Younis, Katsioloudes, and Bakri 2020).

This research focuses on the e-entrepreneurial intentions of Jordanians entrepreneurs to start a new online business in Jordan. By adopting the TPB, the study will first, test the effect of the three primary factors attitude, subjective norms and perceived behavioural control on the e-entrepreneurial intentions in Jordan. Additionally, the study will investigate the relationship between

perceived entrepreneurial culture and e-entrepreneurial intentions to start a new online business. Furthermore, the study will explore the differences between men and women regarding their e-entrepreneurial intentions to start a new online business. Finally, the study will examine the effect of risk propensity on Jordanians' e-entrepreneurial intentions to start a new online business.

Overall, the study hypothesises that in addition to the three factors suggested by (Ajzen 1991). The perceived entrepreneurial culture, gender and risk propensity affect the e-entrepreneurial intentions to start a new online business in Jordan. For that purpose, a set of hypotheses were developed to answer the study's main questions. Each set of hypotheses is well-presented as follows.

4.2.1 The Theory of Planned Behaviour

This theory went through several phases of development until it reached its current model. Initially, Fishbein and Ajzen (1975), proposed the Theory of Reason Action (TRA) to explain how the attitude and the subjective norms affect the intentions of individuals, which in turn is the best predictor of behaviours. After several phases of theory development (Ajzen 1985, 1987), the perceived behaviour control factor was added to the theory to shape the current TPB (Ajzen 1991). The theory reports that the three factors, Attitude, Subjective Norms and Perceived Behaviour Control, together influence and motivate individuals' intentions (Ajzen 1991; Liñán and Chen 2009); consequently, it will affect their behaviour (Figure 4.1).

Previous research works have confirmed the TPB framework empirically, in addition to the positive relationship between entrepreneurial intentions and attitude, subjective norms and perceived behavioural control (Lechuga Sancho, Martin-Navarro, and Ramos-Rodriguez 2020; Paray and Kumar 2020; Wach and Wojciechowski 2016). Correspondingly, The TPB was used in several studies in e-entrepreneurship. For instance, attitude and perceived behavioural control have a positive relationship on the e-entrepreneurial intentions in Iran, yet, subjective norms were not found to have any relation with their intentions to start a new online business in such a developing country (Farani, Karimi, and

Motaghed 2017). However, individuals' attitude toward e-entrepreneurship was not found to impact their e-entrepreneurial intentions, while, both subjective norms and perceived behavioural control were found to positively impact their intentions to start a new online business (Lai and To 2020).

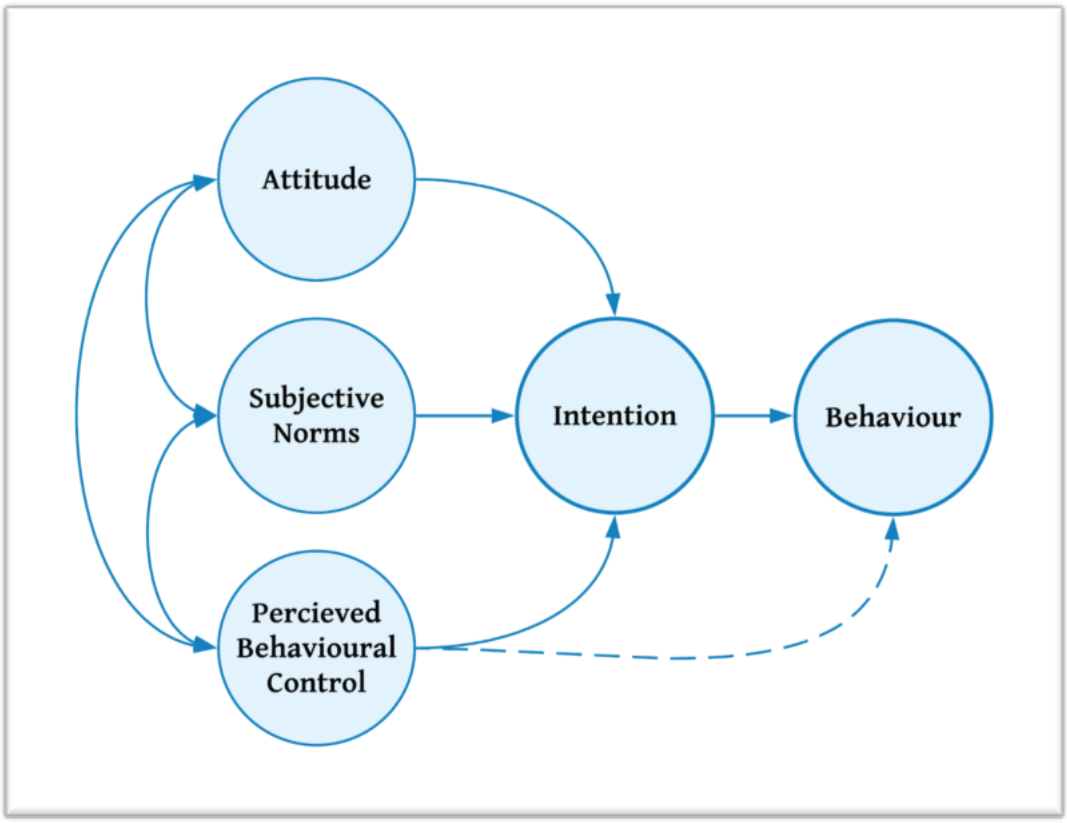

Figure 4.1: Theory of Planned Behaviour

This association has been sufficiently studied; however, it is important for this research to refer to it. Consequently, this study developed the following hypotheses:

H1. There is a positive relationship between the TPB antecedents and e-entrepreneurial intentions to start a new online business in Jordan.

H1a: There is a positive relationship between personal attitude and e-entrepreneurial intentions to start a new online business in Jordan.

H1b: There is a positive relationship between subjective norms and e-entrepreneurial intentions to start a new online business in Jordan.

H1c: There is a positive relationship between perceived behavioural control and e-entrepreneurial intentions to start a new online business in Jordan.

4.2.2 Perceived Entrepreneurial Culture

Culture can be defined as the collective programming of the mind, and serves to differentiate some ethnic and social groups from others. In particular, where we refer to nations and countries, National Culture may differ from people living in the corresponding nations (Hofstede 1980). Entrepreneurs have been seen to share their culture and values in entrepreneurship learning (Gibb 2002). The role of culture was reported to affect the entrepreneurial intentions as it affects the behaviour of people (Bogatyreva et al. 2019). Culture expresses some nuanced differences between entrepreneurs through different stages in their business development. It was also seen to directly affect the entrepreneurial intentions and, accordingly, entrepreneur's competitiveness (Paul, Hermel, and Srivatava 2017).

According to Qasim, Bany Mohammed, and Liñán (2018), People in Jordan demonstrate a collectivism culture; however, this research focuses on perceiving entrepreneurial culture at an individual level. Yet, it has been seen that cultural indicators at country-level are not able to predict whether cultural aspects stimulate certain individuals to start a new business (Liñán, Jaén, and Martín 2020). Culture has been seen as a critical antecedent that illustrates entrepreneurial intentions (Terjesen, Hessels, and Li 2013). Moreover, entrepreneurial actions at the individual level depend on the personal perceptions of an entrepreneur (Autio, Pathak, and Wennberg 2013; Liñán, Moriano, and Jaén 2016). There is significant heterogeneity in how culture is being perceived by people inside any country (Jaén and Liñán 2013; Leung and Morris 2015); thus, some researchers stressed out the individual-level perceptions of culture (McCoy, Galletta, and King 2005; Shinnar, Giacomin, and Janssen 2012).

The TPB has been seen as a valid theory to study the entrepreneurial intentions in different countries regarding regional culture clusters (Engle et al. 2010; Liñán and Fayolle 2015). According to Liñán and Chen (2009), there is a need to investigate the cultural factor using the TPB in order to generalise the theory results. However, the effects of culture are not addressed in existing theories of entrepreneurial intentions, and it is still demonstrating critical and unexplored aspects (Valliere 2019). And few studies have addressed the role of informal institutional environment such as national culture (Schlaegel, He, and Engle 2013). For this reason, it seems more appropriate to focus on the respondents' perceptions concerning the predominant culture in Jordan. Therefore, this dissertation developed the following hypotheses to address the effects of culture on the EEI in Jordan:

H2. There is a positive relationship between the perceived entrepreneurial culture and e-entrepreneurial intentions to start a new online business in Jordan.

H2a: There is a positive relationship between perceived entrepreneurial culture and personal attitude to start a new online business in Jordan.

H2b: There is a positive relationship between perceived entrepreneurial culture and subjective norms to start a new online business in Jordan.

H2c: There is a positive relationship between perceived entrepreneurial culture and perceived behavioural control to start a new online business in Jordan.

4.2.3 Gender

A large number of studies have been conducted on women entrepreneurship, particularly, research works that are investigating gender issues in entrepreneurial intentions (Liñán and Fayolle 2015). Gender has been found to consistently affects entrepreneurial intentions (Joensuu-Salo, Viljamaa, and Varamaki 2020). Furthermore, some studies confirmed the gender differences (Kumar, Paray, and Dwivedi 2020). Many reported that women are less likely to participate in entrepreneurial activities than men (Santos, Roomi,

and Liñán 2016; Shabsough, Semerci, and Ergeneli 2020). According to the Kauffman Index (2017), the rate of male entrepreneurs is higher (39%) when compared to that of females (23%).

As a developing country, Jordan exhibited some differences between men and women in starting their entrepreneurial business. Educated women indicated a high rate (76%) as unemployed (GEM 2017). Jordanian women are still perceiving some challenges as entrepreneurs (Muntaha 2020). This study investigates if there are any differences between men and women in their intentions to start a new online business in Jordan; hence, the following hypotheses are developed:

H3. There are significant differences between men and women in the relationship from perceived entrepreneurial culture and e-entrepreneurial intentions antecedents in Jordan.

H3a: There are significant differences between men and women in the relationships between their perceived entrepreneurial culture and attitude to start a new online business in Jordan.

H3b: There are significant differences exist between men and women in the relationships between their perceived entrepreneurial culture and subjective norms to start a new online business in Jordan.

H3c: There are significant differences exist between men and women in the relationships between their perceived entrepreneurial culture and perceived behavioural control to start a new online business in Jordan.

4.2.4 Risk Propensity

Risk propensity can be defined as the tendency to take or avoid risk by a decision-maker (Sitkin and Weingart 1995). Ever since, entrepreneurs have been recognized as risk-takers (Brockhaus 1980; Meier and Masters 1988). The risk propensity has been found to influence the entrepreneurial intentions (Gu et al. 2018; Voda et al. 2019). The first study to use the TPB to investigate the risk propensity indicated that it is an important antecedent as it significantly impacts entrepreneurs' intentions (Nabi and Liñán 2013).

Moreover, by extending the TPB, risk propensity was also found to affect the entrepreneurial intentions (Wach and Wojciechowski 2016). A comparison study on the entrepreneurial intentions extending the TPB also stated that risk propensity has influenced individuals' intentions in both developed and developing countries (Munir, Jianfeng, and Ramzan 2019). Jordan as one of the developing countries and being Arab culture could suffer low risk taking and control their behaviour toward starting a new business. In particular, the literature supports the effect of risk propensity on perceived behavioural control (Munir, Jianfeng, and Ramzan 2019). That is, as people feel more inclined to take risk, they should feel that starting a venture is something they can maintain under control and execute successfully. Thus, the following hypothesis has been developed:

H4: There is a positive relationship between risk propensity and perceived behavioural control to start a new online business in Jordan.

4.3 RESEARCH MODEL

Based on the TPB and according to the previous four developed hypotheses, the following conceptual model is proposed to address the antecedents that may affect the e-entrepreneurial intentions to start a new online business in Jordan (Figure 4.2).

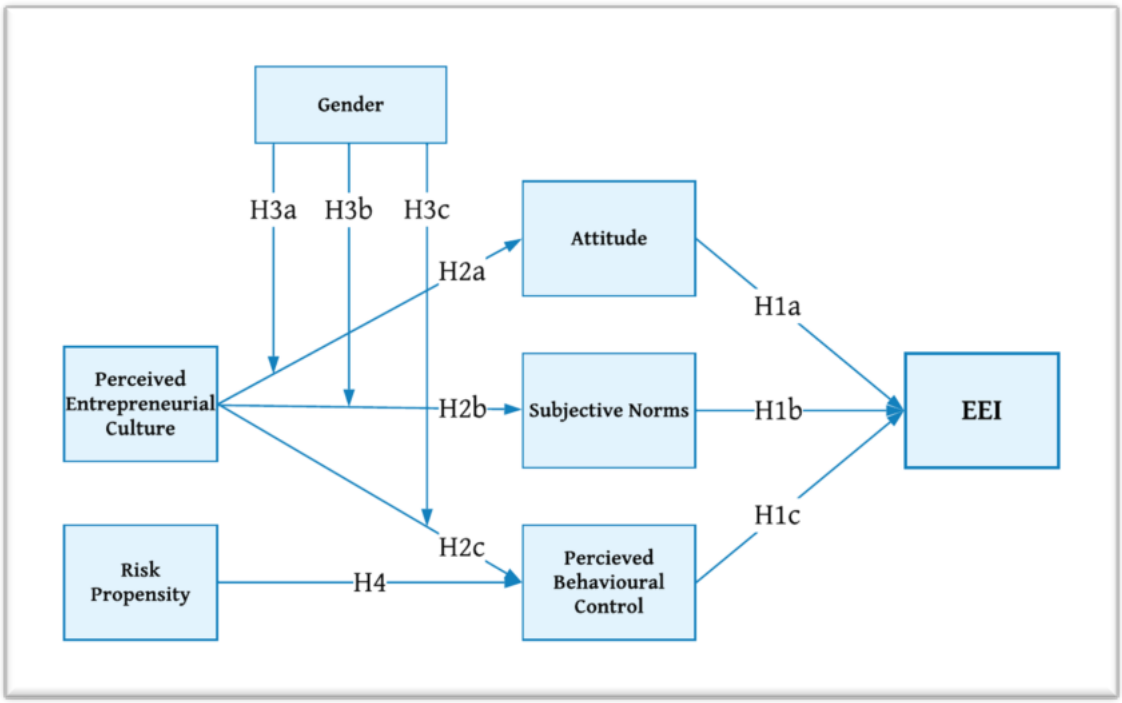

Figure 4.2: Research model

Chapter 5: Research Methodology

This chapter outlines the research methodology and design used in this dissertation. The selected methods are used to help in analysing the collected data in this research. This chapter describes the design adopted by this research to achieve its aims and objectives (section 5.1). Section 5.2 discusses the instruments used in the study questionnaire and justifies their use; furthermore, the population and the participants of this study (section 5.3); finally, the last section 5.4 explains how the data is analysed.

5.1 RESEARCH DESIGN

The empirical research in this dissertation has been designed as a quantitative survey-based study. As described above, it focuses on the analysis of the e-entrepreneurial intentions in Jordan. For this reason, a questionnaire is developed to collect the data needed to test the research developed hypotheses, as described in section 5.2 below. The sample is made up of young adults in Jordan. Their characteristics are presented in section 5.3. Finally, a Structural Equation Modelling (SEM) analysis has been deemed as the most adequate to simultaneously assess the different hypotheses proposed.

5.2 INSTRUMENT

A questionnaire is designated to be the data collection tool for this quantitative research. The ELITE's initial questionnaire for nascent entrepreneurs has been taken as the basis and thus has been adapted to the purposes of the present research. This ELITE questionnaire has been tested and considered as a validated tool (Liñán and Fernández-Serrano 2018). The original questionnaire is part of the ELITE project (funded by the Spanish National R+D Programme, Ref.: ECO2016-75655-P). It contains seventh sections as part of a longitudinal study on the process of emergence of high-impact entrepreneurs in Spain. For this research, a questionnaire was derived from the ELITE's project to test the e-entrepreneurial intentions to start a new online business in Jordan.

According to the study model, the new resulting questionnaire contains four sections; the first section (section A), includes five questions. The first question (A1) asks to identify their stage of the creating process of an online venture. This

gives the author a comprehensive view of the sample status in their process of creation an online business. The second question (A2) identifies the gender role of the sample. It contains a 12-item Likert-type scale, including the most common items derived from the original 60 items of Bem's sex-role Inventory (Bem 1974). The third question (A3) contains six items that examine the entrepreneurial self-efficacy to address the perceived behavioural control of the respondents (Liñán, Moriano, and Jaén 2016). The fourth question (A4) contains eight items that investigate entrepreneurial motivation (Fernández-Serrano and Romero 2013; Reynolds et al. 2005; Romero, Santos, and Fernández-Serrano 2012). The last question in this section contains five items that measure the entrepreneurial goal intentions of respondents (Liñán and Chen 2009).

The second section (section B), includes four questions. The first question (B1) contains five items that explore the respondents' attitude to risk. The scale was developed based on two previous studies that address risk propensity (Hung and Tangpong 2010; S. C. Santos, Caetano, and Curral 2013). The following two questions are containing four items in each one of them. These scales are developed to discover the impact of subjective norms on entrepreneurial intentions (Jaén and Liñán 2013; Liñán, Moriano, and Jaén 2016; Liñán and Chen 2009). The last question in this section contains five items that explore the perceived entrepreneurial culture in Jordan by examining the entrepreneurial beliefs (McGrath and MacMillan 1992). This scale helps in understating the effect of perceived entrepreneurial culture on the entrepreneurial behaviour as it is adapted from the National Expert Survey (NES) from the Global Entrepreneurship Monitor (GEM); in particular, the section on Social and cultural norms (Reynolds et al. 2005).

The following section (section C) serves to collect demographic data which include, age, gender (male = 1, female = 2), nationality (Jordanian = 1, elsewhere = 2), city (Amman = 1, Irbid = 2, Zarqa = 3, Madaba = 4), socioeconomic level "socioECO" (Low = 1, Medium-low = 2, Medium = 3, Medium-high = 4, High = 5). And the last section (section D) serves to collect data regarding to their training and experience in creating business that includes. education level "Edu-level" (Pre-university = 1, University degree or similar =2, Master's degree or doctorate

= 3), Education Background (EDU_IT_Technology = 1, EDU_Economics = 2, EDU_SocialSciences = 3, EDU_Health = 4, EDU_Engineering = 5, other = 6), Working status (Not working = 1, Self-Employee = 2, Employee = 3, or Self-Emp & Employee = 4), Working experience: ExpEmp (experience as employee), ExpSelf (experience as self-employed).

This research follows a self-administered questionnaire, where individuals complete the questionnaire by themselves. This type of questionnaires can be distributed among the respondents and collected back in several ways. The researcher chooses to conduct the data collection process through online means. This way seems to match the respondents more as the research is targeting individuals with e-entrepreneurial intentions. Various online methods were used to distribute the questionnaire such as university platforms, emails, assisted crowdsourcing and using online social media networks. Furthermore, it was prepared in two languages; Arabic – the official language in Jordan and English – the second language in Jordan. This way, the study can reach the whole population in Jordan easily. The full questionnaires in Arabic (Appendix B), and English (Appendix A) are included in the appendices section of this dissertation.

5.3 PARTICIPANTS

The study targets university students and employees in Jordan, a representative country in the Arab World and the Middle East and North Africa (MENA) countries. The entrepreneurial ecosystem in Jordan is getting much attention from the government and many investors. Overall, the environment seems to support entrepreneurship in various sectors.

The questionnaire has been formed online using google forms platforms. Hence, the distribution of the questionnaire has been conducted electronically between January and June 2020. This period was convenient to reach students in both first and second semesters in several universities. The questionnaire was sent through universities platforms, e.g., the University of Jordan and Alzaytoonah University of Jordan. The students were asked to distribute it with their friends through word-of-mouth as well.

Approximately, 2,000 persons including students, employees and unemployed people were invited to participate in this study. A total of 521 completed responses were collected. After removing inconsistent responses and those from non-Jordanians, 480 surveys were identified as usable responses. The response rate is about 24 percent.

5.4 ANALYSIS

The research is following a quantitative analysis as discussed previously. For this reason, the researcher will use a combination of two statistical analysis software; The Statistical Package for the Social Sciences (IBM SPSS Statistics, v.26), and SmartPLS v.3.3.2. Initially, the raw data collected by the online questionnaire were transferred into an excel sheet. Then, the SPSS was used to perform a descriptive data analysis of the sample. The descriptive analysis aims to give an overall view of the sample such as the demographic variables. Afterwards, the SmartPLS has been used to investigate the effect of the independent variables according to the research hypotheses.

In the current research, online data collection software (Google forms) was used to collect data from respondents. Collected data from both (English n=59, and Arabic n=462,) questionnaires were downloaded and combined in an excel sheet. Afterwards, data were transcribed and coded in preparation for the analysis process. Finally, the data were merged into one SPSS file to ensure completeness and consistency of the reported online survey (Evans and Mathur 2005). This initial preparation of the data is essential to enhance data quality in order to get a meaningful analysis (Neuman 2014). Moreover, organising and manipulating quantitative data preparing for the analysis process to reveal interesting factors concerning the research problem (Creswell and Creswell 2017; Neuman 2014).

Chapter 6: Results and Analysis

This chapter presents the results of the empirical analysis using the data collected through the study questionnaire. The chapter contains five sections. The first section (6.1) presents the respondents' characteristics and the sample profile in general. Next, section 6.2 reports the exploratory factor analyses (EFAs) for the study variables. Later, the data is analysed using SmartPLS to test the study hypotheses (section 6.3). In addition, an advanced analysis is performed to reveal some complementary factors that could also affect the e-entrepreneurial intentions of the respondents. The last section (6.4), summarise the chapter and the results regarding the study hypotheses.

6.1 SAMPLE PROFILES AND RESPONDENT CHARACTERISTICS

All answered questionnaires were reported to be complete and have zero missing data. Yet, the author went through the answers to ensure non-biased questionnaires. A total of 480 respondents were reported to be valid for the analysis process after removing non-valid questionnaires. The characteristics data of the respondents were classified to gain a better understating of the sample (Sekaran 2003). Consequently, the survey was grouped according to the demographic profiles to gender, age, education level, education area, Socioeconomic level and City of living.

As shown in (Table 6.1), the male respondents of the sample were more than females (56.7%), with age ranged between (30 to 39), that made half of the sample (51.1%). Concerning the educational level, respondents holding a university degree or similar were the majority (75.8%), followed by those holding a Master's degree or doctorate (18.1%). Furthermore, respondents' education background was from different areas, yet Economy and Business area had the highest ratio (26.5%). The majority of the respondents reported a medium socioeconomic position (69.2%), followed by (15.6%) for those medium-high level. Finally, the greater part of them (84.6%) lives at Amman, the capital of Jordan.

Table 6.1: Demographic Profile of the Sample

Demographic Variable	Categories/Values	Responses Percentage (N=480)
Gender	Male Female	56.7% 43.3%
Age	Less than 20 20-29 30-39 40-49 50 or more	1.7% 28.9% 51.1% 15.0% 3.3%
Educational level	Pre-University University degree or similar Master's degree or doctorate	6.1% 75.8% 18.1%
Educational Area	Computer Science, IT Technology Economy and Business Other Social Sciences and Humanities Health and Experimental Sciences Engineering, Architecture, etc. Other	14.6% 26.5% 15.4% 4.4% 15.0% 24.2%
Socioeconomic Level	Low Medium-Low Medium Medium-High High	4.0% 7.7% 69.2% 15.6% 3.5%
City	Amman Irbid Zarqa Madaba	84.6% 9.4% 3.5% 2.5%

As per the work status, half of the respondents were only employees (53.8%), comparing to (10.4%) who identified themselves as self-employed. Additionally, 14.4% of them reported being employees and self-employed simultaneously. Finally, the remaining 21.5% of the respondents indicated that they were without work (unemployed). As per their experience, the respondents showed a long experience as employees for more than 3 years (62.1%). On the other hand, 62.5% of them indicated that they have no experience as entrepreneurs at all, whereas 15.2% of them have less than a year of experience. As per the stage of creation of their new online business, almost half of the respondents with the previous characteristics specified that they still had not thought about starting a new online business (48.5%). Nevertheless, a third of the respondents (33.3%) expect to start their online business in the next three years (Table 6.2).

Table 6.2: Work experience

Demographic Variable	Categories/Values	Responses Percentage (N=480)
Employment Situation	Employee Employee & Self-Emp simultaneously Unemployed Self-Employed	53.8% 14.4% 21.5% 10.4%
Work Experience as Employee	None Less than 1 year From 1 to 3 years More than 3 years	16.5% 8.8% 12.7% 62.1%
Work Experience as Entrepreneur	None Less than 1 year From 1 to 3 years More than 3 years	62.5% 15.2% 7.9% 14.4%
Stage of creation process	I have not thought about it yet I expect to create it in the next 3 years I am currently creating it I created it in the last year I created it more than a year ago	48.5% 33.3% 7.5% 4.8% 5.8%

Overall, the descriptive analysis of the sample showed that the respondents are predominantly males in their thirties. The most common respondents have a high level of education with at least a university degree. Many were from an economic and business background. The sample also covered four main cities in Jordan, although the highest number of respondents was from the capital Amman. The respondents generally tend to have a medium socioeconomic level. Regarding their working life, the majority of the respondents were employees. Being an employee with a medium socioeconomic level could be one of the reasons not to stimulate the Jordanians intentions toward starting a new online business, since their careers are apparently satisfactory so far. These respondents typically have more than three years of experience as employees, and less than a year of experience as entrepreneurs. This could possibly indicate that society's culture is inclined toward employment rather than self-employment.

6.2 EXPLORATORY FACTOR ANALYSIS

It is a statistical methodology to reduce data provided by several items to a smaller collection of summary variables (one of two variables). Furthermore, to

describe the relationship structure between the variable and the respondent (Podsakoff et al. 2003). The research uses a self-report questionnaire to collect the data; accordingly, this test is executed to check whether a single factor emerges to be accountable for variance (Chang, van Witteloostuijn, and Eden 2010). All items of each construct were loaded into EFA to check for new extracted factors (Malhotra, Kim, and Patil 2006). The SPSS v.26 was used for the purpose of this test and results are explained briefly in the following sections.

6.2.1 Attitude

The scale contains 8 items that investigate the motives to start a new venture on the Internet. The questionnaire followed previous studies as explained before to examine the attitude of the respondents (Sparks and Shepherd 1992; van Gelderen et al. 2018). The EFA for these items has extracted two factors with eigenvalues higher than one (Table 6.3). The first factor is explaining more than half of the scale variance (54.641%), while the second factor explains an additional 12.839% (Table 6.4). According to the EFA, the first factor (Attitude-Opportunity), is explained as the attitude toward new opportunity on the market. The second factor (Attitude-Necessity), those items explain the need to make a change in their current situation or enhance their income.

Table 6.3: Component Matrix for Attitude Scale

	Components	
	1	2
A4.1ATT	.807	-.326
A4.2ATT	.806	-.357
A4.5ATT	.798	
A4.8ATT	.793	-.118
A4.3ATT	.780	
A4.7ATT	.738	
A4.6ATT	.565	.619
A4.4ATT	.577	.615

The EFA results of this study show that only two items were loaded in the second component. The unemployment item was at the second component rather than belonging to the first component here. This difference could be related to the Jordanian cultural as people feel obligated to contribute to the family income. Complementing family income is seen as an opportunity to collaborate rather than the situation of necessity as in the second component.

Table 6.4: Total Variance Explained for Attitude Scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	**4.371**	**54.641**	**54.641**	**4.371**	**54.641**	**54.641**	**4.171**
2	**1.027**	**12.839**	**67.480**	**1.027**	**12.839**	**67.480**	**2.485**
3	.670	8.374	75.854				
4	.535	6.688	82.542				
5	.457	5.708	88.251				
6	.368	4.598	92.848				
7	.343	4.283	97.131				
8	.230	2.869	100.000				

6.2.2 Subjective Norms

The subjective norms / social norms scale in this questionnaire is obtained from the combination of two constructs. These two constructs explore how important people's approval or being supportive and how their opinion is important for me to make my decisions (Jaén and Liñán 2013; Kolvereid 1996; Liñán, Moriano, and Jaén 2016; Liñán and Chen 2009). The calculation of these two constructs has been evidenced to be equivalent and gives the same results when tested separately (Heuer and Liñán 2013). The four variables of the first construct are multiplied with the four variables of the second construct (B2.1*B3.1, etc.). The new four calculated items are then used to examine the EFA for the subjective norms scale.

Table 6.5: Component Matrix for Subjective Norms Scale

	Component 1
B2.2xB3.2	.880
B2.3xB3.3	.836
B2.1xB3.1	.744
B2.4xB3.4	.646

After running the EFA on the new four items, a new single component has been extracted with an eigenvalue higher than one (Table 6.6). This new extracted factor is explaining 61.127% of the scale variance (Table 6.6). This indicates that the four scale items are loaded into one single factor that represents the subjective norms scale (Podsakoff et al. 2003; Tehseen, Ramayah, and Sajilan 2017).

Table 6.6: Total Variance Explained for Subjective norms Scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	**2.445**	**61.127**	**61.127**	**2.445**	**61.127**	**61.127**
2	.856	21.388	82.514			
3	.442	11.047	93.562			
4	.258	6.438	100.000			

6.2.3 Perceived Behavioural Control

The scale used to investigate the perceived behavioural control contains six items. The scale was developed to examine the entrepreneurial self-efficacy of the respondents (Liñán, Moriano, and Jaén 2016). The EFA of these items has extracted a single factor with an eigenvalue higher than one (Table 6.7).

This first factor is explaining most of the scale variance (71.298%). According to the EFA, this factor strongly describes the self-efficacy of the scale (Table 6.8).

Table 6.7: Component Matrix for Perceived Behavioural Control Scale

	Component 1
A3.2PBC	.883
A3.3PBC	.862
A3.1PBC	.845
A3.6PBC	.844
A3.4PBC	.831
A3.5PBC	.799

Table 6.8: Total Variance Explained for Perceived Behavioural Control Scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	**4.278**	**71.298**	**71.298**	**4.278**	**71.298**	**71.298**
2	.493	8.213	79.511			
3	.411	6.858	86.369			
4	.320	5.337	91.706			
5	.293	4.877	96.583			
6	.205	3.417	100.000			

6.2.4 Intentions

The scale contains five items to examine the e-entrepreneurial intentions of the respondents. The scale focuses on the entrepreneurial goal intentions of the respondents (Liñán and Chen 2009). The EFA of the scale shows that the third item (A5.3) loads in a different component. Since the item is asked negatively at the questionnaire, it has been reverse-scored and EFA computed again.

However, the item is still loading in a different component, hence, the item has been dropped. EFA is executed again to result in a single factor with an eigenvalue higher than one (Table 6.9).

This new factor explains most of the variance of the scale items (76.719%) (Table 6.10).

Table 6.9: Component Matrix for the E-Entrepreneurial Intentions Scale

	Component 1
A5.2INTENT	.891
A5.4INTENT	.883
A5.5INTENT	.873
A5.1INTENT	.857

Table 6.10: Total Variance Explained for E-Entrepreneurial Intentions Scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	**3.069**	**76.719**	**76.719**	**3.069**	**76.719**	**76.719**
2	.424	10.591	87.311			
3	.291	7.263	94.574			
4	.217	5.426	100.000			

6.2.5 Perceived Entrepreneurial Culture

The scale contains five items that explore the perceived entrepreneurial culture of the society of Jordan. The scale is investigating the perceived entrepreneurial culture based on an adaption of the National Expert Survey (NES) Social and cultural norms (Reynolds et al. 2005), together with a cross-cultural study of entrepreneurial perceptions (McGrath and MacMillan 1992). All five items of the scale loaded in one single factor with an eigenvalue higher than one (Table 6.11).

Table 6.11: Component Matrix for Perceived Entrepreneurial Culture Scale

	Component 1
B4.2Culture	.862
B4.4Culture	.858
B4.1Culture	.829
B4.5Culture	.816
B4.3Culture	.759

The new factor explains more than half of the variance in the scale items (68.214%) (Table 6.12).

Table 6.12: Total Variance Explained for Perceived Entrepreneurial Culture Scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	**3.411**	**68.214**	**68.214**	**3.411**	**68.214**	**68.214**
2	.562	11.239	79.453			
3	.424	8.483	87.936			
4	.344	6.887	94.823			
5	.259	5.177	100.000			

6.2.6 Risk Propensity

This scale also contains five items to stress the risk propensity of the respondents in the sample. The scale is based on the general risk propensity (Hung and Tangpong 2010), and how risk propensity could possibly limit the entrepreneurial potential for entrepreneurs (Santos, Caetano, and Curral 2013).

In this scale two items (B1.2, B1.3) were negative, consequently, the items were reverse-scored in preparation for the EFA. Next, executing the EFA indicated that the same two items are loading out of the main component. Therefore, those items have been dropped and the EFA executed again on three remaining items. The EFA extracted a single component with an eigenvalue higher than one (Table 6.13). The new factor explains most of the variance of the scale items (75.982%) (Table 6.14).

Table 6.13: Component Matrix for Risk Propensity Scale

	Component 1
B1.4RISK	.895
B1.5RISK	.894
B1.1RISK	.824

Table 6.14: Total Variance Explained for Risk Propensity Scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	**2.279**	**75.982**	**75.982**	**2.279**	**75.982**	**75.982**
2	.457	15.242	91.225			
3	.263	8.775	100.000			

6.3 DATA ANALYSIS USING SmartPLS

This section briefly describes the selected statistical methods chosen for analysing collected data of the questionnaire and discusses the findings of the empirical study. SmartPLS v 3.3.2 software will be used for advanced analytics purposes. It's a variance-based Structural Equation Modelling (SEM) that uses the Partial Least Squares (PLS) path modelling method (Hair et al. 2017). The software helps to compute reflective and formative results for both measurement and structural models (Ramayah et al. 2018). SEM is considered an advanced statistical modelling method that allows researchers to conduct a systematic and in-depth analysis to test research hypotheses and answer research questions (Gefen and Straub 2005).

Moreover, SEM outstretches its possibilities to cover a wider amount of relationships between latent variables through two components: a measurement model and a structural model (Schreiber et al. 2006). Therefore, it can be employed to validate an existing model or theory development (MacCallum and Austin 2000). Overall, SEM addresses the complex relationships of variables and provides an advanced entire model illustration (Gefen and Straub 2005). It was evidenced in information systems (IS) and technology researches (Al-Emran, Mezhuyev, and Kamaludin 2019), educational researches (Leguina 2015), and in behavioural science research (Hair et al. 2017). The previous several mentioned benefits are justifying the use of SEM and consider it as an approach in the current research.

PLS extends the theory of fixed-point estimation with unobservable variables. It was initially developed by (Wold 1980). It replaces other multivariate linear regression models (Fornell and Bookstein 1982). Furthermore, it is recognised as a methodological approach that analyses constructs and multiple indicators in statistical models (Fornell and Bookstein 1982; Hulland 1999). The proposed e-entrepreneurial intentions framework of this study contains 7 variables, 13 control variables and around 30 indicators. The PLS analysis of many variables and indicators is recommended according to the complexity of the structural model (Hair et al. 2017). Therefore, and per the advantages of PLS, it will be used as an approach in the current research.

The analysis process should go in several phases to ensure that the construct's measures are valid and reliable in order to draw conclusions between the constructs (Gefen and Straub 2005; Hulland 1999). It includes the assessing of the individual item reliability, constructs reliability, discriminant validity and convergent validity (Chin, Marcolin, and Newsted 1996; Gefen and Straub 2005; Wang et al. 2004). Usually, the analysis goes through two main phases; initially, by examining the reliability and validity of items and constructs in the measurement model. The second phase explains the path coefficient and identifies the acceptability of the structural model (Hulland 1999).

6.3.1 The Measurement Model

The measurement model explains the correlations between the latent variables and its reflective indicators which can be examined by the load of each item on its construct. This value of outer loadings determines whether to retain the indicator or not. According to (Hair et al. 2017), for more reliable constructs, those indicators with outer loading greater than 0.7 should be retained. This should give more reliability to the construct. In case of low reliability value, those outer loadings between 0.4 to 0.7 could be eliminated in order to increase the composite reliability. However, it can be retained if it increases the construct's reliability. Nevertheless, items with outer loadings below 0.4 should always be removed from the scale. Consequently, all reflective items with outer loadings of

0.4 or higher will be accepted in the current analysis of the measurement model (Hair et al. 2017; Hulland 1999).

Table 6.15: Outer loadings

Construct	Item	Loading
Perceived Behavioural control	A3.1	0,854
	A3.2	0,886
	A3.3	0,858
	A3.4	0,831
	A3.5	0,792
	A3.6	0,842
Attitude / Opportunity	A4.1	0,836
	A4.2	0,837
	A4.3	0,786
	A4.5	0,798
	A4.7	0,747
	A4.8	0,805
Attitude / Necessity	A4.4	0,852
	A4.6	0,859
E-Entrepreneurial Intentions	A5.1	0,859
	A5.2	0,894
	A5.3	0,047
	A5.4	0,879
	A5.5	0,869
Risk Propensity	B1.1	0,813
	B1.2	0,164
	B1.3	0,150
	B1.4	0,879
	B1.5	0,873
Subjective Norms	B2B3.1	0,761
	B2B3.2	0,869
	B2B3.3	0,823
	B2B3.4	0,655
Perceived Entrepreneurial Culture	B4.1	0,835
	B4.2	0,858
	B4.3	0,746
	B4.4	0,854
	B4.5	0,829

The analysis shows that the majority of the items are indicating outer loadings higher than the indicated threshold level (0.4), consequently, these items are retained for further PLS-SEM analysis as they considered reliable items (Table 6.15). However, there are three highlighted items (A5.3, B1.2, B1.3) showing outer loadings below this level. Those are the same items that have been dropped previously at the EFA. These items are accordingly excluded from further analysis as they are exposing a very low loading (Hair et al. 2017).

All remaining retained items indicate outer loadings higher than 0.7 except for only one item (B2B3.4), that is included within the subjective norms construct. This item indicated an outer loading of 0.655, which is below the

recommended 0.7 level. According to (Hair et al. 2017), this item is initially accepted as long as it increases its construct's validity. Overall, a total of 30 validated items out of 33 will be used to measure the dependent and independent variables (except for control demographic variables).

Table 6.16: Outer Model Measurements – Cross Loadings

	PBC	ATT-Opp	ATT-Nec	EEI	Risk	SN	Culture
A3.1	**0,854**	0,388	0,078	0,528	0,413	0,246	0,192
A3.2	**0,886**	0,392	0,070	0,518	0,384	0,226	0,181
A3.3	**0,858**	0,447	0,114	0,454	0,365	0,229	0,140
A3.4	**0,831**	0,448	0,110	0,502	0,352	0,213	0,204
A3.5	**0,792**	0,373	0,147	0,417	0,351	0,228	0,130
A3.6	**0,842**	0,396	0,121	0,475	0,352	0,212	0,140
A4.1	0,433	**0,836**	0,358	0,444	0,404	0,360	0,247
A4.2	0,416	**0,837**	0,336	0,418	0,367	0,325	0,209
A4.3	0,349	**0,787**	0,433	0,417	0,366	0,317	0,209
A4.5	0,344	**0,798**	0,511	0,469	0,361	0,373	0,318
A4.7	0,397	**0,747**	0,411	0,434	0,371	0,315	0,206
A4.8	0,384	**0,805**	0,419	0,458	0,319	0,287	0,194
A4.4	0,107	0,447	**0,852**	0,197	0,127	0,197	0,116
A4.6	0,105	0,435	**0,859**	0,146	0,193	0,182	0,127
A5.1	0,497	0,561	0,238	**0,860**	0,416	0,355	0,226
A5.2	0,528	0,507	0,166	**0,894**	0,448	0,365	0,229
A5.4	0,479	0,445	0,151	**0,880**	0,458	0,338	0,297
A5.5	0,505	0,410	0,145	**0,869**	0,427	0,314	0,266
B1.1	0,347	0,409	0,183	0,430	**0,825**	0,210	0,197
B1.4	0,405	0,395	0,136	0,443	**0,895**	0,213	0,189
B1.5	0,393	0,387	0,175	0,433	**0,892**	0,229	0,233
B2B3.1	0,228	0,371	0,168	0,339	0,191	**0,762**	0,312
B2B3.2	0,207	0,343	0,158	0,302	0,202	**0,869**	0,303
B2B3.3	0,193	0,294	0,188	0,306	0,198	**0,823**	0,294
B2B3.4	0,205	0,270	0,179	0,270	0,188	**0,655**	0,319
B4.1	0,148	0,280	0,151	0,265	0,191	0,325	**0,835**
B4.2	0,144	0,250	0,111	0,200	0,198	0,329	**0,858**
B4.3	0,139	0,168	0,088	0,196	0,195	0,289	**0,746**
B4.4	0,180	0,199	0,094	0,265	0,180	0,327	**0,854**
B4.5	0,193	0,283	0,136	0,260	0,213	0,349	**0,829**

Later, cross loadings analysis is performed to observe the pattern of item loadings within other constructs of the model. This is necessary in order to report

the discriminant validity across the items, particularly, construct's item loadings should load on the construct itself more than other constructs (Hair et al. 2017). In the current study, cross loadings between all constructs confirmed the discriminant validity. Items loadings on the same construct were higher than those on any different constructs (Table 6.16). In total, the convergent and discriminant validity of the research items are confirmed.

Afterwards, this research measures the constructs' ability to attain validity and reliability of the constructs. Construct validity describe whether taken measurements in this analysis are investigating and representing the constructs being investigated (Cronbach 1971; Gefen and Straub 2005). Construct validity was statistically analysed using both convergent and discriminant validity (Cronbach 1971; Straub 1989). Convergent validity indicates the degree a measure converges or correlates with other measures construct, additionally, contributing to the theoretical position of the construct by representing a valid measure (Carlson and Herdman 2010). The convergent validity is acceptable when the Average Variance Explained (AVE) is equal to 0.5 or above this value (Fornell and Larcker 1981; J. Hair et al. 2017; Nunnally 1978). The convergent validity is confirmed as all constructs are indicating acceptable AVE values; consequently, demonstrating valid constructs (Table 6.17).

Table 6.17: AVE and Reliability of the Constructs

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
E-Entrepreneurial Intentions	0,899	0,929	0,767
Attitude / Necessity	0,633	0,845	0,731
Attitude / Opportunity	0,889	0,915	0,643
Subjective Norms	0,782	0,861	0,610
Perceived Behavioural control	0,919	0,937	0,713
Perceived Entrepreneurial Culture	0,883	0,914	0,682
Risk Propensity	0,841	0,905	0,760
Gender	1,000	1,000	1,000

Another measurement to support the convergent validity is to measure internal consistency. The constructs' reliability indicates an internal consistency when the Cronbach's alpha is 0.7 or higher (J. F. Hair et al. 2006; Nunnally 1978). All constructs of the model indicate a satisfactory level of internal consistency, except for the Attitude-Necessity construct.

The computed Cronbach's alpha for this construct is slightly below the recommended threshold (0.633). This could be attributed to the small number of items in this construct (only 2 items). However, this level of Cronbach's alpha is still acceptable and provides reliability (Nunnally 1978). According to (Lyberg et al. 1997), the acceptable level of Cronbach's alpha is (0.6) or above to consider the reliability of constructs. In addition, Composite Reliability (CR) supports the convergent validity of the constructs (Fornell and Larcker 1981). As suggested by (Fornell and Larcker 1981; J. F. Hair et al. 2006) the CR of constructs should be 0.7 or higher. As shown in (Table 6.17), all constructs are indicating a satisfactory level of CR. This approach confirms the convergent validity of the Attitude-Necessity construct as it reports a 0.845 level for CR (Nunnally 1978). Consequently, the convergent validity of the constructs can be confirmed.

Discriminant validity investigates to what extent the independent variables are really different in predicting the dependent variable from other independent variables (J. F. Hair et al. 2006). It assesses how the constructs do not converge or correlate with other constructs in the model. Furthermore, it is essential that the correlation between items in the same construct is higher than the correlation with items in other constructs (Campbell and Fiske 1959).

This research followed Fornell-Larcker criterion approach to examine the discriminant validity (Fornell and Larcker 1981). This approach compares the cross-loadings between constructs. According to it, each latent AVE must be greater than any other latent squared correlation (Fornell and Larcker 1981; Hulland 1999). This estimation is correspondent in comparing the square root of the AVE with the correlations among the latent constructs (Fornell and Larcker 1981). The results in (Table 6.18), show the calculated square roots of the AVE values of all constructs (main diagonal) against cross-construct correlations (off

diagonal). It indicates that Fornell-Larcker criterion is met, accordingly, discriminant validity can be claimed.

Table 6.18: Discriminant validity (Fornell-Larcker Criterion)

Constructs	Attitude / Necessity	Attitude / Opportunity	Culture	EEI	Gender	PBC	Risk	SN
Attitude / Necessity	**0,855**							
Attitude / Opportunity	0,516	**0,802**						
Culture	0,143	0,290	**0,826**					
EEI	0,200	0,550	0,290	**0,876**				
Gender	-0,010	-0,093	-0,026	-0,087	**1,000**			
PBC	0,124	0,482	0,197	0,574	-0,151	**0,844**		
Risk	0,188	0,455	0,237	0,500	-0,146	0,439	**0,872**	
SN	0,221	0,413	0,394	0,392	-0,048	0,267	0,250	**0,781**

Overall, this section summarises the PLS outer analysis. The large majority of the items used to measure the research model constructs showed validity except for three items (A5.3, B1.2, B1.3), which were therefore deleted. Later, the measurement model results supported the reliability, convergent and discriminant validities of all constructs and their measures used in the current research. This gives a suitability to the current measurement model; accordingly, it was considered adequate to carry out the quality assessment of the structural (inner) model.

6.3.2 The Structural Model

An analysis of the structural model was performed to examine the significance of the model's paths, furthermore, foreseeing the power of the model. The analysis of the structural model can be determined by investigating the t-statistics values, standard error and confidence interval, in order to assess the significance of the paths coefficients (W. Chin, Marcolin, and Newsted 1996; W. W. Chin 1998). The path coefficient's value of constructs can be considered as a criterion for estimating the significance of individual paths (Falk and Miller 1992). Moreover, the R-square (R^2) value can evaluate the predictive power of

the model fit through measuring the endogenous latent variables of the model (W. W. Chin 1998; J. F. Hair et al. 2006). The R^2 values range between 0 and 1, where a higher value is preferred (J. F. Hair et al. 2006). According to (W. W. Chin 1998), the R^2 values can be classified as substantial (0.67 or higher), average (0.33 to 0.66) or weak (0.19 to 0.33). However, (J. Hair et al. 2013) suggested the thresholds to be raised for the substantial (0.75), moderate (0.50) and weak (0.25) levels.

The PLS-SEM does not make any assumptions in distribution (Urbach and Ahlemann 2010). Accordingly, it is essential to use the bootstrapping technique to test the statistical significance and effects of the path coefficients of the E-entrepreneurial intentions model. Additionally, it is also important to test the significance of various results such as the Heterotrait-Monotrait Ratio of Correlations (HTMT), Cronbach's alpha, and R^2 values (J. Hair et al. 2017). The process of bootstrapping is drawing a randomly generated set of subsamples from the original sample. For this research, the larger number of random subsamples was established to be 5000 from the original data set.

Table 6.19: PLS Results for the EEI Model

Construct	Moderator (If existed)	Construct	Path Coefficient	T-Statistics (|O/STDEV|)	P-Value
ATT-Opp	->	EEI	0,268	5,248	0,000
ATT-Nec	->	EEI	-0,044	1,080	0,280
SN	->	EEI	0,131	3,175	0,002
PBC	->	EEI	0,293	6,362	0,000
Culture	->	EEI	0,041	1,063	0,288
Risk	->	EEI	0,207	4,783	0,000
Culture	->	ATT-Opp	0,308	6,462	0,000
Culture	->	ATT-Nec	0,159	3,213	0,001
Culture	->	SN	0,388	8,827	0,000
Culture	->	PBC	0,106	2,467	0,014
Risk	->	PBC	0,370	8,005	0,000
Culture	*Gender*	EEI	0,034	0,964	0,335
Culture	*Gender*	ATT-Opp	0,006	0,130	0,896
Culture	*Gender*	ATT-Nec	0,045	0,936	0,350
Culture	*Gender*	SN	0,017	0,381	0,703
Culture	*Gender*	PBC	-0,047	1,133	0,257
Calculated R square for the EEI model is **R^2=0.519**					
EEI: E-entrepreneurial Intentions | ATT-Opp: Attitude / Opportunity | ATT-Nec: Attitude / Necessity | SN: Subjective Norms | PBC: Perceived Behavioural Control | Risk: Risk Propensity | Culture: Perceived Entrepreneurial Culture |					

This larger subsample estimates and determine the significance levels of path coefficients, t-values, p-values to assess the significance of PLS-SEM results as shown in (Table 6.19). The table display that all path coefficients are significant according to the p-values, except for (Attitude / Necessity -> EEI) and (Culture -> EEI). Additionally, the gender as a moderating variable was not seen to be significant in any relationship in the EEI model.

6.3.3 Summary of The Hypotheses Results

According to the PLS results in (Table 6.19), there is a positive relationship between (Attitude / Opportunity) and the EEI (ß =0,268 | t = 5,248 | P = 0,000). On the other hand, a negative relationship between (Attitude / Necessity) and the EEI was found (ß =-0,044| t = 1,080 | P = 0,280), but this was not significant. This is suggesting that people in Jordan will consider any upcoming opportunities to start a new online business. Yet, they are not relying on starting a new online business to fulfil their needs or increase their income. This finding supports H1a with an opportunity seeking attitude to start a new online business in Jordan.

A positive relationship has been found between subjective norms and EEI (ß =0,131 | t= 3,175 | p= 0,002). Similarly, the perceived behavioural control is also positively related to the EEI (ß =0,293 | t= 6.362 | p= 0,000). Hence, it supports both hypotheses H1b, H1c. In total, this confirms the TPB theory as it supported in the main hypothesis H1, which confirms that, there is a positive relationship between the TPB antecedents and e-entrepreneurial intentions to start a new online business in Jordan.

There is also a positive relationship between perceived entrepreneurial culture and the TPB's antecedents, attitude / opportunity (ß =0,308 | t= 6.462 | p= 0,000), attitude / necessity (ß =0,159 | t= 3.213 | p= 0,001), these findings support hypothesis H2a, which indicate that perceived entrepreneurial culture encourage people's attitudes towards e-entrepreneurship. Similarly, perceived entrepreneurial culture was found to have a positive relationship with subjective norms (ß =0,388 | t= 8.827 | p= 0,000), which supports hypothesis H2b. This indicates that a more positive perception of culture is related to a higher expected

support from surrounded important persons in their life, such as, family, friends, or workmates. Additionally, a positive relationship was found between perceived entrepreneurial culture and the perceived behavioural control (ß =0,106 | t= 2.467 | p= 0,014), thus, hypothesis H2c is supported. In total, these figures support the main hypothesis H2, which indicate that there is a positive relationship between the perceived entrepreneurial culture and the EEI antecedents in Jordan.

With respect to gender as moderating the relationship between the perceived entrepreneurial culture and the TPB antecedents, there are no significant differences between men and women in the relationships between their perceived entrepreneurial culture and attitude / opportunity (ß =0,006 | t= 0.130 | p= 0,896), neither with the attitude / necessity construct (ß =0,045 | t= 0.936 | p= 0,350), therefore, hypothesis H3a is not supported. Moreover, there are no significant differences between men and women in the relationship between their perceived entrepreneurial culture and subjective norms (ß =0,017 | t= 0.381 | p= 0,703), thereby not supporting hypothesis H3b. Likewise, no significant differences between men and women have been seen in the relationship between their perceived entrepreneurial culture and perceived behavioural control (ß =-0,047 | t= 1.133 | p= 0,257), accordingly, hypothesis H3c is not supported.

Finally, there is a significant positive relationship between risk propensity and perceived behavioural control (ß =0,370 | t= 8.005 | p= 0,000), and thus hypothesis H4 is supported. Suggesting a positive association between risk propensity and perceived behavioural control to start a new online business in Jordan.

Overall, the PLS-SEM analysis results have supported the TPB theory (H1: H1a, H1b & H1c). Furthermore, they support perceived entrepreneurial culture hypotheses as well (H2: H2a, H2b & H2c). However, Hypotheses (H3: H3a, H3b & H3c) are rejected, suggesting that there are no significant differences between men or women in the relationship between their perceived entrepreneurial culture and the TPB antecedents to start a new online business in Jordan. Lastly, hypothesis H4 is supported, indicating a positive relationship between risk

propensity and EEI (Table 6.20). And according to the previous results, the EEI model is proposed with an illustration of the path coefficients of the inner model and R square value for the dependent variable in (Figure 6.1).

Table 6.20: Hypotheses testing results

No	Hypothesis	Result
H1a	There is a positive relationship between personal attitude and e-entrepreneurial intentions to start a new online business in Jordan.	Supported
H1b	There is a positive relationship between subjective norms and e-entrepreneurial intentions to start a new online business in Jordan.	Supported
H1c	There is a positive relationship between perceived behavioural control and e-entrepreneurial intentions to start a new online business in Jordan.	Supported
H2a	There is a positive relationship between perceived entrepreneurial culture and personal attitude to start a new online business in Jordan.	Supported
H2b	There is a positive relationship between perceived entrepreneurial culture and subjective norms to start a new online business in Jordan.	Supported
H2c	There is a positive relationship between perceived entrepreneurial culture and perceived behavioural control to start a new online business in Jordan.	Supported
H3a	There are significant differences between men and women in the relationships between their perceived entrepreneurial culture and attitude to start a new online business in Jordan.	Not Supported
H3b	There are significant differences exist between men and women in the relationships between their perceived entrepreneurial culture and subjective norms to start a new online business in Jordan.	Not Supported
H3c	There are significant differences exist between men and women in the relationships between their perceived entrepreneurial culture and perceived behavioural control to start a new online business in Jordan.	Not Supported
H4	There is a positive relationship between risk propensity and perceived behavioural control to start a new online business in Jordan.	Supported

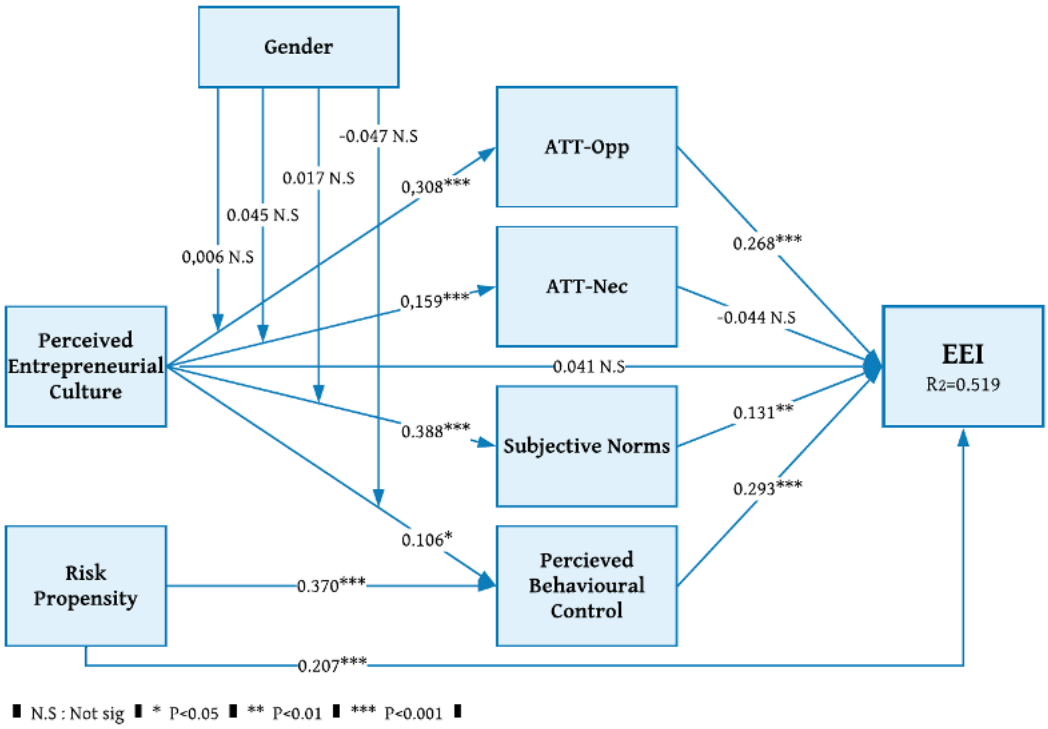

Figure 6.1: The EEI Model Based on the PLS results

6.4 ADVANCED DATA ANALYSIS USING SmartPLS

Previously in section (6.3.3), The PLS-SEM results have revealed that there are no differences between men and women to start a new online business in Jordan. This stresses the need to test other demographic variables of the sample. In order to investigate if demographic variables (control variables), could probably affect the EEI to start a new online business in Jordan. The control variables usually benefit the experimental research since they control for the influence of extraneous elements. Although these variables are not the main variables of the study, still, they might affect or control the main variables of interest. Therefore, control variables were taken into consideration and included in the study model (Appendix C: Advanced Model), in order to reduce variance error or to reveal alternative explanations (Schwab 2005).

Table 6.21: Control Variables Analysis

Control Variables Effect on TPB			Path Coefficient	T-Statistics (|O/STDEV|)	P-Values
Age	->	ATT-Nec	-0,051	0,992	0,321
Age	->	ATT-Opp	-0,084	1,803	0,071
Age	**->**	**EEI**	**0,106**	**3,242**	**0,001**
Age	->	PBC	-0,051	1,234	0,217
Age	->	SN	0,090	1,864	0,062
EDU_Economics	->	ATT-Nec	0,038	0,645	0,519
EDU_Economics	->	ATT-Opp	0,001	0,023	0,982
EDU_Economics	->	EEI	0,043	1,094	0,274
EDU_Economics	->	PBC	0,050	1,022	0,307
EDU_Economics	->	SN	0,003	0,049	0,961
EDU_Engineering	->	ATT-Nec	0,037	0,690	0,490
EDU_Engineering	->	ATT-Opp	0,022	0,480	0,631
EDU_Engineering	->	EEI	-0,070	1,697	0,090
EDU_Engineering	->	PBC	-0,019	0,415	0,678
EDU_Engineering	->	SN	-0,025	0,476	0,634
EDU_Health Sciences	->	ATT-Nec	-0,046	0,829	0,407
EDU_Health Sciences	->	ATT-Opp	-0,053	1,146	0,252
EDU_Health Sciences	->	EEI	-0,023	0,657	0,511
EDU_Health Sciences	->	PBC	-0,060	1,398	0,162
EDU_Health Sciences	->	SN	-0,019	0,377	0,706
EDU_IT Technology	->	ATT-Nec	-0,055	1,016	0,310
EDU_IT Technology	->	ATT-Opp	-0,007	0,160	0,873
EDU_IT Technology	->	EEI	0,055	1,377	0,169
EDU_IT Technology	**->**	**PBC**	**0,106**	**2,155**	**0,031**
EDU_IT Technology	->	SN	0,046	0,907	0,365
EDU_Social Sciences	->	ATT-Nec	-0,035	0,665	0,506
EDU_Social Sciences	->	ATT-Opp	-0,053	0,977	0,328
EDU_Social Sciences	->	EEI	0,003	0,087	0,931
EDU_Social Sciences	->	PBC	-0,004	0,072	0,943
EDU_Social Sciences	->	SN	-0,051	0,999	0,318
Edu-Level	**->**	**ATT-Nec**	**0,099**	**1,963**	**0,050**
Edu-Level	->	ATT-Opp	0,091	1,923	0,055
Edu-Level	->	EEI	-0,027	0,795	0,427
Edu-Level	->	PBC	0,015	0,366	0,715
Edu-Level	->	SN	0,014	0,311	0,756
Employee	->	ATT-Nec	-0,068	0,929	0,353
Employee	->	ATT-Opp	-0,062	0,951	0,342
Employee	->	EEI	-0,054	1,178	0,239
Employee	->	PBC	-0,106	1,904	0,057
Employee	->	SN	-0,072	1,214	0,225
ExpEmp	->	ATT-Nec	0,047	0,841	0,400

ExpEmp	**->**	**ATT-Opp**	**0,120**	**2,222**	**0,026**
ExpEmp	->	EEI	-0,027	0,696	0,486
ExpEmp	->	PBC	0,066	1,303	0,193
ExpEmp	->	SN	0,057	1,111	0,266
ExpSelf	->	ATT-Nec	-0,069	1,248	0,212
ExpSelf	->	ATT-Opp	-0,073	1,468	0,142
ExpSelf	->	EEI	0,045	1,176	0,240
ExpSelf	->	PBC	0,052	0,972	0,331
ExpSelf	->	SN	-0,069	1,342	0,180
Gender	->	ATT-Nec	0,004	0,088	0,930
Gender	->	ATT-Opp	-0,053	1,184	0,237
Gender	->	EEI	0,050	1,422	0,155
Gender	->	PBC	-0,072	1,674	0,094
Gender	->	SN	-0,044	0,965	0,335
Self-Emp & Employee	->	ATT-Nec	0,056	0,917	0,359
Self-Emp & Employee	**->**	**ATT-Opp**	**0,141**	**2,616**	**0,009**
Self-Emp & Employee	->	EEI	0,047	0,993	0,321
Self-Emp & Employee	->	PBC	0,018	0,347	0,729
Self-Emp & Employee	->	SN	-0,078	1,289	0,197
Self-Employee	->	ATT-Nec	0,019	0,314	0,753
Self-Employee	->	ATT-Opp	0,072	1,337	0,181
Self-Employee	->	EEI	-0,018	0,465	0,642
Self-Employee	->	PBC	0,001	0,030	0,976
Self-Employee	->	SN	-0,094	1,560	0,119
SocioECO	**->**	**ATT-Nec**	**-0,096**	**2,130**	**0,033**
SocioECO	->	ATT-Opp	-0,006	0,131	0,896
SocioECO	->	EEI	0,005	0,130	0,896
SocioECO	**->**	**PBC**	**0,128**	**3,393**	**0,001**
SocioECO	**->**	**SN**	**0,110**	**2,412**	**0,016**

The control variables used in this study include some demographic ones: age, gender, socioeconomic level, education level, education background area (these are explained previously in Table 6.1). In addition, it also includes some experience-related variables: working status and working experience, which are described briefly in (Table 6.2). According to the PLS-SEM analysis (Table 6.21), age was found to be positively associated with EEI for people in Jordan (ß =0,106 | t= 3.242 | p= 0,001). Suggesting that mature people are more likely to exhibit the intentions to perform entrepreneurial behaviours (Gielnik, Zacher, and Wang 2018). This result could be attributed to the experience people gain by time. Respondents' experience as employees was found to be associated with their

(Attitude / Opportunity) (ß =0,120 | t= 2,222 | p= 0,026). Which supports previous studies (Miralles, Giones, and Gozun 2017).

Furthermore, respondents who are working as employees and self-employed simultaneously are also found to exhibit higher Attitude-Opportunity (ß =0,141 | t= 2.616 | p= 0,009). The experience of being self-employed was shown to affect the entrepreneurial intentions positively in many studies (Nguyen 2018).

Moreover, respondents with Computer science or IT technology educational background area, were found to exhibit a higher PBC (ß =0,106 | t= 2.155 | p= 0,031). Regarding to the education level, it was found to be associated with the Attitude-Necessity construct (ß =0,099 | t= 1.963 | p= 0,050). Suggesting that people with higher education qualifications are more likely to express an attitude of necessity to start a new online business.

Finally, the socioeconomic level has the highest effect on the TPB antecedents, it was found to be negatively associated with the respondents' attitude of necessity (ß =-0,096 | t= 2,130 | p= 0,033), confirming that people with a higher socioeconomic level do not approach e-entrepreneurship as a necessity. In turn, a higher social status is associated to a more positive perception of the own capacities to start an online venture, as shown by the strong significant relationship between the socioeconomic level and perceived behavioural control (ß =0,128 | t= 3.393 | p= 0,001), and also with a higher expected support by important referent people, as reflected by the significant relationship between the socioeconomic level and subjective norms (ß =0,110 | t= 2.412 | p= 0,016) (Ni and Ye 2018). The rest of the control variables were not found to be related to the EEI or any of the TPB antecedents. These results are illustrated in the study model in details in (Appendix C: Advanced Model).

Chapter 7: Discussion, Policy Implications and Conclusion

This chapter summarises the key findings of this research, with a full discussion, interpretation and policy implications and recommendations of the research with reference to the literature. It also presents practical and theoretical contributions to expand our understanding of e-entrepreneurship in Jordan, and offering suggestions for future research on the field. The chapter includes three main sections. The first section (7.1) includes a summary and implications of the empirical study results. The second section (7.2), expresses and states the conclusions of the thesis. The final part includes some insights into future research lines (section 7.3).

7.1 DISCUSSION AND IMPLICATIONS

The empirical findings explained in the previous chapter lead to some interesting insights that help the identification of some key factors that affect the EEI in Jordan. The results confirm the examined factors that affect the EEI in Jordan and indicated a positive relationship between the TPB antecedents (personal attitude, subjective norms and perceived behavioural control) and e-entrepreneurial intentions to start a new online business in Jordan. Those results confirm and validate the usage of the TPB in determining the e-entrepreneurial intentions. In fact, this study found that the motivational factor named as attitude is divided into attitude toward opportunities and attitude toward necessity. This result is consistent with other research works that used the TPB to investigate the entrepreneurial intentions (Farani, Karimi, and Motaghed 2017; Munir, Jianfeng, and Ramzan 2019).

Moreover, the analysis reveals that the perceived entrepreneurial culture influences the e-entrepreneurial intentions to start a new online business in Jordan. This gives a conceptual visualisation of Jordanian entrepreneurs and their perceptions in starting a new online business within the ecosystems in such a developing country. Actually, it could also help external entities and/or entrepreneurs understand and consider the perceived entrepreneurial culture and locate opportunities in local markets (Shaheer and Li 2020). This result is consist with other studies (Bogatyreva et al. 2019; Schlaegel, He, and Engle 2013; Valliere 2019), and stress the need to develop more models addressing the

perceived entrepreneurial culture factor in the globalised environment of e-entrepreneurship.

Jordan, as one of the Arab countries, is expressing a high collectivism culture (Hofstede 1984). The analysis confirms the positive effect of risk propensity on the perceived behaviour for Jordanians to start a new online business in Jordan. The risk factor has always been an important area of research in online businesses (Gregg and Parthasarathy 2017; Zolait et al. 2018). Entrepreneurs should always seek and enhance their cybersecurity systems to survive with their online business start-ups, hence, ensure risk-free in their business model (Bailetti and Zijdemans 2014). In this study, perceived risk propensity influences the e-entrepreneurial intentions toward becoming an e-entrepreneur and starting a new online business. In turn, this study stresses the need for more studies to provoke and help e-entrepreneurs to start their business and be able to eliminate possible risk.

Nevertheless, the analysis found that there are no differences between men and women in their e-entrepreneurial intentions to start a new online business in Jordan. This result is inconsistent with several research works which suggest that women in Jordan are less likely to have entrepreneurial intentions (GEM 2017; Muntaha 2020). This could indicate that Jordanians have less differences now in regard with starting a new business as per the large number of programs and organisations to empower women in Jordan (Al-Dajani et al. 2019; Omet et al. 2015; Qasim, Bany Mohammed, and Liñán 2018). Furthermore, it stresses the need to conduct more studies on gender differences in the field. E-entrepreneurship is considered a strength for women to easily initiate their own business in similar developing countries (McAdam, Crowley, and Harrison 2020).

7.2 CONCLUSION

E-entrepreneurship is a growing research field that presents a promising and critical field to explore, especially with the increase in the number and value of online start-ups. Hence, it is no wonder that the number of publications in e-entrepreneurship is growing and receiving more attention. At the same time, however, there is a need to organise and categorise the growing research work

in the field, not only to better understand the current status but to identify the gaps that need to be filled. Using a systematic literature review (SLR), the authors categorised and analysed the theories and models from 105 relevant papers out of a total of 291 articles in the literature of e-entrepreneurship from 2008 to September 2020. This has helped to reveal some very important findings that shed light on the gaps within the field. For instance, this analysis showed that most of the research reviewed in this work is not based on a solid theoretical framework that specifically considers the distinctive characteristics of e-entrepreneurship.

Moreover, the SLR revealed the existence of research gaps that need to be addressed, particularly those that focus on the success, challenges and opportunities e-entrepreneurs face in the digital world. We argue that these gaps, both in theory and practice, need to be developed into a comprehensive roadmap to help researchers draw on more relevant and needed work in this field. Besides, researchers can also focus on the development of more practical and empirical frameworks addressing the regional, cultural and environmental conditions in developing countries and across regions. Finally, online start-ups represent a massive opportunity for entrepreneurs worldwide. E-entrepreneurship and e-firm performance is a multidisciplinary field of research. Therefore, it is essential to integrate complementary research areas that need institutional and theoretical foundations to help develop better market-related research.

The model developed in this research was based on the TPB and the extant literature of entrepreneurial intentions, perceived entrepreneurial culture and risk propensity. The EEI model included three groups of variables with a total of six factors, categorised as follows; the TPB antecedents (attitude, subjective norms, perceived behavioural control); e-entrepreneurial intentions; perceived entrepreneurial culture, and risk propensity. In addition to the moderating role of gender in e-entrepreneurial intentions if existed. The findings reveal that the TPB antecedents, perceived entrepreneurial culture, and risk propensity affect the e-entrepreneurial intentions in Jordan. However, there were no differences in the EEI according to moderation role of gender.

Policymakers and government in such a developing country such as Jordan need to empower people to overrule their risk perception and cultural perceptions. This could be achieved through encouraging entrepreneurship and facilitating start-up process on the country level. Supporting local start-ups helps in providing employment and leveraging the national economy. The study implications can also help local incubators and accelerators to improve and increase start-ups through financial programs that could reduce the risk level among e-entrepreneurs. Moreover, understanding the obstacles that could limit entrepreneurship in Jordan, such as the perceived entrepreneurial culture.

7.3 FUTURE RESEARCH LINES

The field of e-entrepreneurship is evolving and growing rapidly. The number of publications on entrepreneurial intentions is increasing. However, this research identified some knowledge gaps as large number on the entrepreneurial intentions' studies were developed without a strong base of previous theory or model. This study showed the importance of building new models and framework based on a strong theory. Moreover, the need for more studies on e-business and entrepreneurship education to help rural e-entrepreneurs reach success and survive in a dynamic and changing environment. On the other hand, this research stresses the need for more studies to investigate the risk perceptions in developing countries such as Jordan. In addition, it also addresses the perceived entrepreneurial cultural aspects and how to educate rural e-entrepreneurs to innovate and initiate to start and become an employer. Lastly, this research reported no differences giving the moderation of gender. More studies are needed to confirm whether conducting an online business is the same for both genders.

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Appendices

The study's questionnaire is enclosed in both languages' English version (Appendix A) and Arabic version (Appendix B). Additionally, the advanced model that includes the control variables is also enclosed (Appendix C). The appendices are as the following:

APPENDIX A: QUESTIONNAIRE VERSION IN ENGLISH

ELITE

UNIVERSIDAD DE SEVILLA

ELECTRONIC ENTREPRENEURIAL INTENTION IN JORDAN

ELITE's Initial Questionnaire for Nascent Entrepreneurs

Introduction

This questionnaire is part of a doctoral study under the title "electronic entrepreneurial intention in Jordan: the role of gender and national culture" that aims to provide a deep insight of electronic entrepreneurship (e-entrepreneurship) in Jordan. The objective of this empirical study is to understand the Jordanian e-entrepreneurs characteristics better. In particular, this study focuses on their great potential to generate a positive high-impact on the economy of Jordan. To do this, those e-entrepreneurs with high-level of education (university degree) and an opportunity motivation will be analyzed.

The questionnaire contains four sections and there are NO correct or incorrect answers, we just want to know your personal opinion. Therefore, it's important that you answer all the questions honestly according to your point of view. It will take approximately 5 minutes to answer all the questions. The answers will only be used for this research purposes and no personal data will be disclosed nor shared with anyone.

Your help is essential for this study and we want to thank you for your collaboration. Thus, all those who answer the questionnaire completely and properly will participate in a raffle to win 3 AMAZON gift cards valued at $100, $50 and $25, respectively. Your mobile contact and email address will be used to participate in the raffle, and will also be used to track the progress of your project within one year.

Note: This questionnaire is part of the "ELITE's Initial Questionnaire for Nascent Entrepreneurs". Only questions related to our study have been included.

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ELITE

A. About yourself and your way of seeing things

A1. What stage are you in the creation process of your online venture? *

	1. I have not thought about it yet	2. I expect to create it in the next 3 years	3. I am currently creating it	4. I created it in the last year	5. I created it 1 to 3 years ago	6. I created it more than three years ago
Your project						

A2. Please describe yourself: *

	1. Never	2. Rarely	3. Sometimes	4. Neutral	5. Often	6. Very often	7. Always
1. Gentle							
2. Sympathetic							
3. Has leadership abilities							
4. Acts like a leader							
5. Dominant							
6. Tender							
7. Warm							
8. Affectionate							
9. Strong personality							
10. Defends own's beliefs							
11. Sensitive to others' needs							
12. Makes decisions easily							

A3. Please indicate to what extent you would be able to effectively carry out the following tasks: *

	1. Very ineffective	2. Ineffective	3. Somewhat Effective	4. Effective	5. Very effective
1. To define my e-business idea and the strategy of a new online company					
2. To maintain the process of creating a new online company under control					
3. To negotiate and maintain favorable relationships with potential investors and banks					
4. To recognize opportunities in the electronic market place for new products and / or services					
5. To connect with key people to obtain capital to create a new online company					
6. To start a new online company					

A4. Do you agree that the following motivations are important for you to become an e-entrepreneur? *

	1. Strongly disagree	2. Disagree	3. Neither agree or disagree	4. Agree	5. Strongly agree
1. Developing myself personally and professionally					
2. Taking advantage of an economic opportunity					
3. Earning more money than I would as an employee					
4. Lacking another economic alternative (unemployment)					
5. Complementing the family income					
6. Insecure and precarious employment					
7. Flexibility in lifestyle					
8. Desire for independence and working for myself					

A5. Indicate your degree of agreement with the following statements: *

	1. Strongly disagree	2. Disagree	3. Neither agree or disagree	4. Agree	5. Strongly agree
1. It is very likely that I will start an online venture one day					
2. I am willing to make every effort to become an e-entrepreneur					
3. I have serious doubts whether I will ever start an online venture					
4. I am determined to start an online venture in the future					
5. My professional objective is to be an e-entrepreneur					

B. About the contact networks you have

B1. Attitude to risk *

	1. Strongly disagree	2. Disagree	3. Neither agree or disagree	4. Agree	5. Strongly agree
1. I like to take risks, although I may fail					
2. For me, the best possible plan is the one that is free of risks					
3. I choose the safest option, although the rewards are more limited					

4. To obtain greater rewards, I am willing to take greater risks					
5. I'm looking for new experiences even if their results are risky					

B2. Regarding the creation of your company, to what extent do the following people approve this decision? *

	1. Strongly disapprove	2. Disapprove	3. Neither approve or disapprove	4. Approve	5. Strongly approve
1. My closest family					
2. My friends					
3. My colleagues					
4. Society in general					

B3. To what extent the opinion of the following people is important to you? *

	1. Not at all important	2. Somewhat important	3. Neither important or unimportant	4. Important	5. Very important
1. The opinion of my family					
2. The opinion of my friends					
3. The opinion of my colleagues					
4. The opinion of my society in general					

B4. In my region, the predominant culture .... *

When answering the following questions, think about the predominant characteristics in the region where you live.

	1. Strongly disagree	2. Disagree	3. Neither agree or disagree	4. Agree	5. Strongly agree
1. … supports/values individual success obtained through personal effort					
2. … emphasizes self-sufficiency, autonomy and personal initiative					
3. … stimulates the assumption of business risk					
4. … stimulates creativity and innovation					
5. … emphasizes that the individual is responsible for managing their life					

C. Demographic data and previous experience

C1. How old are you? * _____

C2. Sex? * __ MALE __ FEMALE

C3. What is your nationality? * _____

C4. What is your city of residence? * **:** _____

C5. What is your socioeconomic level? *:

	1. Low	2. Medium-low	3. Medium	4. Medium-high	5. High
Indicate:					

C6. Do you personally know any entrepreneurs that can serve as a reference to you? How do you value their activity as entrepreneurs? *

	1. No	2. Yes, unfavorable valuation	3. Yes, favorable valuation
1. Father			
2. Mother			
3. Other close relatives			
4. Friends			
5. Workmates or bosses			
6. Mentors in business incubators			

C7. Indicate who lives with you and makes up your household (tick all that apply) *

	1. I live alone	2. My parents	3. My partner	4. My children	5. Other people (shared apartment, ...)
People in household					

C8. How many dependents (children, elderly or disabled) live with you? *

	No one	1	2	3	4 or more
Number of dependents					

C9. Is your family life a limitation for your e-entrepreneurial potential? *

	1. Never	2. Rarely	3. Sometimes	4. Often	5. Always
Indicate					

D. Training and Experience

D1. What level of education have you reached or are you currently studying? *

	1. Pre-university	2. University degree or similar	3. Master's degree or doctorate
Indicate			

D2. In what area did you receive this education? *

	1. Computer science, IT technology	2. Economy and business	3. Other social sciences and humanities	4. Health and experimental sciences	5. Engineering, architecture, etc	6. Other
Main area						

D3. Have you received specific training to create companies? *

__ Yes __ No

D3.1. If you received it, what was the content of that training?

	1. Opportunity identification	2. Venture creation	3. Business development	4. Other
Mark all that apply				

D3.2. If you have received it, how long has that training lasted?

	1. One or few days	2. A few weeks	3. Several months
Mark an option			

D4. Do you have previous work experience? *

	1. None	2. Less than 1 year	3. From 1 to 3 years	4. More than 3 years
1. As an employee				
2. As self-employed / entrepreneur				

D5. Current job situation *

	1. I'm not working	2. Self-employed	3. Employee	4. Self-employed and employee simultaneously
Mark an option				

D6. How many companies have you created before? *

	None	1	2	3	4 or more
Mark an option					

D7. Indicate the entrepreneurship center you belong to *

1. ZINC (Zain)
2. BIG (Orange)
3. TANK (Umniah)
4. UJIEC (JU Innovation and Entrepreneurship Center)
5. INJAZ
6. Queen Rania Center for Entrepreneurship
7. iPark
8. Daret Alreyadeh (Amman chamber of commerce)
9. TTinnovation (TTi)
10. None
11. Other _____

Thank you very much!

To participate in the raffle, you have to indicate a valid mobile number and e-mail:

Enter your mobile number

_____

Enter your e-mail

_____

Thanks for your participation! and good luck in the raffle.

For any questions or information, you can write to the following email address: dhiamqasim@gmail.com
The raffle will be held on June 30, 2020, and the results will be communicated to all participants by email.

APPENDIX B: QUESTIONNAIRE VERSION IN ARABIC

التوجه لريادة الأعمال الإلكترونية في الأردن

استبيان ELITE الأولي لأصحاب المشاريع الناشئة

المقدمة

هذا الاستبيان جزء من دراسة بحثية بحته لغايات الحصول على درجة الدكتوراه تحت عنوان "التوجه لريادة الأعمال الإلكترونية في الأردن: دور النوع الاجتماعي والثقافة الوطنية"، وتسعى إلى توفير رؤية دقيقة لتوجه الشباب نحو ريادة الأعمال الإلكترونية في الأردن.

وعلى وجه الخصوص، تركز هذه الدراسة على دور ريادة الأعمال الإلكترونية الكبير في توليد أثر إيجابي كبير على الاقتصاد الأردني. وللقيام بذلك، سيتم تحليل توجهات العينة الدراسية نحو إنشاء مشاريع ريادية إلكترونية.

يحتوي الاستبيان على أربعة أقسام، ولا توجد إجابات صحيحة أو غير صحيحة، نريد فقط معرفة رأيك الشخصي. لذلك، من المهم أن تجيب على جميع الأسئلة بصدق وفقًا لوجهة نظرك. سوف تأخذ هذه الاستبانة 5 دقائق من وقتك للإجابة على جميع الأسئلة. سيتم استخدام الإجابات لأغراض البحث العلمي هذا فقط، ولن يتم الكشف عن أية بيانات شخصية أو مشاركتها مع أي شخص.

مساعدتكم ضرورية لهذه الدراسة ونريد أن نشكركم على تعاونكم. وبالتالي، سيشارك كل من يجيب على الاستبيان بشكل كامل وصحيح في السحب للفوز بثلاث بطاقات هدايا من AMAZON بقيمة 100 دولار و50 دولار و25 دولارًا على التوالي. سيتم استخدام رقم الهاتف الخاص بك للمشاركة في السحب، وسيتم استخدامه أيضًا مع البريد الإلكتروني لتتبع التقدم الذي تمّ إنجازه في مشروعك خلال عام واحد.

ملحوظة: هذا الاستبيان جزء من "الاستبيان ELITE الأولي لأصحاب المشاريع الناشئين" تم تضمين الأسئلة المتعلقة بهذه الدراسة فقط.

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A: عن نفسك وطريقتك في رؤية الأشياء

A1. ما المرحلة الحالية لعملية إنشائك لمشروعك الإلكتروني؟ *

المشروع قد يكون شركة إلكترونية أو متجر إلكتروني أو العمل بواسطة الإنترنت بشكل عام

	1. لم أفكر في ذلك حتى الآن	2. أتوقع أن أقوم بإنشائه في السنوات الثلاثة القادمة	3. أقوم بإنشائه حاليا	4. قمت بإنشائه في العام الماضي	5. قمت بإنشائه منذ 1 إلى 3 سنوات	6. قمت بإنشائه منذ أكثر من ثلاث سنوات
مشروعك						

A2. يرجى تقييم صفاتك الشخصية بناء على ما يلي: *

	1. أبداً	2. نادراً	3. أحياناً	4. محايد	5. أحيانا كثيرة	6. غالباً	7. دائماً
1. لطيف							
2. عاطفي							
3. عندي قدرات قيادية							
4. أتصرف كقائد							
5. مهيمن							
6. معطاء							
7. ودي							
8. حنون							
9. ذو شخصية قوية							
10. أدافع عن معتقداتي							
11. حساس لاحتياجات الآخرين							
12. آخذ القرارات بسهولة							

A3. يرجى الإشارة إلى أي مدى ستكون قادرًا على تنفيذ المهام التالية بفعالية: *

	1. غير فعال أبداً	2. غير فعال	3.فعال إلى حد ما	4. فعال	5. فعال جداً
1. تحديد فكرة عملي الإلكتروني والاستراتيجية لشركة إلكترونية جديدة					
2. إنشاء شركة إلكترونية جديدة وإبقائها تحت السيطرة					
3. التفاوض والحفاظ على علاقات إيجابية مع المستثمرين المحتملين والبنوك					
4. التعرف على الفرص المتاحة في السوق الإلكترونية للمنتجات و / أو الخدمات الجديدة					
5. التواصل مع الأشخاص المعنيين للحصول على رأس المال لإنشاء شركة إلكترونية جديدة					
6. إنشاء شركة إلكترونية جديدة.					

A4. هل توافق على أن الدوافع التالية مهمة بالنسبة لك لتصبح ريادياً في الأعمال الإلكترونية؟ *

	1. معارض وبشدة	2. معارض	3. محايد	4. موافق	5. موافق وبشدة
1. تطوير نفسي شخصيا ومهنيا					
2. الاستفادة من فرصة اقتصادية					
3. كسب المزيد من المال مما كنت قبل كموظف					
4. عدم وجود بديل اقتصادي آخر (البطالة)					
5. تحسين دخل الأسرة					
6. حالة من عدم الاستقرار الوظيفي					
7. المرونة في نمط الحياة					
8. الرغبة في الاستقلال وتكوين عملي الخاص					

A5. حدد درجة موافقتك على العبارات التالية *

	1. معارض وبشدة	2. معارض	3. محايد	4. موافق	5. موافق وبشدة
1. من المحتمل جدًا أن أبدأ مشروعًا إلكترونيًا في يوم من الأيام					
2. إنني على استعداد لبذل كل جهد ممكن لأصبح ريادي أعمال إلكتروني					
3. لديّ شكوك جدية فيما إذا كنت سأبدأ مشروعاً إلكترونياً					
4. أنا مصمم على بدء مشروع إلكتروني في المستقبل					
5. هدفي المهني هو أن أكون ريادي أعمال إلكتروني					

B: حول تصوراتك للبيئة المحيطة بك

B1. الموقف من المخاطرة *

	1. معارض وبشدة	2. معارض	3. محايد	4. موافق	5. موافق وبشدة
1. أحب المجازفة، رغم أنني قد أفشل					
2. بالنسبة لي، فإن أفضل خطة ممكنة هي الخطة الخالية من المخاطر					
3. قمت باختيار الخيار الأكثر أمانًا، على الرغم من أن العوائد محدودة					
4. للحصول على عوائد أكبر، أنا على استعداد لتحمل مخاطر أكبر					
5. أنا أبحث عن تجارب جديدة حتى لو كانت نتائجها محفوفة بالمخاطر					

B2. فيما يتعلق بإنشاء شركتك، ما مدى تقبل الأشخاص التالية أسماؤهم هذا القرار؟ *

	1. غير مقبول نهائياً	2. غير مقبول	3. محايد	4. مقبول	5. مقبول جداً
1. أقاربي من الدرجة الأولى					
2. أصدقائي					
3. زملائي					
4. المجتمع بشكل عام					

B3. إلى أي مدى يمثل رأي الأشخاص التاليين أهمية بالنسبة لك؟ *

	1. غير مهم على الإطلاق	2. غير مهم	3. مهم نوعًا ما	4. مهم	5. مهم جدًا
1. رأي عائلتي					
2. رأي أصدقائي					
3. رأي زملائي					
4. المجتمع بشكل عام					

B4. في منطقتي، الثقافة السائدة .... *

عند الإجابة على الأسئلة التالية، فكر في الثقافة والخصائص السائدة في المنطقة التي تعيش فيها.

	1. معارض وبشدة	2. معارض	3. محايد	4. موافق	5. موافق وبشدة
1. ... تدعم / تقدر النجاح الفردي الذي تم الحصول عليه من خلال الجهد الشخصي					
2. ... تؤكد على الاكتفاء الذاتي والاستقلالية والمبادرة الشخصية					
3. ... تحفز افتراض مخاطر الأعمال					
4. ... تحفز الإبداع والابتكار					
5. ... تؤكد على أن الفرد مسؤول عن إدارة حياته					

C: البيانات الديموغرافية والخبرة السابقة

C1. كم عمرك؟ * _____

C2. الجنس؟ * ــ ذكر ــ أنثى

C3. ما جنسيتك؟ * _____

C4. في أي مدينة تقيم؟ * _____

C5. ما مستواك الاقتصادي؟ * _____

	1. منخفض	2. منخفض قليلاً	3. معتدل	4. مرتفع قليلاً	5. مرتفع
حدد					

C6. هل تعرف (بشكل شخصي) أي من ريادي الأعمال بحيث من الممكن أن يكونوا بمثابة مرجع لك؟ كيف تقيّم نشاطهم كرجال أعمال؟ *

	1. لا	2. نعم، يبشر بالفشل	3. نعم، يبشر بالنجاح
1. الأب			
2. الأم			
3. الأقارب الآخرين من المقربين			
4. الأصدقاء			
5. زملاء أو رؤساء العمل			
6. مرشدين من حاضنات اعمال			

C7. حدد من يعيش معك ويشكل أسرتك (ضع علامة على كل ما ينطبق عليه) *

	1. أعيش وحيداً	2. الوالدين	3. زوجتي	4. أطفالي	5. أشخاص آخرون (شقة مشتركة، ...)
أفراد الأسرة					

C8. ما عدد المعالين الذين يعيشون معك؟ (الأطفال، المسنين أو المعوقين) *

	لا أحد	1	2	3	4 أو أكثر
عدد المعالين					

C9. هل تشكل حياتك العائلية قيوداً على إمكانياتك في مجال ريادة الأعمال الإلكترونية؟ *

	1. أبداً	2. نادراً	3. في بعض الأحيان	4. غالباً	5. دائماً
حدد					

D: التدريب والخبرة

D1. ما المستوى التعليمي الذي وصلت إليه أو تدرسه حاليًا؟ *

	1. ما قبل الجامعة	2. شهادة جامعية أو ما شابه	3. دراسات عليا (ماجستير أو دكتوراه)
حدد			

D2. في أي مجال تلقيت هذا التعليم؟ *

	1. علم حاسوب، تكنولوجيا معلومات، إلخ	2. الاقتصاد والعلوم الإدارية	4. العلوم الصحية والتجريبية	2. الاقتصاد والعلوم الإدارية	5. الهندسة، الهندسة المعمارية، إلخ	6. أخرى
المجال الرئيسي						

D3. هل تلقيت تدريبات خاصة لإنشاء شركات؟ *

ــ نعم ــ لا

D3.1 إذا تلقيتها، فما محتوى هذا التدريب؟

	1. تحديد الفرص	2. إنشاء المشاريع	3. تطوير الأعمال	4. أخرى
اختر كل ما ينطبق عليه				

D3.2 إذا تلقيت ذلك، فكم من الوقت استمر هذا التدريب؟

	1. يوم أو عدة أيام	2. عدة أسابيع	3. عدة أشهر
مدة التدريب			

D4. هل لديك خبرات سابقة في العمل؟ *

	1. لا يوجد	2. أقل من سنة	3. من سنة إلى ثلاث سنوات	4. أكثر من ثلاث سنوات
1. كموظف				
2. صاحب عمل / ريادي أعمال				

D5. الوضع الوظيفي الحالي *

	1. عاطل عن العمل	2. أعمل لحسابي الخاص	3. موظف	4. موظف وأعمل لحسابي الخاص معاً في وقت واحد
الحالة الوظيفي				

D6. كم عدد الشركات التي قمت بانشائها سابقاً *

	0	1	2	3	4 أو أكثر
اختر ما يناسبك					

D7. أشر إلى حاضنة أعمال أو مركز ريادة تنتمي إليه *

1. ZINC (زين)
2. BIG (أورانج)
3. TANK (أمنية)
4. UJIEC (مركز الابتكار وريادة الأعمال – الجامعة الأردنية)
5. إنجاز
6. دارة الريادة – غرفة تجارة عمان
7. مركز iPark
8. مركز الملكة رانيا للريادة
9. TTi للإبداع
10. بلا مركز
11. غير ذلك _____

شكـــرا جزيـــلا لـــكم!

للمشاركة في السحب، عليك الإشارة إلى رقم موبايل وبريد إلكتروني صالح:

أدخل رقم هاتفك المحمول

_____

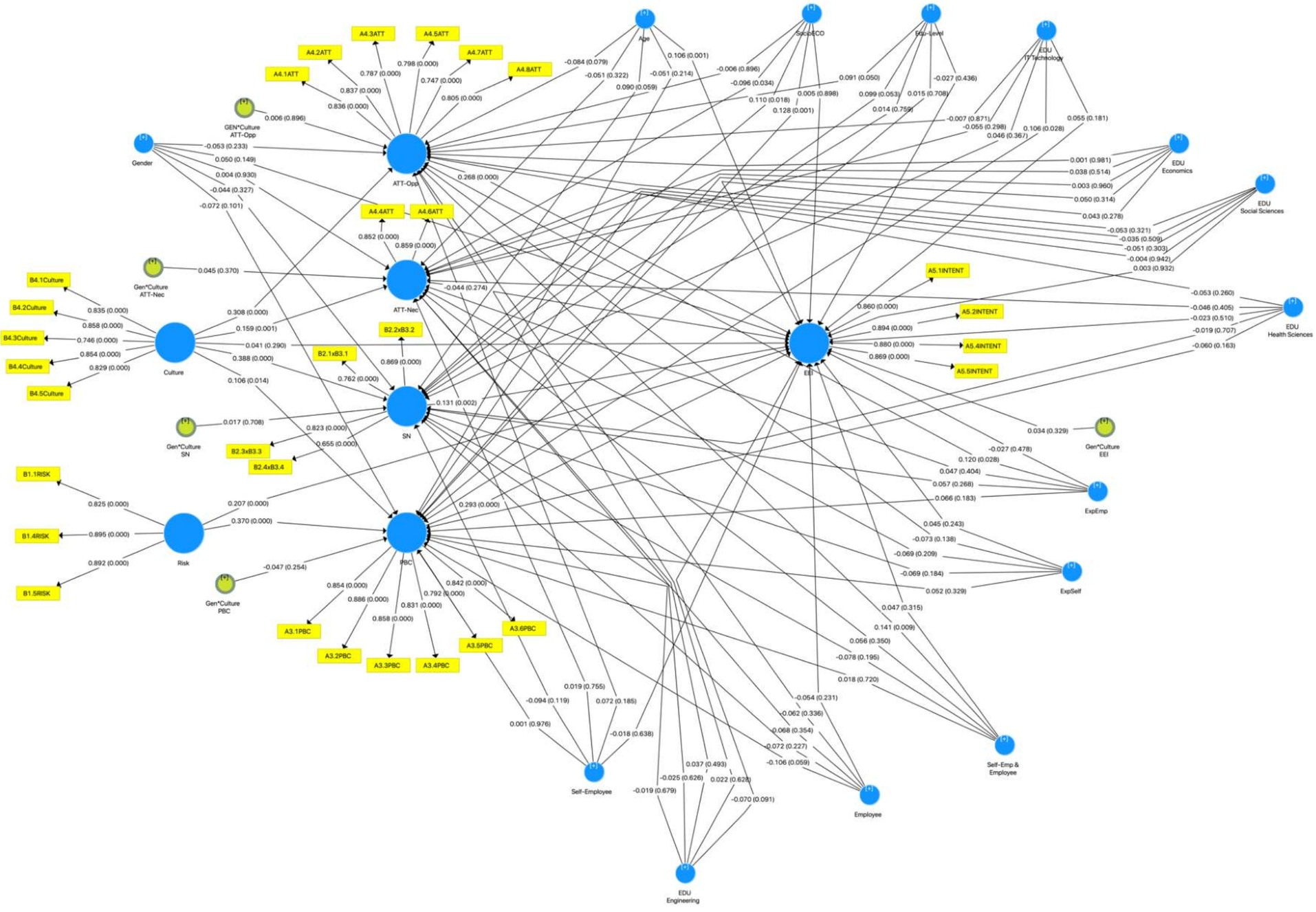
أدخل بريدك الإلكتروني

_____

شكرا لمشاركتكم! ونتمنى لكم التوفيق في السحب.

لأية أسئلة أو معلومات، يمكنك الكتابة إلى عنوان البريد الإلكتروني التالي: dhiamqasim@gmail.com
سيقام السحب في 30 يونيو 2020 وسيتم إبلاغ النتائج لجميع المشاركين عن طريق البريد الإلكتروني.

APPENDIX C: ADVANCED MODEL (Control Variables Analysis)



Published Articles

This dissertation was developed and expanded upon ideas embraced in previous papers on the topic of e-entrepreneurial intentions in Jordan that are written by the author and his research supervisors. This section demonstrates two articles as part of the requirements to obtain the degree of philosophy of doctorate.

A. THE FIRST PUBLICATION

The first article was published under the title:

"The Role of Culture and Gender in E-commerce Entrepreneurship: Three Jordanian Case Studies"

Dhia Qasim, Ashraf Bany Mohammed, Francisco Liñán.

As part of the contributions to Management Science book series (MANAGEMENT SC.)
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The Role of Culture and Gender in E-commerce Entrepreneurship: Three Jordanian Case Studies

D. Qasim, A. Bany Mohammed, and F. Liñán

Abstract The number of entrepreneurs using e-commerce to start their own online business up is continuously growing. In this chapter, the current literature on e-commerce entrepreneurship is reviewed and attention is paid to the situation in Jordan, a representative Middle East and Northern Africa (MENA) country. In particular, our focus is on the role of culture and gender in local potential, nascent and new e-entrepreneurs. Three Jordan case studies are presented (ZINC, Oasis500 and CashBasha), showing an increased attention and support for entrepreneurship in general, and e-entrepreneurship in particular, in Jordan. In addition, some special programs are aimed at promoting women e-entrepreneurship, since it is seen as a way of overcoming some of the cultural barriers to female entrepreneurial activity.

Keywords E-commerce · Entrepreneurship · Jordan · Culture · Gender

1 Introduction

The rapid development in the online and e-commerce business sectors has linked different communities in global online market. This has made many organizations launch their own websites to interact with their local customers and other potential customers around the world. According to Turban et al. (2000), e-business involves

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the buying and selling or exchanging of the goods, services and information through computer networks via internet. Because of the ultimate growth of the e-business sector, venture capitalists and investors are coming to invest their funds in this sector. E-commerce is defined by Zwass (1996) as "the sharing of business information, maintaining business relationships and conducting business transactions by means of telecommunication networks". Other researchers support this view as e-commerce includes buying and selling activities in addition to inclusion of different processes across the organization (Applegate 1999; Fellenstein and Wood 2000). E-commerce in a broader sense also includes servicing customers and collaboration among the business partners (David and Benamati 2002). Thus, e-commerce has increased rapidly and attracted more and more customers from Tier 2 and Tier 3 cities, where people have restricted access to brands with high brand equity.

Entrepreneurs are increasingly using e-commerce to start-up their own online business. A nascent entrepreneur is someone who starts carrying out a series of activities intended to culminate in a fertile business start-up (Reynolds 1994). It may include individuals or organizations engaged in the entrepreneurship process (Naffziger et al. 1994). Entrepreneurship is the process comprising the creation of something new and associated with the handling of risk and reward measures. It encompasses acts of organizational creation, renewal, or innovation that occur within or outside an existing organization (Sharma and Chrisman 2007).

On the other hand, E-commerce and entrepreneurship generate income and sustain economic development and growth (Reynolds et al. 2003; UNCTAD 2003). Moreover creating a successful e-commerce venture could be affected by factors such as entrepreneurial characteristics and other critical factors defined by Sebora et al. (2009). A successful E-commerce entrepreneur is one who has launched an e-commerce venture, profitable in monetary terms, and has also survived to external and internal factors. Nevertheless e-business is also characterized by selling or buying a service or product (including rental and books, computers, cell phones, software) through online sources, such as email service. The e-commerce enables the single computer owner to interact with the whole world of consumers and can run their business with them. The concept has a wider scope and is not limited to small e-businesses or organisations, but also includes big corporate entrepreneurship (Burgelman 1983).

The use of information and communication technologies (ICT) has been seen as a good opportunity for developing countries (Fryad Henari and Mahboob 2008; Kahttab and Qutaishat 2012). E-business activity may compensate for the lack of adequate physical infrastructure, or the small local markets. For this reason, ICT are being promoted in several of these countries. This is the case of Jordan, where the government is actively pursuing the modernization and development of the ICT sector (UNCTAD 2003). In particular, special attention has been paid to e-business as a possibility to promote women empowerment and reduce gender inequality (Meenakshi 2015; Mellita and Cholil 2012).

In the present chapter, we present an overview of the previous literature on the effects of gender and culture on e-commerce entrepreneurship in Jordan, as a case representing Middle East and North Africa (MENA) countries. In addition, the

chapter represent three Jordanian case studies of initiatives to support the local entrepreneurs in this country with a special focus on e-entrepreneurship.

2 E-commerce Entrepreneurship

The concept of infrastructure related to e-commerce is a relevant factor impacting on the adoption of e-commerce by developing-nation entrepreneurs for their businesses. The infrastructure for the e-business firm includes the internet compatibility, technical skills and experience of the employees with respect to the business. Internet compatibility refers to the availability of telecommunication systems, hardware and software and internet services, to the entrepreneur. It also includes knowledge about how to use and apply it to the business.

Grandon and Pearson (2004) identify different variables as useful to perceive the strategic value of e-commerce adoption, such as organizational support, decision-making abilities and managerial productivity in SMEs. This specific knowledge allows the entrepreneurs and their employees to choose e-commerce as a beneficial strategy for their businesses. Technical computing skills and experience of the employees and the entrepreneurs will support the implementation of strategies to expand or develop their business through e-commerce. The customer ability to use internet and infrastructure is also considered as a leading component for adopting e-commerce by an entrepreneur. The infrastructure is a prime component for e-commerce to work for entrepreneurs and to support their business (Grandon and Pearson 2004).

The main concern for entrepreneurs while seeking new strategies are the customers. Whatever decisions an entrepreneur takes to expand her/his business depends on customers' -or potential customer's- acceptance. It is derived that the customers are primary harbingers for an entrepreneur to decide whether adopting e-commerce for her/his business or not. The decision to take up e-commerce as a business strategy could be affected by the customers and their trust in e-commerce (Shuhaiber et al. 2014). Change takes time to get accepted and the same applies to the e-commerce, as there is lack of awareness and popularity of e-marketing among customers. The existing culture of shopping can act as a barrier to the growth of e-commerce in developing countries.

Related to this situation, the entrepreneurs of these countries are often afraid of trying new strategies (Alzubi et al. 2015). According to Alzubi et al. (2015), this is related to some additional factors affecting the adoption of e-commerce management, including top management support (TMS), financial resources (FR), University readiness (UR), attitudes and subjective norms (SNKS).

The market environment is also a factor that influences e-commerce entrepreneurship. Wymer and Regan (2005) study the application of e-business and e-commerce information technology (EEIT) in small and medium enterprises (SMEs). The primary objective is to analyse the barriers and incentives found by SMEs in using EEIT and the influence of demographic characteristics on the adopter's decision. Market environment is a combination of competitors, suppliers, vendors and customers. The existence of competition in the market motivates

vendors to stay one step ahead of their competitors. Competitors play a major role as they are the main element forcing entrepreneurs to present themselves with uniqueness and provide the customer with easy to access to facilities to purchase their products.

Vendors may also attract customers by using alternative strategies: allowing them to access the market from the comfort of their homes, providing a variety of quality options, and allowing comparison of their products with other vendors' products. In this sense, e-commerce provides entrepreneurs with benefits attached to it, which allows them to cover wider markets with cost efficiency and less effort. The trends running in the market place will influence the decision of the entrepreneur to choose the promotion strategy for her/his products. If the trend is in favour of e-commerce, the entrepreneur tends to select it (Wymer and Regan 2005).

According to Kapurubandara and Lawson (2006), studies reveal the significant barriers at different levels with regard to e-commerce Information and Communication Technology (ICT) adoption in developing countries. The nature of market changes with the transformation in government policies, rules and regulations related to market transactions. When government introduces any new policies regarding taxes, subsides or rules and regulations, all these factors provide some flexibility or rigidity in the working procedure of an entrepreneur. These aforementioned elements have their direct impact on the adoption of e-commerce by an entrepreneur. If these elements are in favour of e-commerce with respect to a traditional business, then the entrepreneur will have an incentive to adopt e-commerce as her/his mode of transaction.

Contradictory to the preceding situation, entrepreneurs do not use e-commerce as their manner of dealing in the market if the government policies are not supporting their business through e-commerce. Thus, government policies, rules and regulations are considered as a crucial factor for entrepreneurs to take up e-commerce to promote their business and attract the attention of the customers (Kapurubandara and Lawson 2006).

According to Fryad and Mahboob (2008) the internet users have an experience in this field and are considering the internet technology to be a new and possibly the greatest opportunity for commercialism in this century. This, at one time known as an information revolution, is now called the internet and e-commerce revolution (Henari and Mahboob 2008). There are many cultural and social aspects against different nations which are considered a major obstacle to the spread of e-commerce. The e-commerce is being considered as a leading indicator for economic advancement and growth in the developed and developing countries (Edvinsson and Stenfelt 1999).

3 Culture, Gender and E-commerce Entrepreneurship

Culture may be defined as the set of basic common values which will contribute to shaping people's behaviour in a society (Inglehart 1997). It also includes patterns of thinking, feeling and acting, which are learned and shared by people living within the same social environment (Hofstede and Hofstede 2005). The first and most

common classification of cultures distinguishes between individualist and collectivist ones (Hofstede and Hofstede 2005; Schwartz 1999). The more general set of cultural dimensions defined by Hofstede (1980) has been frequently applied in the study of these countries. These four underlying value dimensions are used to position countries into cultural regions. These dimensions include power distance, uncertainty avoidance, individualism vs collectivism, and masculinity vs femininity. All of these dimensions are rated on a different scale from the lowest to the highest (Hofstede 1980).

The cultural dimension of collectivism appears to be a sort of functional, social closeness. It is measured with respect to parents, friends and others. The collectivist society consists of collective identity, emotional dependency, sharing of duties and obligations, which are needed for stable and predetermined friendship, group decision, and participation. On the other hand, individualism is a multidimensional concept. The behavioural aspects of individualism act according to the personal attitudes and preferences of people, rather than being influenced by others' opinions and perception level (Buda and Elsayed-Elkhouly 1998). The cultural difference of both, individualism and collectivism, affects the business and the economy in several ways because of their interrelated functions (Hofstede and Hofstede 2005).

The findings of various research studies suggest that culture in the Arab countries should be a barrier to the internet usage because of the highly social and family oriented culture of the Arab region. There could be a threatening effect of the internet and e-commerce in the life of family and community. According to Lauzikas and Mokseckiene (2013), in a society, culture affects the decisions of young people about focusing on innovation, employment or starting a new venture. The role of a society's lifestyle, religions, customs, rules and other similar aspects in the business and organisations of a country is relatively under-explored. The influence of human resources and their intercultural backgrounds are generally ignored when identifying the role of culture in entrepreneurship activities. Nevertheless, it has a deep impact on entrepreneurship. Entrepreneurs cannot get the desired results from their business activities without having adequate knowledge about the culture of the country where their business is located (Lauzikas and Mokseckiene 2013).

The Lack of cultural awareness may also result in the vanishing of some financial benefits of the business. In the view of Sajjad et al. (2012), the entrepreneur's intentions are substantially affected by the culture of a country. They propose the model of persuasion as consisting of Appropriateness, Consistency and Effectiveness (ACE). This model assumes that entrepreneurs will choose between adding a new concept to the existing trends of business or introducing an entirely new concept to generate a striking image of their venture in the market. The decision will depend on the evaluation of appropriateness, consistency and effectiveness of the alternative opinions.

The feasibility of the entrepreneur's ideas will depend on the customers' demand which ultimately is influenced by their culture. Thus, the importance of culture is revealed by factors such as the customers' acceptance of the idea, or the entrepreneur's efficiency to stabilize her/his business. It is evident that the thinking, values and beliefs of people have impression of the culture by which they are surrounded

(Liñán et al. 2016). Similarly, the morals, actions, and behaviour of the people are developed under the same culture which is accepted by the society (Leung and Morris 2015). Generally, it is observed that an entrepreneur's intentions are also influenced by individual thoughts, but which are nurtured by the cultural influence of the country or region (Liñán et al. 2016).

Thus, it is accepted that a nation's culture has a moderating impact on the intentions of the entrepreneur with regard to e-commerce (Sajjad et al. 2012). Entrepreneurship is considered as the essential element that promotes competition, innovation and employment. The entrepreneurial intention is one key step in the process of entrepreneurship (Sajjad et al. 2012). However, entrepreneurial intentions influence the entrepreneurial behaviour depending on previous specific business knowledge. Most people, even if they exhibit high entrepreneurial intention, begin undertaking an employee position before they launch their own business, due to lack of sufficient start-up capital and specific knowledge.

Pavlou and Chai (2002) develop a research instrument to measure collectivism and individualism along with the theory of planned behaviour constructs. The use of internet and the process of globalisation develop the activities of e-commerce across nations. These actions develop a new framework of online consumer behaviour that exceeds the national boundaries along with cross-cultural effects. They found a significant relationship between attitude and intention for collectivistic cultures, but insignificant for individualist cultures. However, the findings from various studies state that customer loyalty, in lieu of business to consumers in e-commerce, is not influenced by the individualism or collectivist cultural dimension. Furthermore, individualism and collectivism explain the differences among online and offline commerce. Online shopping pulls in individualists because people do not have to interact in cooperation with other individuals. Therefore, most users of online commerce express individualistic values (Frost et al. 2010). In Arab countries, such as Jordan, where collectivistic values tend to prevail, this would imply a hurdle for the development of e-entrepreneurship.

Shuhaiber et al. (2014) introduced a factorial model for consumer trust in mobile payments whether via mobile, cell phone or smartphone handsets. The study was conducted in the United Arab Emirates—a Middle Eastern country. One of the five main conceptualisations in the study model was environmental influences (social and cultural). It found that the word-of-mouth had a positive effect on the majority of people for trusting any online business, in addition to other factors related to the Emirates technological culture and environment (Shuhaiber et al. 2014).

In this context, some studies have tried to identify the main factors retarding the spread of e-commerce in many countries, including social and cultural reasons as one relevant element (Gibbs et al. 2003). A recent study has also shown the influence of individualist and collectivist cultural values toward e-commerce intentions in Jordan, moderated by the gender factor (Kahttab and Qutaishat 2012).

Gender is a relevant variable determining various roles in the society and lays different emphasis on the work goals and assertiveness in comparison to the personal goals and furtherance. According to the views of Sangwan et al. (2009), there is a significant role of gender in explaining the different motivational levels towards

e-commerce of males and females. The study has also mentioned various factors affecting males and females differently in their e-commerce purchase behaviour. These factors include: (a) reliable information available while shopping online; (b) purchasing behaviour of others, (c) having joy while shopping online; among others (Sangwan et al. 2009).

Various studies have identified a set of critical factors which underlie successful women entrepreneurs. In particular, government and institutional support, involvement of societal environment, training and management, increased access to the market, and best managerial practices are stressed. Thus, Minnitti et al. (2005) argue that men continue to exhibit a more active participation in entrepreneurship, as compared to women. The data suggested that the shortfalls occur more likely with the middle-income nations where women are 25% of entrepreneurs. In contrast, women entrepreneurs are more active comparatively in the high income countries, with over 33% of the total, and in the remaining low-income countries with a 41% participation rate (Minnitti et al. 2005).

In the case of Jordan, as in other Arab countries, traditional roles assigned to women do not fit well with the entrepreneurial activity (Sidani 2005). In this sense, it has been argued that e-entrepreneurship may be a way of overcoming some of these traditional cultural beliefs in Arab countries. Hence, Information and Communication Technologies (ICTs) provide women's empowerment, according to Kelkar and Nathan (2002). ICTs may contribute to redefine the traditional gender roles as the use of IT services will benefit both men and women who have limited knowledge and money for higher education (Kelkar and Nathan 2002).

Mitchell (2004) found the ways and targets of men and women are influenced by the stereotype behaviour. The stereotype indicators such as targets, negative perspective and self-appropriate behaviour are dangerous to their self-fulfilment cycle. Thus, many women entrepreneurs are motivated by the safety level measures for their families. Entrepreneurship combines caring for their families as well as bringing the money for them for their survival and achievement of their aspirations. This is visible in several Asian countries including Indonesia and Singapore (Mitchell 2004; Sebora et al. 2009).

According to the United Nations (2015), about half of the world's human capital and business owners are women. However, only around one-third of the work done by women in developing countries is measured in the national economic reports. In contrast, in some developed countries such as Germany, women using government incentives for their ventures are performing comparatively as satisfactorily as men are. Because of the thought that women bring fresh motivation and ideas in their professional work, women adjust better to the new service society as compared to the old industrial society. In this regard, Mellita and Cholil (2012) identified several factors as a helpful success motivator for females in e-commerce entrepreneurship in developing countries:

- New challenges and opportunities for self-fulfilment,
- Education and qualification,
- Support from the family members,
- Role models to others,

- Bright future of their children,
- Need for additional income,
- Family occupation,
- Authority in independent decision making,
- Employment generation, and
- Innovative thinking

Meenakshi (2015) argues that government is playing a vital role in influencing women to become entrepreneurs. The government's support is encouraging women to become an entrepreneur by developing entrepreneurial intention among them. In support of these views, Mat and Razak (2011) suggest that governmental policies are vital for encouraging women to become entrepreneurs. In their view, several factors affect the entrepreneurial activities of women, including education, attitude and experience level of the individual.

Education is found to be the most significant factor that affects the entrepreneurial development of women (Mat and Razak 2011). In the Arab world, female education has a strong effect on their employment status as educated females are more likely to be employed rather than uneducated females. However, 30% of educated females in Jordan were unemployed during the period 2011 and 2012, with an unemployment rate of 60%. Overall employment increased by 18% during the period 1991–2011 which made an average gain for Arab women in the region without a substantial change in Jordan (Momani 2016).

Education provides the knowledge about entrepreneurship and the confidence to become an entrepreneur. In addition to this, there are some environmental factors that affect the entrepreneurial intention and entrepreneurial development of women. These environmental factors include political and business market situations. Along with this, social and cultural factors like discrimination or preference of men over women are also considered as a significant factor that contributes towards the entrepreneurial intention and entrepreneurial development of women (Mat and Razak 2011),

4 Case Studies in Jordan

In this section, we describe three recent entrepreneurial projects. Two of them are aimed at promoting entrepreneurship in Jordan: Oasis5000 and ZINC. Although they are not exactly e-business ventures themselves, they both have a strong on-line presence. As entrepreneurial support centres, they aim at creating scalable businesses for which e-commerce and e-entrepreneurship components are given high priority. Additionally, they both have a commitment to promote entrepreneurship among less well-off members of the Jordanian society. In the case of Oasis500, they have an explicit focus on the promotion of women entrepreneurship. The third case study (CashBasha) is an e-entrepreneurship project itself, which has come out with support from ZINC.

4.1 Oasis500

Our first case study in Jordan is Oasis500. This is one of the leading seed investment companies and business accelerators in the tech and creative industries within the country. Its aim is to enable nascent entrepreneurs to transform their viable ideas or creative talents into scalable businesses. This includes finding those entrepreneurs, investing in their start-ups, bridging their know-how gap, and eventually helping them get follow-on funding. In the process, it became one of the most influential players in advancing the entrepreneurship and innovation ecosystem in Jordan specifically, and the Middle East and North Africa (MENA) region in general. Oasis500 compels people to embrace the entrepreneurial drive and submit their start-up ideas.

It has provided an impetus to redefine entrepreneurship by being a partner on the Women Entrepreneurship Day (WED), the largest movement to support and empower women across 144 countries including Jordan. WED launched a returnship program which helped women return back to work through training and internship after being away from the workforce for a while.

In addition to that, Oasis500 encouraged Jordanian entrepreneurs to participate in the Queen Rania National Entrepreneurship Competition (QRNEC) to achieve a well-developed entrepreneurial eco-system in Jordan. It provides them with a platform to increase the Jordanian entrepreneurs, and innovators, interest, in addition to the national institutions in designing a path. The program pursues to advocate entrepreneurial skills as mature entrepreneurs and university students to merge their knowledge with the company resources to create a business plan that is both practical and innovative. Oasis500 statistics (March 2012), shows that out of the 500 trained entrepreneurs 123 are women (25%), 18 companies out of 52 were founded/co-founded by women (35%), women mentors are 30 out of 150 total mentors (20%). Oasis500 start-ups employed 48 women in between Sep, 2010 and Mar, 2012. Women who led start-ups at Oasis500 have managed to attract 1million USD for funding in less than 1 year. Not to mention that 8 out of 11 of their team are females. That shows their concentration on toward the female entrepreneurs specifically.

4.2 ZINC

The second case study in Jordan is Zain Innovation Campus (ZINC). In 2013, Zain Jordan established the Corporate Entrepreneurship Responsibility Division (CER), an independent business unit aiming to build and empower entrepreneurial ecosystem in Jordan. CER's role was to establish partnerships that would strengthen the ecosystem and create a series of events, activities and workshops that are meant to enable entrepreneurs, build capacity, expose them to success stories and engage them with networks, mentors, potential partners and experiences. Two main roles of

CER are: Zain Innovation Campus (ZINC), and Zain Al Mubadara. ZINC is a platform, launched in 2014 for entrepreneurs and interested youth to connect, meet, work, interact and engage with one another to activate and ignite the start-up and entrepreneurship ecosystem in Jordan. ZINC, also, links Jordanian entrepreneurs inside the country with start-ups, mentors and investors around the world.

According to the Zain's 2016 report: ZINC offers entrepreneurs free membership in the campus, to meet leading mentors and experts in workshops and lectures, have access to the latest ICT technology, and the opportunity to connect with investors worldwide. ZINC has evolved into a nationally recognized entrepreneurial hub. It has attracted representatives from Google, Yahoo, Microsoft, regional e-commerce powerhouse Souq, along with ambassadors and international investors such as 500 start-ups and Eureeca. It established a host of strategic partnership with the Jordanian Government to develop smart government solutions and mobile apps (e-government), and partnership with the venture capital firm 500 start-ups to collaboratively invest $2 million USD in local start-ups.

A significant aspect of ZINC is the inclusive nature in which it offers Jordanian youth the opportunities to learn and develop. Moreover it is accessible to all Jordanians; including those at the bottom of the pyramid that typically have difficulty attending educational forums and events. The events organized through ZINC in 2015 attracted more than 25,000 attendees. ZINC's leading successful start-ups are: A Minute Marvel, Amberley, AqarCirle, Cashbasha, Ekeif, Feesheh, Jobedu, LinaGas, Tamatem and Toffimelt.

The next project is to activate ZINC within universities in 2017, which will be the enterprise hosting workshops with public and private sector partners in an effort to promote students to pursue entrepreneurship and innovation in their future careers. ZINC Academy division is also planning new courses that will teach start-ups the fundament scaling and legitimizing business models. Recently Oasis500 started partnership with ZINC to explore the possible opportunities for entrepreneurship development in Jordan. Both parties have agreed to allow their members' have mutual access to the latest technology, knowledge sharing, mentoring and coaching sessions, training speakers and access to networks. Oasis500 and ZINC are committed to providing benefits to entrepreneurs in Jordan by leveraging a holistic package of support services derived from the expertise and resources available in both organizations.

4.3 CashBasha

This is a cash collection network, where customers can shop online and pay for their purchases in cash at trusted locations near them, or at their doorsteps through the cash on delivery (COD) method. The decision to start CashBasha was a result of large scale research by the team, which showed them that 80% of e-commerce retail in the MENA region was flowing from capital global e-commerce players. One of the success points was the ability to map how emerging market customers want to be

served on international shopping sites in a way that completely hides all the complexities of purchasing from the customer.

The CashBasha team guaranteed that their solution supported any and all shopping sites. But at present, they are partnered with just one site, which is the first great partner to have, given its global e-commerce major Amazon. The decision to begin with Amazon was a result of co-founders research which showed that about 40% of any online purchases being made in (MENA) region all came from that one site. Without elaborating on the terms of the partnership with the e-commerce giant (owing to nondisclosure agreements), strategically, CashBasha is aligned with Amazon, designed with a personal distinctive technology to be agnostic and work on any e-commerce website by design. It resulted in requests from customers to integrate more sites, and they are considering it.

CashBasha was officially launched on May 2015, showing success the early results. They were able to achieve those within the first 2 days of operations, showing a solution and considerable growth. Currently, in Jordan alone, CashBasha claims to be shipping nearly six tons of goods per month. In the cash-dominated markets served by CashBasha, only 20% of the transactions are digital in nature. Moreover, CashBasha's tools also sustain in international sourcing, shipping, customs clearance and other allied needs, and are not just a means of payment. Their method of supporting COD, is "cash before delivery", and not COD, without necessarily advocating or overly encouraging cash payments, letting customers to transact in whatever way they are comfortable with.

5 Discussion and Conclusion

In this chapter, we have tried to present an overview of the literature about the roles of culture and gender in e-commerce and e-entrepreneurship. In particular, we have focused on Jordan, as a representative of the Middle East and Northern Africa (MENA) countries. A collectivistic culture typically prevails in Arab countries. This kind of cultural values may act as a barrier to the development of innovative entrepreneurial projects, as is the case of e-entrepreneurship. A positive relation has been found between e-commerce and individualism.

In this regard, some of the environmental factors that are relevant to affecting entrepreneurial activities include the market situation and the role of the government. Regarding the former, infrastructure and customers' practices do not seem to be too favourable for the development of e-commerce entrepreneurship. Customers need to accept and get used to e-commerce by changing their traditional ways of shopping and do shopping online in place of face-to-face interaction. They need to get used to utilising internet as their mode of shopping. The bargaining, interacting with the shopkeeper and getting the delivery of products directly from the hands of the shopkeeper will change to online transactions from their homes without direct personal contact.

In contrast, despite a not so positive initial situation, government policies and measures are being implemented to support entrepreneurship in general, and the use of ICT in entrepreneurship, in particular. Similarly, the Jordanian government is also encouraging women to become an entrepreneur by promoting the development of entrepreneurial intention among them. Our review has found indications that there is a considerable gender bias in the developing countries and specifically in Jordan with respect to entrepreneurship. For this reason, many countries are starting to provide support to their female population, as e-commerce enables them to conduct their business from the comfort and safety of their homes.

In particular, some of the initiatives implemented through Oasis500 are potentially very relevant and may be highly effective in this respect. In this sense, the initiative of entrepreneurship education may be especially useful to motivate women entrepreneurs to understand the importance of entrepreneurship. In order to promote women e-commerce entrepreneurs, the inclusion of ICT-specific content is an important factor to be considered.

Regarding the case studies, the initiatives analysed represent important steps to judge Jordan as a vital environment for entrepreneurs. As shown in Table 1, Jordan compares fairly well with other MENA countries and there is no strong regulatory discrimination against women in starting a business. Although one additional procedure is required (husband's permission), there is no extra cost for women when they are to launch a new venture. Additionally, recent initiatives as Oasis500 and ZINC are helping develop a more supportive environment for venture start-ups. As indicated above, there are still a relatively low percentage of newly funded companies launched by females.

Table 1 Doing business report on starting a business 2017

Indicator	Jordan	Middle East & North Africa	OECD high income
Procedure—Men (number)	7.0	7.8	4.8
Time—Men (days)	12.0	20.1	8.3
Cost—Men (% of income per capita)	22.4	26.3	3.1
Procedure—Women (number)	8.0	8.6	4.8
Time—Women (days)	13.0	20.9	8.3
Cost—Women (% of income per capita)	22.4	26.3	3.1
Paid-in min. capital (% of income per capita)	0.1	11.2	9.2

Source: World Bank doing business project (http://www.doingbusiness.org/data/exploreeconomies/jordan)

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B. THE SECOND PUBLICATION

The second article is published under the title:

"The Theoretical Base of Relevant E-Entrepreneurship Results: A Systematic Literature Review"

Dhia Qasim, Ashraf Bany Mohammed, Francisco Liñán.

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The Theoretical Basis of Relevant E-Entrepreneurship Results: A Systematic Literature Review

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Abstract: The e-entrepreneurship field is a relatively novel one, suffering from a lack of theories and models, as researchers are deriving theories from other disciplines, such as economics, psychology, etc. To consolidate as a discipline, e-entrepreneurship studies need a systematic classification of previous and current contributions that can support the development of theories and research. The purpose of this study is to run a systematic literature review (SLR) to categorise the theories and models found from a total of 105 e-entrepreneurship publications over the period from 2008 to September 2020. A citation analysis has also been performed to identify 25 influential works that may be seen as foundational milestones in this field. The results revealed some critical research gaps and the need to develop new theoretical frameworks able to combine and extend the classical models of innovation, entrepreneurship, and technology to specifically tackle the e-entrepreneurship field of research.

Keywords: E-Entrepreneurship; E-Commerce Entrepreneurship; Systematic Literature Review; Citation Analysis

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1 Introduction

Since the beginning of the 21st century, electronic entrepreneurship (e-entrepreneurship) has grabbed the attention of many scholars and practitioners. It describes the use of electronic platforms by entrepreneurs to create a new innovative online business in the Net Economy (Kollmann 2006). As the benefits of online business activities grow in the virtual economy, for both companies and their customers (Badzinska and Brzozowska-Woś 2017), many organisations have moved to the Net Economy to successfully perform online in the virtual marketplace (Sigfusson and Chetty 2013). Additionally, the number of virtual entrepreneurial firms has been rising, all while deriving new online business models that have become very important for doing business on the Internet (Kollmann and Hasel 2008). The growth of the online mobile community persuades e-entrepreneurs to invest in e-enterprises utilising mobile communications and social software technologies (Ratten 2013). E-entrepreneurship has evolved into an essential tool for entrepreneurs in troubled economies (Truong and Bhuiyan 2011), in addition to growing and reaching international market (Etemad, Wilkinson, and Dana 2010).

The Net Economy or virtual economy has illustrated the development progress of the business environment in cyberspace (Badzinska and Brzozowska-Woś 2017). The success of electronic commerce (e-commerce) has generated new digital platforms and technologies that developed the Net Economy (Bai 2015). Technological opportunities have been transformed into reality in most of the organisational processes through e-entrepreneurship (Shkurkin et al. 2015). Also, the contributions of digital communication networks and e-commerce have improved the technological platforms that help many firms who run online business operations (Qasim, Bany Mohammed, and Liñán 2018). Ever since, entrepreneurial strategies have shown the emergence of e-commerce entrepreneurial firms, practices and entrepreneurial roles that have created new business models to support the prediction of success factors for e-commerce firms (Gundry and Kickul 2004). This inspired several governmental and private organisations to invest in e-entrepreneurs and digital incubators (Facet 2011). Furthermore, research works promoted e-entrepreneurship instead of traditional entrepreneurship and recommended investing in e-entrepreneurs (Matlay and Martin 2009).

Several studies have been carried out on e-entrepreneurship since Matlay (2004) proposed a research agenda on e-entrepreneurship. The last few years have seen several articles that tackle e-entrepreneurship to help organisations and entrepreneurs to plan and implement successful start-ups online. Various studies have been conducted in different areas to cover diverse topics, such as entrepreneurs' intention of starting an e-entrepreneurial business (Wang et al. 2016; Chang et al. 2020; Lai and To 2020), e-commerce entrepreneurial firm and its advantages (Abebe 2014; Anwar 2017; Deng and Wang 2016; Chang et al. 2018), or the success factors of e-commerce ventures (Guo et al. 2017; Imran Khan et al. 2016; Wongkhamdi, Cooharojananone and Khlaisang 2020). Some researchers referred to e-entrepreneurship as cyber entrepreneurship, and use cyber traders or cyber entrepreneurs to term those who start their business online on the Internet (Serarols and Urbano 2008; Carrier, Raymond, and Eltaief 2004; Wang et al. 2016). In this sense, the authors will use the term "e-entrepreneurship" in this article to refer to all businesses operating online as their primary strategy, as this is the most common term among other

similar synonyms such as e-commerce entrepreneurship or cyber entrepreneurship (Kollmann 2006; Quinones, Nicholson, and Hecks 2015; AlOmoush, AlQirem, and AlHawatmah 2018).

The significant literature on e-entrepreneurship was reviewed and showed that the research area is still in an emerging stage (Carrier, Raymond, and Eltaief 2004). Moreover, venture creation by e-entrepreneurs remains an emerging field (Serarols 2008). Furthermore, the main contributions use theories derived from other fields, such as entrepreneurship, economics, etc. The field of e-entrepreneurship continues emerging, and there is a notable lack of theories and models. However, many studies are found in the field, and this number is rapidly increasing. Hence, this might result in a lack of categorisation and systematisation. Therefore, there is a need to assess the quality of previous studies to build a solid base for future work and prevent possible confusion in the field (Fayolle and Liñán 2014).

The main objective of this study is to summarise the knowledge base and to identify future research lines. That is, it aims at providing a transparent illustration of recent empirical contributions in the area of e-entrepreneurship that are based on a clear theory. Accordingly, the study performs a systematic literature review (SLR) to categorise and systemise the current results obtained from the e-entrepreneurship literature. Moreover, it will identify what theories are being used as the base in e-entrepreneurship. In order to accomplish its objectives, this study uses a citation analysis method to identify the previous primary literature used by authors in the field. This classification of main references will serve as a guide to categorise the contributions analysed in this review. It will help us to identify the existing gaps in the e-entrepreneurship field, as well as to point out some critical elements of a future research agenda.

The next section will present the methodology used in this SLR. Afterwards, citation analysis steps will be discussed in detail as well as their results. Subsequently, the review findings section will present the study's key findings and the implications derived from them. The conclusion and future research lines are set out in the last section.

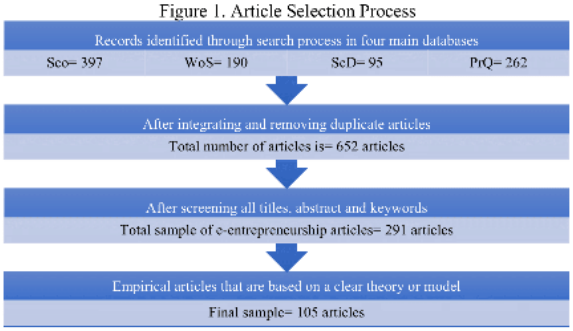
2 Systematic Literature Review Methodology

The present study performs an SLR to ensure that the review is clear and transparent. This SLR has been implemented based on the recommendations of previous methodological and entrepreneurship literatures to ensure it is systematic and replicable (Lourenço and Jones 2006; Tranfield, Denyer, and Smart 2003). Consequently, this study replicates the approach followed in similar previous studies (Liñán and Fayolle 2015). It classifies the empirical contributions made since 2008 in the area of e-entrepreneurship. The period under investigation is limited to the last twelve years due to the convenience of focusing on more recent contributions (Pautasso 2013). In this way, we will be able to provide a general overview of current trends in the field. It makes sense to focus on the most recent contributions, given the dramatic changes undergone by e-entrepreneurship since its upsurge.

The SLR process goes through different steps to ensure systemisation. First, the selection of the keywords came after checking similar research work in the field. Then, we used research constraints in order to target related literature articles and create a controllable sample. The search process was performed in four highly-used databases: Scopus, Web of Science (Social Science Citation Index), ABI-Inform/ProQuest, and

Science Direct, due to their broader coverage of indexed journals (Meho and Yang 2007). The search process was executed through the articles' titles, abstracts and keywords in all the databases. The time frame set for all articles published was from 2008 to September 2020 (inclusive), and they had to contain one of the following keywords: "e-entrepreneur", "e-entrepreneurs", "e-entrepreneurship" or else the combination of "entrepren*" with one of the keywords "electronic commerce", "e-commerce" or "cyber*". Only journal articles have been included, as they are considered as validated knowledge (Podsakoff et al. 2005). Therefore, conference papers and book chapters were excluded due to their restricted availability and their less homogeneous review process (Jones, Coviello, and Tang 2011).

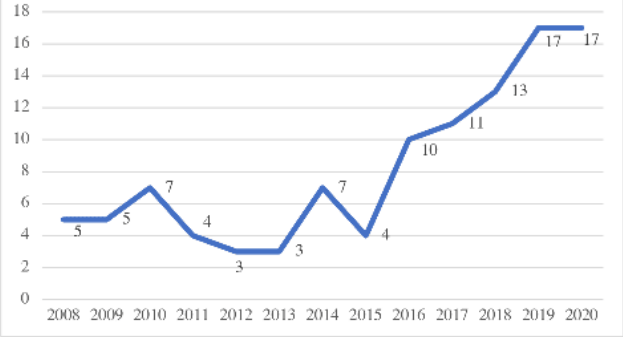
Figure 1. Article Selection Process



After gathering all those results, and removing redundant and non-English language publications, a total of 652 articles have been initially identified. All 652 abstracts were read and reviewed by at least two of the authors to ensure that the article indeed examines e-entrepreneurship. In case of doubt, the whole article was read to make sure it was related. This process found 361 unrelated articles and those were therefore eliminated. The remaining 291 articles were then read carefully to identify articles with a specific and reliable theoretical basis. At this stage, only empirical studies based on an explicit theory or model were selected. This process found that only 99 articles met these latter conditions. Additionally, six literature reviews were also included in the final sample. Consequently, only those 105 academic articles formed the final sample of this study and were included and taken into consideration for the citation analysis process, and the review of this study (Figure 1).

The sample shows a noticeable increment in the number of articles published in e-entrepreneurship. This indicates that the field is growing and receiving increasing attention among researchers (Figure 2). Our study will consist of a citation analysis (first) and a thematic analysis (second). The citation analysis helps identifying the most influential works that have served as the basis for this research field. The full list of 652 identified documents and the detailed depuration process is available from the authors upon request.

Figure 2: Growth in publications throughout the research period



3 Citation Analysis

Citation analysis is considered a powerful instrument which assumes that influential research is cited more than other (Meho 2007). It will help to identify the main areas of focus by reviewing the most frequently cited contributions in the field. After performing a citation analysis among the articles identified, we discovered a total of 25 influential papers, which have been cited by at least 7 of our 105 manuscripts. These works got the highest number of citations among our selected sample of articles (Table 1).

A first noteworthy circumstance is that these 25 most cited papers do not belong to our sample of 105 selected articles. They are older and thus reflect the main fields from which e-entrepreneurship researchers are borrowing their theories. Almost half of those most-cited papers (12 articles) were published before 2000, while the others (13 papers) were published later. Papers from other fields are relatively old (they are from the year 2003 or older), except for (Hair et al. 2010). That probably indicates that the field is borrowing from well-established theories from psychology, economics, and entrepreneurship and innovation. Additionally, there is an essential emphasis on the method. On the other hand, the most-cited papers from the e-entrepreneurship field itself represent the foundational contributions in this area. They were all published in the period 2001-2007 (out of the survey period), except for Nambisan (2017), within the research period, yet, this is not an empirical study.

Table 1. Most cited papers (2008 – September 2020)

Main categories	Author(s)	Journal[1]	Cites
E-Entrepreneurship	(Amit and Zott 2001)	SMJ	15
	(Kollmann 2006)	IJTM	14
	(Matlay and Westhead 2005)	ISBJ	10
	(Matlay 2004)	JSBED	9
	(Carrier, Raymond, and Ellaief 2004)	IJEBR	8

	(Hull et al. 2007)	IJNVO	7
	(Nambisan 2017)	ETP	7
	(Pavlou and Fygenson 2006)	MISQ	7
Entrepreneurship & Innovation	(Shane and Venkataraman 2000)	AMR	14
	(Lumpkin and Dess 1996)	AMR	11
	(Rogers 1995)	TFP	10
	(Miller 1983)	MS	8
	(Oviatt and McDougall 2005)	ETP	7
Economics	(Barney 1991)	JOM	16
	(Porter 2001)	HBR	8
	(Teece, Pisano, and Shuen 1997)	SMJ	8
Psychology	(Davis 1989)	MISQ	12
	(Ajzen 1991)	OBHDP	10
	(Fishbein and Ajzen 1975)	AW	7
Methodology	(Fornell and Larcker 1981)	JMR	17
	(Eisenhardt 1989)	AMR	11
	(Nunnally 1978)	McGraw	10
	(Hair et al. 2010)	Pearson	8
	(Armstrong and Overton 1977)	JMR	7
	(Podsakoff et al. 2003)	JAP	7

1 AMR (3 papers): Academy of Management Review; AW: Addison-Wesley; ETP (2 papers): Entrepreneurship Theory and Practice; HBR: Harvard Business Review; IJEBR: International Journal of Entrepreneurial Behaviour & Research; IJNVO: International Journal of Networking and Virtual Organisations; IJTM: International Journal of Technology Management; ISBJ: International Small Business Journal; JAP: Journal of Applied Psychology; JMR (2 papers): Journal of Marketing Research; JOM: Journal of Management; JR: Journal of Retailing; JSBED: Journal of Small Business and Enterprise Development; McGraw: McGraw-Hill, New York, NY; MISQ (2 Papers): Management Information Systems Quarterly; MS: Management Science; OBHDP: Organisational Behaviour and Human Decision Processes; Pearson: Pearson Education International; SMJ (2 papers): Strategic Management Journal; TFP: The Free Press, New York, NY

These 25 most-cited works represent the theoretical literature base for recent articles in e-entrepreneurship. Subsequently, the authors carefully read all the 25 most-cited works to analyse them based on their main topics and to categorise them depending on their area of research. Based on this methodology and analysis, the following are the five main categories of crucial literature in which the e-entrepreneurship research community tends to base its contributions.

3.1 Main categories of influential papers from citation analysis

Category 1: E-Entrepreneurship, core and theoretical models (8 papers)

This category is the largest, as these articles analyse the main core concepts of e-entrepreneurship. The most cited in this group was Amit and Zott (2001), who explained value creation in e-business and how e-commerce business models and Internet adoption strategy create added value for online entrepreneurial start-ups. Then Kollmann (2006) defined e-entrepreneurship as establishing a new online business. His broad definition made his article the primary reference to all e-entrepreneurship researchers. Later, Matlay and Westhead (2005) discussed the advantages and disadvantages of virtual teams of e-entrepreneurs. Matlay (2004) proposed a comparative research agenda in e-entrepreneurship and small e-business firms. The five cyber entrepreneurs multiple case-

study by Carrier, Raymond, and Eltaief (2004) focused on venture creation on the Internet by using e-commerce technologies.

Likewise, Hull et al. (2007) presented a framework classifying new digital start-ups in e-entrepreneurship and discussing the success factors of each category of start-ups. A new framework was proposed to investigate customers' intention to engage in online purchasing and their adoption level of e-commerce platforms (Pavlou and Fygenson 2006). Finally, a recent study by Nambisan (2017) presented the value of digital technologies in business, and proposed a new digital perspective of the traditional entrepreneurship. This study contributes to the current theoretical literature in the e-entrepreneurship field.

Category 2: Entrepreneurship and innovation (5 papers)

This category contains articles with a central focus on entrepreneurship and innovation. In the first article, Shane and Venkataraman (2000) developed a conceptual framework to explain the phenomenon of entrepreneurship based on the individual-opportunity nexus. The second work examined the relationship between entrepreneurial orientation and firm performance, moderated by environmental and organisational factors (Lumpkin and Dess 1996). Next, the Diffusion of Innovation DOI Theory (Rogers 1995) discussed the adoption of information technology in business. These two latter publications were used as a reference to classical theories in entrepreneurship and innovation. The fourth study is an old one by Miller (1983) describing how entrepreneurship and innovation are key factor in firm success and sustainability. Finally, Oviatt and McDougall (2005) is the literature base for international entrepreneurship, discussing the ability to globalise rapidly through the utilisation of entrepreneurial opportunities.

Category 3: Economics (3 papers)

Papers in this category discussed general economic theories. The first paper, Barney (1991), considered strategic management topics within firms. It describes the resource-based view (RBV) focused on the achievement of competitive advantage. In turn, Teece, Pisano, and Shuen (1997) have developed a dynamic capabilities framework that analyses the rapid technological changes in the business environment. Finally, Porter (2001) examined strategic positioning in addition to the advantages and disadvantages of employing the Internet within firms.

Category 4: Psychology (3 papers)

This category contains references to two leading psychological theories. The first of them is the technology acceptance model (TAM) for (Davis 1989), which developed and validated a new measurement to test user behaviour and acceptance towards information technology. The second is the theory of planned behaviour (TPB) for (Ajzen 1991) and its antecedent (Fishbein and Ajzen 1975), which is also used frequently to test the entrepreneur's intentions and behaviour. This group of psychological theories presented researchers with the psychological foundation of human-computer interaction needed to later explain the movement from just entrepreneurship to e-entrepreneurship.

Category 5: Methodology (6 papers)

These papers represent two main streams of methodological approaches used by researchers to test their proposed models. Based on citations, e-entrepreneur researchers have used both qualitative and quantitative methodologies. First, we can see that the qualitative case study methodology was a popular method used by Eisenhardt (1989), who explained building theories employing case study research. Secondly, among the quantitative techniques, structural equation modelling (SEM) (Fornell and Larcker 1981; Hair et al. 2010) is also frequently referenced by many empirical studies to test and measure several frameworks proposed by researchers, such as various frameworks discussing e-entrepreneurs' intention to start their new venture. And, among both quantitative and qualitative studies, Podsakoff et al. (2003) served as a primary reference for different statistical methods. Given the frequent use of psychological models and questionnaires for data collection, it is not unusual for papers in our sample to also cite the Psychometric Theory (Nunnally 1978), and the estimation of nonresponse bias in mail surveys (Armstrong and Overton 1977).

4 SLR Results: Thematic Analysis

The citation analysis above has identified the most-cited works serving as the theoretical reference for the 105 papers in our SLR. We now look thoroughly through all the theories used by the papers in the SLR sample and classify them based on the theoretical approach or adopted model. First, the 105 articles in our sample were divided into four main groups based on the theory or model adopted by each study. Several studies were based on two or more theories to create a new framework or model; these articles were classified according to their primary theory.

The main theories used by our sample of articles are the following: economics, entrepreneurship and innovation, psychology and other theories. Thus, these articles were classified within each group based on the methodology used by the authors in their empirical analysis as quantitative, qualitative or mixed (in the case of using quantitative and qualitative methods together). The six literature review studies included in our sample were classified in a different methodological category. Appendix 1 classifies the 105 papers by their main theory and methodological approach.

As it is clearly shown, the *psychological theory* group is the largest (38 out of 105), with a high usage of quantitative studies (31 out of 38). Likewise, the second (*economics*) group also showed that quantitative studies are dominant (17 out of 33), but the presence of qualitative studies is higher (12 out of 33). The e-entrepreneurship literature has also relied significantly on the field of entrepreneurship and innovation, since 28 of the papers are based on these theories. In this group, however, the qualitative studies (12 papers) represent the most frequent approach, rather than the quantitative ones (11 papers). Finally, the last group is labelled as *other theories*. It contains six articles adopting theories or models from different literature streams (three quantitative, two qualitative and one review). Overall, most empirical studies in e-entrepreneurship used a quantitative method (62 out of 99, not counting the 6 literature reviews), while 31 of them were qualitative studies, and 6 additional papers adopted a mixed-method approach. Now we provide a more detailed account of the research in each of these main groups.

4.1 Psychological theories

Generally, psychological theories focus on emotional or cognitive elements in individuals. In this group, researchers have referred to different psychological theories in their work to study e-entrepreneurs. According to Davis (1989) the TAM explains how users accept using new technologies. The unified theory of acceptance and use of technology (UTAUT) by Venkatesh et al. (2003) extends the TAM model. These two, together with the TPB (Ajzen 1991), are the most frequently adopted theories in this group. These studies have been carried out in several countries with a variety of samples, such as university students in developed countries (Czech Republic, Israel, USA) (Yu et al. 2017; Beránek 2015; Lichtenstein, Abbott, and Rechavi 2015), and students in developing countries (Indonesia, Malaysia, Taiwan) (Adiandari et al. 2020; Nawi et al. 2017; Wang et al. 2016). Several studies have been done on e-entrepreneurs who intend to start their online business using electronic platforms (Jansen et al. 2016; Cordero-Gutiérrez and Santos-Requejo 2016; Lai and To 2020; Isabelle 2020), as well as on business owners who are transforming some of their business operations in order to grow online (van Gelderen, Sayers, and Keen 2008; Kwun et al. 2010; Lane et al. 2014; Abebe 2014; Chandna and Salimath 2020).

As mentioned above, the majority of these empirical studies follow a quantitative method (31 studies), using surveys and questionnaires for the data collection process (Mariani, Muhamad, and Lamarauna 2017; Nawi et al. 2017; Batool et al. 2015; Han and Li 2020). The most frequently adopted model in this group is the TAM, which is used to discuss the adoption of mobile commerce by e-entrepreneurs and its capabilities to strengthen their business (Wongkhamdi, Cooharojananone and Khlaisang 2020; Tanikan and Nittaya 2019), to examine customers' behaviour online and how they interact inside the company's website (Suvattanadilok 2020; Zolait et al. 2018), and also to discuss the perceived strategic value of adopting e-commerce in business (Hartoyo et al. 2019; Kwun et al. 2010; Lane et al. 2014). The second most used theory in this group is the TPB. This theory served in predicting e-entrepreneurial intention among students (Adiandari et al. 2020; Isabelle 2020), and young people (Lai and To 2020). And the last study was exploring consumers behaviour online (Dixit, Prakash, and Verma 2018).

Additionally, some articles developed their research or framework based on both the TAM and TPB together (Abebe 2014; Suleman, Zuniarti, and Sabil 2019; Cordero-Gutiérrez and Santos-Requejo 2016), combining the focus of the TAM on the technological perspective with the emphasis of the TPB on behavioural intentions.

The next most used theory is the UTAUT, employed by researchers to investigate e-entrepreneurs usage of social media as business platforms (Nawi et al. 2017; Al Mamun et al. 2020), and customer-to-customer online shopping (Mariani, Muhamad, and Lamarauna 2017). Further, based on both the UTAUT and its antecedent, the TAM, Oumlil and Juiz (2018) proposed a model that explains the acceptance of e-entrepreneurship among entrepreneurs in the tourism industry. Similarly, and based on both UTAUT and TPB, Wang et al. (2016) proposed a model to explore the effect of e-entrepreneurial motivation on students' intention. Their model suggested the moderation of education (IT/non-IT students). Their study revealed that business students with an IT background showed a greater intention to start an online business than other students (Wang et al. 2016).

Among other theories in this group, Bandura's (1977) social cognitive theory (SCT) is used to study self-efficacy among students and its relation to the intention to start an online

business (Chang et al. 2020; 2018). Yi-Shun et al. (2019) develop a scale to measure e-entrepreneurial self-efficacy. Other authors combine the SCT with the expectation confirmation theory (ECT) from McKinney, Yoon, and Zahedi (2002) to study user stickiness and continuous usage and, thus, the increase in loyalty to business (Yu et al. 2017; Abdulwahab and Kabir 2014). Overall, authors in this research group have noticed that entrepreneurs are shifting to e-commerce businesses in order to realise opportunities and perceive their expected benefits (Imran Khan et al. 2016).

Several studies revealed the importance and strength of e-commerce technologies in online business for their capability to help better understanding customers' wishes, tastes and interests (Cordero-Gutiérrez and Santos-Requejo 2016), their positive influence on firms' performance (Abebe 2014), developing a competitive e-marketing platform in addition to other different e-business processes (Matlay and Martin 2009), and reinforcing the strategic value for SMEs (Lane et al. 2014). However, some researchers identified certain technical issues in e-entrepreneurship. According to Jansen et al. (2016), there is a need to improve security measures against online threats, and encourage young e-entrepreneurs to undertake more effective procedures to protect their systems and data.

Finally, several psychological characteristics are found to significantly affect the adoption of e-commerce technologies by e-entrepreneurs, such as the need for achievement, risk-taking ability and locus of control (Lane et al. 2014; Shemi and Procter 2018), in addition to competence, relatedness and autonomy (Koe 2020). E-commerce courses develop students' e-entrepreneurial skills to work in a risky and competitive business environment (Beránek 2015). Further, e-learning provides new entrepreneurial ways of teaching college students through the association of technologies which leads to a successful learning process (Lichtenstein, Abbott, and Rechavi 2015).

4.2 Economic theories

The e-entrepreneurship articles in this group are based on economic theories which focus on business resources and opportunities in entrepreneurship. Some authors stress the dynamic and open nature of market systems (Simpeh 2011). The most widely-adopted theory in this group is the RBV (Barney 1991), or the resource-based theory (RBT) (Barney, Ketchen, and Wright 2011). In general, the RBT stresses the way entrepreneurs leverage different resources to gain some entrepreneurial benefits. It emphasises the importance of firm resources in creating sustained competitive advantages for it. In addition, we also find other economic theories, such as the early mover advantage theory (EMA, Deng and Wang 2016; Wang, Cavusoglu, and Deng 2016), the economic theory of competition to study long-term survival of online businesses (Gregg and Parthasarathy 2017), the economic theory of development that discusses the development in Poland over the past two decades (Sala and Tańska 2010), the RBV and theoretical reasoning approach (TRA) to analyse the relationship between entrepreneurial resources and organisational capabilities (Shan et al. 2014), the global value chain, as in Rana and Sørensen (2013), and the utility theory as per Häsel, Kollmann, and Breugst (2010) and others.

Articles based on the RBV or the RBT (12 out of 33) are classified according to their analysis method. Six of these articles followed a quantitative analysis that used a survey as their primary data-collection tool (e.g., Colton, Roth, and Bearden 2010; Lee and Falahat 2019). In these research works, the authors study e-commerce's effect on online firms' performance within the e-marketplace (Glavas, Mathews, and Bianchi 2017; Kuhn and Galloway 2015; Niu, Deng, and Hao 2020). Likewise, Shan et al. (2014) show that e-

commerce is an entrepreneurial technological resource that positively affects organisational capabilities. Additionally, qualitative studies revealed the importance of e-commerce as it empowers social innovation by e-entrepreneurs in rural villages (Cui et al. 2017). It also leverages online business' competitive advantages to grow globally (Sigfusson and Chetty 2013; Wang et al. 2011; Bailetti and Zijdemans 2014) and successfully identify international opportunities (Reuber and Fischer 2011). Another case study indicates that the educational level and entrepreneurial antecedents in the entrepreneur's family positively affect the success of his/her online start-up (Serarols and Urbano 2008).

The remaining articles represent a diversity of economic theories. Three studies based on the institutional theory (DiMaggio and Powell 1983) analyse the use of e-entrepreneurial opportunities by entrepreneurs (Che and Zhang 2019), the adoption of e-payment entrepreneurship to grow globally (Effah 2016) and the long-term sustainability of the firm (Al Omoush, Al-Qirem, and Al Hawatmah 2018). Another two quantitative studies based on the early mover advantage theory (EMA) find that customer relationship management (CRM) capabilities support the entrepreneurial existence in electronic marketplaces (Wang, Cavusoglu, and Deng 2016), and that e-commerce portals offer nascent entrepreneurs the opportunity to grow globally (Deng and Wang 2016). In line with this, early movers have more cumulative strategic capabilities than followers in the market and within innovative differentiation (Lee, Koo, and Nam 2010).

Other quantitative studies adopt different economic approaches. The long-term sustainability of online businesses is found to depend on venture size, age, and reputation (Gregg and Parthasarathy 2017), and also on the strategic planning by balancing business, technologies, and consumers (Sell et al. 2019). More importantly, strong digital capabilities, such as e-marketing, leverage small e-entrepreneurial firms' performance to compete with medium-sized firms (Wang 2020). Likewise, the likelihood of undertaking internet strategies rises when there is more demand by locals and less competition (Boschma and Weltevreden 2008).

Regarding the internationalisation process, this is influenced by the e-commerce level of adoption, entrepreneurs' managerial capabilities and language skills (Rana and Sørensen 2013; Grochal-Brejdak and Szymura-Tyc 2018). Furthermore, business owners with an e-entrepreneurs competence profile tend to be more innovative (Häsel, Kollmann, and Breugst 2010). Moreover, IT technologies are increasingly essential for e-commerce firms for the development of current or new economies (Sala and Tańska 2010). However, e-entrepreneurs should consider trust as the primary factor when dealing with customers through an online platform (Hassan et al. 2012). Finally, a mixed-method study investigates two different electronic marketplaces (EMP) based on the dynamic capabilities framework. It finds entrepreneurial alertness and customer agility to be essential capabilities to develop a successful EMP (Koch 2010).

4.3 Entrepreneurship & Innovation theories

This category includes e-entrepreneurship studies grounded on theories or models derived from the entrepreneurship literature. Researchers in this group of articles mostly used the entrepreneurship theory by Shane and Venkataraman (2000) and the diffusion of innovation (DOI) theory by Rogers (1995). The Shell model (Kollmann 2006), international entrepreneurship (Oviatt and McDougall 2005), and other theories and

models are also considered. Some studies have developed their own framework or model depending on the literature of entrepreneurship and e-entrepreneurship, such as the evaluation model of interactive website design (Chung et al. 2016), the comparison model between pure-play and click-and-mortar (Lian and Yen 2017), the interactive model of ethnic entrepreneurship (Ramadani et al. 2014), the cyber entrepreneurial process model (Serarols 2008) and the internationalisation process conceptual model (Wentrup 2016).

In this group of articles, 11 studies have followed a quantitative analysis method. According to the bricolage theory of entrepreneurship, market bricolage positively affects e-sales performance (Zhu and Lin 2019). E-entrepreneurship is found to empower entrepreneurs to generate and increase revenues by entering new markets through EMPs and achieve global growth (Rasheed 2009). Additionally, and based on the DOI theory (Rogers 1995), e-entrepreneurship positively influences the financial performance and customer management performance (Al-Omoush et al. 2019). E-entrepreneurship may be considered a substitute for entrepreneurs during crises and a troubled economy (Truong and Bhuiyan 2011). Additionally, e-entrepreneurs' innovativeness generally affects their technological innovativeness and life satisfaction (Lian and Yen 2017). Although e-entrepreneurship is an excellent alternative for entrepreneurs (Alam et al. 2018), they need to be aware of the risks in handling e-commerce security systems (Kyobe 2008). Finally, two quantitative studies proposed that the technological background does not affect being an e-entrepreneur (Millman et al. 2009), and e-entrepreneurs were found to have a low level of education (Ramadani et al. 2014). Yet, e-entrepreneurship education is emerging and it is essential to enhance students' innovativeness (Wang and Chiou 2020)

Next, we focus on the 12 articles following a qualitative analysis method. Six of these studies use a case study method, four studies work with interviews, and two apply content analysis. The first case study found that some established e-entrepreneurs enjoy a high educational level, but they do not have a technological background (Serarols 2008). Pourhossein and Omran (2014) focus on some specific cases to conclude that the combination of e-business, innovation and entrepreneurship leads to successful e-entrepreneurship. Similarly, developing organisational processes in digital start-ups leads to early success (Zaheer et al. 2019). A case study of three online service providers (OSPs) sheds light on the globalisation process in an early stage, and how the online-offline balance is essential (Wentrup 2016). Some authors stressed the slow diffusion of mobile commerce (m-commerce), and the need to enhance some technological characteristics such as poor user interface (Godoe and Hansen 2009). In turn, the evolution of mobile apps nowadays is empowering firms to reach globalisation easily and rapidly (Shaheer and Li 2020).

Based on the diffusion of innovation theory, two content-analysis studies analyse the role of firm's digital platforms in improving interaction with customers at the EMPs (Hevner and Malgonde 2019), and the use of new digital technologies to develop m-commerce (Sen and Ongsakul 2017). Another two articles adopt a mixed-method analysis. Chung et al. (2016) used an analytic network process (ANP) and a case study in Taiwan to evaluate the design of an interactive e-entrepreneurial website. Anwar (2017) examined the Alibaba group in China and used the data and survey to research its entrepreneurial growth in the global market.

Four studies in this group follow an interview method. Two studies have explored online innovative business models. They found technology to be a crucial factor in business model design (Stampfl, Prügl, and Osterloh 2013). Thus, internet reach and stability are important factors as connection interruption negatively affects both firms and customers

(Jain et al. 2019). Moreover, firms` technologies have to be protected against cybercrime (Ratten 2019). In Saudi Arabia women are running e-entrepreneurial businesses for their several benefits, such as specifically hiding their real identity or gender (McAdam, Crowley, and Harrison 2020).

The last three articles in this group are literature reviews of entrepreneurial business models. The first concludes that, in a rapid dynamic sector of innovation, a technology-based firm should develop practical solutions that match customer needs (Trimi and Berbegal-Mirabent 2012). Using a qualitative literature review, the second article assesses the impact of digital technologies on academic entrepreneurship (Rippa and Secundo 2019). The last study is a systematic review of digital entrepreneurship and accordingly mapping knowledge into clusters (Zaheer, Breyer, and Dumay 2019).

4.4 Other theories

Articles based on economic, entrepreneurship and psychological theories made up the main categories in this research, as explained before. The authors of the six papers in this group aim at studying e-entrepreneurship from a different perspective. Three of them use a quantitative method. The first study was based on the contingency theory. It found that efficiency and centred complementarities positively affect the value retention for e-entrepreneurship start-ups (Guo et al. 2017). According to Martinez and Williams (2010), the adoption of information and communication technology (ICT) may be viewed from an institutional perspective, with trust increasing ICT-based business transactions, particularly in developing countries. The third study explores the success factors in business-to-business (B2B) EMPs. Based on the organisational capabilities theory and market opportunity perspectives, market size and e-commerce awareness were found to affect e-market performance (Wang, Mao, and Archer 2012).

There are two qualitative case studies. One of them explores e-entrepreneurship competitive factors through interviews with young Iranian entrepreneurs. A low internet speed and high prices were identified as relevant difficulties for e-entrepreneurship (Hafezieh, Akhavan, and Eshraghian 2011). The other uses grounded theory to explore the collaborative creation of media information literacy (Yoshida and Iijima 2019). Finally, the last study is a detailed literature review with a particular focus on Pakistan (Shabbir et al. 2016). The study presents recommendations and implications for the government and policymakers to help e-entrepreneurs with their start-ups in Pakistan, such as financial assistance and/or low-interest rates. It also recommends teaching e-entrepreneurship-related subjects to graduated students (Shabbir et al. 2016).

5 Discussion

The SLR process has retrieved a total of 652 articles matching the predefined keywords. After reading and classifying those articles, the full valid sample for this study is 105 empirical studies clearly based on valid theory. This is an indication that the level of rigour varies notably within the publications in this field. The articles that we have selected seem to be the most promising to contribute to advancing in the field. The logical illustration of theory groups into the field of entrepreneurship appears in Figure 3. The total number of studies in e-entrepreneurship is still relatively small when compared to empirical studies in other related fields, yet it has been increasing rapidly in the last few years. It is

also shown that quantitative analysis methods are dominant across the study sample. This high number of quantitative studies raises the need for more qualitative or mixed-method analysis studies with a solid theoretical base in the field of e-entrepreneurship.

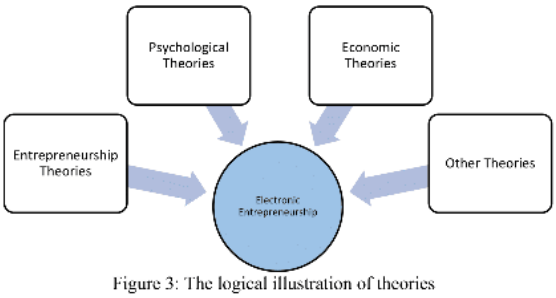


Figure 3: The logical illustration of theories

The importance of e-entrepreneurship comes from its potential in enabling a vast number of unemployed youths from all around the world to access new opportunities across the globe and become e-entrepreneurs. However, an e-entrepreneur is not just one who starts an online business, but also a person who can create digital value, improve business performance and contribute to the growth of both the online and the physical economy (Kollmann 2006). For this reason, more and more studies are being carried out on this topic.

As per our citation analysis, research in this field tends to be based on older works from different fields (not only e-entrepreneurship itself, but also entrepreneurship and innovation, economics and psychology). They assist authors in developing their research and building the body of current literature. However, those works tend to be old, and more recent contributions may be cited. For instance, the RBV (Barney 1991) reached maturity to become the RBT (Barney, Ketchen, and Wright 2011). Nevertheless, authors are still to date citing the old RBV (Niu, Deng, and Hao 2020; Lee and Falahat 2019; Glavas, Mathews, and Bianchi 2017).

Nonetheless, the citation analysis has also pointed to the first comparative agenda that discussed e-entrepreneurship and online business models in detail (Matlay 2004). Besides, it leads us to the broader definition of e-entrepreneurship, which is mostly cited by authors when referring to e-entrepreneurship (Kollmann 2006). Still, this process has retrieved six methodological works that are not related to e-entrepreneurship. The SEM analysis has the most-cited among other empirical analysis methods (Fornell and Larcker 1981). These works had a high citation rate just because of the nature and capabilities of their framework and model to handle empirical data across the study sample articles. This probably indicates a strong willingness of the research works analysed to show soundness in their empirical analyses. There seems to be a need to build legitimacy and rigorousness in the new field of e-entrepreneurship.

5.1 Implications

The cross-analysis between the four groups of theories enriches the current knowledge of e-entrepreneurship and identifies some gaps. It allows consolidating some findings that may be useful for practitioners, advisors/mentors, as well as for policy-makers. E-entrepreneurship has been considered as a substitute for entrepreneurs during a crisis, with the ability to produce a dynamic and rapid positive change in emerging economies based on research from either entrepreneurship and innovation (Pourhossein and Omran 2014; Rasheed 2009; Truong and Bhuiyan 2011), economic (Che and Zhang 2019; Holland and Gutiérrez-Leefmans 2018), psychological (Beránek 2015; Lai and To 2020) and other theories (Hafezieh, Akhavan, and Eshraghian 2011). Well-planned strategies of e-entrepreneurial start-ups are found to positively affect the long-term sustainability of e-firms and raise their strategic value, based on research from either the economic (Gregg and Parthasarathy 2017; Al Omoush, Al-Qirem, and Al Hawatmah 2018), entrepreneurship and innovation (Anwar 2017; Sen and Ongsakul 2017), psychological (Kwun et al. 2010), and other theories groups (Guo et al. 2017; Wang, Mao, and Archer 2012).

Market strategies are relevant in the success of new e-entrepreneurship ventures. Thus, designing a flexible business model gives the firm an ability to adjust business operations on the Internet and grow globally, and also allows customisation and interactivity with its customers. This is confirmed by papers in the economic (Bailetti and Zijdemans 2014; Lee and Falahat 2019) and the entrepreneurship and innovation theory groups (Chung et al. 2016; Stampfl, Prügl, and Osterloh 2013; Shaheer and Li 2020). Furthermore, the ability to enter new EMPs in different countries may lead to generating more revenue and increasing profits, based on research from the economic (Colton, Roth, and Bearden 2010), entrepreneurship and innovation (Anwar 2017; Rasheed 2009), and psychological theory groups (Mariani, Muhamad, and Lamarauna 2017).

Entrepreneurs' educational background is also a hot topic, as it varies from one study to another. Generally, e-entrepreneurs were found to have a high level of education, which positively affects their business success (Beránek 2015; Serarols 2008). However, according to Ramadani et al. (2014), Albanian entrepreneurs were found to have a low level of education and their implementation of e-commerce in their business was noticeably slow. Nevertheless, there was no difference between e-entrepreneurs and traditional entrepreneurs with regard to their information-technology educational background (Millman et al. 2009; Serarols 2008). This might stress the need for more studies to be carried out on what could help traditional entrepreneurs to switch to e-entrepreneurship as the world is moving towards a digital life (Wang and Chiou 2020).

Nowadays, according to the diffusion of innovation theory, there is a noticeable rapid development in mobile commerce (m-commerce) business. The emergence of new digital technologies has created a revolution in the way of doing business according to the number of mobile users around the world (Sen and Ongsakul 2017; Tanikan and Nittaya 2019). Additionally, e-entrepreneurship offers entrepreneurs the ability to initiate start-ups from home, as enabled by information technology (van Gelderen, Sayers, and Keen 2008; Petersson McIntyre 2020). However, some online start-ups cannot survive in developing countries due to a poor technological infrastructure in general or to e-payment methods (Effah 2016; Abdulwahab and Kabir 2014), as well as the need to protect ventures and increase trust with their customers through careful precautions and measurements (Jansen et al. 2016; Effah 2016; Ratten 2019).

5.2 Future research lines

The e-entrepreneurship field of study is promising and is still receiving more and more attention among researchers. As a result of this study, we have identified the theoretical contributions from papers proposing a new model or theoretical framework. A total of 53 theoretical frameworks have been developed out of the 105 studies analysed. They have been classified into five main avenues (based on their primary themes) to illustrate current knowledge and inform future research. The five main avenues are start-ups, performance, internationalisation, customers and others, as shown in (Table 2). The frameworks in each avenue are grouped based on the similarity of the themes or factors proposed.

The first avenue is *Start-ups*; 11 theoretical frameworks in this avenue examine the *e-entrepreneurial intention* to start an online business. Some of them analyse the e-entrepreneurial intention according to personal traits and self-efficacy (Chang et al. 2020; Lai and To 2020; Batool et al. 2015), other studies consider the perceived risk and trust factors (Adiandari et al. 2020; Han and Li 2020), in addition to e-entrepreneurial motivation (Wang et al. 2016), and entrepreneurs' educational background (Cordero-Gutiérrez and Santos-Requejo 2016). Recently, entrepreneurs' intention of using m-commerce and social media has been increasing and is becoming an interesting topic (Al Mamun et al. 2020; Tanikan and Nittaya 2019).

Additionally, we have five contributions discussing *e-entrepreneurial success* in digital start-ups. They consider organisational development by assessing its strengths and weaknesses (Wongkhamdi, Cooharojananone and Khlaisang 2020), and digital technologies to achieve early success (Zaheer et al. 2019). Furthermore, some personal traits were found to influence e-entrepreneurs' satisfaction with their business (Lian and Yen 2017). The relative importance of motivation and traits in deciding to start a new successful venture may deserve further attention. Stampfl, Prügl, and Osterloh (2013) have designed a Scalability business model that identifies several mechanisms throughout the successful creation process of an innovative web-based business model.

The last three approaches distinguish the *e-entrepreneurial process* in start-ups. They range from the exploration of e-entrepreneurial opportunities (Che and Zhang 2019) to the role of e-commerce technologies in helping e-entrepreneurs during the venture creation process (Martinez and Williams 2010), and to a model explaining the entire process of starting up a new e-entrepreneurial business (Serarols 2008).

The second avenue tackles the impact of e-entrepreneurship on businesses *Performance*. Eight theoretical models investigate *e-entrepreneurial firms' performance*. Several studies suggested that e-entrepreneurship technologies are enhancing firm performance (Al-Omoush et al. 2019). These technologies enable firms to locate new opportunities and seek growth (You, Shu, and Luo 2018). They also strengthen the relationship between suppliers and firm performance, hence supporting brand strength (Colton, Roth, and Bearden 2010; Hevner and Malgonde 2019). However, online firms' strategy differs from that of traditional competitive firms. Thus, e-entrepreneurs need to revise strategies and reconsider tactics when entering the cyber market (Lee, Koo, and Nam 2010; Zhu and Lin 2019).

Table 2. New avenues in e-entrepreneurship

Avenues	Themes	Contributions

Start-ups	E-entrepreneurial Intentions	(Chang et al. 2020; Adiandari et al. 2020; Lai and To 2020; Han and Li 2020; Al Mamun et al. 2020; Tanikan and Nittaya 2019; Oumlil and Juiz 2018; Chang et al. 2018; Wang et al. 2016; Cordero-Gutiérrez and Santos-Requejo 2016; Batoul et al. 2015)
	E-entrepreneurial Success	(Wongkhamdi, Cooharojananone and Khlaisang 2020; Zaheer et al. 2019; Liun and Yen 2017; Stamptl. Prügl, and Osterloh 2013; Serarols and Urbano 2008)
	E-entrepreneurial Process	(Che and Zhang 2019; Martinez and Williams 2010; Serarols 2008)
Performance	E-entrepreneurial Firm's Performance	(Al-Omoush et al. 2019; Zhu and Lin 2019; Hevner and Malgonde 2019; Chandna and Salimath 2018; Alam et al. 2018; You, Shu, and Luo 2018; Lee, Koo, and Nam 2010; Colton, Roth, and Bearden 2010)
	E-entrepreneurial Firm's Sustainability	(Chandna and Salimath 2020; AlOmoush, AlQirem, and AlHawatmah 2018; Deng and Wang 2016; Shan et al. 2014; S. Wang et al. 2011; Kwun et al. 2010)
	E-Market Performance	(Niu, Deng, and Hao 2020; Hartoyo et al. 2019; Wang, Cavusoglu, and Deng 2016; Wang, Mao, and Archer 2012)
Internationalisation	Early Globalisation	(Shaheer and Li 2020; Bailetti und Zijdemans 2014)
	Internationalisation Process	(Lee and Falahat 2019; Glavas, Mathews, and Bianchi 2017; Wentrup 2016; Rana and Sørensen 2013)
Customers	Online Behaviour	(Suvattanadilok 2020; Suleman, Zuniarti, and Sahil 2019; Zolait et al. 2018; Mariani, Muhamad, and Lamarauna 2017)
	E-Stickiness	(Yu et al. 2017; Abdulwahab und Kabir 2014)
Others	Technical / Design and Security	(Chung et al. 2016; Kyobe 2008)
	E-entrepreneurship Education	(Isabelle 2020; Wang and Chiou 2020)

The following theme is *e-entrepreneurial firm's sustainability*. Early movers were found to enjoy long-term sustainability (Deng and Wang 2016). At the same time, however, e-entrepreneurship innovations are crucial for beneficial outcomes and long-term sustainability (Al Omoush, Al-Qirem, and Al Hawatmah 2018; Chandna and Salimath 2020). In this sense, e-commerce is found to increase its relevance as an information technology resource for small online firms (Kwun et al. 2010), and such resources mediate the relationship between entrepreneurial resources and organisational capability (Shan et al. 2014). Finally, the motivation-capability framework explains how the internet supports firms' organisational capabilities using e-commerce technologies (Wang et al. 2011).

The last theme in this avenue is related to *e-market performance*. The online submission systems were found to positively influence the e-market performance (Hartoyo et al. 2019). Additionally, market research using e-commerce technologies plays a leading role in guiding online market support (Wang, Cavusoglu, and Deng 2016). According to Wang, Mao, and Archer (2012), B2B e-markets allow e-entrepreneurs to discover more online opportunities and create an innovative business model. In addition, entrepreneurial orientations and e-commerce enterprises influence e-market performance (Niu, Deng, and Hao 2020).

The third avenue is *Internationalisation*; we have identified two main themes in this avenue. The first is the *early globalisation* of new online start-ups (Shaheer and Li 2020;

Bailetti and Zijdemans 2014). These frameworks explain how digital start-ups can attain globalisation rapidly. In addition, four other papers can be grouped around the theme *the internationalisation process* of e-entrepreneurial firms (Wentrup 2016). The international market performance leads to global-operation businesses (Glavas, Mathews, and Bianchi 2017; Lee and Falahat 2019). All these models discuss how the Internet and e-commerce platforms help entrepreneurial firms to recognise opportunities in the e-marketplace. According to Rana and Sørensen (2013), internal factors such as the quality of an entrepreneur's leadership, and an entrepreneur's foreign language skills and e-commerce level of use serve to explain successful internationalisation. Therefore, internationalisation becomes an important means for the success of both online start-ups and for e-entrepreneurship transformation in traditional businesses.

The fourth avenue contains six theoretical contributions around the theme of the *customers* of e-entrepreneurial firms. Four of these papers examine the *online behaviour* of customers. There is an essential need to improve adopted e-commerce technologies in the firm's website in order to make it more attractive for current and new customers (Suvattanadilok 2020). In their framework, Suleman, Zuniarti, and Sabil (2019), stressed the factors that affect customers' intention and decision to buy from a particular venture. The differences between men and women' behaviour in buying decisions is also analysed (Zolait et al. 2018). E-entrepreneurial stores need to enrich social influence and trust based on age and gender (Mariani, Muhamad, and Lamarauna 2017). The other two costumer-related contributions discuss the e-stickiness of customers to certain ventures. They focus on enhancing customer loyalty (Abdulwahab and Kabir 2014), and the word-of-mouth (WOM) of loyal customers to bring new customers (Yu et al. 2017).

The last avenue has been labelled as *others*, since it includes four contributions grouped into two different and diverging themes. The first of them examines the *technical* attributes of an e-entrepreneurial firm. According to Chung et al. (2016), the website design increases the interactivity of customers with the firm. On the other hand, e-entrepreneurs must adopt high-quality e-commerce security features against cybercrimes (Kyobe 2008). Finally, two contributions refer to *e-entrepreneurship education* (Isabelle 2020; Wang and Chiou 2020). This specific adaptation of entrepreneurship education programmes to focus on online businesses is relevant. E-entrepreneurship may become a main area of entrepreneurship development in the near future, contributing to generating opportunities and employment, especially for young people.

These five "avenues" represent relevant areas for future research. After analysing the SLR results, it is evident that there is a need to develop more models and theories, specifically on e-entrepreneurship. Similarly, more research works and studies using a qualitative method analysis are also needed. They will contribute to understanding how and why some e-entrepreneurship processes take place. So far, most studies have discussed e-entrepreneurship and online start-ups in developed countries, such as the USA, the UK and the rest of Europe, and even China. Unfortunately, there is a limited number of studies exploring e-entrepreneurship in developing countries. For example, some online start-ups cannot survive in developing countries due to a poor technological infrastructure or e-payment methods (Effah 2016; Abdulwahab and Kabir 2014). In this regard, e-entrepreneurs have to protect their business through careful precautions and measures to increase the trust level with customers (Jansen et al. 2016; Effah 2016), although there is a need for high propensity risk handling concerning e-commerce security systems (Kyobe 2008).

Additionally, the poor adoption of technology, such as inadequate user interfaces, has resulted in a slow diffusion of m-commerce businesses (Godoe and Hansen 2009). Currently, many companies are aiming towards mobile applications, as they shape the new trend of doing business online (Tarute, Nikou, and Gatautis 2017). The cultural aspect is another major issue that needs research to explore its impact on e-entrepreneurship. Examining the cultural background of e-entrepreneurs and the impact of culture on the e-entrepreneurial process is necessary to understand the contextual influence on digital start-ups. The need for more studies on the e-entrepreneur's educational background to recognise its effect on their start-ups is also stressed. There is a critical want to build more solid frameworks that are based on influential theories to enhance the theoretical literature base in e-entrepreneurship.

Overall, therefore, the present SLR has presented a picture of the research so far. The field may be found to lack some unity, but several highly interesting avenues and themes are open for future research. We hope that this review contributes to attracting additional research to the field.

5.3 Limitations

This study, as others, suffers from a number of limitations. First, the time frame was selected between 2008 and September 2020. The reason for this is to focus on recent empirical studies in the field. Older works have in some way been accounted for through the citation analysis. Nevertheless, some relevant older papers may have been overlooked. The study sample is limited to journal articles only, and only those listed in one of the four selected databases. Given the wide coverage of these databases, we trust no relevant articles have been excluded. Finally, despite all the precautions taken, the authors' subjectivity may have affected the selection of relevant papers. To avoid this, the decision rules were very clear and any doubt was discussed among all the authors. Overall, therefore, we trust this SLR offers a realistic picture of recent research in the field of e-entrepreneurship.

6 Conclusion

E-entrepreneurship is a growing research field that presents a promising and critical field to explore especially with the increase in the number and value of online start-ups. Hence, it is no wonder that the number of publications in e-entrepreneurship is growing and receiving more attention. At the same time, however, there is a need to organise and categorise the growing research work in the field, not only to better understand the current status but to identify the gaps that need to be filled. Using a systematic literature review (SLR), the authors categorised and analysed the theories and models from 105 relevant papers out of a total of 291 articles in the literature of e-entrepreneurship from 2008 to September 2020. This has helped to reveal some very important findings that shed light on the gaps within the field. For instance, this analysis showed that most of the research reviewed in this work is not based on a solid theoretical framework that specifically considers the distinctive characteristics of e-entrepreneurship.

Moreover, the SLR revealed the existence of research gaps that need to be addressed, particularly those that focus on the success, challenges and opportunities e-entrepreneurs face in the digital world. We argue that these gaps, both in theory and practice, need to be developed into a comprehensive roadmap to help researchers draw on more relevant and

needed work in this field. Besides, researchers can also focus on the development of more practical and empirical frameworks addressing the regional, cultural and environmental conditions in developing countries and across regions. Finally, online start-ups represent a massive opportunity for entrepreneurs worldwide. E-entrepreneurship and e-firm performance is a multidisciplinary field of research. Therefore, it is essential to integrate complementary research areas that need institutional and theoretical foundations to help develop better market-related research.

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Appendix 1 Theory groups – A Total of 105 Articles

Method	Economics (33 Articles)	Entrepreneurship & Innovation (28 Articles)	Psychology (38 Articles)	Other Theories (6 Articles)
Quantitative 62 Articles	(S. Wang, Cavusoglu, and Deng 2016; Deng and Wang 2016; Boschma and Weltevreden 2008; Kuhn and Galloway 2015; Colton, Roth, and Bearden 2010; Glavas, Mathews, and Bianchi 2017; Shan et al. 2014; S.-G. Lee, Koo, and Nam 2010; Rana and Sørensen 2013; Häsel, Kollmann, and Breugst 2010; Gregg and Parthasarathy 2017; Chandna and Salimath 2020; F. Wang 2020; Niu, Deng, and Hao 2020; Saridakis et al. 2018; Y. Y. Lee and Falahat 2019; AlOmoush, AlQirem, and AlHawatmah 2018)	(Lian and Yen 2017; Truong and Bhuiyan 2011; Millman et al. 2009; Kyobe 2008; Ramadani et al. 2014; Rasheed 2009; Alam et al. 2018; Yu et al. 2019; Zhu and Lin 2019; Al-Omoush et al. 2019; Y.-M. Wang and Chiou 2020)	(Nawi et al. 2017; Mallay and Martin 2009; S. Wang, Cavusoglu, and Deng 2016; Abebe 2014; Imran Khan et al. 2016; Sebora, Lee, and Sukasame 2009; Kwun et al. 2010; Cordero-Gutiérrez and Santos-Requejo 2016; Jansen et al. 2016; Lane et al. 2014; Mariani, Muhamad, and Lamarauna 2017; Abdulwahab and Kabir 2014; Batool et al. 2015; Koe 2020; Yi-Shun et al. 2019; Chang et al. 2020; 2018; Wongkhamdi, Cocharojananone and Khlaisang 2020; Suvattanadilok 2020; Tanikan and Nittaya 2019; Hartoyo et al. 2019; Zolait et al. 2018; Ounlil and Juiz 2018; Chandna and Salimath 2020; Lai and To 2020; Adiandari et al. 2020; Dixit, Prakash, and Verma 2018; Isabelle 2020; Suleman, Zuniarti, and Sabil 2019; Han and Li 2020; Al Mamun et al. 2020)	(Guo et al. 2017; S. Wang, Mao, and Archer 2012; Martinez and Williams 2010)
Qualitative 31 Articles	(Sala and Tańska 2010; Hassan et al. 2012; S. Wang et al. 2011; Serarols and Urbano 2008; Cui et al. 2017; Grochal-Brejdak and Szymura-Tyc 2018; Li et al. 2018; You, Shu, and Luo 2018; Sell et al. 2019; Che and Zhang 2019; Holland and Gutiérrez-Leetmans 2018; Effah 2016)	(Serarols 2008; Godoe and Hansen 2009; Stampfl, Prügl, and Osterloh 2013; Wentrup 2016; Pourhossein and Omran 2014; Sen and Ongsakul 2017; Rutten 2019; Jain et al. 2019; McAdam, Crowley, and Harrison 2020; Hevner and Malgonde 2019; Shaheer and Li 2020; Zaheer et al. 2019)	(van Gelderen, Sayers, and Keen 2008; Beránek 2015; Petersson McIntyre 2020; Shemi and Procter 2018; Dy, Marlow, and Martin 2017)	(Hafezieh, Akhavan, and Eshraghian 2011; Yoshida and Iijima 2019)
Mixed 6 Articles	(Sigfusson and Chetty 2013; Koch 2010)	(Chung et al. 2016; Anwar 2017)	(Lichtenstein, Abbott, and Rechavi 2015; Yu et al. 2017)	–
Reviews 6 Articles	(Bailetti and Zijdemans 2014; Reuber and Fischer 2011)	(Trimi and Berbegal-Mirabent 2012; Zaheer et al. 2019; Rippa and Secundo 2019)	–	(Shabbir et al. 2016)

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Final Refereeing Decision IJESB_286523

Inderscience Publishers <noreply@indersciencemail.com> 16 November 2020 at 22:48
Reply-To: Inderscience Publishers <noreply@indersciencemail.com>
To: dhiamqasim@gmail.com, a.bany@u.edu.jo, flinan@us.es, Editor <lp762359@dal.ca>

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