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**The Entrepreneurial Orientation of Females in Saudi  
Arabia: The Associations with Informal and Formal  
Institutions**

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**A thesis submitted in fulfilment of the requirements for the  
Degree of  
Doctor of Philosophy**

**Adam Smith Business School  
College of Social Sciences  
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## **Abstract**

While entrepreneurship is considered a critical factor in developing economies, it is essential to note that the focus on entrepreneurship has broadened from investigating key individual characteristics influencing entrepreneurship to exploring the influence of institutional factors such as policies, education, financial support and other informal factors. Therefore, this study examined the impact of national culture (NC) represented by Hofstede's dimensions, namely power distance tolerance (PD), uncertainty avoidance (UA), individualism (IND), masculinity (MAS) and long-term orientation (LTO), on entrepreneurial orientation (EO) among female Saudi entrepreneurs in Saudi Arabia. The study also examined the moderating effect of access to finance (ATF) on the relationship between cultural dimensions and EO. The study revealed valuable results, including the fact that female entrepreneurs reported a quite different set of cultural values from those of Saudi Arabia as a whole, and that their IND and MAS positively influenced their EO respectively. In contrast, their LTO, UA and PD showed no significant association with EO. Furthermore, the hypothesised moderating effect of ATF on the relationships between NC and EO was not supported. The findings emphasise various important conclusions. For example, as ATF was not significant here, there may be a need to provide comprehensive support systems to enhance EO, such as mentorship programmes, customised entrepreneurial training, and other market access initiatives. Saudi policymakers may focus on combining financial and non-financial support, including capacity-building and support, which can be done by developing multi-faceted strategies that enhance entrepreneurial ecosystems and manage entrepreneurs' challenges. Furthermore, multi-faceted strategies developed by policymakers may wish to address gender-specific challenges by implementing tailored entrepreneurial training programmes, increasing female representation in leadership roles, and creating inclusive networking opportunities.

**Keywords:** Saudi Female Entrepreneurs, Entrepreneurial Orientation, Saudi Arabia, Entrepreneurial Ecosystem, Hofstede, Culture

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## **Declaration of Originality**

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or institute of learning.

I declare that the thesis embodies the results of my own work. Following normal academic conventions, I have made due acknowledgement of the work of others.

Signature \_\_\_\_\_

Printed name: Salem Handhal Al Marri

## **Copyright Statement**

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## List of Abbreviations

APS	Adult Population Survey
ATF	Access to Finance
AUT	Autonomy
CA	Cronbach's alpha
CMB	Common Method Bias
COM	Competitive aggressiveness
CR	Composite reliability
CVSCALE	Cultural Value Scale
DF	Degree of Freedom
EM	Estimated Mean
EO	Entrepreneurial Orientations
GEM	Global Entrepreneurship Monitor
GII	The Global Innovation Index
GLOBE	Global Leadership and Organizational Behavior Effectiveness
GUESSS	Global University Entrepreneurial Spirit Students' Survey
IND	Individualism
INN	Innovativeness
KMO	Kaiser-Meyer-Olkin
KSA	Kingdom of Saudi Arabia
LTO	Long-Term Orientation
MAS	Masculinity
MSME	Micro, Small and Medium Enterprises
NC	National Culture
PD	Power Distance
PMU	Product-Market Unit
PRO	Proactiveness
RSK	Risk-taking
SC	Social Conservatism

SDGs	Sustainable Development Goals
SEM	Structural equation modelling
Sig	Significance
SPSS	Statistical Package for the Social Sciences
Std. Dev.	Standard Deviation
TEA	Total Early-stage Entrepreneurial Activity
UA	Uncertainty Avoidance
USA	The United States of America
VIF	Variance inflation factor

# **Chapter 1: Introduction**

## **1.1 Introduction**

This chapter provides a comprehensive overview of the research conducted. It begins with the background of the study and then discusses the research context along with the theoretical underpinnings of the research. The chapter further discloses the research questions of the study and the importance of the research. The chapter concludes by describing the research methodology, critical concepts used, and the structure of the thesis.

## **1.2 Background of the Study**

Entrepreneurship has been categorized as an effective mechanism for the growth of economies in both developing and developed countries (Chew et al., 2021; Chowdhury et al., 2019; Hill et al., 2024). Entrepreneurship encourages innovation, leading to the exploration of available business opportunities and ultimately creating new job opportunities and strengthening productivity. It also addresses available shocks and challenges, such as the United Nations' (UNs') sustainable Development Goals (SDGs) (Hill et al., 2024).

Recently, the focus in entrepreneurship has shifted from understanding key individual characteristics influencing entrepreneurship to exploring influence of institutional factors such as policies, education and financial support (Mirza, 2023). Those economies possessing more adequate institutions can make the process of business start-up easier and can ensure better business development (Langlois, 2016; Mirza, 2023). Those institutions according to North, 1990), are divided into formal and informal institutions. The formal institutions are infrastructural facilities, state policies, financing, legislation, entrepreneurial training, and education (Ali et al., 2019), while informal institutions are the norms, culture, ethics, conventions, and customs. Both formal and informal institutions contribute to influence the behaviour of individuals through written tangible official constitutions and laws, and the derived inherited intangible unwritten constraints. It is essential to note that

informal institutions also have an equivalent meaning to national culture (Alesina & Giuliano, 2015) or the so-called normative and cultural-cognitive pillars. In this study, we consider informal institutions to be the same as national culture. Accordingly, these two terms will be used interchangeably in the coming chapters.

Entrepreneurship has become a hot topic for discussion by policymakers, scholars, and other interested stakeholders, especially in developing countries such as Saudi Arabia, which depend hugely on oil and gas for financing its government budget (Al-Mamary & Abubakar, 2023). Researchers have begun to explore how entrepreneurship interacts with innovation and how it contributes to the creation of new job opportunities such as (Al-Mamary & Abubakar, 2023; Aljarodi et al., 2022; Almawishir & Benlaria, 2023). Still, despite the belief that entrepreneurship is a good tool for providing new job opportunities for individuals (both male and female) and strengthening their economic independence, female entrepreneurs in the Middle East, South Africa and the Far East continue to have many socio-cultural challenges and barriers (Etim & Iwu, 2019; Kamberidou, 2020). Women are considered an important factor in the development of the economy (Kamberidou, 2020), as it was found that about 40% of businesses are run by females globally (Ambepitiya, 2016).

Women, as indicated earlier, despite being a key player in the economy, still receive less attention in both developed and developing countries, and they are surrounded by many social and cultural obstacles which hinder their growth and development (Al-Mamary & Abubakar, 2023). The key challenges that impede female success in entrepreneurship are poor access to business networking, a lack of marketing skills, shortage of the necessary financial support, and inadequate access to digital markets and technology (Kamberidou, 2020). Even though, there has been a continuous dialogue about the need to support female entrepreneurs and establish necessary initiatives for them. For example, Kamberidou (2020), conducted a literature review of studies about female entrepreneurs for the period from 2011-2019 that covered



entrepreneurial initiatives, leadership styles, motives, skills and characteristics attributes. It indicated that there had not been much change over this time in the support for female entrepreneurship. These studies also confirmed the presence of the gender gap, and the need for digital skills, and an orientation towards innovation to ensure success in entrepreneurial activities.

Furthermore, the Global Entrepreneurship Monitor (GEM) report by Hill et al. (2024) clearly stated that among 49 countries surveyed by GEM, including Saudi Arabia, female entrepreneurs continued to receive poor or unsatisfactory social support compared to men. The report further confirmed that only five countries from those surveyed, namely Norway, Sweden, India, Qatar, and the United Arab Emirates, provided good support and access to necessary resources for females to start a business. Among the factors that hinder female entrepreneurship are cultural values, attitudes, and beliefs (Atiase et al., 2018; Chew et al., 2021).

Those cultural values influence individuals' behaviour and decision-making, as they are regarded as guidelines for business owners or entrepreneurs on making their business decisions and achieving success (Autio et al., 2013). In most of the previous literature, it was understood that culture and other formal institutions may affect the decision to start a business. Nevertheless, the literature focused on how this effect occurred separately rather than jointly in relation to entrepreneurial activities (Chew et al., 2021; Chowdhury & Audretsch, 2019; Saka-Helmhout et al., 2019). Institutions play a vital role in the development of entrepreneurship in terms of quality and quantity, and the availability of different types of institutions can lead to varying effects on entrepreneurship and economic growth. It is important to note that formal institutions need to be connected to informal institutions, mainly when there are limited resources for the business (Saka-Helmhout et al., 2019). Furthermore, as regulations serve as informal institutions represented by culture and formal institutions, they act as good drivers for entrepreneurial activities;

how they link individual entrepreneurs' actions with the institutional context still needs to be made clear (Chew et al., 2021).

In this research, National Culture (NC) is represented by Hofstede's dimensions: Power Distance (PD), Uncertainty Avoidance (UA), Individualism-Collectivism (IND-COL), Masculinity-Femininity (MAS-FEM), and Long-Term Orientation-Short-Term Orientation (LTO-STO). NC represents the cultural values available in society (Kreiser et al., 2010), and it is usually explained with the help of the dimensions developed by Hofstede (1983, 2011). The research further focuses on the Entrepreneurial Orientation (EO) concept, initially developed from a strategic choice perspective. EO needs entrepreneurs to take action to start a business. It also requires the readiness to take risks, exploit new things, defeat competitors, and grab new opportunities (Lumpkin & Dess, 1996). Accordingly, this research aims to understand how NC, represented by Hofstede's dimensions, interacts with EO. Culture plays a significant role in influencing individuals' behaviour and shaping their EO (McMullen & Shepherd, 2006) through guiding individuals' attitudes and beliefs about specific behaviours and actions, ultimately leading to better performance (Engelen, 2010). Accordingly, these owners determine the EO of their firms because informal institutions influence people's attitudes and beliefs and direct them towards specific actions (Lee & Peterson, 2000; Shane, 1993, 1994).

Additionally, it is worth noting that there are different types of formal institutions including governmental, economic, and social institutions that provide support and monitoring to entrepreneurial firms operation (Covin & Slevin, 1991) and can influence a wide range of financial activities as well as innovation (Shane, 1993, 1994). Formal institutions may also provide economic incentives to support and direct entrepreneurs' behaviour and guide entrepreneurial firms' decisions (Estrin et al., 2012). Among the various types of formal institution, access to finance (ATF) is reported to be the most important for businesses, especially small and new ones (Wiklund & Shepherd, 2005). ATF helps in the absence other resources, which is normal for startups (Wiklund &

Shepherd, 2005). A lack of financial resources has challenged business operations, leading to poor development and growth (Winborg & Landstro, 2000). Provision of financial resources enables entrepreneurial firms to continue operating and may sustain them during challenging times (Cooper et al., 1994). Institutional ATF is greatly needed because it helps businesses develop new ideas and innovation which may not be possible without financial resources (Cooper et al., 1994; Wiklund & Shepherd, 2005). Previous literature has emphasised that ATF may enable entrepreneurial activities, enhancing business performance (Winborg & Landstro, 2000). Accordingly, entrepreneurs may use institutional finance to meet their business needs and strengthen their market positions (Winborg & Landstro, 2000).

However, it is still unknown how these institutions moderate and impact entrepreneurial activity and EO (Langlois, 2015; Lee et al., 2011; Sun et al., 2020). To summarise, this research aims to investigate the role of NC represented by Hofstede's dimensions in developing EO among Saudi female entrepreneurs with the moderating effect of ATF.

### **1.3 Research Context**

Saudi Arabia is a developing country rich in oil and other mineral resources, and surrounded by other Gulf countries. Saudi Arabia, a rich country in oil and other mineral resources, has recently faced some deficits in the country's budget due to the low price of oil globally. The low cost of oil has negatively impacted Saudi Arabia's economy (Reeve, 2023). Hence, it was essential to start developing initiatives that would substitute the oil income and provide different sources for the country. The Saudi Government has tried to diversify the income sources by establishing an extended strategic plan named Saudi Vision 2030, with many objectives (Al-Mamary & Abubakar, 2023). Saudi vision 2030 not only focuses on economic diversification; it also concentrates on social and cultural diversification. Saudi Vision 2030 focused on many aspects, including entrepreneurship and empowering small entrepreneurs in the country;

it specifically focusing on reducing unemployment from 11 to 7% (Shabeeb et al., 2023) and providing all the essential and necessary assistance for the sector of micro, small and medium enterprises (MSMEs) in Saudi Arabia.

Saudi Vision 2030 also focuses on empowering female entrepreneurs in the country, as they have been neglected for a long time. The first move, which was considered essential, was to allow Saudi females to drive, which was considered a turning point in the institutional rules and regulations of the new Saudi Arabia (Aljarodi et al., 2022). This move was considered an embedded obstacle before female entrepreneurs entered the country (Ahmad, 2011). The Saudi Vision 2030 was also a response to a report stating that female engagement in the Small and Medium-sized Enterprise (SME) sector was only 8% of the total workforce (Zaki & Shared, 2022) and also a response to the report confirming high unemployment rate for women was estimated to be 31% compared to 6.6% for men. Accordingly, the aim of the government's new plan was to increase female participation in the workforce to around 30% (Alotaibi, 2021).

The focus on female entrepreneurs has recently increased, not only in Saudi Arabia, but also globally. Previous reports confirm that since 2014, there has been a tremendous increase in the contribution of females to the field of entrepreneurship, reaching a figure of approximately 274 million women who either own or have started businesses, resulting in a reduction of the gender gap in entrepreneurship by around 5% (Aljarodi et al., 2022). Nevertheless, even with this reasonable improvement, females still make a small contribution to entrepreneurship compared to males globally, ultimately leading to the loss of any potential chances for improving or growing the economy that female entrepreneurs would have generated (Aljarodi et al., 2022; Gimenez-Jimenez et al., 2020).

The small contribution of females to entrepreneurship could be attributed to many reasons, including the availability of discouraging institutions that have been categorized into formal institutions that may include government laws,

regulations and policies, and informal institutions that may result from available customs, cultural values, beliefs, and standards (North, 1990). The informal institutions include cultural constraints that hinder women's contributions (Aljarodi et al., 2022; Mehtap et al., 2017). Accordingly, the need to understand the contextual factors that could encourage female entrepreneurs in Saudi Arabia to grow and develop seems significant.

#### **1.4 Theoretical Underpinning of the Research**

This study is grounded in institutional theory; it aims to examine the influence of Hofstede's dimensions (PD, UA, IND, MAS and LTO) on EO. The study's theoretical framework seeks to investigate the moderation effect of ATF on the relationship between Hofstede's dimensions and EO.

#### **1.5 The Research Questions**

This study aims to develop a comprehensive research framework that enhances understanding of the role of Hofstede's dimensions (national culture) in predicting female entrepreneurs' EO in Saudi Arabia. It also aims to understand how ATF can moderate the relationship between Hofstede's dimensions and EO. Accordingly, the following research questions are developed:

**Research Question 1:** At a national level, and based on prior empirical, international literature, what do Saudi Arabia's national cultural dimensions imply for its aggregate level of entrepreneurship?

**Research Question 2:** How do cultural dimensions, measured at the level of individual female entrepreneurs in Saudi Arabia, correspond with Saudi Arabia's national cultural dimensions?

**Research Question 3:** At the level of individual female entrepreneurs in Saudi Arabia, what are the associations between cultural dimensions and EO?

## **1.6 The Research Importance**

By answering the research questions of the study and filling the gaps in the literature, the study provides the following contributions:

1. The study provides a comprehensive model combining EO, ATF and NC.
2. This study contributes to the existing literature about entrepreneurship and cultural factors by showing how cultural dimensions shape entrepreneurial behaviour, which may help policymakers develop specific strategies that align with these cultural dimensions and motivate higher levels of EO. This contributes to economic growth and development, new job creation, and innovation.
3. This study is also one of the few research projects concentrating on female entrepreneurs in Saudi Arabia, a largely ignored area. Surveying interactions between institutions and EO may give policymakers, SME owners, scholars, and other interested stakeholders new insights.

## **1.7 The Research Methodology**

This study is quantitative as this approach is suitable for addressing the research questions and testing the study hypotheses. This study uses primary data as the main source for the model of the study. Additionally, to meet the study objectives and test the study's hypotheses, a sample of 291 responses was collected randomly using a self-administered online questionnaire with female entrepreneurs in Saudi Arabia. The focus was on those operating their businesses in the capital of Saudi Arabia, Riyadh, as here there are more than 14,000 female entrepreneurs operating different types of enterprises. The sample selected was considered suitable according to the ten times sample rule (Hair et al., 2011). Monshaat, an official Saudi official body responsible for entrepreneurial business in Saudi Arabia, provided a list of 10,000 respondents. From this list, we received 291 usable responses, which gave a response rate of about 30%. The data collection period was from October 2023 to May 2024. The hypotheses were then tested using Statistical Package for the Social Sciences (SPSS) software, and the results are reported in Chapter 5.

## **1.8 Key concepts**

### **Entrepreneurial Orientation (EO):**

EO is defined as the activities, practices, and guidelines that an individual performs throughout entry (Lumpkin & Dess, 1996:136).

### **Informal Institutions (National Culture):**

"Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction" (North, 1990:3). Furthermore, this study follows the style of an authoritative study that considers national culture to be equivalent to informal institutions (Alesina & Giuliano, 2015) or the so-called normative and cultural-cognitive pillars. Consequently, both informal institutions and cultural dimensions will be used synonymously and interchangeably hereafter.

### **Formal Institutions (ATF)**

Formal institutions comprise infrastructural facilities, state policies, financing, legislation for new and growing firms, entrepreneurial training and education, and social aspects that play a role in shaping the entrepreneurial attitude of individuals (Ali et al., 2019).

### **Total Early-stage Entrepreneurial Activity (TEA) Rate:**

According to GEM, TEA is the percentage of individuals aged between 18 and 64 who own new businesses or are budding entrepreneurs. In other words, these are the individuals who have started their businesses or are in the process of starting them (GEM, 2017).

### **Micro, Small and Medium Enterprises (MSME)**

According to Monsha'at (2022), micro-enterprises have from 1 to 5 employees or a revenue of SAR 0-3 million, while small enterprises are businesses with 6 to 49 employees or a revenue of SAR 3-40 million. Our sample includes small enterprises.

## **1.9 Structure of thesis**

The organisation of this thesis is as follows:

### **Chapter 1: Introduction**

This chapter gives a summary of the background of the study.

### **Chapter 2: Literature Review**

This chapter reviews and discusses the literature about the concepts of the study and identifies literature gaps.

### **Chapter 3: Theoretical Background and Hypotheses Development**

This chapter deals with the study's conceptual model and presents the proposed hypotheses based on the available research questions and literature gaps.

### **Chapter 4: Research Methodology**

This chapter discusses the research methodology used in this study. It discusses in depth the research nature, research design, objectives, constructs and measures used, questionnaire design, population and sample of the study, and data analysis techniques.

### **Chapter 5: Data Analysis and Findings**

This chapter discusses the analysis of the collected data and presents various reports on the analysis results.

### **Chapter 6: Discussion, Conclusion, and Implications**

This chapter compares this study's results with previous studies' findings. It then discusses the theoretical and practical implications of these findings. It concludes by presenting the limitations of the research and recommendations for future studies.



## **Chapter 2: Literature Review**

### **2.1 Introduction**

This chapter provides an overview of the study's key concepts and relationships. Following this introduction, section 2.2 discusses entrepreneurship theory, while section 2.3 describes the concept of EO, and section 2.4 reviews institutional theory and the concept of NC. The chapter continues with Hofstede's dimensions in section 2.5 and discusses NC and EO in section 2.6. It then reviews the empirical literature on the relationship between NC and EO in section 2.7, and the concept of SC is then discussed in section 2.8. Furthermore, female entrepreneurship and EO, and the context of Saudi Arabia are discussed in sections 2.9 and 2.10, respectively. Sections 2.11 and 2.12 summarise the relationship between Hofstede's cultural dimensions and Total Entrepreneurial Activity (TEA) and provide background on the influence of SC on EO, respectively. The research gaps and research questions are presented in 2.13 and 2.14, respectively.

### **2.2 Entrepreneurship Theory**

The initial beginning of entrepreneurship can be traced back to the early 1700s, when Cantillon defined an entrepreneur as an individual who tolerates risks by purchasing a product for a specific amount and then reselling it with ambiguous prices. The concept was further improved on and its meaning broadened by Jean Baptiste, who included the idea of combining production factors and stated that an entrepreneur should have particular personal qualities (Carton et al., 1998). In the same vein, Schumpeter (1912) developed his theory of economic development. He argued that economic growth relies on innovation, which replaces an old business with a new one, later known as creative destruction. The creative destruction process implies a careful dismantling of current approaches to improve production and further the betterment of other processes.

In Schumpeter's theory, the critical function of an entrepreneur is to carry out new combinations. In other words, “new combination” imply the conversion of mixtures of inputs over different markets and time periods to produce more valuable outputs, thus adding a time dimension (Hanappi & Hanappi-Egger, 2004). Combining old and new processes contributes to developing a dynamic economy with better performance (Harper, 2020; Schumpeter, 1912). In Schumpeter's opinion, innovation is critical for economic dynamism and competitiveness (Sledzik, 2013). This is because it maximises the available resources by allocating them to new uses.

During the development of entrepreneurship research, many definitions and conceptualisations have emerged. Different scholars have looked at it from many angles. Among them were Bull and Willard (1993), who defined it as the activity of creativity involving the addition of new wealth-producing capacity to utilise the available resources. He also defined an entrepreneur as someone who gathers all the resources needed to create and market a product that fills a market gap (Bull & Willard, 1993). Another definition came from Bewley (1989), who defined entrepreneurs as those wishing to enter a new market by overcoming uncertainty aversion i.e. by taking risks. In addition, entrepreneurship has been defined as the identification, appraisal, and exploitation of prospective services and goods (Eckhardt & Shane, 2003), and as the establishment of new businesses (Low & MacMillan, 1988).

A recent comprehensive definition was proposed by Gedeon (2010) as a multidimensional concept that includes owning or starting a small enterprise, being innovative, and acting as a leading firm. It also concentrates on spotting available opportunities in the market. Furthermore, The GEM, an authentic research consortium, has defined entrepreneurs as individuals who are presently owning and running a young operational firm or are in the process of starting up a business they will (partly) own (Reynolds et al., 2005).

It is important to note that entrepreneurship can be defined from two points of view or based on two key theories (Alvarez and Barney, 2007). First is the discovery theory developed by (Kirzner, 1973), and second is the creation theory developed by Schumpeter (1934). The discovery theory of Kirzner highlights that entrepreneurial opportunities exist independently of entrepreneurs, waiting to be discovered. Kirzner emphasises that entrepreneurs need to be alert to identify and exploit available business opportunities arising from external changes in the market, such as technological advancements or shifts in consumer preferences. On the other hand, the creation theory (1934) indicates that business opportunities are not readily available in the market. They need to be created through the innovative actions of entrepreneurs. The theory highlights the process of creative destruction, where entrepreneurs disrupt existing market structures and create new opportunities through their innovative activities. These two theories reveal how entrepreneurs can gain and exploit entrepreneurial opportunities by discovering existing market gaps or creating new possibilities through entrepreneurial innovation (Alvarez & Barney, 2007). In this research, we define entrepreneurship as entrepreneurial behaviour, which is any activity or initiative practised by entrepreneurs to exploit, identify, and leverage available business opportunities (Alvarez & Barney, 2007), a definition which we follow in this research.

However, despite the presence of all these definitions, there seems to be no standard definition for entrepreneurship (Carton et al., 1998; Gedeon, 2010; Low & MacMillan, 1988; Shane & Venkataraman, 2000) or for characterising it (Lumpkin & Dess, 1996). The non-availability of a standardised definition for entrepreneurship might be attributed to the fact that previous studies have been conducted in different fields applying different perspectives. Still, it is believed that the description of new combinations (Schumpeter, 1934) is sufficiently informative and discriminatory for scholarly purposes, as well as accurate enough for policy-making (Bull & Willard, 1993).

Entrepreneurship has received much consideration since its inception due to the critical role it plays in the economic development, success, and growth (Audretsch & Thurik, 2000; Carree et al., 2002; Lumpkin & Dess, 1996; Salimath & Cullen, 2010; Thurik et al., 2001). Entrepreneurs are frequently regarded as national treasures in their own right (Salimath & Cullen, 2010). They start their ventures to achieve independence and maximise their income or because of their unhappiness with their current job (Smallbone & Welter, 2001). Entrepreneurship is arguably considered necessary due to its ability to exploit opportunities and establish new enterprises, leading to job creation, the mitigation of poverty, improvements to the economy's growth rate, and finally improved the well-being of individuals. The discovery, appraisal, and exploitation of future commodities and services is referred to as possibility exploration (Eckhardt & Shane, 2003). This term also indicates discovering new markets for products that did not previously exist (Shane & Venkataraman, 2000). Therefore, individuals who exploit available opportunities and adopt entrepreneurial behaviour are expected to achieve a better future (Lee & Peterson, 2000).

According to Cuervo et al. (2007), the appearance of entrepreneurial activities in a given context can be explained by three factors. The first one attributes the entrepreneurial action to individual human characteristics such as accepting risks, a willingness to accept uncertainty, and the need for achievement. The second factor concentrates on environmental and economic factors that promote and encourage entrepreneurial activity, such as technological change dynamics, the size of the market normative, and demographics. The third factor to influence the appearance of entrepreneurial activity, is linked to institutions, societal values, and culture. This third factor attributes great importance to institutions (formal and informal) as they provide the necessary mechanisms that may constrain the behaviour of individuals toward towards specific actions (Ingram & Clay, 2000).

Institutions also have an impact on a person via regulatory and incentive processes that alter living conditions and psychosocial state (Eckhardt & Shane, 2003). Therefore, political infrastructures, and social and economic factors should not be ignored when conducting entrepreneurship studies, as to do so could render them deficient (Gnyawali & Fogel, 1994), particularly in developing countries (Lingelbach et al., 2005). While it is essential to analyse how entrepreneurship, in general, is affected by its surroundings, it is also important to understand how this environment affects the EO of an individual. This is because "entrepreneurship" might mean a new firm entry as a new combination, but "EO" may refer to the entrepreneurial process, namely how it is carried out, as well as the strategies, procedures, and decision-making styles utilised to act entrepreneurially (Lee & Peterson, 2000).

Among these environmental factors affecting entrepreneurship and EO, NC is assumed to be vital as it impacts executive decision-making (Rigtering & Eggers, 2017). It has also been connected with the process of strategic decision-making in enterprises through its impact on the beliefs of enterprise decision-makers (Busenitz & Lau, 1996; Mitchell et al., 2000). NC, according to Hofstede (2011:p.3), is defined as "the collective programming of the mind that distinguishes the members of one group or category of people from others" (Hofstede, 2011). For that, analysing and understanding how it influences the EO of individuals/small enterprises will enhance our understanding of their connections. Accordingly, we argue here that NC may either support or discourage entrepreneurship behaviour in general and the EO of individuals/small enterprises in particular, the context of this study.

### **2.3 The Concept of EO**

The EO concept, an important component of entrepreneurship theory in general, according to Covin and Wales (2012), goes back to Mintzberg (1973) strategic decision-making. He defined entrepreneurial strategy-making as a managerial mindset marked by the aggressive quest for fresh opportunities in uncertain circumstances to achieve rapid development. EO represents a firm's

strategic approach, combining the distinct entrepreneurial features of decision-making styles, practices and methods (Wiklund & Shepherd, 2005). EO assists entrepreneurs and firms in acting entrepreneurially, developing new products, expanding the market, and improving economic performance. It also highlights key practices, decision-making styles and methods entrepreneurs employ to enable firms to act entrepreneurially (Bruining & Wright, 2002).

Mintzberg (1973) was the first to treat EO as a managerial disposition built on organisational decision-making. The concept of EO was considered essential and was classified as an intangible resource for firms (Alvarez & Busenitz, 2001), particularly for SMEs and the development of their products (Yi et al., 2021). In Table 1, presents selected definitions of EO.

Table 1: Selected definitions of EO

Authors	Definition of EO
(Pearce et al., 2010: p.219)	"An EO is conceptualized as a set of distinct but related behaviors that have the qualities of innovativeness, proactiveness, competitive aggressiveness, risk-taking, and autonomy."
(Voss et al., 2005: p.1134)	"We define EO as a firm-level disposition to engage in behaviors that lead to change in the organization or marketplace."
(Cools & Broeck, 2008: p.27)	"Entrepreneurial orientation (EO) refers to the top management's strategy in relation to innovativeness, proactiveness, and risk-taking."
(Merz & Sauber, 1995: p.554)	"Entrepreneurial orientation is defined as the firm's degree of proactiveness (aggressiveness) in its chosen product-market unit (PMU) and its willingness to innovate and create new offerings."
(Avlonitis & Salavou, 2007: p.567)	"EO constitutes an organizational phenomenon that reflects a managerial capability by which firms embark on proactive and aggressive initiatives to alter the competitive scene to their advantage."
(Lumpkin & Dess, 1996: p.136)	"EO refers to the processes, practices, and decision-making activities that lead to new entry."
(Zahra & Neubaum, 1998: p.124)	EO is "the sum total of a firm's radical innovation, proactive strategic action, and risk-taking activities that are manifested in support of projects with uncertain outcomes."

The work of Miller (1983) and Miller and Friesen (1982) was the first to introduce the concept of firm-level entrepreneurship, which reports the influence of EO in an organization on the collective behaviour of the firm's staff (Covin & Wales, 2012). Accordingly, Miller (1983) emphasises that for an organisation to be identified as entrepreneurial, it should feature three characteristics: innovativeness, risk-taking, and proactiveness. Firms should have a high level of these qualities when carrying out their activities, otherwise a firm cannot be entrepreneurial (D. Miller, 1983). The emphasis on the presence of these three features together as EO was later labelled "a basic unidimensional strategic orientation" (Covin & Slevin, 1989:p.79). From Miller's point of view, an entrepreneurial firm specialises in innovative products, embarks on some hazardous projects, and is the first to develop proactive inventions, outpacing competitors (Miller, 1983). He states that firms that directly imitate other firms without involving risk or do not develop innovations in their business activities and have poor proactiveness skills are not necessarily entrepreneurial (Miller, 1983). The firms capable of EO can create the strategies necessary for improving the firm's performance and increasing its wealth. Developing a competitive advantage with value addition accordingly leads to obtaining a better share of the market.

Miller's EO concept is comprised of three different dimensions, as listed above, and each dimension of EO indicates a specific direction. The innovativeness dimension describes the ability of a firm to develop new products and services based on the latest processes and technologies capable of meeting the needs and desires of the customers (Knight, 2000). It expresses a business's willingness to pursue and encourage fresh ideas, experiments, and creative processes that result in new goods, services, or technological processes (Lumpkin & Dess, 1996). Innovativeness focuses on developing new ideas, while risk-taking, on the other hand, suggests that entrepreneurial firms should be involved in risky activities that might generate a significant failure or return (Hughes & Morgan,

2007). EO is, in short, the desire of businesses to take on probable losses as a result of their business strategies and projects (Lan & Wu, 2010) or the willingness of managers to make big and potentially dangerous resource commitments (Lumpkin & Dess, 1996).

Furthermore, there has also been an emphasis on firms' proactive tendency to take advantage of the available business opportunities in the market and utilise them to develop the firm's competitive advantage. Accordingly, the EO proactiveness dimension has been defined as how a business reacts to market opportunities during the new-entry process (Lumpkin & Dess, 1996), and it is also a strong desire to be the market leaders and seize new chances (Lan & Wu, 2010). Proactiveness permits firms to systematically keep scanning the changes in the market and accordingly develop the necessary weapons to defeat the competitors and capture the available opportunities. Once opportunities are seized for the first time, businesses can impose their rules and charge their desired rates accordingly for their products and services.

Despite the popularity of Miller's (1983) work and even though Miller did not directly mention the concept of EO in his theory, his work has been criticised for being too limited in scope to explain certain types of entrepreneurial action (Lumpkin & Dess, 1996). This is because entrepreneurs might be risk-averse and cautious in a specific situation and under particular conditions. They might benefit from imitation more than innovativeness (Lumpkin & Dess, 1996).

To address these shortfalls, Lumpkin and Dess (1996) proposed a new multidimensional approach by adding two new concepts to Miller's work: autonomy and competitive aggressiveness. These aim to minimise the possibility of failure, particularly when employed by new ventures. Newly established firms have a substantially higher failure rate than existing firms; Many academics have stated that new entrants must take an aggressive approach and compete fiercely to survive and succeed (Lumpkin & Dess, 1996). In their work, Lumpkin and Dess, (1996) defined EO as the procedures, techniques, and decision-making actions



that lead to the formation of new businesses. These developed processes and practices allow firms to defeat competitors, establish a competitive advantage, increase wealth, and achieve sustainability. Their approach does not imply that firms do not need to have a high level of EO on each of the five dimensions to be called entrepreneurial. Firms might be entrepreneurial if some or all the EO dimensions exist at a high level, making it applicable collectively or individually. However, external elements such as industry or business climate, as well as internal factors such as organisational structures, may influence the success and type of new ventures predicted by these dimensions (Lumpkin & Dess, 1996).

The competitive-aggressiveness dimension focuses on fighting with current competitors to enter a market or enhance the competitive position vis-à-vis competitors (Covin & Slevin, 1989; Lumpkin & Dess, 1996). Autonomy is defined as an individual's or a group's independent initiatives in putting forth a thought or an idea and seeing it through to fulfilment (Lumpkin & Dess, 1996). It is an individuals' strength to work independently and freely with support from a firm's internal environment for opportunity-seizing.

Miller (2011), in his revised version of EO, recommended investigating the influence of the normative, political, and cognitive institutional environment on EO, as this influence may "occur as organizations pursue" socially accepted "behaviour in order to garner legitimacy from important stakeholders and resource providers" (p.881). He further emphasised the influence of role models in directing other companies' EO, as generally firms tend to follow successful companies. Competitors might also have an impact on a firm's EO as they may encourage a firm to imitate them, which may "in turn, be a product of powerful social stakeholder or governmental pressures, and/or a strongly felt need to secure legitimacy to access especially scarce resources" (Miller, 2011:881,882). In this research, we use the dimensions of Lumpkin and Dess (1996), i.e., the multidimensional approach, including risk-taking, innovativeness, proactiveness, autonomy, and competitive aggressiveness, as the theoretical background for this study.

This multidimensional approach explains different levels of entrepreneurial behaviour more widely. Furthermore, limiting entrepreneurial behaviour to only the dimensions illustrated by Miller (1983) falls short of understanding many multiple kinds of entrepreneurship (Lumpkin & Dess, 1996).

It should also be emphasised that the EO dimensions can appear in a variety of combinations, each expressing a unique and distinct part of the multidimensional idea of EO (Rauch et al., 2009). Furthermore, both empirical and theoretical evidence suggests that the aspects of EO might fluctuate independently (Lyon, Lumpkin, & Dess, 2000: 1057). Finally, there has been an increase in the number of studies adopting the multidimensional approach. These studies include, for example Rauch et al. (2009) and Wales et al. (2011). By researching the nature and impact of EO in different nations, researchers can help managers to structure strategies and operations in ways that better suit the local conditions and avoid any negative repercussions (Wales et al., 2011). The following section describes the history of institutions, institutional theory, national culture, and how they are linked to individual behaviour and actions.

## **2.4 Institutional Theory and National Culture (NC)**

Institutional theory is an established theory that has been developed in various fields, particularly in economics, sociology, and politics. It is concerned with the interaction between firms and institutions as levels of analysis, but if owner-entrepreneurs run firms, it encompasses individuals, too. It further shows how institutional constraints shape the organisations' behaviour and objectives (North, 1990). The theory argues that companies are affected by other organisations and institutions surrounding them and how these institutional contexts shape their behaviour (Busenitz et al., 2000; Kostova, 1997). It essentially argues that external factors surrounding the organisations play a significant role in their failure and success (Bruton et al., 2010; Peng et al., 2009; Peng et al., 2008). The theory discusses conforming to society's written and unwritten rules to ensure the necessary legitimacy with the surrounding environment (North, 1991; Scott, 2005). These "rules of the game" or institutions

may be of different kinds, such as taken-for-granted assumptions, informal constraints, formal rules, and others that provide grounding for actors in the business environment; conforming to them will minimise failure and obtain more support for business success. This is because institutions impose restrictions by defining legal, moral, and cultural boundaries, distinguishing between acceptable and unacceptable behaviour. Nevertheless, it is equally important to recognise that institutions also support and empower activities and actors. Institutions provide incentives, instructions, and resources for behaviour, as well as prohibitions and restrictions (Scott, 2014). Therefore, ignoring institutions may result in missing the legitimacy support from the surrounding environment and may increase the risk of firms' failures.

There are two types of institutional theory: old and new. The old (or classic) institutional theory existed mainly in political science and has reported the political institutions as leading to path dependency, i.e., ordering, determining, or modifying the individual motives for acting autonomously with regard to institutional needs (March & Olsen, 1984). In this regard, the historical background, and political and legal institutions constrain individuals. In addition, the theory affords low significance to the effect of individuals' when actions or decisions. Traditional institutional theory has been criticised as mainly being observational, descriptive, and lacking a persuasive theoretical framework (Sorensen, 2017). Thus, the new neo-institutional theory considers the interactions between institutions and their impact on individuals' behaviour (March & Olsen, 1984). It also concentrates on the circumstances in which institutions, and the influence of institutions, can change (Greenwood & Hinings, 1996) and on understanding the role that institutions play in social and political life (Sorensen, 2017). It further adds that people behave because of their cognitions rather than through a feeling of obligation (Chew, 2017).

New institutional theory also considers interactions between individuals and institutions. While the old institutional theory ignores the interactions between institutions and individuals, the new institutional theory fills this gap

by considering these interactions and considers the importance of individuals' influence in decision-making (Chew, 2017). Therefore, the new institutional perspective has gained prominence in many streams of organisational studies (North, 1990; Powell & DiMaggio, 1991; Scott, 2000, 2014) and entrepreneurship (Ahlstrom & Bruton, 2002; Bruton et al., 2010; Gnyawali & Fogel, 1994; Saeed et al., 2014).

The new institutional theory (or so-called neo-institutionalism) encompasses three key branches: rational choice institutionalism, sociological institutionalism, and historical institutionalism. All of these branches, despite looking at institutions differently, have demonstrated how institutions shape behaviour. For example, rational choice institutionalism views people as rational actors who act in their own best interests. (Sorensen, 2017). In this case, institutions are created by groups to minimise risk and maximise certainty. For this, behaviour is shaped by imposing sanctions on individuals who violate them.

Furthermore, sociological institutionalism regards institutions as those shared understandings and embedded norms that influence how individuals interpret and understand different situations and, accordingly, take action. Finally, historical institutionalism defines institutions as rules, social preferences, and interpretations. It envisions institutions evolving over time as a result of political struggles and compromises. It also shapes activity by enforcing enforceable laws and affecting the political economy of power relations, social preferences and interpretations, as well as the incentives and opportunities that participants in a given context experience (Sorensen, 2017). Table 2 gives a brief explanation of the approaches of the three branches of the new institutionalism.

Table 2: Key approaches of the three main branches of new institutionalism

	<b>Rational Choice Institutionalism</b>	<b>Sociological Institutionalism</b>	<b>Historical Institutionalism</b>

<b>Origins</b>	Institutional economics, rational choice, political science	Organisation theory in sociology	Political science and comparative-historical social science
<b>Definition of institutions</b>	The formal and informal “rules of the game ... the humanly devised constraints that shape human interaction” (North, 1990, p.3).	“Not just formal rules, procedures or norms, but the symbol systems, cognitive scripts, and moral templates that provide the ‘frames of meaning’ guiding human action.” (Hall & Taylor, 1996, p.947).	“The formal or informal procedures, routines, norms and conventions embedded in the organisational structure of the polity or political economy” (Hall & Taylor, 1996, p.938).
<b>Main characteristic of institutions</b>	Coordinating effects, providing certainty, information, and credible commitment.	Shared understandings that shape action, and imagination.	Distributional instruments that regulate social and political processes.
<b>Models of institutional change</b>	Institutions change primarily in response to market forces, as rational actors adjust behaviour; groups create institutions to overcome collective action problems.	Institutions change slowly, as larger cultural and cognitive systems evolve incrementally.	Punctuated equilibrium models of critical junctures and developmental pathways, and recent concepts of structured processes of endogenous change.
<b>Conceptions of structure and agency</b>	Individual actors are self-interested agents, who sometimes devise collective rules to ensure cooperation	Social and cultural contexts and shared understandings provide settings for and shape agency.	Institutions generated historically through political conflicts provide settings for and shape agency.
<b>Analysis of power</b>	Power is not a major focus of RI,	As institutions are so broadly defined, and	Power is central to the analysis of institution

	which tends to see institutions as generating mutual benefits by facilitating cooperation and overcoming collective action problems	change slowly, SI is less focused on overt political power than HI and pays more attention to systemic and hegemonic power.	formation and change. Institutions have major distributional impacts, so actors have incentives to mobilise to shape institutions
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Source: Sorensen (2017, p.253)

Scholars who discussed the new institutional perspective in the economics stream included, for example, North (1990), North (1986), and Williamson (1995), while in sociology there were Meyer and Rowan (1977), Powell and DiMaggio (1991), Scott (2000), and Zucker (1977). The economic stream supposes that individuals have complete information about other alternatives; accordingly, they can compare the costs and benefits before taking action, correctly evaluate the available options, and make desired choices (North, 1990). The difference between economic and sociological streams is that sociology does not agree with the principle of the institutional economy, stating that there is a rationality model that explains individuals' behaviour and their decision-making (Powell & DiMaggio, 1991). It mainly claims that different institutions make up the society that supports the behaviour of individuals and affect their final decisions and outcomes (Powell & DiMaggio, 1991; Scott, 2008).

Institutional sociology emphasises the cultural and cognitive elements guiding the behaviour of individuals (Powell & DiMaggio, 1991). This guidance can be either promoted or restricted through institutions. The stress of institutional sociology on cultural and cognitive elements raises a fundamental question of whether culture can be considered part of the informal institutions or should be treated in isolation. For example, some prior studies (Kreiser et al., 2010; McGrath et al., 1992b; Shane, 1992, 1993; Thomas & Mueller, 2000b) used the term culture instead of the informal institutions during their investigations.

Other scholars considered that “claiming either a priority or a causality link between institutions and cultures is useless hair-splitting. Institutions are the crystallization of culture, and culture is the substratum of institutional arrangements” (Hofstede et al., 2002, p.800). Also, North (1990) considers informal constraints as those constraints that are socially accumulated information from various social sources, initially called culture. Despite the focus of institutional sociology on informal institutions and their effects, it is still essential to focus on formal institutions to examine their possible different effects (North, 1989). Accordingly, in this study, we adopt the institutional definition of North (1990, p.3), who stated that “Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction”. Additionally, Table 3 provides a list of the various descriptions for institutions employed by different scholars.

Table 3: Definitions of institutions

Authors & Year	Definition
(North, 1990:p.3)	"Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction."
(Scott, 2014:p.56)	"Institutions comprise regulative, normative and cultural-cognitive elements that together with associated activities and resources provide stability and meaning to social life."
(Jepperson, 1991:p.149)	"Institutions are socially constructed, routine-reproduced, programs or rule systems."
(Scott, 1995:p.33) (Scott, 2014)	"Institutions are social structures that have attained a high degree of resilience. Institutions are transmitted by various carriers, including symbolic systems, relational systems, routines, and artefacts. Institutions operate at different levels of jurisdiction, from the world system to localized interpersonal relationships."
(North, 1986:p.231)	"Institutions are regularities in repetitive interactions among individuals. They provide a framework within which people have some confidence as to how outcomes will be determined".

(Friedland & Alford, 1991:p.232)	"...institutions as both supraorganizational patterns of activity through which humans conduct their material life in time and space, and symbolic systems through which they categories that activity and infuse it with meaning."
(North, 1991:p.97)	"Institutions are the humanly devised constraints that structure political, economic, and social interaction. They consist of informal constraints (sanctions, taboos, customs, traditions, and codes of conduct) and formal rules (constitutions, laws, property rights)".

The definitions in Table 3 indicate that there is no single unified definition for institutions. Previous researches have defined institutions from different angles. Important to note that the dimensions of institutions in Table 4 have been adopted in this research based on the institution-based view (Peng, 2002; Peng et al. (2009).

Table 4: Dimensions of institutions

Degree of Formality (North, 1990)	Examples	Supportive Pillars (Scott, 1995)
Formal Institutions	<ul style="list-style-type: none"> <li>• Laws</li> <li>• Rules</li> <li>• Regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Regulative (Coercive)</li> </ul>
Informal Institutions	<ul style="list-style-type: none"> <li>• Norms</li> <li>• Cultures</li> <li>• ethics</li> </ul>	<ul style="list-style-type: none"> <li>• Normative</li> <li>• Cognitive</li> </ul>

Source:(Peng et al., 2009; Peng et al., 2009:p.64)

To elaborate more on the institutions and their dimensions, Peng et al. (2009:p.64) combined formal and informal institutions into a single table (i.e., Table 4) and claimed that they complement each other. Institutions, despite having the same focus, have been classified differently. For example, according to North (1990) and North (1989), institutions are organised into formal and informal with equal importance, despite greater emphasis on the definition of formal institutions. Formal institutions refer to written laws, rules, and written constitutions that can complement and enhance the effectiveness of informal



constraints. In contrast, informal constraints are defined as codes of conduct, norms of behaviour and conventions, unwritten traditions, customs, taboos, and traditions derived and inherited from school, family, and other aspects of life that shape individuals' behaviour and they are embedded in culture and ideology (Peng, 2002).

Both formal laws and informal constraints, according to North (1989), make up the institutional matrix that specifies the range of options available to individuals in terms of humanly imposed limits. Both formal and informal institutions contribute to influence the behaviour of individuals through written tangible official constitutions, laws, and the derived inherited intangible unwritten constraints. Institutions direct enterprises by showing them acceptable and supported choices, thereby minimising uncertainty and assisting businesses to make solid and informed decisions (Peng, 2002).

Another classification of institutions is provided by Scott (1995), who divided institutions into three main pillars, namely the regulative, the normative, and the cultural-cognitive. The classification of Scott (1995) complements the work of North (1989), according to Peng et al. (2009). The regulative pillar is based on the principle of formal institutions explained earlier in the economic literature and indicates that individuals' behaviour in a given context is restricted by laws, regulations, rules, and government policies that either discourage or encourage the behaviour. Concerning normative and cultural-cognitive pillars, they represent the informal institutions derived from the sociology stream.

The normative pillar is based on the old institutional sociology. In contrast, the cultural-cognitive is grounded on the new institutional sociology, and it is a distinct feature of the new institutionalism in sociology and organisation studies (Scott, 2008, 2014). The normative pillar concentrates on what is considered proper and preferred. It is centred on the behaviour of individuals and organisations, and it is made up of values, expectations, and standards. This pillar provides obligatory dimensions for individuals, describing how to behave and act according to certain principles and standards. The

cultural-cognitive pillar is explained as common beliefs that shape the character of social reality and the frames in which meaning is constructed (Scott, 2014). It reflects the cognitive structures and social knowledge shared by people in a given country. It influences the behaviour of individuals by shaping the schemas, frames, and inferential sets that they use when choosing and interpreting information (Kostova, 1997). Furthermore, the available symbols, words, signs, and gestures all contribute to the process of shaping the meanings we give to activities and objects (Scott, 2014). To elaborate more on the three pillars of institutions, we draw on Table 5 developed by Scott (2014). Table 5 shows clearly, how institutions, despite being allocated different labels by economists and psychologists, still embrace the same concepts and complement each other (Peng et al., 2009).

Table 5: The three pillars of institutions

	<b>Regulative</b>	<b>Normative</b>	<b>Cultural-Cognitive</b>
Basis of Compliance	Expedience	Social obligation	Taken-for-grantedness Shared understanding
Basis of Order	Regulative rules	Binding expectations	Constitutive schema
Mechanisms	Coercive	Normative	Mimetic
Logic	Instrumental	Appropriateness	Orthodoxy
Indicators	Rules Laws Sanctions	Certification Accreditation	Common beliefs Shared logics of action Isomorphism
Effect	Fear, guilt Innocence	Shame/honour	Certainty/confusion
Basis of Legitimacy	Legally sanctioned	Morally governed	Comprehensible Recognisable Culturally shaped

Source: Scott, (2014:p.60)

To avoid confusion, this study follows an authoritative approach that considers NC to be equivalent to informal institutions (Alesina & Giuliano, 2015) or the so-called normative and cultural-cognitive pillars derived from sociological institutionalism (Scott, 2014). Consequently, both informal

institutions and cultural dimensions will be used synonymously and interchangeably hereafter. The question arises, how does culture affect entrepreneurship? In contrast with the firm and institution-level analysis of institutional theory, entrepreneurship focuses on single firms and entrepreneurs.

## **2.5 Hofstede's Dimensions**

National culture represents the cultural values prevalent in the society (Kreiser et al., 2010), and it is usually explained with the help of dimensions developed by Hofstede (1983, 2011). The Hofstede's dimensions were developed with the help of statistical analysis and theoretical reasoning to specify a collection of values that describe a particular feature of culture or human activity (Muller & Thomas, 2000) and explain the cultural differences in countries. Accordingly, Hofstede (2011) developed six dimensions: power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, long-term versus short-term orientation, and finally, indulgence versus restraint.

- The power distance tolerance dimension deals with different solutions for the human inequality issue. It is also a metric for the boss's and subordinates' influence as assessed by subordinates (Kreiser et al., 2010). It correlates with respect for elders, income equality, polarisation, and violence in national politics (Boatright et al., 2012).
- Uncertainty avoidance refers to the degree to which uncertainty or unclear situations are not tolerated (Chew et al., 2021). It also measures society's ability to manage life's complexities and ambiguities (Hofstede, 2011; Kreiser et al., 2010). It is also the level to which individuals of a culture perceive unequivocal events as threatening, and have developed ideas and institutions to avoid them (Hofstede & Bond, 1984). It taps into a sensation of unease in unorganised or uncommon situations, whereas the inverse demonstrates tolerance for novel or unclear situations (Franke et al.,

1991). As a societal level concept, it corresponds with risk aversion at an individual level.

- Individualism versus collectivism describes how individuals are integrated into primary groups. It also discloses the correlation between collectivity in culture and individuals (Kreiser et al., 2010). Individualism correlates with national wealth, weaker family ties, and frequency of using the word “I” (Boatright et al., 2012).
- Masculinity versus femininity refers to the separation of males and female's emotional roles (Hofstede, 2011). It is focused on a culture's level of assertiveness and self-confidence (Kreiser et al., 2010). In a culture with masculine features, members are aggressive and competitive, and they see the world as victors and losers (Marino et al., 2002). It focuses on the emphasis the culture exerts on masculine or softer feminine values (Engelen, 2010). Recently, masculinity has been replaced by Hofstede's "Motivation towards Achievement and Success" at the national level (Hofstede, 2024b).
- Long-term versus short-term orientation is tied to whether people's efforts should be focused on the future or the present and past (Hofstede, 2011). It influences, for example, the economic growth of developing countries, savings rates, and adapting to changed reality, as opposed to short-term orientation.
- Indulgence versus restraint has to do with pleasure vs. management of basic human desires for enjoyment of life (Hofstede, 2011). The indulgence societies permit free gratification of the natural human desires related to life enjoyment and fun. However, the restraint communities tend to regulate and restrict the gratification of earlier mentioned gratifications by strict norms. It is also how much people in a society struggle to regulate their urges and impulses (Sun et al., 2018).

The dimensions of Hofstede are considered to be one of the best measures of cultural values that have been examined with their indices of other scholars (Marino et al., 2002). This is because they explain the beliefs, values, and work roles; accordingly, they can be used as indicators for various streams. They are described as critical elements that demonstrate the entrepreneurial behaviour potential, particularly as not all cultures are believed to play a supportive role in entrepreneurship (Engelen et al., 2015; Lee & Peterson, 2000). Hofstede's dimensions have been employed to examine entrepreneurship and they have been found to be a cultural driver for EO (Kreiser et al., 2010). However, and despite the popularity of the Hofstede's dimensions, they have been criticised for their assumptions and methodology. For example, the study has assumed that all individuals in a given nation have the same culture. In every society, many subcultures create more cultural diversity (see "social conservatism" and its absence, below). It could be misleading to assume that almost all individuals share the same culture and practices.

The Hofstede's (2011) study is also criticised for its small sample for not being able to represent the overall population. His study identified culture by depending entirely on the responses of "average" individuals, which is not realistic (Huo & Randall, 1991; Mcsweeney, 2002). Furthermore, Hofstede's cultural dimensions relate to national cultures, not individuals', resulting in the so-called ecological fallacy. There is also a problem of inconsistencies in definitions, as Hofstede sometimes mixes individual and national traits (Brewer & Venaik, 2012). Hofstede's national culture scores are considered to be averages of unrelated items that do not form valid or reliable scales for individuals or organizations (Brewer & Venaik, 2012). They are not correlated at the individual level, which makes them unreliable for characterising individuals or sub-groups within a specific culture (Venaik & Brewer, 2013). Furthermore, Hofstede's Uncertainty Avoidance (UA) dimension has been criticised for being unclear and inconsistent with other national culture findings. They also lack clarity in distinguishing between stress and rule-oriented anxieties (Venaik &

Brewer, 2010). Despite these criticisms, Hofstede's dimensions are the most influential ones and hence are adopted by this current research.

Subsequent to the dimensions of Hofstede, another cultural classification was developed by a global research project, namely the Global Leadership and Organizational Behavior Effectiveness (GLOBE), which is a larger project than that of Hofstede (1980). The GLOBE project used nine dimensions for measuring culture: 1) performance orientation 2) gender egalitarianism 3) institutional collectivism 4) uncertainty avoidance 5) in-group collectivism 6) future orientation 7) human orientation 8) assertiveness; and 9) power distance. The GLOBE project defined culture as the manner in which things should be carried out (Teagaiden, 2005). The project measured the impact of these nine cultural attributes of leaders' expectations and their influence on organisational practices.

Furthermore, the work of Schwartz (1992) on the theory of basic values, also examined the universal values prevalent in different cultures. The findings of the study reported the presence of basic values and provided empirical evidence to support them. Ten values were identified by the theory: conformity, tradition, power, security, achievement, hedonism, stimulation, universalism, self-direction, and benevolence. The theory states that these values are employed "to characterize cultural groups, societies, and individuals, to trace change over time, and to explain the motivational bases of attitudes and behaviors" (Schwartz, 2012: p.2). Consequently, in our study and based on the above discussion, including an awareness of their weaknesses, we adopt Hofstede's dimensions to measure the influence of NC on the EO of SMEs.

## **2.6 National Culture and EO**

This section attempts to link NC and EO and describes their interaction. As explained above, we consider both NC and informal institutions as being equivalent (Alesina & Giuliano, 2015). The beliefs and attitudes of individuals related to implementing specific actions or carrying out a particular behaviour

may be heavily influenced by their surrounding culture (Autio et al., 2013; Lee & Peterson, 2000; Muller & Thomas, 2000; Schneider & Meyer, 1991; Stephan & Uhlanere, 2010). Therefore, regardless of the business type or size, the owners of the firms may be influenced by their surroundings accordingly, and SMEs will undoubtedly be affected by prevailing cultural values.

To elaborate, owners or SME decision-makers are part of their society and thus are affected by the prevailing cultural values, shaping their behaviour. Those cultural values reflect a person's perceptions of how community (or a business) should function (Autio et al., 2013). Cultural values provide guidelines for business owners/SME decision-makers to set business strategies and achieve success.

Where SME decision-makers are the owners of their enterprises, the power over managing the business is totally in their hands. Thus these decision-makers are expected to lead a change in their enterprises by setting up entrepreneurial strategies consistent with their environmental requirements (Autio et al., 2013; Engelen, 2010; Engelen et al., 2015; Hambrick, 2007). Consequently, it is assumed here that prevailing institutions influence the behaviour of individuals (firm owners). Accordingly, these owners determine the EO of their firms because informal institutions influence their attitudes and beliefs and direct them towards specific actions (Lee & Peterson, 2000; Shane, 1993, 1994). As reported, some cultures are more favourable for entrepreneurial activities than others (Muller & Thomas, 2000). Hence, it is expected that the level of EO of SME firms will be increased as a result of some of these cultural institutions. For example, those cultures with individualistic features may encourage strong entrepreneurial values that support and promote the individuals' self-dependency and independent action. In contrast, cultures with collectivistic characteristics may not promote entrepreneurship (Muller & Thomas, 2000). As culture affects the individuals and their firms, it is expected that different EOs will exist among the SMEs due to the different values that the business decision-

makers have obtained from their cultures (Franke et al., 1991; Geletkanycz, 1997; Muller & Thomas, 2000).

The EO concept was developed initially from the perspective of strategic choice. It requires actions and the intention of decision-makers to create new ventures. It also needs a willingness to take risks, exploit new developments, defeat competitors, and seize new opportunities (Lumpkin & Dess, 1996:p.136). The influence of NC on an individual's EO has been reported by scholars such as McMullen and Shepherd (2006), who confirmed the impact of NC on individuals' willingness and the social feasibility of entrepreneurial actions. They specifically state that the inability to handle uncertainty is blamed for deterring would-be entrepreneurs from taking action (McMullen & Shepherd, 2006). Therefore, culture plays a significant role in influencing individuals' behaviour and shaping their EO. This may ultimately lead to better performance (Engelen, 2010) by guiding individuals' attitudes and beliefs towards specific behaviour and actions (Schneider & Meyer, 1991). In addition, Mueller & Thomas (2000) emphasize the significance of NC in relation to EO as it cultivates the mind and character of potential entrepreneurs and other support received from political, social, and business leaders.

Nevertheless, different cultures with different characteristics tend to produce various entrepreneurial behaviours among firms' decision-makers. For example, cultures with low uncertainty avoidance and high individualism appear to provide local support to entrepreneurs (Franke et al., 1991; Muller & Thomas, 2000). This is because these more risk-taking cultures with lower uncertainty avoidance do not depend mainly on regulations and written laws. They also do not embrace formal structures to cope with uncertainty and are ready to bear change. On the other hand, those cultures with high individualism give more significance and attention to the freedom and autonomy of individuals. They expect results to come from individuals rather than cooperative groups. They prefer individual work and achievement rather than teamwork (Kreiser et al., 2010). Furthermore, Autio et al. (2013) identified that societal, institutional



collectivism practices negatively impact entrepreneurial entry. However, they have a positive connection with entrepreneurial growth aspirations.

## **2.7 The Empirical Literature on the Relationship Between NC and EO**

As stated previously, both formal and informal institutions may influence the behaviour of individuals either positively or negatively. Therefore, this section discusses how formal and informal institutions (or NC) have been reported in the extant literature. It also demonstrates their empirical connection with entrepreneurial activities.

It has been reported that formal institutions play a critical role in providing entrepreneurial activities with the necessary supportive environment (Autio & Acs, 2010; Bruton et al., 2010; Busenitz et al., 2000; Estrin et al., 2012). For example, different types of institutional support may be used for various purposes, and they may be provided mainly by the government and other official bodies. Formal government institutions are defined here as those active government activities directed towards establishing opportunities and providing resources for businesses, particularly small businesses, to acquire or expand their existing competencies and resources as necessary to compete effectively in the market (Chew, 2017). Institutions, in general, provide the necessary formal support for entrepreneurial activities and their sustainability. For example, access to research, educational institutions and funding sources, and pools of trained workforce influence how an invention arises within a nation (Busenitz et al., 2000:p.994). Thus, depending on the available institutions in different countries, they may be expected to have different levels of entrepreneurial activities there.

Furthermore, entrepreneurs may still require some social and cultural support that offers them the required legitimacy to carry out their entrepreneurial behaviour and also direct their behaviour towards becoming entrepreneurs (Douglas & Shepherd, 2002; Hayton et al., 2002b; Icek, 1991; Lee & Peterson, 2000). The difference between formal and informal support lies in that formal institutions provide tangible, visible support such as laws,

regulations, and directions that ought to be followed by individuals. In contrast, informal institutions supply entrepreneurs with unseen support such as values, symbols, role models, and rituals necessary to shape entrepreneurial behaviour and activities. While many factors might contribute to developing entrepreneurial behaviour in general and EO, particularly among individuals, values are assumed to play a vital role in this process. According to Reynolds et al. (1999), "among many factors that contribute to entrepreneurship, perhaps the most critical is a set of social and cultural values that encourages the pursuit of entrepreneurial opportunity." Given that culture is considered a complex phenomenon, it is usually explained with the help of recognised dimensions, such as those introduced by Hofstede (1983, 2011), as they have been examined worldwide and their validity confirmed among the entrepreneurship and management scholars (Marino et al., 2002). Table 6 provides a summary of the empirical literature, arranged chronologically, that has associated both formal and informal institutions with EO:

Table 6: Empirical literature on institutions and entrepreneurial activities

(a) Formal Institutions and Entrepreneurial Activities				
Authors	Explanatory Factors	Explained Factors	Source of Data	Findings
(Stephan et al., 2014)	Formal regulatory (government activism)	Entrepreneurship.	Heritage Foundation	The study findings confirmed the importance of resource support provided by formal institutions for social entrepreneurship.
(Estrin et al., 2012)	Government activity	Entrepreneurial aspiration	GEM Survey	The entrepreneurial aspiration is positively influenced by supportive government activities (strong government).
(Li & Zahra, 2012)	Formal institutions	Venture Capital Activity	World Government Index	Formal institutions positively influence the level of venture capital activity.

(S.-H. Lee et al., 2011)	Entrepreneur-friendly bankruptcy laws enacted by the government	Entrepreneurship development and new entry	World Bank, OECD, Doing Business Report	The presence of lenient and supportive entrepreneur-friendly bankruptcy laws increases the rate of new entry and entrepreneurship development.
(Manolova et al., 2008)	Institutional environments (Regulative Framework)	Entrepreneurship promotion	Survey	The institutional environment is considered a key factor for determining entrepreneurship. Furthermore, the more supportive regulation policies are, the more entrepreneurial behaviour is achieved in the study area.
<b>(b) Informal Institutions and Entrepreneurial Activities</b>				
<b>Authors</b>	<b>Explanatory Factors</b>	<b>Explained Factors</b>	<b>Source of Data</b>	<b>Findings</b>
(Muralidharan & Pathak, 2017)	Informal institutions	Internationalization of entrepreneurial firms	GLOBE	High performance orientation, high self-expression, and the low social desirability of entrepreneurship increase the degree of internationalisation by early-stage entrepreneurial firms.
(Engelen et al., 2015)	Uncertainty avoidance and individualism	EO-proactiveness, risk-taking, and innovativeness	Hofstede's cultural indices	EO is positively influenced by individualism.
(Autio et al., 2013)	Cultural practices	Entrepreneurial behaviours	GLOBE	Cultural practices have various effects on the aspiration of growth and entrepreneurial entry.

(Li & Zahra, 2012)	Uncertainty avoidance and cultural collectivism	Venture capital activity	Hofstede's cultural indices	Venture capital activity is influenced by both collectivism and uncertainty avoidance.
(Kreiser et al., 2010)	Masculinity, culture, individualism, power distance, and uncertainty avoidance.	EO-proactiveness and risk-taking	Hofstede's cultural indices	Both power distance and uncertainty avoidance have a negative influence on risk-taking. Furthermore, cultural values influence the willingness of entrepreneurial firms to disclose proactively and engage in risk-taking behaviour.
(Stephan & Uhlaner, 2010)	Assertiveness and human orientation	Rate of entrepreneurship	GLOBE	Human social orientation and supply-side variables influence the rate of entrepreneurship.
(Muller & Thomas, 2000)	Uncertainty avoidance and cultural individualism	Entrepreneurial traits	Survey culture	It is reported that some cultures support entrepreneurship while others do not—those cultures with high individualism and low uncertainty avoidance support EO more.
(Davidsson & Wiklund, 1997)	Cultural values and beliefs	Formation of new firms	Survey	Cultural values and beliefs positively affect the percentage of formation of new firms.
(Shane, 1993)	Power distance and culture individualism	The national rate of innovation	Hofstede's cultural indices	Both power distance and individualism positively influence the national innovation rate.
(McGrath et al., 1992a)	Masculinity, power distance, uncertainty avoidance, culture	Entrepreneurs' characteristics	Survey	Entrepreneurs scored low in uncertainty avoidance culture while high in power distance, individualism, and masculinity culture.

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To conclude, individuals' behaviour and actions, in general, are bound to certain restrictions or motivations embedded in their surrounding environment. These principles and restrictions are either established or inherited from the surrounding culture. Accordingly, they form an ideology in the mind of individuals that either supports or discourages their behaviour and actions in relation to specific phenomena, particularly entrepreneurship. The following section explains ideology in general and social conservatism in particular, and how they affect decision-makers' behaviour and actions. In particular. It addresses the extent to which cultural characteristics at a national level may not be the same as those of the individual entrepreneur. If individuals conform to national cultural characteristics, they are socially conservative.

## 2.8 Social Conservatism (SC)

National and international empirical studies of cultural dimensions and entrepreneurship compare national estimates with a worldwide average of (i.e., a score of 50). However, within one country, the culture/entrepreneurship relationship may need to take account of individuals' characteristics relative to their national average, not the international standard of 50. For example, a group of individuals in a hierarchical country may exhibit low PD tolerance compared with a world average of 50, but this may understate the significance of this low PD tolerance among non-conservative groups compared with an extremely high national average. This raises the concept of social conservatism.

Conservatism in general comprises a tendency to preserve existing traditional values and institutions, and to reject of any radical change in society (Crum, 2015). It also implies the unwillingness of individuals to change, whether in their community or their politics (Makovac, 2019). For example, it may indicate opposition to innovation and modernisation and a preference for maintaining the current social order and protecting traditional values in the

community. It is, in short, a proclivity to maintain what has been founded (Nisbet, 1952) and the retention of humankind's ancient ethical culture (Everett, 2013). Social conservatism relates to individuals' traditional norms and values (Van Hiel et al., 2004). It embraces two types of people: conservatives and liberals. People who are socially conservative make choices more intuitively, depending on past behaviour and experiences. Individuals who are socially liberal, on the other hand, depend less on established norms or their own experience-based intuition and conduct broad information searches (Chin et al., 2021:p.1214). Generally, individuals in conservative communities tend to feel closely linked to their immediate peers, to the point where the significance of their lives is derived largely from their social connections with them. People are thus viewed as embedded team members rather than independent entities, and actions that could disrupt the established order are demotivated (Clercq & Lim, 2014). On the other hand, those individuals in independent societies derive meaning from their individuality and are invited to share their interests and preferences. They are not constrained by group commitments and are far more likely to seek resources from outsiders (Schwartz, 1999).

In this research, social conservatism is defined as "conforming to and maintaining cultural norms, practices, traditions, and values in society" (Chin et al., 2021:p.1214). This definition is comprehensive and focuses on preserving the public institutions in a given society, which is the cornerstone of the current research. For example, in the USA, social conservatives generally give attention to social issues such as opposing gambling, abortion, and drug use. Accordingly, cultures with a high social conservatism tend to produce a strict social ideology among their members responsible for decision-making, who are socially conservative individuals (Chin et al., 2021).

In addition, social conservatives require more cognitive closure than socially liberal people. Social conservatives, motivated by a strong desire for cognitive closure, look to established social orders and norms for definitive answers to complicated social events and problems in order to reduce

uncertainty (Chin et al., 2018). This need for cognitive closure indicates a “desire for a definite answer to a question, any firm answer, rather than uncertainty, confusion or ambiguity” (Kosic, Kruglanski, Pierro, & Mannetti, 2004:p.797). Social conservatives, on the other hand, are guided by their respect for conventional norms and practices, which leads them to take actions, centred on tried and proven experiences and simplified heuristics (Chin et al., 2021). Other individuals identified as social liberals depend less on their experience-based intuition and look more for in-depth information. They go on analysing information from different sources (Feldman & Johnston, 2014). This need for closure is considered significant for the social ideology of liberals (Feldman & Johnston, 2014).

Individuals’ surroundings and environments tend to provide a robust grounding that directs their behaviour and actions. Individuals acquire their values and beliefs from available institutions and build their social ideology (e.g., social conservatism). It is therefore expected that individuals from a given community, being influenced by the prevailing norms and culture, behave differently depending on their level of conservatism. Accordingly, their business decision-making may also be affected. This different behaviour may be, for example, a result of the decision makers ideologies acquired from their contexts. As a result, the decision makers shape and guide the behaviour of other individuals and frame their situations as a result of their ideology (Chin et al., 2021; Simsek & Fox, 2018). Those decision makers with social conservatism have a tendency to encourage greater dependency on intuition when making their decisions. Their advantages grow as they make quick decisions without seeking more information or changing their views (Deppe et al., 2015). In strategic decision-making, they also develop goals, expectations, and relationship structures that are consistent with their own principles (Chin et al., 2021). Furthermore, decision-makers or managers bring to the decision-making process a cognitive foundation and values that limit their visual field (Goll, Sambharya,

& Tucci, 2001:111). These values and cognitive bases are brought from their surroundings, ultimately influencing individuals' final decisions.

Ideology, overall, influences individuals' problem-solving and decision-making processes because of its capacity to supply standardised understandings of the surroundings, limiting their risk and information needs (Kieser & Kieser, 2001). Yet, it is not clearly known whether individuals will embrace social liberalism or conservatism. It is widely assumed that if self-employed people are actually opposed to government intervention programmes, they are more likely to ignore state interference in commercial activity and personal choices (Crum, 2015). In summary, socially conservative communities experience communal connections that inspire dependence on in-group resources, even when outside help may be more essential to attain individual objectives such as entrepreneurship. Such communities also tend to promote collaborative relationships that encourage reliance on in-group resources, even if outside resources might be more helpful in achieving personal goals such as entrepreneurship (Clercq & Lim, 2014).

So far, there has been little consideration in the literature of social conservatism's influence on managerial decision-making and even less of entrepreneurial decisions. We have limited knowledge of the executives' values (Chin et al., 2013), and little work has been done to investigate how the values of decision makers (part of informal institutions) influence their decision-making (Simsek et al., 2005). Furthermore, the prior literature related to ideology, in general, has not yet investigated the effects of ideologies on individuals' entrepreneurial inspirations (Jarrodi et al., 2019). Accordingly, it may be assumed that social conservatism will influence the decision-makers' entrepreneurship decisions and behaviour, and in particular, their EO.

## **2.9 Female Entrepreneurship and EO**

Up to this point, entrepreneurship has been associated with national-level studies, and this section explains that Total Entrepreneurial Activity (TEA) has been the associated measure of entrepreneurship. At an individual level,



however, entrepreneurship is measured as EO, i.e., entrepreneurial intentions rather than actions.

Entrepreneurship and SMEs' activities continue to gain more significance worldwide, particularly in developing countries, due to their claimed ability to create new job opportunities, mitigate poverty, and improve the economy (Audretsch & Thurik, 2000; Gutiérrez et al., 2014; Lumpkin & Dess, 1996; Salimath & Cullen, 2010). It is believed that SMEs account for around 99% of all businesses in developing countries (Ali & Hilman, 2020). Despite this progress, it has been reported that both males and females need to be involved in the development process rather than focusing solely on men, in order to ensure the maximum benefits of entrepreneurship in terms of economic development (Aidis et al., 2007). In much of the literature, it is observed that men are represented more than females in entrepreneurial activities (Acs et al., 2004; Bosma & Levie, 2010). Furthermore, females have arguably been unjustly treated in business activities compared to men, particularly when receiving economic resources, finance, and capital for their firms (Estrin & Mickiewicz, 2011). The status of entrepreneurship remains to some extent "a male dominated endeavor" (Dheer, Li, & Treviño, 2019:1). Therefore, there seems to be some ignorance of female entrepreneurs (Aidis et al., 2007) and also the existence of a possible gender gap concerning entrepreneurial activities (Bullough et al., 2017; Tlaiss, 2015), which needs to be investigated (Krueger, 2007).

Generally, female entrepreneurs tend to engage in business development to increase their degree of autonomy, improve their standard of living, and support their families (Bullough et al., 2017). Their engagement in business activities also leads to the development of their state's economic and social situation (Brush & Cooper, 2012). They also aid national economies by creating jobs and growing the economy (Banihani, 2020). Consequently, allowing females to establish small businesses may result in a better social status, and greater autonomy, and freedom (Datta & Gailey, 2012).

Despite the positive role played by female entrepreneurs in the economic development and job creation process (Duflo, 2012), it is still judged to be under-valued (Banihani, 2020; Agarwal & Agarwal, 2018). This under-valuation of females' entrepreneurship role may be attributed to many factors; in particular, the institutional environment may critically influence women's inclination to engage in entrepreneurship (Aljarodi, 2020). The NC may also obstruct women in their efforts to become entrepreneurs (Zahra & Wright, 2011). As already explained, the institutional climate is divided into formal and informal institutions, both of exert different pressures on the actions and behaviour of an individual (North, 1990). This is initially rooted in institutional theory, which is considered a vital lens for viewing environmental factors (Alwakid et al., 2020).

The effect of institutions on entrepreneurship, in general, was initially explained by Aidis et al. (2007), who reported that informal institutions affect perceptions of entrepreneurial opportunities and formal institutions create opportunities for entrepreneurship. He further states that, Formal institutions not only influence the extent to which female entrepreneurship (and entrepreneurship more generally) is able to develop, but formal institutions also affect the types of enterprises in which women can engage. Cultural norms and values help shape an individual's way into entrepreneurship and more specifically women's intentions to set up a business" (Aidis et al., 2007:159-160).

For elaboration on institutions' influence on female entrepreneurship, see Table 7.

Table 7: Institutional influences on female entrepreneurship

Formal	Informal
<p>Formal gender equality recognised by:</p> <ul style="list-style-type: none"> <li>• Law</li> <li>• Labour market legislation</li> </ul>	<ul style="list-style-type: none"> <li>• Discrimination against women in the workplace</li> <li>• Traditional attitudes (forbidding certain work for women)</li> <li>• Religious beliefs</li> </ul>

<ul style="list-style-type: none"> <li>• Tax legislation (effect on dual earners)</li> <li>• Childcare infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Entrepreneurship seen as a male activity</li> <li>• Society's attitude towards women and employment</li> <li>• Family values</li> <li>• Attitudes inherited from the socialist period</li> </ul>
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Source: Aidis et al. (2007:160)

Table 7 shows the key factors that influence female entrepreneurs in various contexts. These factors either will directly or indirectly affect their behaviour. The extant literature suggests that female entrepreneurs' decision to start a business by female entrepreneurs depends mainly on the socio-cultural environment (Ahl, 2006). This environment provides essential information to entrepreneurs, shaping schemas, beliefs, and meaning-making systems (Dheer et al., 2019). It also provides incentives and impacts understandings about the presence of psychological and material resources, which inspires people to attain specific goals or perform specific actions over others (Dheer et al., 2019). Accordingly, while reviewing the extant literature related to female entrepreneurship, a list of relevant studies was compiled, as summarised in Table 8 below.

Table 8: Selected articles related to female entrepreneurship

	Author(s) and Year	Findings of the Study
1	(Panda, 2018)	Gender discrimination, work-family conflict, difficulty raising capital, a lack of infrastructure, unstable business, economic, and political (BEP) environments, a lack of training and education, and personality differences are among the restrictions faced by female entrepreneurs in underdeveloped nations, according to the study.
2	(Alsos et al., 2006)	Female business founders had lower levels of financial capital than their male counterparts, which is related to the lower early firm growth of firms founded by females.

3	(Alvarez et al., 2011)	Informal (cultural and social norms, perception of start-up opportunities, and entrepreneur social image) and formal (intellectual property rights) factors affect entrepreneurship. Still, informal factors are more influential than formal. In terms of gender concerns, informal and formal institutions play a role. Still, female entrepreneurship is tightly correlated with females' support for start-ups, whereas primary and secondary education is only connected with male entrepreneurs.
4	(Baron et al., 2001)	Being described as an entrepreneur increases female's perceptible attractiveness while decreasing their perceived femininity.
5	(Bullough et al., 2017)	Females are influenced significantly by their in-groups regarding business development. The freedom to undertake personal objectives, coupled with assistance from the in-group, creates the best atmosphere for females to start enterprises, particularly in societal-level cultural contexts at the extreme ends of the collectivism spectrum that are highly individualistic or collectivistic.
6	(Caputo & Dolinsky, 1998)	Having a self-employed spouse significantly improves the chances of a female worker for herself.
7	(Chappell & Waylen, 2013)	It is important to research the impact of gender norms and practices on the operation and interplay of formal and informal institutions. Institutions have hidden rules that must be prioritised in institutional research to understand how institutions progress and change.
8	(Vita et al., 2014)	A number of factors may impede female participation in entrepreneurship in developing countries. These factors include the influence of religion; the lack of adequate business skills training; difficulties with accessing networks and enterprise support systems; social stratification; and an absence of societal legitimacy.
9		Males and females employ their pools of human capital to locate opportunities and use fundamentally different methods

	(DeTienne & Chandler, 2007)	of opportunity identification. However, there was no difference in the opportunities' inventiveness.
10	(Dilli & Westerhuis, 2018)	Higher entrepreneurial activity in knowledge-intensive sectors and high-growth expectations characterise countries with better gender equality in science education.
11	(Estrin & Mickiewicz, 2011)	Limits on women's freedom of mobility away from home reduce their chances of having solid entrepreneurial goals in job growth.
12	(Monica Gallant & Varadarajan, 2010)	Female students in Dubai are optimistic about the role colleges may play in encouraging their interest in entrepreneurship, both as a source of education and a place to start a new business.
13	(Gimenez-Jimenez et al., 2020)	Civilizations with high masculinity and low individualism increase the link between public childcare spending and the chance of women becoming entrepreneurs.
14	(Noguera et al., 2015)	Informal factors (female networks and recognition of entrepreneurial career) are more important than formal factors (education, family context, and differential of income level) for female entrepreneurship.
15	(Mathew, 2019)	According to the study, traditional constraints, a lack of administrative support, a lack of market information and research, and a male-dominated market are some of the primary hurdles for female entrepreneurs in Gulf countries.
16	(Zeidan & Bahrami, 2011)	In developed countries, there is a lot of literature on female entrepreneurship, but there is not nearly as much in developing countries.
17	(Zeffane & Emirates, 2013)	The data on entrepreneurial potentials debunk frequently held stereotypes that females in Middle Eastern countries are less resistant to entrepreneurship than males.
18	(Welter & Smallbone, 2008)	Uzbek society's informal institutions lead to prevalent forms of female entrepreneurship.
19	(Urbano et al., 2014)	Socio-cultural elements are important in social entrepreneurship. Altruistic views and membership of a social organisation are the most critical socio-cultural determinants for female social entrepreneurship.

20	(Shinnar et al., 2012)	There are considerable gender disparities in barriers to entrepreneurship.
21	(Nsengimana & Tengeh, 2017)	Female entrepreneurs face obstacles such as a lack of collateral for loans, high tax rates, a lack of information technology skills and access, rising interest rates, high transportation costs, and a lack of entrepreneurial skills, all of which are exacerbated by psychological and cultural aspects.
22	(Noguera et al., 2013)	The study's key findings show that "fear of failure" and "perceived capabilities" are the essential socio-cultural factors influencing becoming a female entrepreneur.
23	(Langowitz & Minniti, 2007)	Females have a negative perception of themselves and the entrepreneurial environment compared to men.
24	(Gupta et al., 2009)	Males and females exhibited similar entrepreneurial ambitions, but those who regarded themselves more like males had higher entrepreneurial intents than those who considered themselves less like males.
25	(Linan et al., 2020)	Females with a masculine or androgynous orientation seem to be more likely to pursue a job as an entrepreneur.
27	(Burton, 2016)	Females in the UAE and GCC have a distinct background that reflects their features, and religious and cultural values significantly affect entrepreneurial inspiration.
28	(Al-dajani & Marlow, 2010)	Although females contribute significantly to family earnings, their economic activities are built around preserving the traditional family form; thus, while they achieve some level of empowerment, challenges to embedded patriarchy are restricted.
29	(Alam et al., 2011)	Female entrepreneurs' success is influenced by many elements, including support from family, social connections, and self-motivation.
39	(Aidis et al., 2008)	In transition economies, institutions play a critical role in gender differences in entrepreneurial entry.
31	(Naser et al., 2009)	Skills and expertise are among the essential criteria that determine whether females choose to be entrepreneurs. Still, social norms, the market, networking, and competition do not appear to impede females from becoming entrepreneurs.

From the above review, it is to be concluded that minimal literature has discussed institutions and their relationship with female entrepreneurship and particularly in developing countries.

## **2.10 Females Entrepreneurs in Saudi Arabia**

Saudi Arabia is one of the developing countries with about 34 million people. Females make up around 42% of the overall population (14.5 million people), suggesting a gender imbalance of around 16 percentage points (Kelley & Coduras, 2019). Females' obligations in Saudi Arabia were traditionally viewed as being primarily related to household duties and raising children. They have not been motivated to work, much less participate in entrepreneurial activities (Al-Khateeb, 2008). Females are treated unequally by Saudi Arabia's cultural and business systems. As a result, female entrepreneurs face an outward kind of prejudice in their efforts to contribute to their own country's economic progress (Alkwifi et al., 2020). Furthermore, numerous obstacles are thought to demotivate female entrepreneurs, including gender-specific legislative barriers, restricted funding, less societal support, institutional hurdles, male partner control of the enterprise, a lack of collaboration between government departments, and a lack of training and supervision (AbuBakar et al., 2017; Alkwifi et al., 2020; Alturki & Braswell, 2010; Danish & Smith, 2012; Sadi & Al-ghazali, 2010). Additionally, it has been reported that the low participation of females in the labour market, economic development, creativity, risk-taking, and job creation can be attributed to many factors, including Islamic rules, which instil in its followers a belief in predestination, sometimes known as fatalism (Kuran, 2007). It is also an essential factor in both boosting and discouraging females' business endeavours (Mcintosh & Islam, 2010).

Consequently, to meet these and other challenges, the government developed a comprehensive long-term plan named the "Saudi Vision 2030", which is a transformational strategy for Saudi society's economic growth and internationalisation, positioning the SME sector as one of the country's most important engines of economic growth. For that and since the Saudi society is a

young one with more than 50% of its individuals under the age of 29 (Nieva, 2015). Thus, it is essential to capitalise on Saudi individuals and provide them with the necessary support for becoming successful entrepreneurs, particularly female ones. This is because female participation is low, with only 1.9 million females working out of a total population of 31 million persons, including 13.1 million females. This may clearly shows the presence of a substantial gender gap, as evidenced by the high proportion of females who are not working; this is a significant disparity when compared to North American or European countries (Aljarodi, 2020).

For that reason, the Saudi Government has recently has taken severe steps to facilitate a good business environment and encourage greater female involvement, including the development of Saudi Vision 2030 (Aljarodi, 2020; Alkwifi et al., 2020; Khan & Alsharif, 2019). Improvements in the business establishment process have resulted from Saudi Vision 2030 and its significant reforms in various aspects of the economy (The World Bank, 2020). It has also encouraged the private sector to employ females, increased the number of females involved in entrepreneurial activities, and abolished one crucial formal institution that did not allow females to drive. It has further developed incentives that promote and aid female entrepreneurs (Aljarodi, 2020).

The governmental support for female entrepreneurship in Saudi Arabia is because it plays a crucial role in closing the gender gap in society; in addition to the presence, approximately 70% of females see entrepreneurial opportunities in their immediate surroundings (Kelley & Coduras, 2019). Moreover, female entrepreneurs contribute to job creation and unemployment reduction (Aljarodi, 2020; Danish & Smith, 2012; Gimenez-Jimenez et al., 2020; Gutiérrez et al., 2014). Hence, there is a need to continue working on enhancing access to capital for entrepreneurs improving and the commercial and legal infrastructure while lowering bureaucracy, taxes, and internal market constraints (Kelley & Coduras, 2019). Furthermore, the focus on society's culture, history, legislation, and business environment should also be increased to influence how society views



entrepreneurship. This, in turn, can affect entrepreneurial desires and the degree to which this behaviour is fostered (Kelley & Coduras, 2019).

Overall, and as a supportive pillar for female entrepreneurship development in Saudi Arabia, many studies have conducted in this regard, but despite this, the research on female entrepreneurship in Saudi Arabia is still considered to be limited (AbuBakar et al., 2017; Aljarodi, 2020; Alturki & Braswell, 2010; Sadi & Al-ghazali, 2010). In view of that, Table 9 summarises the studies carried out on female entrepreneurship in Saudi Arabia.

Table 9: Selected articles related to female entrepreneurship in Saudi Arabia

	Authors	Findings of the Study
1	(Al-Khateeb, 2008)	The Saudi family is still a male-dominated institution, with men making most choices. Men's power in society and the family is supported by cultural norms, civic standards, and legal legislation.
2	(Aljarodi, 2020)	The organisational climate influences the development of female entrepreneurs.
3	(Al-ghamri, 2016)	The top three hurdles faced by Saudi female entrepreneurs are cultural (family), economic, and infrastructure-related.
4	(Welsh et al., 2014)	Saudi females confront several challenges due to government and cultural constraints; nevertheless, females' business ventures are on the rise in Saudi Arabia.
5	(Ahmad, 2011)	In terms of psychological qualities, Saudi female entrepreneurs have a lot in common with their counterparts in other Middle East and North Africa (MENA) countries. They do, however, differ in different ways, such as their educational qualifications and how they learned to be entrepreneurs.
6	Darley & Khizindar (2015)	The main barriers that female early-stage entrepreneurs face are a lack of knowledge and suspicion about government assistance.
7	(Alkhalidi et al., 2018)	The participation of female entrepreneurs is increasing, which could be attributed to the effects of technology

		in making the process of small businesses and start-ups easier by providing women with a way of enabling business, despite differences in cultures that preclude interaction with males other than relatives.
8	(Islam et al., 2018)	Business-related courses and media roles are the most influential factors explaining female entrepreneurs' choice of profession and career.
9	(Danish & Smith, 2012)	Female entrepreneurs in Saudi Arabia are now founding and running more small and medium-sized businesses than ever before, and this trend is expected to continue. This is despite considerable socio-cultural and institutional challenges.
10	(AbuBakar et al., 2017)	Saudi Arabia is a male-dominated society, due to cultural constraints.
11	(Kelley & Coduras, 2019)	Female entrepreneurs contribute significantly to employment in Saudi Arabia.
12	(Alkwifi et al., 2020)	Knowledge about setting up a business is the most significant variable motivating female students to start a business.
13	(Zeidan & Bahrami, 2011)	Approximately 54 percent of Saudi female identified access to capital as the most difficult challenge for them.
14	(Minkus-Mckenna, 2009)	Muslim nations are still developing cultures for female entrepreneurs, but they exist. Islamic female entrepreneurs define success and failure differently from their foreign counterparts, and they face a broader set of challenges and employ specific strategies to succeed.
15	(Welsh et al., 2014)	Female entrepreneurs in Saudi Arabia are well educated and have the support of their friends and family. They also rate themselves as highly skilled and innovative.
16	(Sadi & Al-ghazali, 2010)	Self-achievement is the most motivating factor for Saudi female entrepreneurs. The obstacles include an absence of marketing research, inadequate government assistance, poor coordination among government bodies, a lack of community support, societal

		limitations, and an oligopolistic mindset among investors.
17	(Fallatah, 2012)	There are four major factors that encourage female entrepreneurs to start businesses: support from family, government support, professionalism, and partnering.
18	(Alhothali, 2020)	Family, friends' support, passion and love, and perceived convenience are the most important motivators for female entrepreneurs to start their businesses.

Finally, the above discussion clearly shows that there is still limited literature discussing female entrepreneurs' issues, particularly at the individual level, and linking it to entrepreneurship in general and particularly to EO. Accordingly, in this research and based on the call to continue investigating female entrepreneurship, particularly in a developing country, we build on a foundation of neo-institutional theory whereby female entrepreneurs may be affected by the extant formal and informal institutions. Consequently, these institutions may either enhance or discourage female entrepreneurs in their strategic decisions to develop their EO. Meanwhile, Table 10 revisits national-level measures of TEA (not EO) as a different (but related) measure of entrepreneurship.

## 2.11 Summary of Relationship Between Hofstede's Cultural Dimensions and TEA

Table 10: Summary of the relationship between Hofstede's cultural dimensions and TEA

	Author	Dimension	Result	Context & Sample
1	(Hechavarría & Brieger, 2020)	IND → TEA	A stronger positive effect of in-group collectivism on male entrepreneurs	The study included a sample of 23,828 entrepreneurs from

			compared to female entrepreneurs.	33 countries. The data were collected from The World Bank (WB), the Global Entrepreneurship Monitor (GEM) and the Global Leadership and Organizational Behavior Effectiveness (GLOBE).
		PD Tolerance → TEA	Positive relationship between PD tolerance and entrepreneurship for females in low PD culture.	
		UA → TEA	Positive relationship for females and negative relationship for males in highly UA culture.	
		LTO → TEA	Positive relationship for females and negative relationship for males.	
		MAS → TEA	NA	
2	(Hancioğlu et al., 2014)	IND → TEA	NA	The data were collected from 57 countries in various parts of the world.
		PD Tolerance → TEA	NA	
		UA → TEA	Negative relationship between UA and TEA	
		LTO → TEA	NA	
		MAS → TEA	NA	
3	(Pinillos & Reyes, 2011)	IND → TEA	Positive relationship between higher IND and TEA in developed countries and negative relationship between higher IND and TEA in developing countries.	The data were collected from 57 countries in various parts of the world.
		PD Tolerance → TEA	NA	
		UA → TEA	NA	
		LTO → TEA	NA	
		MAS → TEA	NA	

4	(Valdez et al., 2011)	IND → TEA	NA	The data were collected from over 50 countries for both Hofstede's dimensions and GEM.
		PD Tolerance → TEA	NA	
		UA → TEA	Negative connections with opportunistic entrepreneurship.	
		LTO → TEA	NA	
		MAS → TEA	NA	
5	(Osoba, 2009)	IND → TEA	IND has a positive relationship with entrepreneurial activities.	The researcher applied Hofstede's cultural dimensions to a state-level panel dataset spanning 1998 to 2003.
		PD Tolerance → TEA	Negative relationship with entrepreneurial activities.	
		UA → TEA	Positive relationship with entrepreneurial activities.	
		LTO → TEA	Negative relationship with entrepreneurial activities.	
		MAS → TEA	Negative relationship with entrepreneurial activities.	
6	(Autio et al., 2013)	IND → TEA	Negative relationship between institutional collectivism practices and entrepreneurial entry. However, there was a positive relationship with entrepreneurial growth.	The researchers used GEM and GLOBE data for 42 countries from 2005 to 2008.
		PD Tolerance → TEA	NA	
		UA → TEA	Negative relationship was found with entrepreneurial entry	

			but not with growth aspirations.	
		LTO → TEA	NA	
		MAS → TEA	NA	
7	(Mirza, 2023)	IND → TEA	Positive relationship between high levels of IND and TEA.	The researcher collected data from various sources, including GEM, Hofstede's Index, IEF, OECD database, World Bank, and UN World Population Index.
		PD Tolerance → TEA	Positive relationship with TEA.	
		UA → TEA	Positive relationship with TEA.	
		LTO → TEA	Negative relationship with TEA.	
		MAS → TEA	Negative relationship with TEA.	
8	(Radziszewska, 2014)	IND → TEA	Positive relationship between IND and entrepreneurship and negative relationship between collectivism and entrepreneurship.	The researcher collected data using Hofstede's model and GLOBE sources.
		PD Tolerance → TEA	Positive relationship between low PD tolerance and entrepreneurship and negative relationship between high PD tolerance and entrepreneurship.	
		UA → TEA	Negative relationship between high UA and entrepreneurship. In contrast, positive relationship between low UA and entrepreneurship.	

		LTO → TEA	Positive relationship between LTO and entrepreneurship. In contrast, negative relationship between STO and entrepreneurship.	
		MAS → TEA	NA	
9	(Hayton et al., 2002b)	IND → TEA	Positive relationship between IND and higher entrepreneurial rates.	Review of previous literature
		PD Tolerance → TEA	Positive relationship between low PD tolerance, and higher entrepreneurial rates.	
		UA → TEA	Positive relationship between low UA and higher entrepreneurial rates.	
		LTO → TEA	NA	
		MAS → TEA	Positive relationship with entrepreneurial rates.	
10	Nikolaev et al., (2018)	IND → TEA	Positive relationship between IND and start-up efforts or entrepreneurship.	The researchers collected data from 73 different countries.
		PD Tolerance → TEA	NA	
		UA → TEA	NA	
		LTO → TEA	NA	
		MAS → TEA	Negative relationship with entrepreneurship.	

11	(Bennett & Nikolaev, 2021)	IND → TEA	Positive relationship between higher individualistic cultural values and higher levels of entrepreneurship (Innovation).	The researchers collected data from 84 countries globally using Hofstede's individualism collectivism index, and the Economic Freedom of the World index.
		PD Tolerance → TEA	NA	
		UA → TEA	NA	
		LTO → TEA	NA	
		MAS → TEA	Negative relationship with entrepreneurship.	
12	(Rinne et al., 2012)	IND → TEA	Positive relationship between innovation and IND.	The researchers used data in this study from Hofstede's dimensions and The Global Innovation Index (GII) for 66 countries globally.
		PD Tolerance → TEA	Negative relationship between PD Tolerance and entrepreneurship (Innovation).	
		UA → TEA	No relationship	
		LTO → TEA	NA	
		MAS → TEA	NA	
13	(Kirkley, 2016)	IND → TEA	Positive relationship between entrepreneurship (innovation) and IND.	The data were collected from 30 businesses in New Zealand.
		PD Tolerance → TEA	NA	
		UA → TEA	NA	
		LTO → TEA	NA	
		MAS → TEA	Positive relationship between higher future orientation and entrepreneurship.	



14	(Zhao et al., 2012)	IND → TEA	Positive relationship between collectivism and TEA in low and medium GDP countries.	The authors collected data for the study from GEM, The World Bank, IMF, and the GLOBE project.
		PD Tolerance → TEA	Positive relationship between PD tolerance and TEA.	
		UA → TEA	Positive relationship between higher UA and TEA.	
		LTO → TEA	Positive relationship between higher future orientation and TEA.	
		MAS → TEA	NA	
15	(García-Cabrera & García-Soto, 2008)	IND → TEA	Positive relationship between IND and entrepreneurial activities.	The authors collected data from 448 individuals from six different regions in the Republic of Cape Verde.
		PD Tolerance → TEA	NA	
		UA → TEA	NA	
		LTO → TEA	NA	
		MAS → TEA	Positive relationship between MAS and entrepreneurship behaviour.	
16	(Van Gelderen et al., 2015)	IND → TEA	NA	The authors collected data from the general adult population (20-64 years old) in Finland; the sample included in the analysis was 1,002 respondents.
		PD Tolerance → TEA	NA	
		UA → TEA	Negative relationship between uncertainty and entrepreneurial action that may negatively affect developing entrepreneurial	

			intentions and converting intention into action, ultimately hindering TEA.	
		LTO → TEA	NA	
		MAS → TEA	NA	
17	(Muller & Thomas, 2000)	IND → TEA	Positive relationship between higher IND and entrepreneurship.	Third- and fourth-year students at 25 universities in 15 countries comprised the sample of the study.
		PD Tolerance → TEA	NA	
		UA → TEA	Positive relationship between low UA and entrepreneurial activities.	
		LTO → TEA	NA	
		MAS → TEA	NA	
18	(Bogatyreva et al., 2019)	IND → TEA	Negative relationship between IND and entrepreneurship.	The authors used data from two waves of the multi-country Global University Entrepreneurial Spirit Students' Survey (GUESSS) conducted in 2011 and 2013/2014.
		PD Tolerance → TEA	There is a negative relationship between higher PD and entrepreneurship and a positive relationship between low PD tolerance and entrepreneurship.	
		UA → TEA	Negative relationship between higher UA and entrepreneurship.	
		LTO → TEA	There is no positive relationship with entrepreneurship.	
		MAS → TEA	Negative relationship between MAS and	

			entrepreneurship behaviour.	
19	(Arrak et al., 2020)	IND → TEA	NA	The data used in this study were collected from the GEM Adult Population Survey (APS) for Germany in 2014.
		PD Tolerance → TEA	Positive relationship between low PD tolerance and TEA.	
		UA → TEA	Positive relationship between low UA and TEA.	
		LTO → TEA	NA	
		MAS → TEA	A positive relationship between MAS and established business.	
20	(Lee & Peterson, 2000)	IND → TEA	Positive relationship between IND and entrepreneurship.	Authors review findings
		PD Tolerance → TEA	Negative relationship between PD tolerance and entrepreneurship.	
		UA → TEA	Negative relationship between UA and entrepreneurship.	
		LTO → TEA	Positive relationship between LTO and entrepreneurship.	
		MAS → TEA	Positive relationship between MAS and entrepreneurship.	
21	(Simón-Moya et al., 2014)	IND → TEA	Mixed results about the relationship between high IND and entrepreneurship.	The dataset included 68 countries spanning all five continents.
		PD Tolerance → TEA	NA	
		UA → TEA	Mixed results about the relationship	

			between low UA and entrepreneurship.	
		LTO → TEA	NA	
		MAS → TEA	No significant or clear association with entrepreneurship.	
22	(Assmann & Ehrl, 2021)	IND → TEA	Positive relationship between high IND and entrepreneurship.	The authors used cross-country data from the Global Entrepreneurship Index (GEI).
		PD Tolerance → TEA	NA	
		UA → TEA	NA	
		LTO → TEA	NA	
		MAS → TEA	NA	
23	(Canestrino et al., 2020)	IND → TEA	NA	The authors used the GEM and GLOBE projects as data sources for the study.
		PD Tolerance → TEA	NA	
		UA → TEA	A positive relationship between low UA and entrepreneurship.	
		LTO → TEA	NA	
		MAS → TEA	NA	
24	(Stephan & Pathak, 2016)	IND → TEA	NA	The study sample was collected from 42 countries, including Asia, South America, and the Middle East, using data from the GEM and GLOBE projects.
		PD Tolerance → TEA	Negative relationship between PD and entrepreneurship.	
		UA → TEA	Positive relationship between UA and entrepreneurship.	
		LTO → TEA	NA	
		MAS → TEA	NA	
25	(Brandstätter, 2011)	IND → TEA	NA	The data were collected from various
		PD Tolerance → TEA	NA	
		UA → TEA	Positive relationship between low UA and	

			entrepreneurship (innovation).	international sources.
		LTO → TEA	NA	
		MAS → TEA	NA	
26	(Barreto et al., 2022)	IND → TEA	NA	The authors referred to data from various sources, including the works of Hofstede et al. (2010), the GLOBE project, the GII, and The World Bank.
		PD Tolerance → TEA	NA	
		UA → TEA	NA	
		LTO → TEA	Positive relationship between temporal orientation and innovation.	
		MAS → TEA	NA	
28	(Bigos et al., 2023)	IND → TEA	NA	Primary data collected from 226 Polish students.
		PD Tolerance → TEA	NA	
		UA → TEA	NA	
		LTO → TEA	NA	
		MAS → TEA	Positive relationship between MAS and entrepreneurial intention.	
29	(Bugaje et al., 2023)	IND → TEA	Positive relationship between IND and entrepreneurial activity.	Sample comprised 384 owners/managers from informal businesses in Nigeria.
		PD Tolerance → TEA	A positive relationship between PD and entrepreneurial activity.	
		UA → TEA	A positive relationship between UA and entrepreneurial activity.	
		LTO → TEA	NA	
		MAS → TEA	A positive relationship between MAS and	

			entrepreneurial activity.	
30	(Vercruysse, 2022)	IND → TEA	NA	The sample included a cross-sectional survey of 501 business students from Ghent University.
		PD Tolerance → TEA	NA	
		UA → TEA	NA	
		LTO → TEA	NA	
		MAS → TEA	A positive relationship between MAS and entrepreneurial activity.	

### ***2.11.1 Review of the relationship between Hofstede's cultural dimensions and TEA***

Table 10 summarises the empirical studies on the relationship between Hofstede's cultural dimensions and TEA across various countries; these studies are global and are not limited to specific regions. It is noted that different Hofstede results have been found depending on the context, sample, and other factors.

We start with the study of Hechavarria and Brieger (2020), which revealed in their findings that those cultures with low PD tolerance and low IND, in addition to having high future orientation can help entrepreneurs to engage in entrepreneurial activities. Hancıoğlu et al. (2014) examined how UA influences TEA; their findings revealed no significant relationship between uncertainty avoidance and TEA in low-, middle- and high-income countries. In addition, the study of Pinillos and Reyes (2011) explored the relationship between IND culture and total entrepreneurial activity (TEA), and revealed that higher IND does not necessarily indicate a higher level of entrepreneurship. Furthermore, the entrepreneurship rate is negatively related to IND in medium- or low-development countries and positively associated with IND in high-development countries. Another interesting study by Valdez et al. (2011) showed a negative correlation between opportunistic entrepreneurship and UA. They reasoned this

association by explaining that the more nations are developed, the more business opportunities are created, leading to less dependence on necessity entrepreneurship, which is necessary for making a living.

Osoba's (2009) study also evaluated the impact of Hofstede's cultural dimensions on entrepreneurial activity in the United States and found mixed results. Among the results, UA tended to have a positive correlation with entrepreneurial activities, while PD tolerance and LTO had a negative relationship with entrepreneurial activities. MAS was found to have a negative relationship with entrepreneurship. Furthermore, Autio et al. (2013) reported that societal, institutional collectivism practices were positively associated with entrepreneurial growth aspirations and negatively related to entrepreneurial entry. Furthermore, UA practices were negatively associated with entry but not growth aspirations. Additionally, performance orientation practices were positively correlated with entry. Mirza (2023), in his study, confirmed that individuals in low-power groups might struggle to access information that ultimately influences TEA. He stated that high levels of IND are likely to be positively associated with TEA, as entrepreneurs will be oriented towards self-interest, autonomy, and risk-taking, which may translate into rewards for entrepreneurs. His empirical examination revealed that IND, UA, indulgence, and PD tolerance were positively correlated with TEA, while MAS and long-term orientation had a negative association with TEA. The study also found a negative relationship between MAS and TEA.

The study by Radziszewska (2014) also revealed a positive relationship between IND and entrepreneurship and a negative relationship between collectivism and entrepreneurship. Furthermore, it showed a positive relationship between low PD tolerance and entrepreneurship and a negative relationship between high PD tolerance and entrepreneurship. Additionally, it reported a positive relationship between LTO and entrepreneurship. In contrast, there was a negative relationship between STO and entrepreneurship. Finally, the study reported a negative relationship between high UA and

entrepreneurship, and is a positive relationship between low UA and entrepreneurship. Furthermore, Hayton et al. (2002b) found a positive relationship with IND, PD, UA, and MAS.

In their findings, Nikolaev et al. (2018) reported that IND stimulated start-up efforts. It was also noted that those feminine-oriented societies were more prone to avoiding uncertainty than others, therefore, higher levels of entrepreneurial collaboration exist in such communities. The study further revealed a negative connection between MAS and TEA.

The research of Bennett and Nikolaev (2021) also disclosed that IND substantially impacted innovation, especially in countries with more vital pro-market institutions, i.e., formal institutions. They further confirmed that societies with more individualistic cultural values exhibit higher levels of entrepreneurship, and the study further revealed a negative connection between MAS and entrepreneurship.

On the other hand, Rinne et al. (2012) reported that a negative relationship exists between PD tolerance and innovation. Further, it confirmed the positive association between innovation and IND; finally, there was no evidence of any connection between UA and innovation. Kirkley (2016), in their study, also reported that Western belief always says that entrepreneurial behaviour was motivated by material gain, work ethics, competitiveness and IND. IND was described as acting and thinking independently, which aligns with the notion of independence in entrepreneurial behaviour. Furthermore, there was a positive relationship between MAS and established ownership businesses.

The study by Zhao et al. (2012) also reported that cultural dimensions, namely human orientation, PD, and in-group collectivism, can strengthen early-stage and established entrepreneurship in low- and medium-income countries; however, it limits and hinders early-stage and established entrepreneurship in high-income countries.



García-Cabrera and García-Soto (2008) also revealed a cultural difference in these six regions concerning the individualism cultural dimension and the ability to develop and explain entrepreneurial activities and behaviour. The finding specifically confirmed that more IND leads to more entrepreneurial activities. The study further revealed a negative connection between MAS and entrepreneurship. In another study by Van Gelderen et al. (2015), it was reported that doubt (uncertainty) during entrepreneurial action may negatively affect the development of entrepreneurial intentions and the conversion of intention into action, ultimately hindering TEA. Specifically, doubt results in more hesitancy and indecision and enhances procrastination. The study of Muller and Thomas (2000) also reported that those cultures possessing low levels of UA and individualistic characteristics could enhance and encourage more entrepreneurial activities because they cultivate the minds and personalities of potential entrepreneurs. The study further revealed a positive connection between MAS and entrepreneurship.

Furthermore, Bogatyreva et al. (2019) revealed that high PD tolerance weakens the link between entrepreneurial intention and action because of the existence of inequality in the resources and power of some people. Also, high UA stops potential entrepreneurs from starting their businesses because they are unwilling to act in the face of uncertainty. Furthermore, having a high level of masculinity facilitates and supports start-up businesses. The study further revealed a negative connection between MAS and entrepreneurship.

In the study of Arrak et al. (2020), it was revealed that if a region has a lower level of UA, this positively benefits the growth of early-stage entrepreneurship; additionally, a lower level of PD supports and enhances established firms. Furthermore, there was a positive connection between MAS and established business ownership.

The study by Lee and Peterson (2000) also confirmed that those cultures with low levels or values of long-term orientation, low UA, low PD tolerance, and

higher indulgence and IND encourage entrepreneurship. The study further revealed a positive connection between MAS and entrepreneurship. Simón-Moya et al. (2014) study also showed mixed results; in some countries entrepreneurial activities were more developed in cultures with less UA and high IND, leading to the greater independence of individuals. The study further revealed no significant or clear association between MAS and entrepreneurship. Assmann and Ehrl (2021) reported that more opportunities for entrepreneurship, or TEA, can be found in individualistic cultures. Additionally, a study by Canestrino et al. (2020) reported that lower UA leads to more entrepreneurship. Stephan and Pathak (2016) also revealed that cultural values, namely UA and collectivism, impact entrepreneurship indirectly. Brandstätter (2011) study showed that UA leads to more entrepreneurship, and Barreto et al. (2022) found that time orientation is an essential cultural predictor of innovation and entrepreneurship.

Furthermore, the study of (Bigos et al., 2023) reported that MAS was positively related to entrepreneurial intention based on a sample of 226 Polish students. The study of Bugaje et al. (2023) also revealed a positive relationship between MAS, PD tolerance, IND, and UA, which are positively related to entrepreneurial activity. Another study (Vercruysse, 2022) reported a positive relationship between MAS and entrepreneurial activity.

### ***2.11.2 Summary of Hofstede's dimensions review and TEA***

From Table 10, we see that different studies in various parts of the world have investigated the role of Hofstede's cultural dimensions in TEA. Nevertheless, the results are mixed. Findings related to IND are mixed, with more weight on the positive influence of high individualism on TEA and entrepreneurship. Also, the findings related to the connection between PD tolerance and TEA are mixed; most studies revealed that low PD tolerance leads to TEA. Findings related to the relationship between UA and TEA were inconsistent, but most studies confirmed that higher UA discourages higher TEA. Finally, the findings related to LTO revealed mixed results, with more weight in LTO leading to higher TEA. The result related to MAS showed that higher MAS

leads to more TEA. The judgement for the balance of MAS is reflected in the study of Arrak et al. (2020). Table 11 summarises Table 10 accordingly; see Table 10 for further explanation and clarifications.

Table 11: Direction of Hofstede's cultural dimensions and TEA in the literature

Hofstede's Dimension	Positive	Negative
UA	11	8
PD tolerance	7	5
IND	16	2
LTO	5	3
MAS (Motivation towards Achievement and Success)	8	5

Source: author elaboration

### ***2.11.3 Notes about the Scores of Hofstede's dimensions in Saudi Arabia***

The following paragraph summarises Saudi Arabia's cultural characteristics in terms of Hofstede's dimensions:

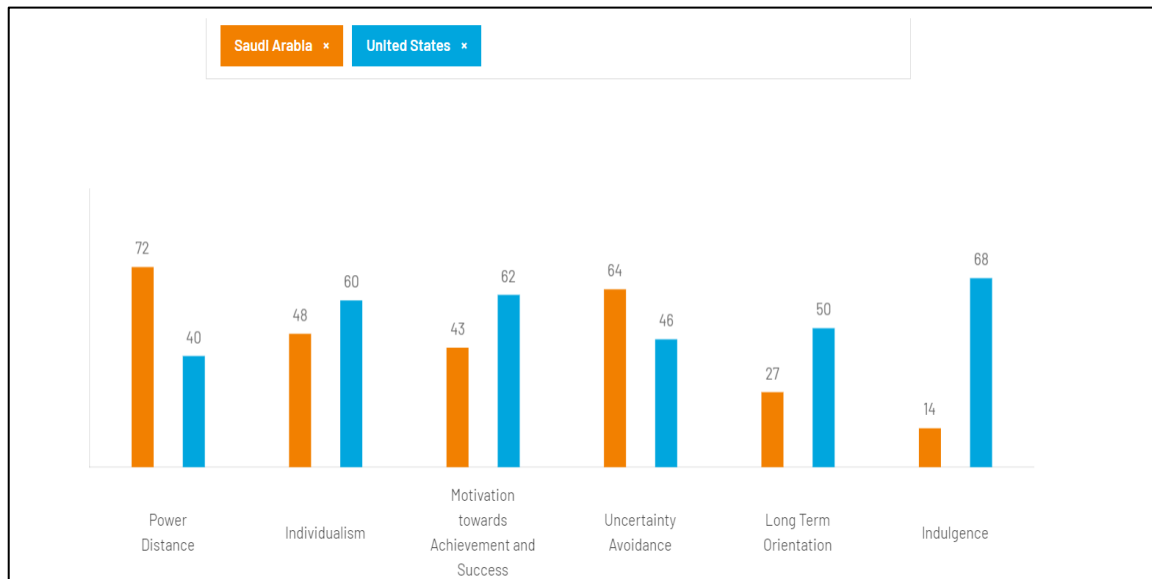
- PD tolerance indicates how power is distributed among individuals in a given society. According to Hofstede's dimensions, statistics, and information, Saudi Arabia scored a relatively high score of 72 in the power distance dimension. This score shows that people in Saudi Arabia readily accept hierarchical pressures from above. It further suggests that Saudi people there prefer clear rules and regulations (Hofstede, 2011, 2024a).
- Concerning IND dimensions, Hofstede's findings reported a score of 48 for Saudi Arabia, which is relatively low. In such societies, loyalty to the group is preferred and valued, and people in collectivist cultures, such as Saudi Arabia, are more concerned about others' opinions (Azhar et al., 2016). A collectivist society may also support entrepreneurial activities by promoting group harmony and cooperation, focusing more on joint or collaborative goals and emphasising the group rather than the interests of individuals. Collectivist societies support enterprises that address

collective challenges and needs instead of individuals' aspirations (Hofstede, 2011, 2024a). On balance, based on international studies, it is assumed that Saudi Arabia's low individualism implies low levels of entrepreneurship.

- For the UA dimension, Saudi Arabia scored 64, which suggests a high UA society and culture (Azhar et al., 2016), emphasising high UA in the Saudi culture. This figure indicates that people do not favour risky activities and may prefer to follow more structured and traditional norms. People find it difficult to move away from these norms. Accordingly, there is a preference for well-explained procedures, resistance to innovation, and established rules that might receive support and security requirements (Hofstede, 2011, 2024a), implying low levels of entrepreneurship.
- Regarding LTO, it is noted that Saudi Arabia scored 27, an extremely low score compared to other countries. This score indicates the tendency of Saudi people to focus on the present rather than the future; they also prefer to follow available traditions and norms already built into society and do not like changing or altering them. As their focus is on the present rather than the future, they might prefer getting immediate results and give less care to the future and longer-term achievement; hence, there will also be little long-term planning (Hofstede, 2011, 2024a).
- Hofstede (2024b) has subsequently substituted 'motivation towards achievement and success' for 'masculinity' at a national level. MAS is that aspect of culture where society values material success, competitiveness, and achievement over cooperation and life quality. The Saudi Arabia's national score was 43, signalling a way for the society to be more feminine. This confirms that Saudi Arabian society focuses on and cares more about close relationships and family.

#### ***2.11.4 The scores of the USA and Saudi Arabia***

Figure 1: Hofstede's dimensions for Saudi Arabia and the USA



Source: Hofstede website

Table 12: Concluding Remarks

Hofstede's Dimension	International Conclusion	USA Score	KSA Score
Uncertainty Avoidance (UA)	Higher uncertainty avoidance associated with lower TEA.	46	64
Power Distance (PD)	Low power distance development associated with higher TEA.	40	72
Individualism vs. Collectivism	High individualism associated with higher TEA and entrepreneurship.	60	48
Long-Term Orientation (LTO)	Long-term orientation associated with higher TEA.	50	27
Masculinity (Motivation towards Achievement and Success)	Higher MAS associated with higher TEA.	62	43

Source: Author elaboration

### ***2.11.5 Implications of KSA Hofstede dimensions scores for TEA***

This section presents the implications for Saudi Arabia Hofstede's dimensions and TEA. We start with the PD tolerance dimension, for which Saudi Arabia scored of 72%, considered high compared to other countries, such as the USA, which scored 40%. The 72% score of Saudi Arabia for PD tolerance indicates that Saudi people face a hierarchical structure and authority, indicating that Saudi Arabia is a hierarchical society with a paternalistic leadership style in entrepreneurial activities. It also implies that even within entrepreneurial firms, internal structures may foster more authoritarian roles for founders; accordingly, their business decisions may also be centralised, which means a limited sharing of power and decision-making. Entrepreneurs may need to improve their business communications and decision-making styles to ensure business success. They may also need to develop an adequate business environment where employees participate in decision-making, feel an integral part of the business, and contribute to developing new ideas and innovative proposals. Finally, as entrepreneurs operate in a high PD tolerant culture, they need to know the Saudi rules, regulations, regulatory systems, norms, and relevant authorities to benefit from the available entrepreneurial ecosystem. In Saudi Arabia, where there is high PD tolerance on average, the international empirical literature suggests that this might lead to a low level of TEA.

Regarding the IND dimension, Saudi Arabia reported a score of 48%, indicating that Saudi Arabia tends to be a slightly collectivist society rather than an individualistic one. The score suggests that there might be a preference for cooperative teamwork in Saudi Arabia in entrepreneurial activities, resulting in a higher level of harmony among employees in the business. The 48% score also confirms that the decision-making process in entrepreneurial enterprises may be a collective decision requiring a consensus from teams. Nevertheless, entrepreneurs must be cautious when making decisions and differentiate between those activities requiring collective decisions and those entirely dependent on the entrepreneurs themselves. However, collectivist societies are

often considered beneficial for entrepreneurs, as they can benefit from informal support from family, friends, and community networks to mobilise funds and resources and explore the available business opportunities. Finally, based on the global findings from the balance, we note that in Saudi Arabia, low IND is expected to be associated with low TEA.

Concerning UA, this dimension was 64% for Saudi Arabia, confirming that it is a high uncertainty-avoiding society. The 64% score indicates that Saudi entrepreneurs are cautious about their entrepreneurial activities and decisions; they tend to avoid making risky decisions or establishing a business in a place with a high level of uncertainty. Avoiding risky decisions may limit entrepreneurs' ability to develop innovative and new ideas or proposals, generally attached to dangerous choices. Entrepreneurs in such a culture may prefer low-risk businesses already initiated. In collectivist culture, entrepreneurs need to clearly understand the rules and regulations of the country to help them develop their businesses successfully with less ambiguity. This implies that the Saudi authorities may wish to also provide entrepreneurs with an adequate entrepreneurial ecosystem that includes entrepreneurial education, networking services, professional training, and access to information. This will reduce ambiguity in the market and strengthen the confidence level among Saudi entrepreneurs. In conclusion, based on global findings, higher uncertainty avoidance in Saudi Arabia might discourage entrepreneurship (TEA).

Hofstede's empirical survey also reported an LTO score for Saudi Arabia of 27%, implying that entrepreneurs in Saudi Arabia may prefer quick gains and short-term income and ignore long-term achievements. In this scenario, Saudi entrepreneurs may focus on investing in the available business opportunities or needs of the market and attach less significance to future growth or aspirations. A focus on short-term orientation may present Saudi entrepreneurs with business sustainability challenges and prevent them from developing long-term business strategies for their businesses. Ignoring the long-term may prevent Saudi entrepreneurs from developing competitive advantages for their enterprises as

they focus more on the present. Finally, Saudi authorities may wish to provide entrepreneurial support, including access to information, networking services, financial support, and other support for entrepreneurs, to encourage them to think about future and develop a more long-term orientation. Finally, and based on the global result, we conclude that in Saudi Arabia, a short-term orientation might lead to low TEA, since founding a new business involves long term organisation and commitment.

The MAS dimension for Saudi Arabia was 43. This suggests that Saudi Arabian society focuses on and cares more about close relationships within groups and families. Members may care for each other over other MAS values, such as aggressive competition or individual success. This may indicate that Saudi female entrepreneurs must fight against the classical norms and gender in a conservative society. Saudi females may need to foster traits that assist them in succeeding in their entrepreneurial business and achieve their objectives, such as becoming ambitious with an entrepreneurial mindset. However, high MAS may be associated with higher TEA, according to international results.

As stated earlier in the previous chapters, Hofstede's cultural dimensions are well known and have been widely used because they help identify and understand the differences in cultural values and practices among countries, ultimately leads to knowing how cultural factors can influence various aspects of society. Therefore, it is essential to check what has been investigated in the literature on entrepreneurship, particularly the TEA and Hofstede dimensions among female entrepreneurs. TEA includes nascent entrepreneurs (those who are starting their businesses) and business owners (those who have recently started their businesses).

## **2.12 Research Gaps**

**Gap 1: Lack of literature on the influence of national formal and informal institutions on EO in Saudi Arabia**



Previous studies related to institutional influence have mostly analysed the effect of formal and informal institutions separately (Ang & Michailova, 2008; Engelen et al., 2015; Yiu & Makino, 2002). For example, economists have mainly concentrated on regulations, formal laws, and rules (Porta et al., 2008), and sociologists, on the other hand, have focused mostly on informal institutions such as cultures, values, and norms (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Hence, formal and informal institutions have been examined as separate factors without giving much attention to possible interactions between them (Peng et al., 2009). Furthermore, it was suggested by Meyer and Peng (2005) that the way institutional changes translate into firm and individual behavioural changes is still an important topic for future research. The study of Miller (2011) also recommended examining how the cognitive, political, and normative institutional environments affect EO. Furthermore, it suggested an examination of the links between the macro-micro (institutional-individual) mindsets. This is because “social institutions, industry characteristics, and behaviors reflect and reinforce a culture’s values and impact individual mindset and behavior” (Bruton et al., 2010:p.433).

Sun et al. (2020) suggested that scholars from the management stream have recently started focusing on the key institutional factors that promote productive entrepreneurship. These studies include, for example Baumol (1990), Bjornskov and Foss (2013) and Zahra and Wright (2012). While there has been a focus on the role of institutions in entrepreneurial activities under various streams, including management as mentioned above, much more still needs to be known about how institutions impact and moderate entrepreneurship, particularly how emerging-market institutions alter entrepreneurial dynamic behaviour (Sun et al., 2020). This is because, in developing countries, there are particular development conditions such as infrastructures, institutions, and culture, and different bureaucratic procedures in management systems that may differ from those in developed countries.

## **Gap 2: A lack of studies on the correspondence between cultural dimensions at national and individual levels**

Institutional theory, since its inception, has gained more attention and prominence because of frustration with theories that mostly overlooked cultural effects in favour of efficiency as the driving force behind organisational decision-making (Wicks, 2001). However, despite the popularity of institutional theory, the extant literature related to formal and formal institutions and entrepreneurship is still mainly focused on analysing the effect of institutional factors from a national level or aggregate point of view (Acemoglu & Johnson, 2003; Djankov et al., 2002). These prior studies have often neglected how institutional factors affect the behaviour of individuals and firms in a given environment at the micro-level. Essentially, there is an absence of so-called “microfoundation” studies that emphasise the importance of describing the macro by concentrating on the micro, instead of taking the latter for granted (Barney & Felin, 2013).

To a large extent, this gap is concerned with how institutional factors at the macro-level influence firm/individual behaviour at the micro level. This makes it difficult to separate the ways in which institutional structures affect entrepreneurs’ and enterprises’ strategic decisions (Chew, 2017). This suggests that the gap between institutional macro- and micro-analysis is still wide and needs to be bridged (Bruton et al., 2010). Accordingly, it is challenging to claim a causative connection when depending solely upon macro analysis “without sufficient firm-level evidence” (Malesky & Taussig, 2008:p.537).

Furthermore, the absence of research on micro-level institutional effects and the role of different institutions in this regard points to the need for more theoretical development of this topic; precisely, the impact of various institutions on individuals and organisations (Wicks, 2001). This is also supported by Meyer and Peng (2005), who report that a primary research priority continues to be how institutional changes translate into behavioural changes at the person

and firm level. The critical point is that the previous literature examining the connection between formal/informal institutions and EO considered institutional factors as "background," i.e. inadequate for a more in-depth understanding of strategic behaviour in advanced economies (Peng et al., 2009). Therefore, it is essential to understand the link between macro and micro levels and to appreciate the impact of macro institutional factors on the behaviour of individuals/firms, specifically regarding EO. Furthermore, understanding how firm owners' behaviour is influenced by social conservatism seems essential, mainly as little is known about this interaction - it may result in either support of the EO level of individuals or its discouragement.

### **2.13 Research Questions**

1. At a national level, and based on prior empirical, international literature, what do Saudi Arabia's national cultural dimensions imply for its aggregate level of entrepreneurship?
2. How do cultural dimensions, measured at the level of individual female entrepreneurs in Saudi Arabia, correspond with Saudi Arabia's national cultural dimensions?
3. At the level of individual female entrepreneurs in Saudi Arabia, what are the associations between cultural dimensions and EO?

## Chapter 3: Theoretical Framework & Hypothesis Development

### 3.1 Introduction

This chapter provides an elaboration on the relationships between NC (represented by Hofstede's dimensions, i.e. PD, UA, IND, MAS, LTO) and EO (represented by a multidimensional approach, i.e. autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness). It further examines the moderating effect of a formal institution (access to finance, ATF) on these relationships.

### 3.2 Cultural Dimensions and EO

#### *3.2.1 PD and EO*

PD tolerance has been defined as the extent to which people in a particular society anticipate and accept an unequal power distribution (Hofstede, 2011). It is also depicted in both the values of weaker and stronger individuals within society (Hofstede, 1980). Accordingly, when it comes to PD tolerance, there are two polar types of culture. The first type is the low PD tolerance culture, which has flexible control mechanisms, equality in rights, interdependence of people, high independence for individuals, and weak formal institutional arrangements (Hofstede, 1980; Kreiser et al., 2010; Saeed et al., 2014). The second extreme type of culture has high PD tolerance, which encourages less autonomy, inequality in power distribution, more hierarchy in societal (including firm) structure, a low level of communication, and less freedom to make critical decisions due to a high degree of central control (Kreiser et al., 2010; Saeed et al., 2014; Shane, 1993).

Lower PD tolerance cultures are thought to give more support to entrepreneurial activities by establishing flexible regulatory mechanisms and business structures in their business environments, enabling the development of new ideas and innovative products (Saeed et al., 2014; Tehseen et al., 2021). Specifically, low PD tolerance cultures impose less central direction on

individuals' entrepreneurial behaviour and attitudes, and on opportunities for the exploration of innovative products and strategic decision-making (Chew et al., 2021; Covin et al., 2006; Kreiser et al., 2010; Saeed et al., 2014). Accordingly, firms' decision makers with a high degree of autonomy and the freedom have freedom to make risky business plans and execute critical strategies for the firm's improvement, unlike those with a low degree of autonomy and freedom in a high PD culture (Chew et al., 2021; Kreiser et al., 2010; Shane, 1993). Furthermore, decision makers in countries with low PD tolerance may be more inclined to act competitively, with faith in their ability to control ongoing conflicts and competition (Kreiser et al., 2010; Muller & Thomas, 2000).

The study's argument here is that in business, decision makers are responsible for determining their firms' overall strategic orientation (Kreiser et al., 2010; Lumpkin & Dess, 1996; Miller, 1983). Consequently, those entrepreneurial firms' decision makers or entrepreneurs in a low PD society on average have more opportunity to control their own business activities as they carry out their activities within flexible and less hierarchical structures. This enables them to work openly and freely, with fewer challenges from above and fewer limitations, enabling them to communicate more easily with their subordinates (Kreiser et al., 2010). Additionally, when these entrepreneurial firms' employees work in less complex structures, they have more freedom to propose new ideas and innovative products that may benefit their entrepreneurial firms (Chew, 2017; Saeed et al., 2014). As a result, and based on the preceding discussion, we propose the first of the following hypotheses that all relate to individual entrepreneurs:

Hypothesis 1 (H1): PD is negatively associated with EO.

### ***3.2.2 IND and EO***

IND is connected with the strength of relations and commitments between individuals. While everyone may care for themselves and their immediate family (Hofstede, 1980; Yoo et al., 2011), collectivism, on the other hand, refers to

societies in which people are consolidated from birth into cohesive in-groups that protect them throughout their lives (Hofstede, 1980; Thomas & Muller, 2000a). Individualist and collectivist cultures are expected to have distinctive influences on entrepreneurial activities in general and on EO in particular.

In individualistic communities, more focus is put on personal or individual achievement and accomplishment than group achievement. Individualistic societies prioritise and value features such as personal financial security, independence, and diversity over collective societies that may prioritise and value loyalty to the group (Hofstede, 1980; Thomas & Muller, 2000a). IND, a dimension of NC is expected to be positively linked with entrepreneurial behaviour (Kreiser et al., 2010; Mueller et al., 2013; Shane, 1993). This is due to the fact that people in individualistic cultures are more independent and autonomous than those in collectivistic cultures. As a result, members of individualistic cultures may break the extant rules and norms of groups, as well as become involved in risky situations deemed undesirable by other individuals (Kreiser et al., 2010; Morris et al., 1993). Individualistic culture members, in particular, have a willingness and ability to make autonomous choices, inspire entrepreneurial behaviour, and produce more EO because they make innovative decisions that are often proactive and risky (Kreiser et al., 2010).

Furthermore, business decision makers in individualistic cultures may explore the available business opportunities in the market more thoroughly than those in collective ones (Engelen et al., 2015). This is because people in collective cultures are committed to the group's instructions and norms, so individuals cannot make autonomous decisions or think innovatively without the group's prior permission and approval, which results in a loss of desire and ability to develop new ideas and engage in risky activities (Chew, 2017). Additionally, individualistic business decision makers or entrepreneurs can give their employees more independence and control, enabling them to improve their self-efficacy, come up with new and creative ideas, seize the available interesting opportunities, deal with ambiguity, and take on entrepreneurial risky projects

(Chew et al., 2021; Kreiser et al., 2010; Morris et al., 1993; Rauch et al., 2000; Wennberg et al., 2013).

Despite this, it is still believed that individualistic cultures can sometimes stifle proactiveness and proactive behaviour in firms. This is because people in these firms are unable to fully benefit from the experience, resources, and collaboration that can be provided in collective cultures, which would help them to attain their entrepreneurial goals (Kreiser et al., 2010; Morris et al., 1994). However, it is proposed on balance that:

Hypothesis 2 (H2): IND is positively associated with EO.

### ***3.2.3 MAS and EO***

Hofstede has provided a thorough explanation of MAS (2011). Masculinity denotes the extent to which the dominant values in a given community are masculine, strong, ambitious, measurable and competitive, resulting in assertive behaviour and a love of money, with low regard for others or quality of life.

Hofstede (2011) describes people with characteristics associated with being feminine, e.g., modesty, caring for others, tending to balance work and family, and sympathy for the weak, as being low in masculinity. Moreover, societies with low MAS may limit competition because individuals believe that disputes can be resolved peacefully and also because they believe that competition negatively affects people (Chew, 2017; Marino et al., 2002) and generates winners and losers (Marino et al., 2002). These beliefs are the result of their strategic choices developed from the culture where they reside (Chrisman et al., 2002).

In contrast, in a culture with high MAS, citizens may be attracted by and directed towards money, concrete achievements, and the valuing of autonomy. Individuals in a masculine culture tend to value decisiveness and hard work more than quality of life. They also love individuals' accomplishments and identify them with position and wealth. They value more assertive behaviour, material

goods, prestige, and ambition, engaging in risky activities with self-confidence, and competitive behaviour (Kreiser et al., 2010). Their focus is on decision-making and things that can be measured (Hofstede, 1980; McGrath et al., 1992a). Members associated with masculine characteristics are competitive and challenging, and they do not see a middle way in their surrounding world; they only see winning or losing (Marino et al., 2002). Masculine cultures tend to provide the foundation for individual recognition and rewards, the structure of jobs, and the acceptance of competition and conflict (Jones & Davis, 2000).

Masculine societies also tend to be linked with greater entrepreneurship, innovative activities, recognition, and wealth (Hayton et al., 2002a; McGrath et al., 1992b; Tehseen et al., 2021). They specifically enhance individuals' achievement, rewards, and acceptance of competition and conflict, ultimately developing more innovative and novel ideas, leading to more entrepreneurial behaviour (Jones & Davis, 2000). This is supported by Chew et al. (2021), who report that individuals from masculine cultures develop assertive behaviours that allow them to innovate and develop novel ideas. They then implement proactive plans to execute the developed innovative ideas, even if they generate some risk or uncertainty.

It is then argued that entrepreneurs or SME decision-makers in societies with a strong masculine culture will be able to develop assertive, strategic behaviour and an entrepreneurial attitude with a win-only strategy capable of seizing market opportunities. They will also encourage their employees to develop new and innovative ideas, engage in risky activities, and make decisions that will allow them to compete effectively in the market, ultimately developing EO (Chew et al., 2021; Kreiser et al., 2010; Lumpkin & Dess, 2001; Tehseen et al., 2021). Accordingly, we assume the following:

Hypothesis 3 (H3): MAS is positively associated with EO.



### ***3.2.4 UA and EO***

The degree or extent to which a culture prepares its members to feel unhappy, threatened or pleasant in an unstructured situation is indicated by the uncertainty avoidance (UA) dimension (Hofstede, 2011). Extreme cultures can have either high or low UA. Uncertainty-avoiding countries strive to avoid ambiguous situations by adhering to strict behavioural codes, regulations, and laws, opposing deviant opinions, and believing in ultimate fact (Hofstede, 1980). These cultures with high UA may miss out on opportunities available in their external environment because of their inability, resistance, and unwillingness, preventing potential entrepreneurs from starting entrepreneurial activities and developing EO (Engelen et al., 2015; McMullen & Shepherd, 2006). Entrepreneurs in a high UA culture tend to be reluctant to change existing procedures and processes, as well as being poor skills in imagining innovative ideas, which part of EO (Engelen et al., 2015; Shane, 1995).

Low UA cultures, on the other hand, favour risk-taking, robust motivations for individual accomplishment, close relationships, and more positivity (McGrath et al., 1992a). In particular, individuals in low UA cultures believe that the more constraints imposed, the less innovative thinking develops (Muller & Thomas, 2000; Shane, 1995). They also believe that dispute and competition can be managed and mitigated, and that dangers can only have a minimal effect (Kreiser et al., 2010). Furthermore, members of low UA societies can generate novel and creative ideas, deal with uncertainty, and engage in risky entrepreneurial activities (Hofstede, 1980; Kreiser et al., 2010; Muller & Thomas, 2000). In addition, entrepreneurial firms with a low UA culture and a positive outlook on their external environment can become more proactive in exploring emerging opportunities and can be the first to bring in new customers (Chew, 2017).

In general, a negative association between UA and entrepreneurship (EO) has been found in much of the extant literature e.g. (Hofstede, 1980; Kreiser et al., 2010; Muller & Thomas, 2000; Rauch et al., 2000; Rosenbusch et al., 2013; Shane, 1993; Tehseen et al., 2021). Entrepreneurs in a low UA culture may be

more free and motivated to undertake risky entrepreneurial activities (Kreiser et al., 2010). Accordingly, individuals (e.g. female entrepreneurs) who may possess a great ability to tolerate uncertainty and ambiguity are more prone to developing creative and novel ideas and implementing them fearlessly in risky circumstances (Hofstede, 1980). The positive perceptions they may have about bearing risk and uncertainty permits them to explore the available opportunities in the market that have not been explored by other individuals (Shane, 1993). Therefore, the possibility of having a positive association between EO and UA may be attributed to the preference of people with greater UA to avoid establishing complex business environments featuring different types of processes and procedures that ultimately hinder innovative and novel thinking (Chew et al., 2021; Muller & Thomas, 2000; Shane, 1993). Accordingly, the following hypothesis is developed:

Hypothesis 4 (H4): UA is negatively associated with EO.

### **3.2.5 LTO and EO**

The concept of long-term orientation (LTO) denotes a culture's attitude towards the future. It also denotes a long-term outlook and reveals how significant a future event is for that culture over a present or past event (Hofstede, 2011). Individuals associated with an LTO culture believe that significant events will occur in the future. They also believe in perseverance, frugality, saving, and investing (Bogatyreva et al., 2019). Alternatively, members of a short-term orientation culture believe that significant events occur in the present or the past, and they also believe in consumption and spending, rather than investment and deferred spending (Hofstede, 2011). LTO cultures tend to produce pragmatic attitudes, behaviours, and values (Bogatyreva et al., 2019), which are based on practical considerations rather than theoretical ones and ultimately influence a person's entrepreneurial cognition (Bogatyreva et al., 2019).

As a result, individuals with a LTO can develop more planning skills (Gielnik et al., 2014), which aid in developing entrepreneurial behaviour (Zahra et al., 2004). They are also willing to engage in risky activities that yield higher returns over time than individuals with a STO culture, who may prefer to accept available jobs in existing firms with stable income and less risk (Bogatyreva et al., 2019). Furthermore, cultures that instil the values of LTO tend to produce decision-makers who think long term, carefully consider the surrounding environment, and seize available opportunities (Lumpkin et al., 2010). This careful assessment of the surrounding environment assists entrepreneurs, or SME decision-makers, to make the best decisions for investment projects with the least amount of risk and uncertainty, as opposed to a short-term culture, which encourages quick decisions with little planning and high risk (Lumpkin et al., 2010). Additionally, the development of novel ideas or innovative products requires a long time, resulting in sustaining entrepreneurial firms and the development of more EO (Lumpkin et al., 2010; Zellweger, 2007).

In conclusion, it is argued that those entrepreneurial firms operating in an LTO culture tend to enjoy a motivating environment capable of encouraging their employees to create and develop new and novel ideas and express their criticisms freely at work and can also have enough time and freedom to establish risky entrepreneurial projects (Hall et al., 2001; Lumpkin et al., 2010). Accordingly, we build on this and propose the following hypothesis:

Hypothesis 5 (H5): LTO is positively associated with EO.

### **3.3 Formal Institutions, NC and EO**

While national culture (or informal institutions) is/are thought to play an essential role in influencing entrepreneurial behaviour and cultivating the mental attitudes of potential entrepreneurs (Engelen et al., 2015; Jones & Davis, 2000; Kreiser et al., 2010; North, 1991; A. Thomas & Muller, 2000a), formal institutions, represented by a set of environmental factors, are also thought to

enhance the influence of informal institutions (Ali et al., 2019; Li & Zahra, 2012; North, 1990).

Formal institutions represented in the surrounding environment have been classified in various ways. For example, they may include but are not limited to governmental, economic, and social forces that provide background for an entrepreneurial firm's operations (Covin & Slevin, 1991). They are also a collection of financial, policy, support, market, and human capital supports required for entrepreneurship to thrive and grow (Isenberg, 2010). In GEM, formal institutions comprise infrastructural facilities, state policies, financing, legislation for new and growing firms, entrepreneurial training and education, and social aspects that play a role in shaping the entrepreneurial attitude of individuals (Ali et al., 2019).

Formal institutions may impact a wide range of economic activities such as innovation (Shane, 1993). Formal institutions also provide economic incentives capable of supporting and directing entrepreneurs' behaviour and specifying the entrepreneurial firm's choice (Estrin et al., 2012). However, it is still unknown how these institutions moderate and impact entrepreneurial activity and EO (Langlois, 2015; Lee et al., 2011; Sun et al., 2020). How political, legal, and social factors influence the relationship between culture and EO, in particular, is unknown (Lee & Peterson, 2000) mainly because firms are embedded in an institutional context, which makes it difficult to separately look at these factors (Ang et al., 2015).

Furthermore, formal institutions may influence individuals' entrepreneurial behaviour in a variety of ways, including improving the rule of law, inspiring entrepreneurs, protecting innovators and their intellectual property, and lowering the transaction costs of entrepreneurs seeking vital resources (Autio & Acs, 2010; Sun et al., 2020). While a lack of supportive institutions makes it difficult for entrepreneurs to start or grow their businesses (Sun et al., 2020). ATF and other resources can aid in the formation of new

ventures and the expansion of entrepreneurial activities (Kortum & Lerner, 2000; Li & Zahra, 2012). It also enables SMEs to increase their productivity in the early and later phases of their work (Wasiuzzaman & Nurdin, 2019). Access to finance allows SMEs to survive financially for a long time and seize available opportunities in the market (N. Lee et al., 2015).

Access to finance for small entrepreneurial firms can take different forms, such as equity and debt financing, informal finance, business angels and venture capitalist finances. The presence of the previously mentioned financing opportunities allows entrepreneurial firms to access the required funds, which is not often possible through the traditional sources such as banks and financial institutions, leading to financial challenges for SMEs (Demirgüç-kunt, 2008). This ultimately limits the development and growth of SMEs (Padachi et al., 2012).

Equity finance is one type of financing source for entrepreneurial firms, and it is defined as a source of finance provided by finance providers (Dowling et al., 2019). These finance providers often involve themselves more in the firms than other sources of finance (Dowling et al., 2019). Equity finance source requires firms to pay dividends to their shareholders once they achieve profits (Nguyen & Rugman, 2015). Equity finance is simply a way of collecting money from investors who are interested in supplying funding to entrepreneurial firms financially to meet their needs. On the other hand, debt financing is another source of financing used by SMEs and entrepreneurial firms. It involves borrowing from lenders (banks), in which SMEs owners borrow from lenders (banks) and agreeing to repay this amount with a specified interest rate at a given time in the future. Even though debt loans are considered good sources of finance for SMEs, only those entrepreneurial firms with good financial records and substantial establishments tend to be able to access them (Wasiuzzaman & Nurdin, 2019). Because they do not trust those firms with poor financial records, banks are afraid that those SMEs will become insolvent and then the bank will lose their money.

Furthermore, another source of finance, namely the angel investor, is also considered a good source of funding for SMEs. A business angel is a person who has made existing investments in firms, either in the form of equity or debt, and who contributes passively or actively to their investee's enterprises (Argerich & Cruz-Cázares, 2017). Another source of finance, namely venture capital, is defined as an investment in an SME or a young start-up firm (Haar et al., 1988). All of the previously mentioned finance sources can act as alternative financing sources for small entrepreneurs and help them to grow and expand their businesses.

To summarise, and as stated above, both formal and informal institutions may influence individuals' entrepreneurial behaviour and activities. Here we focus on one formal economic institution, ATF, which may be of different types and has been described as one of the critical formal institutions influencing businesses (Holmes et al., 2013). ATF is a crucial resource for businesses, especially new startups (Wiklund & Shepherd, 2005). With financial resources, entrepreneurial firms may use them to acquire other needed resources (Wiklund & Shepherd, 2005). Entrepreneurial firms may often struggle to find finances to run or improve operations, leading to poor firm development and growth (Winborg & Landstro, 2000). Institutional ATF enables entrepreneurial firms to withstand crises and instabilities (Cooper et al., 1994). Also, ATF is critical as it can be used to support entrepreneurial firms to develop innovative ideas and projects in a constrained environment (Cooper et al., 1994; Wiklund & Shepherd, 2005). Previous literature has suggested that ATF may promote entrepreneurial activities, strengthening business performance (Wiklund & Shepherd, 2005). With the support of institutional finance, entrepreneurs may be able to meet their business needs (Winborg & Landstro, 2000). In the following, we examine the effect of ATF as a moderator on the relationships between the NC dimensions and EO.

### ***3.3.1 ATF's moderation of the relationship between PD and EO***

As discussed, PD is defined as the centrality of power distribution in a given culture (Hofstede, 2011). Accordingly, it was reported in the extant literature that the a low PD culture produces individuals with more equality in rights, higher autonomy, and interdependence (Hofstede, 1980; Kreiser et al., 2010; Saeed et al., 2014). On the other hand, cultures with high PD discourage their individuals from taking individual decisions or seizing available business opportunities (Saeed et al., 2014; Shane, 1993).

As a result, because ATF is considered an essential but insufficient condition for entrepreneurship (Boudreaux et al., 2019), individuals in those cultures empowered by low PD can therefore be further enhanced and supported by providing them with ATF that allows them to have more control and power over their businesses, invest in risky activities, seize available market investment opportunities, conduct market research to identify public demand, and so on. Entrepreneurs can also receive the resources they need for their businesses, develop novel and innovative products and services, and devise marketing campaigns for them, as well as expand their existing business and generate more EO (Bygrave et al., 2003; Raza & Muffatto, 2019; Saeed et al., 2014; Tehseen et al., 2021; Xiao et al., 2022). Accordingly, and based on the above discussion, we propose the following hypothesis:

Hypothesis 6 (H6): ATF positively moderates the negative relationship between PD tolerance and EO.

### ***3.3.2 ATF's moderation of the relationship between IND and EO***

Individualism focuses on individual personal achievement and accomplishment, unlike collectivism, which concentrates on group achievement (Hofstede, 2011; Thomas & Muller, 2000a). Individualistic people positively influence entrepreneurial behaviour (Kreiser et al., 2010; Mueller et al., 2013).

This positive effect of individualistic culture occurs because this type of culture allows individuals to think innovatively, develop innovative new products

and services, carry out risky projects, and not have any group restrictions imposed on their decisions and actions (Kreiser et al., 2010; Morris et al., 1993). Accordingly, for those individualistic individuals to continue working effectively and to gain the maximum benefit from their individualistic features, it is then deemed essential to support them financially. This will also allow them to continue thinking innovatively, develop novel ideas, take business decisions, seize and exploit available opportunities in the market, and maximise the use of the available resources, ultimately leading to better entrepreneurial behaviour and further business expansion (Raza & Muffatto, 2019; Tellis et al., 2009; Xiao et al., 2022; Xie et al., 2015). Hence, based on the discussion above, we propose the following hypothesis:

Hypothesis 7 (H7): ATF positively moderates the positive relationship between IND and EO.

### ***3.3.3 ATF's moderation of the relationship between MAS and EO***

People with characteristics associated with masculinity have ambition, competitiveness, a love of money, less concern for the quality of life, and assertive behaviour (Hofstede, 2011). On the other hand, feminine individuals are described as modest, caring for others, balancing work and family, and displaying less assertive behaviour. Individualistic behaviour is directed towards competition (Chew et al., 2021; Marino et al., 2002) and defeating competitors, considering only “win” situations (Marino et al., 2002).

Those individuals with masculine features also value material goals, prestige, ambition, engaging in risky activities, and increasing self-efficacy (Kreiser et al., 2010). They are more engaged in entrepreneurial activities with innovative behaviour (Hayton et al., 2002a; Tehseen et al., 2021). Accordingly, those individuals with a masculine culture will perform more effectively if supported with financial assistance. This is because providing financial support will allow them to remain autonomous in their decision-making and self-confident about selecting the risky projects to invest in, and increase their



assertiveness in relation to competition and defeating competitors. With sufficient funds, they will be able to exploit the available opportunities in the market and conduct the required research to identify available demand gaps, in addition to thinking innovatively and creatively and developing new novel products and services without constraints (Raza & Muffatto, 2019; Tellis et al., 2009; Xiao et al., 2022; Xie et al., 2015). This will result in the development of entrepreneurial activities and EO. Accordingly, we hypothesise the following assumption:

Hypothesis 8 (H8): ATF positively moderates the positive relationship between MAS and EO.

#### ***3.3.4 ATF's moderation of the relationship between UA and EO***

As discussed, uncertainty avoidance refers to how people of a particular culture feel unhappy or threatened by uncertainty (Hofstede, 1980, 2011). As a result, members of a low UA culture favour more risk-taking activities, are motivated by individual achievement, and exhibit high positivity (McGrath et al., 1992a). They also believe that conducting risky activities will have only a minimal effect on their business activities (Kreiser et al., 2010), but the presence of more constraints in their surroundings will deter their innovative thinking (Muller & Thomas, 2000). Accordingly, as entrepreneurial behaviour is believed to be affected by both formal and informal institutions, it is then thought that those individuals with low UA cultures, if financially supported, will have more chances than individuals with high UA cultures to develop innovativeness and creativity, generate novel ideas, and engage in risky activities that contribute to the entrepreneurial behaviour of their firms. Individuals with a low UA culture can use the financial assistance provided to them to design novel products and services, conduct market research to explore new opportunities, select risky investments, and expand their entrepreneurial business scope (Fuentelsaz et al., 2015; Li & Zahra, 2012; Raza & Muffatto, 2019; Tellis et al., 2009). Therefore, we propose the following hypothesis:

Hypothesis 9 (H9): ATF positively moderates the negative relationship between UA and EO.

### **3.3.5 ATF's moderation of the relationship between LTO and EO**

The LTO vs. STO concept indicates a cultural tendency towards the future. People with LTO tend to focus on the future as they believe that the most important events will happen in the future rather than in the present or past (Hofstede, 2011). Furthermore, individuals with a LTO devote more planning time to entrepreneurial activities (Gielnik et al., 2014; Zahra et al., 2004). They are also interested in long-term planning for risky activities that generate more return for them, developing decision-making skills over time, examining the available opportunities in the surrounding environment, and seizing available opportunities after careful thinking and consideration. They can also develop novel ideas due to their long-term thinking and set long-term plans for defeating competitors, which will ultimately result in developing entrepreneurial behaviour and greater EO (Lumpkin et al., 2010; Zellweger, 2007).

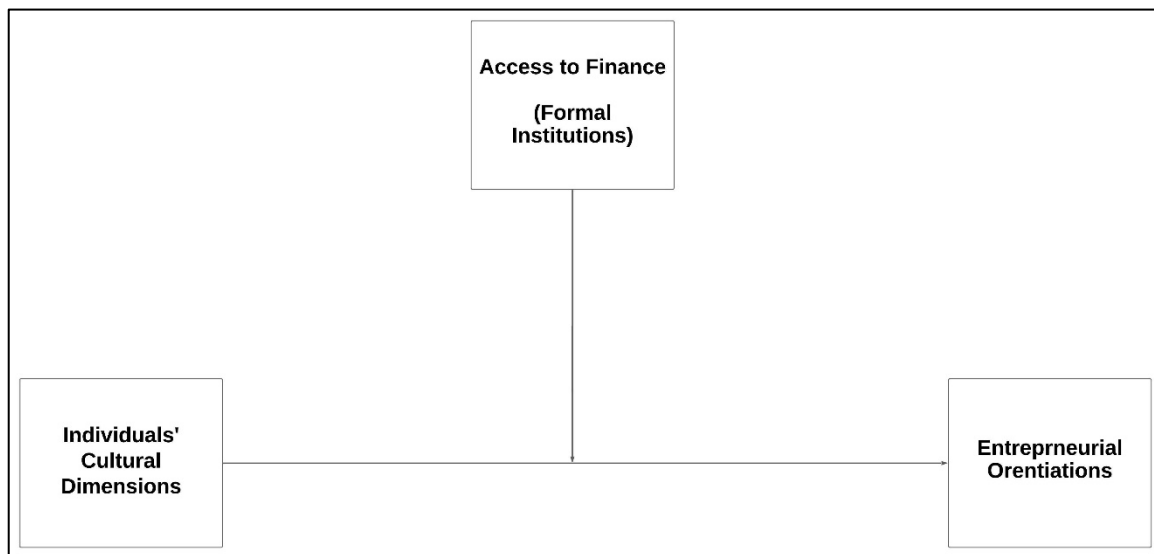
Accordingly, as those LTO individuals focus on the future, it is then assumed that providing them with financial support will allow them to engage in risky investments supported by the funds received, develop more perseverance toward defeating competitors, conduct long-term marketing research to discover available business chances (Xiao et al., 2022) and seize them, and continue developing innovative ideas and novel products and services. Furthermore, financial support will allow individuals to set long-term plans and strategies for their business and minimise the possibility of potential risk (Holmes et al., 2013; Shu et al., 2016; Tellis et al., 2009; Xiao et al., 2022). Therefore, we assume the below hypothesis:

Hypothesis 10 (H10): ATF positively moderates the positive relationship between LTO and EO.

### 3.4 The Conceptual Model

Figure 2 presents a pictorial representation of the relationship between the dimensions of NC at the individual level, EO, and ATF. Individual NC is the independent variable, EO is the dependent variable, and ATF is the moderating variable. The link between individuals' cultural dimensions (EO) and ATF is depicted graphically in Figure 2.

Figure 2: The relationship between individuals' cultural dimensions (EO) and ATF



Source: Author's elaboration

## **Chapter 4: Research Methodology**

### **4.1 Introduction**

This chapter describes the research methodology used in this study and the reasons behind its selection. It explains the research philosophy, approach, method, and strategy. It then describes the questionnaire measures, data collection and analysis tools, sampling and sampling frame, questionnaire development, measures used, and other related aspects.

### **4.2 Research Philosophy**

Researchers can contribute to knowledge development by addressing a specific problem or a set of concerns in a particular setting. Often, knowledge creation is based on certain assumptions (Burrell & Morgan, 1979). Major assumptions include those about realities and their nature, known as ontological. Other essential assumptions relate to receiving the knowledge and how the researcher's values affect the research process, and they are defined as epistemological and axiological, respectively. These assumptions provide researchers with a more clear understanding of the appropriate research design, approach, methods, and strategy for conducting their research, and analysing the data and interpreting the findings (Saunders et al., 2019). These assumptions describe how knowledge develops (Saunders et al., 2019). In short, the anthology explains what to examine in the research. Axiology deals with the nature of values and ethics in research. Epistemology deals with gathered knowledge for the research and its various sources (Bhattacharjee, 2012; Guba & Lincoln, 1994; Saunders et al., 2009).

Accordingly, understanding the research philosophies help researchers to determine the appropriate research paradigm. The research paradigm is a collection of beliefs of different researchers about the right way to test and explain particular social phenomena (Saunders et al., 2009). Research paradigms are widely divided into two types, namely positivism and interpretivism, which are contrasting in nature. They can be applied by researchers depending on the

nature of their research (Chew, 2017; Johnson & Onwuegbuzie, 2004). Positivism aims at examining the causal relationship between different concepts and variables of the study (Ajeeli, 2018). In contrast, interpretivism looks to develop new, more complex understandings and interpretations of social realities and circumstances (Saunders et al., 2019). Table 13 briefly compares positivist and interpretivist research, considered the two fundamental research paradigms. It further links them with their ontology, epistemology, and axiology.

Table 13: Comparison of crucial research philosophies & paradigms in management research

	Positivism	Interpretivism
Ontology: <i>the researcher's view of the nature of reality or being.</i>	External, objective and independent of social actors.	Socially constructed, subjective, may change, multiple.
Epistemology: <i>the researcher's view of what constitutes acceptable knowledge.</i>	Only observable phenomena can provide credible data and facts. Focus on causality and law like generalisations, reducing phenomena to simplest elements.	Subjective meanings and social phenomena. Focus upon the details of a situation, a reality behind these details, subjective meanings motivating actions.
Axiology: <i>the researcher's view of the role of values in research.</i>	Research is undertaken in a value-free way; the researcher is independent of the data and maintains an objective stance.	Research is value-bound; the researcher is part of what is being researched, cannot be separated, and so will be subjective.

Source: (Saunders, Lewis, & Thornhill, 2009:p.119).

Accordingly, this thesis adopts the positivist paradigm in this research to examine the causal relationship between the study concepts. The selection of the positivist paradigm emphasises exploring the causal relationship between variables or concepts of the study with the assistance of specific statistical tools. Hence, the research will depend on social statistical tools to execute the causal connection, test the study's hypotheses, and accordingly confirm or reject the

hypotheses. Therefore, positivism is considered the right paradigm in this study as it provides a roadmap for the researcher to select the most appropriate statistical tools to examine the causal relationship and interpret the result.

### **4.3 Research Approach**

In research, the researcher needs to identify a suitable research approach to ensure the validity of the study (Ajeeli, 2018). In social science, there are commonly two different types of research approaches, namely the deductive approach and the inductive approach (Bryman, 2012; Saunders et al., 2009). It is essential to understand them to ensure the best outcome for the research.

The deductive logic involves developing hypotheses and theories, followed by testing these hypotheses using a designed strategy and statistical tools (Saunders et al., 2019). It is based on the confirmation of the theory, and it is generally linked with the positivist philosophy (Spector et al., 2014). It starts by identifying a suitable theory for the concepts of the study, developing hypotheses and then testing the developed hypotheses and theory (Greener, 2008). It is sometimes called theory-building research (Bhattacharjee, 2012). According to Bryman (2012), those researches interested in a deductive approach may have to follow six steps for applying it in their research. The first step is to identify the theory on which the idea or concept of the study is built on. The second step is to develop the necessary hypotheses based on the selected theory and available literature. The third step is collecting data for the study. The fourth step is discussing the findings based on the data analysis. The fifth and sixth steps involve examining whether the developed hypotheses are confirmed or rejected, which is followed by revision of the theory.

In contrast, the inductive approach starts by understanding the focus of the study through different methods aiming to ultimately generate a theory for the research (Greener, 2008). In the inductive approach, a researcher seeks to derive theories, concepts, and patterns from observed data (Bhattacharjee, 2012), often based on the researcher's subjective analysis (Ajeeli, 2018). Table

14 shows the significant differences between the deductive and inductive approaches.

Table 14: Major differences between deductive and inductive approaches.

Deduction: emphasis	Induction: emphasis
<ul style="list-style-type: none"> <li>• Scientific principles</li> <li>• Moving from theory to data</li> <li>• The need to explain causal relationships between variables.</li> <li>• The collection of quantitative data.</li> <li>• The application of controls to ensure the validity of the data</li> <li>• The operationalisation of concepts to ensure clarity of definition</li> <li>• A highly structured approach</li> <li>• Researcher's independence from what is being researched</li> <li>• The necessity to select samples of sufficient size in order to generalise conclusions</li> </ul>	<ul style="list-style-type: none"> <li>• Gaining an understanding of the meanings that humans attach to events</li> <li>• Gaining a close understanding of the research context</li> <li>• The collection of qualitative data</li> <li>• A more flexible structure to permit changes in research emphasis as the research progresses</li> <li>• A realisation that the researcher is part of the research process</li> <li>• Less concern with the need to generalise</li> </ul>

Source: (Saunders et al., 2009)

This research uses the deductive approach as it is linked with a positivist philosophy that requires an extant theory, i.e., institutional theory, and other theoretical concepts, such as NC, EO, and ATF. Using the deductive approach, hypotheses have been developed based on existing theory and other concepts. Furthermore, quantified data will be collected with the help of different research strategies. Various statistical methods will be used to confirm or reject the hypotheses, and the results will be presented. Then, the findings will be discussed in conjunction with existing literature and other empirical studies conducted on the same topic.

#### **4.4 Research Methods**

There are mainly two types of research methods, quantitative and qualitative, which vary in their methods of data collection and analysis (Coviello, 2005). The quantitative method requires numerical data that can be collected through questionnaires, while the qualitative method requires data to be collected through observations and in-depth interviews (Saunders et al., 2009). That is, quantitative research requires quantified data and qualitative research requires words rather than quantification of data (Bryman, 2012). Accordingly, the quantitative method uses quantitative tools for data analysis, including regression; the qualitative method uses tools such as coding (Bhattacharjee, 2012). With a qualitative method, researchers use subjective assessment to understand the respondents' behaviour (Ajeeli, 2018). In contrast, the researcher is independent of the phenomenon of the study with quantitative analysis (Ajeeli, 2018). More specifically, with the help of the selected sample, the quantitative method attempts to quantify data and generalise the result from the selected sample. On the other hand, the qualitative method focuses on understanding the motivations for actions and how individuals interpret their experiences and surroundings (Macdonald & Headlam, 2015).

Both quantitative and qualitative research methods are associated with different research approaches and philosophies. For example, the quantitative method is usually related to the deductive approach and positivism philosophy, while the qualitative method is mainly associated with the inductive approach and interpretivism philosophy (Bhattacharjee, 2012; Greener, 2008). A researcher can select the appropriate research method (quantitative or qualitative) for their research depending on research needs. On the other hand, researchers may mix methods in many cases depending on the study's objectives. It is likely for researchers will employ a mix of quantitative and qualitative methodologies to explore the reality of individuals and organisations (Bryman, 2012). The critical differences between quantitative and qualitative methods



have been clearly described by Macdonald and Headlam (2015), as shown in Table 15.

Table 15: Key differences between quantitative and qualitative research methods

	<b>Quantitative</b>	<b>Qualitative</b>
Aim	To count things in an attempt to explain what is observed	To provide a complete, detailed description of what is observed.
Purpose	Generalisability, prediction, and causal explanations	Contextualisation, interpretation, and understanding perspectives
Tools	Researcher uses tools, such as surveys, to collect numerical data.	Researcher is the data-gathering instrument.
Data Collection	Structured	Unstructured
Output	Data take the form of numbers and statistics.	Data take the form of words, pictures, or objects.
Sample	Usually a large number of cases represent the population of interest. Randomly selected respondents	Usually a small number of non-representative cases. Respondents selected on their experience.
Objective/ Subjective	Usually a small number of non-representative cases. Respondents selected on their experience.	Subjective - individuals' interpretation of events is important
Researcher role	Researcher tends to remain objectively separated from the subject matter	Researcher tends to become subjectively immersed in the subject matter.
Analysis	Statistical	Interpretive

Source: (Macdonald & Headlam, 2015)

This research uses the quantitative method, which is associated with the deductive approach and rooted in the positivist research philosophy. It also requires developed theory, quantified data, and specific statistical tools to test these quantified data and confirm or reject the proposed hypotheses. This will ultimately address the research questions and objectives. In this study,

institutional theory and its associated concepts were discussed, from which hypotheses were developed; a quantitative method fits this approach.

#### **4.5 Research Design**

Once the research philosophy, approach and method are determined, it is essential to specify the research design, which provides a framework for data collection. The research design selected by the researcher has to be in line with the selected philosophy, approach and method of the research (Walshe et al., 2004). Accordingly, the selection of a research design is influenced by a variety of factors, such as the desire of the researcher to establish a causal connection between different constructs and concepts in the study and generalise the findings to a larger group of individuals (Bryman, 2012). Concerning the types of research design, it may include different strategies such as experiments, sample survey, case study, focus group, action research or ethnography. Accordingly, the selection of a research design will rely on the purpose and research questions of the study. To answer RQ1, the extant theoretical and empirical studies related to TEA and cultural dimensions were reviewed, and then relevant studies were selected to compare the Saudi national scores with the USA's national scores.

Furthermore, and to answer RQs 2 and 3, the researcher used a field survey research strategy. The research examines how individuals' cultural dimensions impact the EO of female entrepreneurs in Saudi Arabia, moderated by ATF at the individual level. Specifically, to answer RQ2, the researcher compares Saudi scores for individual female entrepreneurs with Saudi Arabia's national scores. To answer RQ3, the researcher compares the overall conclusions from prior international studies with the hypotheses developed.

It was concluded that this needs primary quantitative data collected from a population sample. As we need to work on primary data and examine certain relationships among the study concepts, we need to apply the positivism philosophy, which indicates the presence of one single reality, test the existing

theory, and develop hypotheses (deductive approach). It further requires the collection of quantified data from a selected sample from the population of female entrepreneurs (quantitative method, sample survey), and for these data to be tested with the help of specific statistical methods such as regression. The sample survey is a non-experimental design that does not control the independent variables, but just examines them and tests their effect with the help of specific statistical tools (Bhattacharjee, 2012; Bryman, 2012) such as regression. Furthermore, due to the budget and time constraints, the study does not plan to study the researched phenomenon over time. It aims to collect primary data at a single point in time. Accordingly, it applies the cross-sectional method for primary data collection and field/sample surveys.

#### **4.6 Common Method Bias (CMB)**

The current research uses a field survey strategy for the developed theoretical model. Accordingly, a self-administered questionnaire was used to collect data for exogenous and endogenous constructs from a single source. Therefore, Common Method Bias (CMB) may affect the data (Kraus et al., 2020). Accordingly, the presence of CMB in any research may lead to misleading results and affect the overall findings (Podsakoff et al., 2003), and influence the different relationships between the study's measures or concepts (Conway & Lance, 2010). Because all the variables data of this study are assessed using self-collected and reported data from the same respondents, the CMB is regarded as a significant barrier for researchers employing field surveys to acquire data (Chang et al., 2010; Podsakoff et al., 2003).

We use self-reported data or single key informants for data collection in this research because the study respondents are female small business owners. These small business owners are the decision-makers of their enterprises and are the ones who have complete control over their enterprises. They are the only ones who can fill out the questionnaire. However, the CMB that can result from this single key informant strategy can lead to systematic measurement errors that may inflate or deflate the observed relationships and cause type I and II

errors (Chang et al., 2010). In many cases, it is reported that the variance found in a study is a result of the measurements used in the study rather than the study's constructs (Podsakoff et al., 2003).

Accordingly, to minimise the influence of the CMB, it was suggested by Podsakoff et al. (2003) that two steps have to be conducted for this purpose. The first step is using procedural measures, and the second is applying statistical measures. The procedural measures concentrate on the data collection strategy and the instruments employed for this. On the other hand, the statistical measures focus on controlling and estimating CMB statistically in the study. The statistical measures are executed with the help of different tests, but Harman's Single Factor is considered the most popular one for this purpose. Harman's Single Factor method states that research reporting with a variance above 50% has a CMB issue, while that with less than 50% variance has no CMB issue (Kraus et al., 2020). We use both procedural and statistical measures to ensure CMB control in our study.

#### ***4.6.1 Procedural measures***

As per the recommendations of Podsakoff et al. (2003), three steps have to be conducted to minimise the effect of CMB. These three steps are briefly explained below:

1. Protection of the respondents' anonymity and reducing evaluation anxiety.

In this study, the female entrepreneurs were assured that their responses would be kept confidential and that no names would be disclosed or asked. They were also guaranteed that their data would only be used for academic purposes and nothing else. Furthermore, the respondents were also asked about their recent entrepreneurial activities to avoid any issues related to data destruction (Miller, 1997).

2. Use temporal, proximal, psychological, or methodological separation of measurement.

The second procedural measure to possibly reduce the CMB is to use a separate section in the questionnaire for the study concepts and questions. Accordingly, in this study, the researcher used separate sections to measure the dependent and independent variables. This possibly provided a psychological separation between the two types of variables and allowed the respondents to have consistency in their answers (Podsakoff et al., 2003). As the questionnaire questions were presented in different sections and pages, this made it difficult for the respondents to link concepts and variables or for them to affect each other.

### 3. Use different measures from different sources.

The researcher used different concepts and measures from various sources (NC, EO and ATF). The data on these concepts were collected using multiple Likert scales.

Thus, these procedural measures are believed to have reduced the CMB and ensured that the variables' relationships were not inflated and that the shared common variance was maximised among the independent variables (Olson, 2007).

#### ***4.6.2 Statistical measures***

Different tests can be used to measure CMB's presence, such as Harman's single factor test, partial correlation procedures, controlling the effects of a directly measured latent method factor, and the results of an unmeasured latent method factor and multiple method factors. However, the most accessible and appropriate test for checking the CMB is Harman's single factor test (Podsakoff et al., 2003). The Harman's single factor test has also been reported to be the most widely used in the previous literature that examined the presence of CMB such as (Isobe et al., 2000; Musteen et al., 2010; Stoian et al., 2017). It was therefore used in this study (Harman's single factor) to check the presence of any CMB in the primary data collected.

#### 4.7 Research Measures

The collected data for the proposed model was based on primary data collected from Saudi female entrepreneurs. The study model introduces three concepts: NC, ATF, and EO. Primary data were collected from the individual female entrepreneurs' responses to these questions on these concepts. The individual cultural dimension comprised five sub-dimensions: PD, IND, MAS, UA and LTO. The measures for these cultural dimensions were adopted from the work of Yoo et al. (2011), which provides 26 items for the cultural dimensions, namely the Cultural Value Scale (CVSCALE). This scale is considered appropriate for measuring the cultural attitudes at an individual level as it has good psychometric properties (Lenartowic & Roth, 1999). This scale has been developed purposely to measure Hofstede's five dimensions at the individual level (Maria et al., 2007; Sharma, 2010; Zielke & Komor, 2015).

The second concept, EO, was measured by recent measures (Hughes & Morgan, 2007). This scale underwent careful consideration and consultation with different field experts, making sure that it was appropriate with good psychometric properties and capable of measuring EO. The EO scale used in this study included 24 items and five concepts: risk-taking, innovativeness, proactiveness, competitive aggressiveness and autonomy. These concepts showed good psychometric properties and have been used by different authors (Leonelli et al., 2019).

The third concept, ATF, which is a moderator, was measured by six items taken from Ali et al. (2019). Additionally, the above three concepts used in the model of the study collected their data using a ten and 5-point Likert scale online questionnaire developed to help achieve the depth and clarity of findings (Bangor et al., 2008).

Table 16: Measures and constructs used in the study

Construct	Dimension	Items	Measurement
National Cultural Dimensions	Power Distance	<ul style="list-style-type: none"><li>• People in higher positions should make most of the</li></ul>	10-point Likert Scale (1= strongly

		<p>decisions without consulting people in lower positions.</p> <ul style="list-style-type: none"> <li>• People in higher positions should not ask the opinions of people in lower positions too frequently.</li> <li>• People in lower positions should not disagree with decisions made by people in higher positions.</li> <li>• People in higher positions should not delegate important tasks to people in lower positions.</li> </ul>	disagree, 1= strongly disagree).
	Individualism	<ul style="list-style-type: none"> <li>• Individuals should sacrifice self-interest for the group.</li> <li>• Individuals should stick with the group even through difficulties.</li> <li>• Group welfare is more important than individual rewards.</li> <li>• Group success is more important than individual success.</li> <li>• Individuals should only pursue their goals after considering the welfare of the group.</li> <li>• Group loyalty should be encouraged even if individual goals suffer.</li> </ul>	10-point Likert Scale (1= strongly disagree, 1= strongly disagree).
	Masculinity	<ul style="list-style-type: none"> <li>• I generally solve problems with logical analysis.</li> <li>• I generally solve problems with intuition.</li> </ul>	10-point Likert Scale (1= strongly disagree, 1=

		<ul style="list-style-type: none"> <li>• I can solve complex problems that usually require an active, forcible approach.</li> <li>• I feel I can always do all my jobs.</li> </ul>	strongly disagree).
	Uncertainty Avoidance	<ul style="list-style-type: none"> <li>• It is important to have instructions spelled out in detail so that I always know what I am expected to do.</li> <li>• It is important to closely follow instructions and procedures.</li> <li>• Rules and regulations are important because they inform me of what is expected of me.</li> <li>• Standardised work procedures are helpful.</li> <li>• Instructions for operations are important.</li> </ul>	10-point Likert Scale (1= strongly disagree, 1= strongly disagree).
	Long-Term Orientation	<ul style="list-style-type: none"> <li>• Careful management of money is important.</li> <li>• It is important to go on resolutely even when there is opposition.</li> <li>• Personal steadiness and stability are important.</li> <li>• It is important to plan for the long term.</li> <li>• Giving up today's fun for success in the future is important.</li> <li>• It is important to work hard for success in the future.</li> </ul>	10-point Likert Scale (1= strongly disagree, 1= strongly disagree).
Entrepreneurial Orientation (EO)	Risk-Taking	<ul style="list-style-type: none"> <li>• The term "risk taker" is considered a positive attribute for people in our business.</li> </ul>	5-point Likert Scale (1= strongly disagree, 1=



		<ul style="list-style-type: none"> <li>• People in our business are encouraged to take calculated risks with new ideas.</li> <li>• Our business emphasises both exploration and experimentation for opportunities.</li> </ul>	strongly disagree).
	Innovativeness	<ul style="list-style-type: none"> <li>• We actively introduce improvements and innovations in our business.</li> <li>• Our business is creative in its methods of operation.</li> <li>• Our business seeks out new ways to do things.</li> </ul>	5-point Likert Scale (1= strongly disagree, 1= strongly disagree).
	Proactiveness	<ul style="list-style-type: none"> <li>• We always try to take the initiative in every situation (e.g., against competitors, in projects when working with others).</li> <li>• We excel at identifying opportunities.</li> <li>• We initiate actions to which other organisations respond.</li> </ul>	5-point Likert Scale (1= strongly disagree, 1= strongly disagree).
	Competitive Aggressiveness	<ul style="list-style-type: none"> <li>• Our business is intensely competitive.</li> <li>• In general, our business takes a bold or aggressive approach when competing.</li> <li>• We try to undo and out-manoeuvre the competition as best as we can.</li> </ul>	5-point Likert Scale (1= strongly disagree, 1= strongly disagree).
	Autonomy	<ul style="list-style-type: none"> <li>• Employees are permitted to act and think without interference.</li> <li>• Employees perform jobs that allow them to make and instigate changes in the way they perform their work tasks.</li> </ul>	5-point Likert Scale (1= strongly disagree, 1= strongly disagree).

		<ul style="list-style-type: none"> <li>• Employees are given freedom and independence to decide on their own how to go about doing their work.</li> <li>• Employees are given freedom to communicate without interference.</li> <li>• Employees are given authority and responsibility to act alone if they think it to be in the best interests of the business.</li> <li>• Employees have access to all vital information.</li> </ul>	
Formal Institutions	Access to Finance	<ul style="list-style-type: none"> <li>• In my country, there is sufficient equity funding available for new and growing firms.</li> <li>• In my country, there is sufficient debt financing available for new and growing firms.</li> <li>• In my country, there is sufficient funding available from informal investors (family, friends, and colleagues), who are private individuals (other than founders) for new and growing firms.</li> <li>• In my country, there is sufficient professional business angels funding available for new and growing firms.</li> <li>• In my country, there is sufficient venture capitalist</li> </ul>	5-point Likert Scale (1= strongly disagree, 1= strongly disagree).

		funding available for new and growing firms.	
	Access to Government Finance	<ul style="list-style-type: none"> <li>Local and national governments have special support available for individuals who want to start a new business such as finance, training, and others.</li> <li>Even after failing in an earlier business, the government assists entrepreneurs financially and technically to start again.</li> </ul>	5-point Likert Scale (1=strongly disagree, 5=strongly agree).

#### 4.8 Design of the Study's Questionnaire

The study questionnaire was divided into five sections.

##### **Section one: the demographic information of the respondents**

The first section of the questionnaire captured the demographic information of the study's respondents and their entrepreneurial firms. This demographic information included the type of the business, and the age, education, and experience of the respondent.

##### **Section two: individuals' cultural attitudes**

This section comprised five dimensions: PD, IND, MAS, UA, and LTO. The total questions for all these dimensions totalled 28. These questions measured the respondents' perceptions of cultural dimensions in the context of the study in a quantitative way.

##### **Section three: EO**

This section collected data on EO through five dimensions: innovativeness, risk-taking, proactiveness, competitive aggressiveness and autonomy. The total number of questions in this section for all dimensions was 18.

##### **Section four: formal institutions - ATF**

This section was composed of seven questions enquiring about the female entrepreneurs' ATF in the context of the study.

Finally, the questionnaire contained a total of 57 questions for all the cultural dimensions. The data were collected with the help of a 10-point Likert scale for NC and a 5-point Likert scale for ATF and EO as they are easy to understand and use, and the combination of these scales ensures better results (Bangor et al., 2008). It is also the most widely used in research and an efficient method for capturing a wide range of data related to attitude and behaviour (Hartley & Maclean, 2006).

## **4.9 Sampling Frame**

### ***4.9.1 Processing of collected data***

The collected data were coded before the data were screened. The data were checked for the completeness of the responses to achieve the reliability and validity. Initially, the raw data were examined for completeness and accuracy. Any incomplete responses were identified, and those missing more than 50% of the total items were removed from the dataset to maintain the integrity of the analysis. Those with less than 50% missing items were retained, and the missing data points were replaced with the estimated mean (EM), as Field (2009) recommended. The EM method suggests replacing the missing values with the mean value of the available data for the specific variable. This helps to reduce data loss and maintain robustness (Hair et al., 2014a). Removing the missing data will ensure sufficient size and quality of the data.

### ***4.9.2 Assessing non-responses***

Non-response bias was evaluated from the responses collected in the first and second rounds of data collection. Study generalisation seriously becomes susceptible if significant differences exist between respondents and non-respondents (Podsakoff et al., 2003). For the current work, the non-response bias was estimated using a paired sample T-test (Adams et al., 2007). Suppose a significant difference prevails between the response group and the non-response group. In that case, it means that both groups are different from each other, and

data collected in two rounds must not be suitable for generalizability. Otherwise, combined data are good to use for generalisable purposes.

Evaluating non-response bias is crucial in survey research to ensure data validity and reliability of the study's conclusion. Applying paired sample T-test helps to identify the potential of non-response bias and take the appropriate actions to enhance the credibility and applicability of research outcomes.

#### 4.10 Data Analysis Method

The construct level internal consistency is estimated using Cronbach's alpha (CA) and Composite Reliabilities. CA is sensitive to the number of items in the scale and can understate or overstate the internal consistency; however, CR is not based on the number of items (Hair et al., 2014b). By applying both reliability measures appropriately, researchers can ensure that the study constructs are measured accurately and reliably, enhancing the validity of the findings and the robustness of the study model. Correlation depicts the relationship between two variables and the correlation coefficient, ranging from -1.0 to 1.0, measures the degree to which two variables are linearly related with each other (Adams et al., 2007). A negative correlation portrays that as one variable increases, the other decreases. A positive correlation demonstrates that as one variable increases, the other variable increases as well. Table 17 shows the general guidelines for correlations of variables.

Table 17: Guidelines for correlations among variables

Range	Description
1.0-0.8 (-1.0 to -0.8)	Shows a very strong positive correlation (very strong negative correlation)
0.8-0.6 (-0.8 to -0.6)	Shows a strong positive correlation (strong negative correlation)
0.6-0.4 (-0.6 to -0.4)	Shows a moderate positive correlation (moderate negative correlation)
0.4-0.2 (-0.4 to -0.2)	Shows a weak positive correlation (weak negative correlation)
0.2-0 (-0.2 to 0)	Shows a very weak positive correlation (very weak negative correlation)
0	No correlation

Source: Author's elaboration

Regression analysis is also used in this research, a statistical process of estimating the relationship between the dependent and independent variables (Sarstedt et al., 2017). The common form of regression analysis is linear regression, where ordinary least squares compute the unique line that can minimise the sum of the squared difference between accurate data and the forecasted line. Regression analysis is performed for prediction and forecasting. The multiple regression model involves using the independent variables to predict the dependent variable. Linearity is a condition for multiple regression, where the relationship between each predictor and the dependent variable is linear, and the errors must be normally distributed. Multicollinearity can be regarded as a problem when high intercorrelation exists between the predictor and outcome variables. Multicollinearity issues can lead to unreliable estimations of the regression coefficient by inflating the standardised coefficient errors, which can lead to misleading inferences. Variance inflation factor (VIF) is suggested to detect and address the issue of multicollinearity in the regression model. A VIF score of more than 3.3 for a variable presents a multicollinearity issue in the model.

An explanation of the regression model is provided with the R-square and adjusted R-square. R-square is the square of the correlation between the variables, and the adjusted R-square indicates the variance explained by the model variables in the regression model. The model, F value, and significance level indicate the significance of the model in explaining the outcome variable from the input variables. A significance value of less than 0.05 is considered to predict the outcome of the input variables at a statistically significant level.

Furthermore, each independent variable predicts the dependent variable and provides the coefficient (beta value) with the t-value and significance level (P-value). The coefficient shows the strength of the association between the input and outcome variables. The t-value and significance level specify whether the input variable significantly contributes to the prediction of the outcome variable. A significance level of less than 0.05 suggests that the independent

variable significantly predicts the outcome variable. In summary, the regression model's validity and the contribution of each predictor are evaluated using R-square, adjusted R-square, f-values, t-values, and significance levels. These statistics provide a comprehensive understanding of the model's explanatory power and the significance of individual predictors in forecasting the outcome variable.

The moderation analysis tests how the relationship between two variables (independent and dependent variables) significantly varies because of a third variable. The third variable is a moderator or effect modifier (Hayes, 2013). A moderation analysis facilitates to accounting for the heterogeneity in the data based on the moderating variable. The effect of moderation reflected in the change in  $R^2$  is how much explanation is added by the interactional effect (Hair et al., 2014). Two approaches are typically offered to test the moderation analysis, i.e., product indicator and two-stage approach. For the product indicator approach, simple interaction is applied for the independent and moderating variables (Hayes, 2013).

On the other hand, the two-stage approach involves a more complex procedure. In the first stage, latent variable scores are estimated for the independent and moderating variable. In the second stage, these latent scores are used to form the interaction term, which is then included in the analysis (Hair et al., 2014b). This approach can be particularly useful when dealing with latent constructs measured by multiple indicators, as it allows for a more precise estimation of the interaction effect.

## **Chapter 5: Data Analysis and Findings**

### **5.1 Introduction**

This chapter reports the analysis of the data collected and the analysis results. It begins with the introduction section, followed by data examination and interpretation, demographic analysis and methodological validity checks, the descriptive statistics of the study variables, latent construct analysis and reliability assessment, and testing of the hypotheses. It concludes with a summary of the chapter.

### **5.2 Data Examination and Interpretation**

#### ***5.2.1 Data preparation and preliminary analysis***

The preliminary data analysis was performed to understand the questionnaire responses and was the first step in preparing the data for subsequent analysis. Preliminary data evaluation permits researchers to assess the associated weaknesses in the dataset that may obstruct the study's validity and/or the generalisability of the study's results (Hair et al., 2014a). The preliminary data analysis enabled the researcher to evaluate missing data, outliers, dataset normality, and other tests related to the chosen data analysis techniques. It ensures the quality and reliability of the data, which is required for the later stage of the data analysis (Hair et al., 2014a).

#### ***5.2.2 Response rate:***

The researcher emailed 4,000 Saudi female entrepreneurs from the database received from The Small and Medium Enterprises General Authority (Monshaat), which was established by the Ministry of Trading in 2016 to regulate, support, and develop the SME sector in the Kingdom of Saudi Arabia. Monshaat is a dedicated organisation in Saudi Arabia that promotes entrepreneurship and innovation, and it has access to and contact details of most entrepreneurs in the country.



Most of the email addresses provided to the researcher were invalid, and only 1,300 (out of 4,000) were found to be still active. The researcher communicated with these 1,300 Saudi female entrepreneurs by email. From the 1,300 prospective respondents, the researcher received 432 responses. Table 18 shows the details of the returned survey questionnaires and the study's response rate. Eighty surveys were not filled out as the individuals did not agree to participate. A total of 352 surveys were received with responses. Among these 352 surveys, sixty-one surveys were incomplete and not usable. Hence, a total of 291 surveys were completed and usable, comprising a 22.3% of response rate. A 15-25% response rate in online surveys was considered satisfactory and showed a lack of bias at the data collection stage (Field, 2009).

Table 18. Response rate of the questionnaire

	Frequency	Percentage
Questionnaires distributed	1300	100
Returned questionnaires	432	33.2
Individual not willing to participate	80	
Usable questionnaires	352	27.1
Incomplete or not fit for purpose	61	
Valid usable questionnaires	291	22.3

Source: primary data

### ***5.2.3 Non-response bias***

Non-response bias relates to the differences between the respondents and non-respondents (Hair et al., 2014a). A study's generalisability can be seriously threatened by these differences between respondents and non-respondents (Podsakoff et al., 2003). If the response rate is less than 20%, the issue of non-response bias can be substantial. For this study, the response rate was 22.3%. Therefore, non-response bias may not be a critical issue in this study.

#### **5.2.4 Data cleaning**

Data cleaning is necessary after compiling a dataset and before employing any quantitative analysis techniques. Data screening allows the researcher to identify any potential violation of the multivariate technique assumptions (Hair et al., 2014a). Multivariate data analysis requires examination of the data for the issues of outliers, missing data points, and data normality that significantly influence the study results. The study utilises the estimated mean (EM) substitution to treat the missing values in the dataset. Using EM substitution helps to mitigate the biases arising from the missing data points, and accurately represents the dataset. EM substitution is an appropriate method given that the missing data points are less than the 50% threshold (Field, 2009).

A total of 254 data points were missing from 19,206 active data points from the 291 surveys. The missing data points were less than 2% (see Table 19).

Table 19. Number and percentage of missing data

<b>Constructs</b>	<b>No. of Missing Data points</b>
- Power distance	09
- Individualism	18
- Masculinity	36
- Uncertainty avoidance	14
- Long-term orientation	19
- Innovativeness	20
- Risk-taking	22
- Proactiveness	25
- Competitive aggressiveness	26
- Autonomy	31
- Access to finance	34
- Total	254
- No. of Data Points	66 observed items * 291 = 19,206

Percentage of Missing Data	254/19,206 = 1.3%
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Source: primary data

### ***5.2.5 Outlier analysis***

An outlier is an exceptional case depicting the extreme value in a variable or unfamiliar mix of values among the variables, triggering biases in statistical results (Field, 2009). Outliers are the data points that substantially differ from the other observations and they occur due to extremely low and high values from the study population, representing differences among the study respondents (Field, 2009). Outliers can exist in a univariate or multivariate data set. Outlier in a data set may distort statistical inferences and lead to erroneous interpretations (Chin, 2010). Mahalanobis distance computation helps in detecting the multivariate outlier. Mahalanobis distance (D2) measures the distance of an event from the centroid of all the other events on the data set with multidimensional space (Hair et al., 2014a). A higher D2 value denotes the distance from the centroid multidimensional space. D2 was employed to examine the data for this study as the study data are multivariate. Multiple regression analysis was used with all the exogenous constructs (i.e., PD, IND, MAS, UA, LTO, and ATF) and with the endogenous construct (i.e., EO). (D2) was estimated and saved in the data file. All the cases with Mahalanobis values with a p-value less than 0.001 were outliers for the study (Field, 2009), but no values fell within that range, therefore no data points were eliminated as outliers.

### ***5.2.6 Multivariate normality test***

Checking data normality adds to the robustness of the data analysis. A dataset with more than 200 responses is less sensitive to normality issues (Hair et al., 2014a). Multivariate skewness and kurtosis help to determine the shape characteristics of the data. Multivariate Mardia measures the dataset's multivariate normality, and a Mardia's skewness value of 0 represents the normal distribution of multivariate data. A multivariate normality check was performed using Mardia's measure to check normality of the data. Cain and Zhang (2017)

suggest using an online tool, <https://webpower.psychstat.org/models/kurtosis>. For the current dataset, Mardia's multivariate skewness ( $B = 839.15$ , Z-score = 35524.33,  $p > 0.01$ ) and Mardia's multivariate kurtosis ( $B = 3147.40$ , Z-score = -569.19,  $p < 0.01$ ) showed that the data set was approximately normal and suitable for later analysis.

### 5.3 Demographic Analysis and Methodological Validity Checks

#### 5.3.1 Respondents' profile

Respondents' profiles are provided in Table 20.

Table 20. Respondents' profiles

Demographic Variable	Description	Frequency	%
Age	18-28 years of age	108	37.1
	29-39 years of age	126	43.3
	40-49 years of age	44	15.1
	50 years and above	13	4.5
Education	No formal education	2	0.7
	Primary school	43	14.7
	Secondary school	57	19.6
	Bachelor's degree	135	46.4
	Postgraduate degree	54	18.6
Work Experience	1-5 Years	159	54.6
	6-10 years	64	22.0
	11-15 years	32	11.0
	16 and above years	36	12.4
Business Type	Retail and wholesale	91	31.3
	Production sector	11	3.8
	Services sector	24	62.5
	Agriculture	2	0.7
	Finance and insurance services	5	1.7
Business Age	Below 2 years	92	31.6
	2-5 years	87	29.9

	6-10 years	38	13.1
	More than 10 years	74	25.4
Business Size	1 person	70	24.1
	2-5 persons	119	40.9
	6-10 persons	13	4.5
	More than 10 people	89	30.6

Source: primary data

### ***5.3.2 Common method bias (CMB)***

CMB concerns the bias in data due to the data collection methods and techniques utilised (Podsakoff et al., 2003). Methods like self-reported data, single-source data, and a single data collection method are sources of CMB. The presence of CMB can significantly distort results and affect the research findings. Therefore, it is necessary to address the CMB issue. Podsakoff et al. (2003) suggested pre- and post-treatments to handle the issues of CMB. The post-treatment consists of statistical techniques executed to evaluate and control the assessment of CMB. The statistical methods utilised for this study are listed below.

### ***5.3.3 Harman's single-factor test***

Podsakoff et al. (2003) suggest using Harman's single factors test to estimate the issue of CMB. This test involves using exploratory factor analysis with all items and examining the unrotated factor solution. The analysis showed that the first factor extracted only 23.5% of the variance in the data and was below the prescribed 40% (Podsakoff et al., 2003). No single factors emerged, and the first factors did not explain most of the variance. This suggests that CMB is not a critical issue for this study. Additionally, the Kaiser-Meyer-Olkin (KMO) test was employed to measure the sampling adequacy; a KMO score between 0.700 and 0.900 reveals the adequacy of the sampling of the study (Hair et al., 2014a).

Table 21: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.881
Bartlett's Test of Sphericity	Approx. Chi-Square	7114.250
	Df	1176
	Sig.	.000

Source: primary data

Table 22: Harman's single-factor test

#### Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.995	23.519	23.519	11.995	23.519	23.519
2	4.847	9.503	33.023	4.847	9.503	33.023
3	3.081	6.042	39.065	3.081	6.042	39.065
4	2.385	4.677	43.742	2.385	4.677	43.742
5	1.998	3.918	47.660	1.998	3.918	47.660
6	1.735	3.402	51.062	1.735	3.402	51.062
7	1.339	2.626	53.688	1.339	2.626	53.688
8	1.287	2.524	56.212	1.287	2.524	56.212
9	1.236	2.423	58.635	1.236	2.423	58.635
10	1.112	2.180	60.816	1.112	2.180	60.816
11	1.055	2.068	62.884	1.055	2.068	62.884
12	.982	1.926	64.810			
13	.938	1.838	66.648			
14	.903	1.771	68.420			
15	.849	1.664	70.084			
16	.813	1.595	71.679			

Source: primary data

#### ***5.3.4 Latent correlation matrix technique***

Another post-data collection technique applied to gauge the issue of CMB was the latent construct correlations suggested by Bagozzi et al. (1991). The significant impact of CMB becomes apparent when a substantial correlation occurs among the study constructs, i.e.,  $R > 0.9$ . However, the issue of CMB

remains insignificant when the correlation among the latent study constructs remains less than 0.90 (Bagozzi et al., 1991). For the current study, the correlation among all the latent constructs remains well under the specified limit of 0.90. The results suggest that CMB is not a critical issue for the current study. Table 23 presents the correlation analysis.

Table 23: Latent construct and correlation matrix

	PD	ND	MAS	UA	LTO	ATF	EO
PD	1.000						
IND	0.212**	1.000					
MAS	0.207**	0.382**	1.000				
UA	0.126*	0.289**	0.442**	1.000			
LTO	0.112	0.283**	0.475**	0.749**	1.000		
ATF	0.060	0.267**	0.225**	0.234**	0.000	1.000	
EO	0.137*	0.307**	0.339**	0.368**	0.000	0.543**	1.000

Note: PD: Power Distance; IND: Individualism; MAS: Masculinity; UA: Uncertainty Avoidance; LTO: Long-term orientation; ATF: Access to finance; EO: Entrepreneurial Orientation.

\*p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001

### 5.3.5 Full collinearity test

It is essential to examine collinearity among the exogenous variables in the study. Multicollinearity represents the correlation among two or more of the exogenous constructs under investigation. High correlation among the predictor variables greatly influences the study results. A variance inflation factor (VIF) of above 3.3 advocates the indication of pathological collinearity and the severe issue of CMB (Hair et al., 2014a). High multicollinearity affects the regression coefficients, inflates the standard errors and confidence intervals, and causes the significance negatively (Kock, 2015). In contrast, a low level of VIF among the latent constructs shows the independence of the exogenous constructs. However, a VIF score of 1 or less than 1 shows no correlations among the variables (Kock, 2015).

The cut-off value of the VIF is 3.3, considered a conservative threshold (Hair et al., 2014a). The VIF result is reported in Table 24.

Table 24: Latent construct VIF and tolerance

Constructs	VIF	Tolerance
PD	1.072	0.933
IND	1.274	0.785
MAS	1.479	0.676
UA	2.382	0.420
LTO	2.442	0.410
ATF	1.449	0.690
EO	1.621	0.617

Note: PD: Power Distance; IND: Individualism; MAS: Masculinity; UA: Uncertainty Avoidance; LTO: Long-term orientation; ATF: Access to finance; EO: Entrepreneurial Orientations.

For this study, multiple regression with the latent constructs was executed in SPSS, and the results are reported in Table 24. The results show that all the constructs' VIF values are well under 3.3, and the tolerance level is above 0.2 limits. Hence, The results show that multicollinearity is not a significant issue (Hair et al., 2014a).

#### 5.4 Descriptive Statistics of Variables of the Study

While Hofstede's dimensions of NC are traditionally measured at country level, this study used a questionnaire to estimate cultural dimensions at the level of individual female entrepreneurs in Saudi Arabia. Subsequently, these measures were associated with EO.

##### *5.4.1 Independent variables - Components of cultural dimensions*

###### **1) Power Distance (PD)**

PD tolerance depicts an individual's acceptance of formalisation, hierarchy, and unequal power distribution. Five items were utilised to gauge individual power distance. The descriptive statistics for the items are presented in Table 25. The results reveal that PD01 has an average value of 3.46 (34.6 in



real terms), with a moderate variation (Std. Dev. = 2.90). With a median score of 2.00, the outcome suggests that for the study respondents, the PD01 value ranges from  $3.46 \pm 2.90$  (lowest value 0.56 and highest value 6.36), depicting a moderate spread of values. The data are moderately positively skewed (skewness = 0.992), and the distribution is slightly flatter than the normal distribution with negative kurtosis (-0.212) (Field, 2009). The results are presented in Table 25.

The analysis suggests that PD02 has an average value of 3.77 (37.7 in real terms) with a moderately high variation (Std. Dev. = 3.15), with a median of 2.00. This suggested that for the study respondents, the PD02 value ranges from  $3.77 \pm 3.15$  (lowest value 0.62 and highest value 6.92). The PD02 data are positively skewed (skewness = 0.848), and the distribution is flatter with negative kurtosis (-0.652) (Field, 2009).

The results suggest that PD03 has an average value of 2.77 (27.7 in real terms) with a higher variation (Std. Dev. = 2.75). The outcome indicates that for the study respondents, the PD03 value ranges from  $2.77 \pm 2.75$  (lowest value 0.02 and highest value 5.52). The data are highly positively skewed (skewness = 1.53), and the distribution peaked more than the normal distribution with positive and high kurtosis (1.04).

Next, the results showed that PD04 has an average value of 4.26 (42.6 in real terms) with a moderate variation (Std. Dev. = 3.09). The results suggest that for the study respondents, the PD04 value ranges from  $4.26 \pm 3.09$  (lowest value 1.17 and highest value 7.35). The median value for data is 4.00. The data are moderately positively skewed and low in asymmetry (skewness = 0.675), and the distribution is flatter than the normal distribution with negative kurtosis (-0.790).

The results showed that PD05 has an average value of 3.74 (37.4 in real terms) with a moderate variation (Std. Dev. = 2.90). The results suggest that for the study respondents, the PD05 value ranges from  $3.74 \pm 2.90$  (lowest value 0.84 and highest value 6.64). The median value for data is 3.00. The data are

positively skewed (skewness = 0.881), and the distribution is slightly flatter than the normal distribution with low negative kurtosis (-0.320).

Table 25: Descriptive statistics for PD

Items	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
PD01: People in higher positions should make most decisions without consulting people in lower positions.	3.46	2.90	2.00	1	10	0.992	-0.212
PD02: People in higher positions should not ask the opinions of people in lower positions too frequently.	3.77	3.15	2.00	1	10	0.848	-0.652
PD03: People in higher positions should not ask the opinions of people in lower positions too frequently.	2.77	2.85	1.00	1	10	1.533	1.046
PD04: People in lower positions should not disagree with decisions by people in higher positions.	4.26	3.09	4.00	1	10	0.675	-0.790
PD05: People in higher positions should not delegate important tasks to people in lower positions.	3.74	2.90	3.00	1	10	0.881	-0.320

Total sample = 291

## 2) Individualism (IND)

Individualism as a cultural dimension stress personal independence and pursuing personal goals and desires. People with high individualism value self-reliance, achievement, and autonomy. Individualism is contrasted with collectivism, where group unity, community well-being, and interdependence are emphasised. A high score for individualism indicates a strong emphasis on independence, individual rights, and personal achievements. A low score

represents a stress on collectivism, groups and taking responsibility for family over individual needs. Six items were used to measure individualism among the study respondents. The descriptive statistics for the items are presented in Table 26.

The results revealed that IND01 has an average value of 5.19 (51.9 in real terms) with a moderately high variation (Std. Dev. = 3.05). The median value is 5.00. The outcome suggests that for the study respondents, the IND01 value ranges from  $5.19 \pm 3.05$  (lowest value 2.14 and highest value 8.24). The data are slightly positively skewed (skewness = 0.259), and the distribution is flatter than the normal distribution with negative kurtosis (-1.067).

The analysis revealed that IND02 has a mean value of 5.83 (58.3 in real terms) with a moderately high variation (Std. Dev. = 3.05). The Median value for the data are 5.00, indicating that the values are scattered around 5.00. The result advocates that for the study respondents. The IND02 value ranges from  $5.83 \pm 3.05$  (lowest value 2.78 and highest value 8.88). The IND02 data are marginally positively skewed (skewness = 0.044), and the distribution is flatter than the normal distribution with negative kurtosis (-1.220).

The results suggest that IND03 has an average value of 5.40 (54.0 in real terms) with a higher variation (Std. Dev. = 3.22) and a median value of 5.00. The outcome suggests that for the study respondents, the IND03 value ranges from  $5.40 \pm 3.22$  (lowest value 2.18 and highest value 8.62). The data are slightly positively skewed (skewness = 0.138) and normally distributed compared to the normal distribution, with positive and high kurtosis (1.310) suggesting a peaked distribution (Field, 2009).

Next, the results exposed that IND04 has an average value of 6.22 (62.2 in real terms) with a moderate variation (Std. Dev. = 3.20) and a median value of 6.00. The outcome suggests that for the study respondents, the IND04 value ranges from  $6.22 \pm 3.20$  (lowest value 3.02 and highest value 9.42). The data are

slightly negatively skewed (skewness = -0.241), and the distribution is flatter than the normal distribution with negative kurtosis (-1.239) (Field, 2009).

The results showed that IND05 has an average value of 5.33 (53.3 in real terms) with a moderate variation (Std. Dev. = 3.17). The median score is 5.00. The result recommends that for the study respondents, the IND05 value ranges from  $5.33 \pm 3.17$  (lowest value 2.16 and highest value 8.50). The data are positively skewed (skewness = 0.097), and the distribution is flatter than the normal distribution, with low negative kurtosis (-1.283).

Next, the results showed that IND06 has an average value of 5.77 (57.7 in real terms) with a moderate variation (Std. Dev. = 3.07) and a median value of 5.00. The outcome suggests that for the study respondents, the IND06 value ranges from  $5.77 \pm 3.07$  (lowest value 2.7 and highest value 8.84). The data are slightly negatively skewed (skewness = -0.032), and the distribution is relatively flatter than the normal distribution with negative kurtosis (-1.200).

Table 26: Descriptive statistics for IND

Items	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
IND01: Individuals should sacrifice self-interest for the group.	5.19	3.05	5.00	1	10	0.259	-1.067
IND02: Individuals should stick with the group even through difficulties.	5.83	3.05	5.00	1	10	0.044	-1.220
IND03: Group welfare is more important than individual rewards.	5.40	3.22	5.00	1	10	0.138	1.310
IND04: Group success is more important than individual success.	6.22	3.20	6.00	1	10	-0.241	-1.239
IND05: Individuals should only pursue their goals	5.33	3.17	5.00	1	10	0.097	-1.283

after considering the welfare of the group.							
IND06: Group loyalty should be encouraged even if individual goals suffer.	5.77	3.07	5.00	1	10	-0.032	-1.200

Total sample = 291

### 3) Masculinity (MAS)

Masculinity depicts the division of roles within society and whether a society values competitiveness, assertiveness, and ambition over caring for others, nurturing others, and quality of life. A high masculinity score emphasises achievement, assertiveness, and the physical rewards of success. In contrast, a low masculinity score depicts the society's emphasis on cooperation, caring for others and striving to achieve work-life balance for both genders. Four items were employed to measure masculinity. The descriptive statistics for the items are presented in Table 27.

The results showed that MAS01 has an average value of 7.73 (77.3 in real terms) with a moderate variation (Std. Dev.= 2.28), and a median value of 8.00. The outcome suggests that for the study respondents, the MAS01 value ranges from  $7.73 \pm 2.28$  (lowest value 5.45 and highest value 10.00). The data are moderately positively skewed (skewness = -0.828), and the distribution is slightly flatter than the normal distribution with negative kurtosis (-0.418).

The analysis revealed that MAS02 has an average value of 3.88 (38.8 in real terms) with a moderate variation (SD. = 2.63), and the median value is 3.00. The result advocates that for the study respondents, the MAS02 value ranges from  $3.88 \pm 2.63$  (lowest value 1.25 and highest value 6.51). The MAS02 data are positively skewed (skewness = 0.681), and the distribution is flatter than the normal distribution with negative kurtosis (-0.448).

The results suggest that MAS03 has an average value of 6.88 (68.8 in real terms) with a moderate variation (Std. Dev. = 2.64), with a central value of 7.00

(median = 7.00). The outcome suggests that for the study respondents, the MAS03 value ranges from  $6.88 \pm 2.64$  (lowest value 4.24 and highest value 9.52). The data are highly negatively skewed (skewness = -0.418), and the distribution is flatter than the normal distribution, with negative and high kurtosis (-0.853).

Next, the results showed that MAS04 has an average value of 7.72 (77.2 in real terms) with a moderate variation (Std. Dev. = 2.33) with a median value of 8.00. The results suggest that for the study respondents, the MAS04 value ranges from  $7.72 \pm 2.53$  (lowest value 5.39 and highest value 10.00). The data are highly negatively skewed and left-tailed asymmetry (skewness = -0.977), and the distribution is flatter than the normal distribution with negative kurtosis (-0.044).

Table 27: Descriptive statistics for MAS

Items	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
MAS01: I generally solve problems with logical analysis.	7.73	2.28	8.00	1	10	-0.828	-0.418
MAS02: I generally solve problems with intuition.	3.88	2.63	3.00	1	10	0.681	-0.448
MAS03: I can solve complex problems that usually require an active, forcible approach.	6.88	2.64	7.00	1	10	-0.418	-0.853
MAS04: I feel I can always do all my jobs.	7.72	2.33	8.00	1	10	-0.977	-0.044

Total sample = 291

#### 4) Uncertainty Avoidance (UA)

Uncertainty avoidance measures the inverse of tolerance of uncertainty, the unknown or futures among individuals. A high uncertainty avoidance score shows a low tolerance for uncertainty and ambiguity, whereas a low score represents a culture's willingness to accept uncertain situations and ambiguity.

Five items were employed to estimate the uncertainty avoidance of the study respondents. The descriptive statistics for the items are presented in Table 28.

The results revealed that UA01 has an average value of 8.28 (82.8 in real terms) with a moderate variation (Std. Dev. = 2.10) and a median value of 10.00. The outcome suggests that for the study respondents, the UA01 value ranges from  $8.28 \pm 2.10$  (lowest value 6.28 and highest value 10.00). The data are highly negatively skewed (skewness = -1.586), and the distribution peaked more than the normal distribution with a high positive kurtosis (1.709).

The analysis revealed that UA02 has an average value of 8.28 (82.8 in real terms) with a moderate variation (Std. Dev. = 2.28) and a median value of 9.00. The result advocates that for the study respondents, the UA02 value ranges from  $8.28 \pm 2.28$  (lowest value 6.00 and highest value 10.00). The UA02 data are highly negatively skewed (skewness = -1.390), and the distribution peaked with high positive kurtosis (1.110).

The results suggest that UA03 has an average value of 8.29 (82.9 in real terms) with a higher variation (SD. = 2.11). The median value is 10.00. The outcome suggests that for the study respondents, the UA03 value ranges from  $8.29 \pm 2.11$  (lowest value 6.29 and highest value 10.39). The data are moderately negatively skewed (skewness = -1.866) and distributed with a higher peak than the normal distribution, with positive and high kurtosis (2.878).

Next, the results exposed that UA04 has an average value of 8.22 (82.2 in real terms) with a moderate variation (Std. Dev.= 2.12) and a median value of 10.00. The outcome suggests that for the study respondents, the UA04 value ranges from  $8.42 \pm 2.21$  (lowest value 6.10 and highest value 10.34). The data are negatively skewed (skewness = -1.516), and the distribution peaked more than the normal distribution with positive kurtosis (1.680).

The results showed that UA05 has an average value of 8.80 (88.0 in real terms) with a moderate variation (Std. Dev. = 1.49) and a median score of 10.00.

The result recommends that for the study respondents, the UA05 value ranges from  $8.80 \pm 1.49$  (lowest value 7.31 and highest value 10.29). The data are negatively skewed (skewness = -2.234), and the distribution is highly peaked with the high positive kurtosis value (4.938).

Table 28: Descriptive statistics for UA

Items	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
UA01: It is important to have instructions spelled out in detail so that I always know what I'm expected to do.	8.28	2.10	10.00	1	10	-1.586	1.709
UA02: It is important to closely follow instructions and procedures.	8.28	2.28	9.00	1	10	-1.390	1.100
UA03: Rules and regulations are important because they inform me of what is expected of me.	8.29	2.00	10.00	1	10	-1.866	2.878
UA04: Standardised work procedures are helpful.	8.22	2.12	10.00	1	10	-1.516	1.680
UA05: Instructions for operations are important.	8.80	1.49	10.00	1	10	-2.234	4.938

Total sample = 291

## 5) Long-term Orientation (LTO)

Long-term orientation explains how culture values long-term commitments, planning, and perseverance over short-term gratification, tradition, and social stability. A high score depicts a national culture's focus on



the future, persistence, and delayed gratification, whereas a low score presents a culture's focus on short-term gratification. Six items were employed to measure long-term orientation among the study respondents. The descriptive statistics for the items are provided in Table 29.

The results showed that LTO01 has an average value of 8.68 (86.8 in real terms) with a moderate variation (Std. Dev. = 2.21), and a median value of 10.00. The outcome suggests that for the study respondents, the LTO01 value ranges from  $8.68 \pm 2.21$  (lowest value 6.47 and highest value 10.89). The data are highly negatively skewed (skewness = -1.953), and the distribution peaked more than the normal distribution with high positive kurtosis (3.101).

The analysis exposed that LTO02 has an average value of 7.50 (75.0 in real terms) with a moderately high variation (Std. Dev. = 3.05). The median value is 8.00. The result advocates that for the study respondents, the LTO02 value ranges from  $7.50 \pm 3.05$  (lowest value 4.45 and highest value 10.55). The LTO02 data are marginally negatively skewed (skewness = -0.925), and the distribution is normal with small positive kurtosis (0.006).

The results suggest that LTO03 has an average value of 8.72 (87.2 in real terms) with a moderate variation (Std. Dev. = 2.00). The outcome indicates that for the study respondents, the LTO03 value ranges from  $8.72 \pm 2.00$  (lowest value 6.72 and highest value 10.72). The data are high negatively skewed (skewness = -1.868) and highly peaked with a high positive kurtosis (3.037).

Next, the results exposed that LTO04 has an average value of 8.71 (87.1 in real terms) with a moderate variation (Std. Dev. = 2.11). The outcome suggests that for the study respondents, the LTO04 value ranges from  $8.71 \pm 2.11$  (lowest value 3.02 and highest value 9.42). The data are negatively skewed (skewness = -1.880) and peaked at normal distribution with positive kurtosis (2.837).

The results showed that LTO05 has an average value of 7.15 (71.5 in real terms) with a moderate variation of (Std. Dev. = 2.77). The result suggests that

for the study respondents, the LTO05 value ranges from  $7.15 \pm 2.77$  (lowest value 4.38 and highest value 9.92). The median value is 10.00. The data are negatively skewed (skewness = -0.690), and the distribution is flatter than the normal distribution with low negative kurtosis (-0.522).

Next, the results suggest that LTO06 has an average value of 5.77 (57.7 in real terms) with a moderate variation of (Std. Dev.= 3.07). Results suggest that for the study respondents, the LTO06 value ranges from  $5.77 \pm 3.07$  (lowest value 2.7 and highest value 8.84). The median score for data is 10.00. The data are negatively skewed (skewness = -2.393), and the distribution is highly peaked than the normal distribution with high positive kurtosis (5.316).

Table 29: Descriptive statistics for LTO

Items	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
LTO01: Careful management of money is important.	8.68	2.21	10.00	1	10	-1.953	3.101
LTO02: It is important to go on resolutely even when there is opposition.	7.50	2.56	8.00	1	10	-0.925	0.006
LTO03: Personal steadiness and stability are important.	8.72	2.00	10.00	1	10	-1.868	3.037
LTO04: It is important to plan for the long term.	8.71	2.11	10.00	1	10	-1.880	2.837
LTO05: Giving up today's fun for success in the future is important.	7.15	2.77	10.00	1	10	-0.690	-0.522

LTO06: It is important to work hard for success in the future.	9.01	1.95	10.00	1	10	-2.393	5.316
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Total sample = 291

#### ***5.4.2 Moderator variable - Formal institutions***

##### **1) Access to Finance (ATF)**

ATF signifies society's perception of the funds available to finance business ideas and start ventures. It is studied because female entrepreneurs may be disadvantaged in a male-dominated society. Hence, it is important to understand how ATF influence the connection between NC and EO among female entrepreneurs. Accordingly, seven items were employed to measure the respondents' ATF. The descriptive statistics for the items are presented in Table 30.

The results revealed that ATF01 has an average value of 3.77 with a moderate variation (Std. Dev. = 0.77). The outcome suggests that for the study respondents, the ATF01 value ranges from  $3.77 \pm 0.77$  (lowest value 3.00 and highest value 4.54). The data are slightly negatively skewed (skewness = -0.172), and the distribution is moderately flatter than the normal distribution with small negative kurtosis (-0.197).

The analysis suggests that ATF02 has an average value of 3.92 with a moderate variation (Std. Dev.= 0.76). The result shows that for the study respondents, the ATF02 value ranges from  $3.92 \pm 0.76$  (lowest value 3.16 and highest value 4.68). The ATF02 data are marginally negatively skewed (skewness = -0.573), and the distribution is moderately peaked with small positive kurtosis (0.820).

The results suggest that ATF03 has an average value of 3.60 with a variation (Std. Dev. = 0.93). The outcome indicates that for the study respondents, the ATF03 value ranges from  $3.60 \pm 0.93$  (lowest value 2.67 and

highest value 4.53). The data are slightly negatively skewed (skewness = -0.346) and normally distributed compared to the normal distribution, with positive and small kurtosis (0.021).

Next, the results showed that ATF04 has an average value of 3.63 with a moderate variation (Std. Dev. = 0.90). The outcome suggests that for the study respondents, the ATF04 value ranges from  $3.63 \pm 0.90$  (lowest value 2.73 and highest value 4.53). The data are slightly negatively skewed (skewness = -0.452), and the distribution is flatter than the normal distribution with positive kurtosis (0.615).

The results showed that ATF05 has an average value of 3.72 with a moderate variation (Std. Dev. = 0.82). The result recommends that for the study respondents, the ATF05 value ranges from  $3.72 \pm 0.82$  (lowest value 2.90 and highest value 4.54). The data are negatively skewed (skewness = -0.412), and the distribution is flatter than the normal distribution with low kurtosis (0.625).

Subsequently, the results showed that ATF06 has an average value of 4.01 with a moderate variation (Std. Dev.= 0.86). The outcome suggests that for the study respondents, the ATF06 value ranges from  $4.01 \pm 0.86$  (lowest value 3.15 and highest value 4.87). The data are negatively skewed (skewness = -1.165), and the distribution is flatter than the normal distribution with positive kurtosis (2.195).

The results showed that ATF07 has an average value of 3.80 with a moderate variation (Std. Dev.= 0.78). The result recommends that for the study respondents, the ATF07 value ranges from  $3.80 \pm 0.78$  (lowest value 3.02 and highest value 4.58). The data are negatively skewed (skewness = -0.471), and the distribution is flatter than the normal distribution with low kurtosis (0.455). The results are available in Table 30.

Table 30: Descriptive statistics for ATF

Items	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
AFT01: In my country, there is sufficient equity funding available for new and growing firms.	3.77	0.77	4.00	1	5	-0.172	0.197
AFT02: In my country, there is sufficient debt financing available for new and growing firms.	3.92	0.76	4.00	1	5	-0.573	0.820
AFT03: In my country, there is sufficient funding available from informal investors (family, friends and colleagues), who are private individuals (other than founders) for new and growing firms	3.60	0.93	3.60	1	5	-0.346	0.021
AFT04: In my country, there is sufficient professional business angels funding available for new and growing firms.	3.63	0.90	3.63	1	5	-0.452	0.615
AFT05: In my country, there is sufficient venture capitalist funding available for new and growing firms.	3.72	0.82	4.00	1	5	-0.412	0.625
AFT06: Local and national governments have financial support available for individuals who want to start a new business such as finance, training and others.	4.09	0.86	4.00	1	5	-1.165	2.195
AFT07: Even after failing in an earlier business, the	3.80	0.78	4.00	1	5	-0.471	0.455

government assists entrepreneurs financially to start again.							
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Total sample = 291

### ***5.4.3 Dependent variable - EO***

As mentioned, EO is composed of five dimensions: innovativeness (INN), risk-taking (RSK), proactiveness (PRO), competitive aggressiveness (COM), and autonomy (AUT). Descriptive statistics for INN are reported in Table 31.

#### **1) Innovativeness**

Three items were employed to measure innovativeness. The descriptive statistics for the items are shown in Table 31.

The results exposed that INN01 has an average value of 4.30 with a moderately high variation of (Std. Dev. = 2.21), and a median score of 4.30. The outcome suggests that for the study respondents, the INN01 value ranges from  $4.30 \pm 0.81$  (lowest value 3.49 and highest value 5.11). The median value is 4.30. The data are negatively skewed (skewness = -1.499), and the distribution is highly peaked than the normal distribution with high positive kurtosis (3.030).

The analysis revealed that INN02 has an average value of 4.17 with a moderately high variation (Std. Dev. = 0.80). The result suggests that for the study respondents, the INN02 value ranges from  $4.17 \pm 0.80$  (lowest value 3.37 and highest value 4.97). The INN02 data are marginally negatively skewed (skewness = -0.982), and the distribution is peaked with moderate positive kurtosis (1.367). The median score is 4.00

The results suggest that INN03 has an average value of 4.31 with a moderate variation of (Std. Dev. = 0.82). The outcome suggests that for the study respondents, the INN03 value ranges from  $4.31 \pm 0.82$  (lowest value 3.49 and highest value 5.13). The median value is 4.31. The data are slightly negatively

skewed (skewness =-1.377) and moderately peaked compared to the normal distribution, with positive and high kurtosis (2.394).

Table 31: Descriptive statistics for Innovativeness

Items	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
INN01: We actively introduce improvements and innovations in our business.	4.30	0.812	4.30	1	5	-1.499	3.030
INN02: Our business is creative in its methods of operation.	4.17	0.807	4.00	1	5	-0.982	1.367
INN03: Our business seeks out new ways to do things.	4.31	0.822	4.31	1	5	-1.377	2.394

Total Sample = 291

## 2) Risk-taking

Three question items were employed to measure risk-taking. The descriptive statistics for the items are presented in Table 32.

The results revealed that RSK01 has an average value of 3.35 with a moderate variation of (Std. Dev. = 0.95). The outcome suggests that for the study respondents, the RSK01 value ranges from  $3.35 \pm 0.95$  (lowest value 2.14 and highest value 4.30). The median score for the data is 3.00. The data are slightly negatively skewed (skewness = -0.167), and the distribution is close to a normal distribution with negative kurtosis (0.043).

The analysis exposed that RSK02 has an average value of 3.65 with moderate variation (Std. Dev. = 0.93). The median score is 4.00. The result advocates that for the study respondents, the RSK02 value ranges from  $3.65 \pm 0.93$  (lowest value 2.72 and highest value 4.58). The RSK02 data are marginally

negatively skewed (skewness = -0.610), and the distribution is flatter with positive kurtosis (0.363).

The results suggest that RSK03 has an average value of 3.85 with moderate variation (Std. Dev. = 0.86). The outcome suggests that for the study respondents, the RSK03 value ranges from 3.85  $\pm$  0.86 (lowest value 2.99 and highest value 4.71). The median value is 4.00. The data are slightly negatively skewed (skewness = -0.566) and typically distributed close to a normal distribution, with positive kurtosis (0.311).

Table 32: Descriptive statistics for Risk-taking

	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
RSK01: The term “risk taker” is considered a positive attribute for people in our business.	3.35	0.95	3.00	1	5	-0.167	0.043
RSK02: People in our business are encouraged to take calculated risks with new ideas.	3.65	0.93	4.00	1	5	-0.610	0.363
RSK03: Our business emphasises both exploration and experimentation for opportunities.	3.85	0.86	4.00	1	5	-0.566	0.311

Total sample = 291

### 3) Proactiveness

Three items were utilised to measure proactiveness. The descriptive statistics for the items of proactiveness are presented in Table 33.

The results revealed that PRO01 has an average value of 3.92 with moderate variation (Std. Dev. = 0.83). The outcome suggests that for the study



respondents, the PRO01 value ranges from  $3.92 \pm 0.83$  (lowest value 3.09 and highest value 4.75). The median score is 4.00. The data are slightly negatively skewed (skewness = -0.677), and the distribution is close to the normal distribution with moderate positive kurtosis (0.828).

The analysis exposed that PRO02 has an average value of 4.07 with a moderate variance (Std. Dev. = 0.78). The result advocates that for the study respondents, the PRO02 value ranges from  $4.07 \pm 0.78$  (lowest value 3.29 and highest value 4.85). The median score is 4.00. PRO02 data are marginally negatively skewed (skewness = -0.877), and the distribution peaked with positive kurtosis (1.511).

The results suggest that PRO03 has an average value of 3.98 with moderate variation (Std. Dev. = 0.83). The outcome suggests that for the study respondents, the PRO03 value ranges from  $3.98 \pm 0.83$  (lowest value 3.15 and highest value 4.81). The median score is 4.00. The data are slightly negatively skewed (skewness = -0.272) and normally distributed compared to the normal distribution, with negative and moderate kurtosis (-0.843).

Table 33: Descriptive statistics for Proactiveness

	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
PRO01: We always try to take the initiative in every situation (e.g., against competitors, in projects when working with others).	3.92	0.83	4.00	1	5	-0.677	0.828
PRO02: We excel at identifying opportunities.	4.07	0.78	4.00	1	5	-0.877	1.511

PRO03: We initiate actions to which other organisations respond.	3.98	0.83	4.00	2	5	-0.272	-0.843
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Total sample =291

#### 4) Competitive Aggressiveness

Three statement items were used to estimate competitive aggressiveness. The descriptive statistics for the items of competitive aggressiveness are presented in Table 34.

The results revealed that COM01 has an average value of 3.89 with moderate variation (Std. Dev. = 0.93), with a median of 4.00. The outcome suggests that for the study respondents, the COM01 value ranges from  $3.89 \pm .93$  (lowest value 2.96 and highest value 4.82). The data are slightly negatively skewed (skewness = -0.746), and the data distribution is near normal, with a low positive kurtosis (0.535).

The analysis exposed that COM02 has an average value of 3.75 with moderate variation (Std. Dev. = 0.94). The result advocates that for the study respondents, the COM02 value ranges from  $3.75 \pm 0.94$  (lowest value 2.81 and highest value 4.69). The COM02 data are marginally negatively skewed (skewness = -0.542), and the distribution is close to normal with moderate positive kurtosis (0.252).

The results suggest that COM03 has an average value of 3.66 with a higher variation (Std. Dev. = 0.95). The outcome advises that for the study respondents, the COM03 value ranges from  $3.66 \pm 0.95$  (lowest value 2.71 and highest value 4.61). The data are slightly negatively skewed (skewness = -0.516) and normally distributed compared with the moderate positive (0.093).

Table 34: Descriptive statistics for Competitive Aggressiveness

	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
COM01: Our business is intensely competitive.	3.89	0.93	4.00	1	5	-0.746	0.535
COM02: In general, our business takes a bold or aggressive approach when competing.	3.75	0.94	4.00	1	5	-0.542	0.252
COM03: We try to undo and out-manoeuvre the competition as best as we can.	3.66	0.95	4.00	1	5	-0.516	0.093

Total sample = 291

## 5) Autonomy

Six items were employed to measure autonomy among the study respondents. The descriptive statistics for the items are accessible in Table 35.

The results revealed that AUT01 has an average value of 2.97 with a moderately higher variation (Std. Dev. = 1.04), with a median of 3.00. The outcome suggests that for the study respondents, the AUT01 value ranges from  $2.97 \pm 1.04$  (lowest value 1.93 and highest value 4.01). The data are slightly positively skewed (skewness = 0.073), and the distribution is flatter than the normal distribution with negative kurtosis (-0.392).

The analysis exposed that AUT02 has an average value of 3.83 with a moderate variation (Std. Dev.= 0.91). The result advocates that the AUT02 value ranges from  $3.83 \pm 0.91$  (lowest value 2.292 and highest value 4.74) for the study respondents; the median score is 4.00. The AUT 02 data are marginally negatively skewed (skewness = -0.848), and the distribution is flatter than the normal distribution with negative kurtosis (-1.069).

The results suggest that AUT03 has an average value of 3.48 with a moderate variation (Std. Dev.= 1.01). The outcome suggests that for the study respondents, the AUT03 value ranges from  $3.48 \pm 1.01$  (lowest value 2.47 and highest value 4.49). The median value is 3.48. The data are slightly negatively skewed (skewness = -0.541) and normally distributed compared to the normal distribution, with positive kurtosis (0.225).

Next, the results suggest that AUT04 has an average value of 3.85 with a moderate variation of (Std. Dev. = 1.07). The outcome suggests that the AUT04 value ranges from  $3.85 \pm 1.07$  (lowest value 2.78 and highest value 4.92), and the median value is 4.00 for the study respondents. The data are slightly negatively skewed (skewness = -0.737), and the distribution is moderately flatter than the normal distribution with moderate positive kurtosis (1.034).

The results showed that AUT05 has an average value of 3.38 with a moderate variation (Std. Dev.= 1.07). The result shows that for the study respondents, the AUT05 value ranges from  $3.38 \pm 1.07$  (lowest value 2.31 and highest value 4.45). The median value is 3.38 for the data. The data are negatively skewed (skewness = -0.405), and the distribution is flatter than the normal distribution with low negative kurtosis (-0.374).

Next, the results exposed that AUT06 has an average value of 2.87 with a moderate variation (Std. Dev. = 1.09), and the median value is 3.00. The outcome suggests that for the study respondents, the AUT06 value ranges from  $2.87 \pm 1.09$  (lowest value 1.78 and highest value 3.96). The data are slightly skewed (skewness = 0.152), and the distribution is moderately flatter than the normal distribution with negative kurtosis (-0.439).

Table 35: Descriptive Statistics for Autonomy

Items	Mean	Std. Dev.	Median	Min. value	Max. value	Skewness	Kurtosis
AUT01: Employees are permitted to act and	2.97	1.04	3.00	1	5	0.073	-0.392

think without interference.							
AUT02: Employees perform jobs that allow them to make and instigate changes in the way they perform their work tasks.	3.83	0.91	4.00	1	5	-0.848	1.069
AUT03: Employees are given freedom and independence to decide on their own how to go about doing their work.	3.48	1.01	3.48	1	5	-0.541	0.225
AUT04: Employees are given freedom to communicate without interference.	3.85	0.84	4.00	1	5	-0.737	1.034
AUT05: Employees are given authority and responsibility to act alone if they think it to be in the best interests of the business.	3.38	1.07	3.38	1	5	-0.405	-0.374
AUT06: Employees have access to all vital information.	2.87	1.09	3.00	1	5	0.152	-0.439

Total sample = 291

## 5.5 Latent Construct Analysis and Reliability Assessment

### 5.5.1 Factor analysis

Principal component analysis with varimax rotation was conducted to estimate the underlying structure of the sixty-four question items utilised for the current study. Eleven factors were extracted from the data. After conducting

the Kaiser-Meyer-Olkin (KMO) test, the finding was 0.855, indicating that the items used are suitable for factor analysis. Furthermore, Bartlett's test result indicated a good result. It showed that the correlation among variables is significant, confirming that items meaningfully correlate with the variables. (Hair et al., 2014a). The results are presented in Table 36.

Table 36: KMO and Bartlett's Test - Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.855
Approx. Chi-Square	5953.68
Bartlett's Test of Sphericity df (degree of freedom)	946
Significance level	0.000

Source: Primary Analysis

The rotated matrix solution provides information on how the loading changes when the initial factor solution is rotated. All the loadings less than 0.40 are omitted to achieve a plausible factor solution. The first factor is power distance, which loads strongly on only four items. The item PO05 was dropped to achieve an acceptable factor loading for PD. The construct PD accounted for 5% of the variance in the model.

Individualism was estimated with six items, and the rotated solution suggests that all six items load well on the respective construct and can explain 6.68% of the variance. Subsequently, masculinity was assessed with four question items, but the MAS02 item was dropped to achieve a satisfactory solution. MAS as a factor accounted for 4.36% of the variance with three items. Furthermore, UA was composed of five items, and all the items were included in the rotated matrix. UA accounted for 9.37% of the variance with five items. LTO was evaluated with six question items, but the LTO06 item was dropped to achieve a suitable solution. Hence, long-term orientation accounted for 7.41% of the variance with five items.

Next, innovativeness was measured using three question items. Innovativeness accounted for 6.56% of the variance with three items. Proactiveness was appraised, and the three items were included in the rotated matrix solution. Proactiveness accounted for 4.12% of the variance with the three items. In addition, risk-taking was evaluated with three question items, but the RSK03 item was dropped to achieve a satisfactory result. Risk-taking accounted for 2.95% of the variance with two items.

Competitive aggressiveness was assessed with three question items, but the COM03 item was dropped to achieve a satisfactory solution. Competitive advantage as a factor accounted for 4.23% of the variance with two items. Autonomy was appraised with six items, and all the items were retained in the rotated matrix solution; autonomy accounted for 6.49% of the variance with six items. Lastly, access to finance was evaluated with seven question items, and no items were dropped to achieve a suitable solution. Access to finance accounted for 8.21% of the variance with seven items. Table 37 presents the factor loadings of the rotated factors of the items of the constructs.

Table 37: Factor loading for rotated factors

	PD	IND	MAS	UA	LTO	INN	PRO	RSK	COM	AUT	ATF
PD02	0.766										
PD03	0.696										
PD04	0.648										
PD01	0.642										
IND02		0.752									
IND03		0.730									
IND04		0.681									
IND01		0.611									
IND06		0.537									
IND05		0.505									
MAS03			0.760								
MAS04			0.754								
MAS01			0.548								
UA02				0.817							
UA05				0.792							

UA01				0.792							
UA03				0.763							
UA04				0.727							
LTO04					0.794						
LTO03					0.790						
LTO01					0.776						
LTO05					0.725						
LTO02					0.537						
INN03						0.804					
INN02						0.793					
INN01						0.722					
PRO02							0.687				
PRO03							0.588				
PRO01							0.551				
RSK01								0.504			
RSK02								0.498			
COM02									0.804		
COM01									0.753		
AUT03										0.751	
AUT05										0.685	
AUT06										0.654	
AUT02										0.651	
AUT01										0.618	
AUT04										0.464	
ATF05											0.845
ATF04											0.844
ATF03											0.746
ATF02											0.705
ATF01											0.692
AFT06											0.675
ATF07											0.598
Eigenvalues	2.20	2.94	1.91	4.12	3.26	2.88	1.81	1.30	1.86	2.85	3.61
% of variance	5.00	6.68	4.36	9.37	7.41	6.56	4.12	2.95	4.23	6.49	8.21

Note: PD: Power distance, IND: Individualism, MAS: Masculinity, UA: Uncertainty Avoidance, LTO: Long-term orientation, INN: Innovativeness, PRO: Pro-activeness, RSK: Risk-taking, COM: Competitive aggressiveness, AUT: Autonomy, ATF: Access to Finance.



### ***5.5.2 Formation of Latent constructs***

The current work used the parcelling technique, a statistical technique employed in structural equation modelling (SEM) and factor analysis. It combines different items into a single composite score before analysis (Hair et al., 2014a). Five items were utilised to estimate the PD tolerance. However, as one item was dropped for non-loading in the factor analysis, four-item scores were averaged to form the PD latent construct (Hair et al., 2014a). Next, IND among the study respondents was gauged using six items, and a latent construct for IND was formed using the average score of these six items. Likewise, three items were utilised to evaluate MAS. The items' scores were averaged to achieve the latent score for MAS. Following this, the UA among the study respondents was gauged using five items, and a latent construct for UA was formed using the average score of these five items. Likewise, LTO was measured by five items and the items' scores were averaged to obtain the latent score for LTO.

ATF was calculated using seven items, and the access to finance latent construct was formed by taking the average of all seven items. The formation EO was based on the five dimensions, i.e., INN, PRO, RSK, COM, and AUT. Innovativeness among the respondents was gauged with the three items, and a latent construct for INN was formed using the average score of these three items. Similarly, PRO was formed with three items to evaluate the PRO of the respondents. The items' scores were averaged to achieve the latent score for PRO. Following this, RSK among the study respondents was gauged using the three items, but due to a factor loading issue, one item was dropped from risk-taking. The latent construct for RSK was therefore formed using the average score of the remaining two items. Likewise, COM was assessed with three items. One item was dropped in factor loading, therefore two items were utilised to form the construct for COM. Lastly, AUT was estimated with six items. The items' scores were averaged to form the AUT construct. EO was formed with the five dimensions of EO. All the average scores of the five dimensions of EO were added, and the average score utilised as the EO score.

### 5.5.3 Latent constructs' descriptive analysis

The central tendency for the study constructs was evaluated with the mean, median, and mode. The variability of the study constructs is reported with the range and standard deviation. All the exogenous constructs (i.e., PD, IND, MAS, UA, and LTO) were evaluated with a 10-point Likert scale. However, ATF and EO were evaluated with a five-point Likert scale to help achieve the depth and clarity of findings (Bangor et al., 2008). The latent constructs' descriptive statistics are presented in Table 38.

Table 38: Latent constructs' descriptive statistics

Construct	No. of items	Min	Max	Mean	Std. Dev.	Skewness	Kurtosis	K-S Z test	P values
PD	4	1.00	10.00	3.564	1.949	1.052	0.826	1.837	0.002
IND	6	1.00	10.00	5.623	2.132	0.056	-0.496	0.886	0.412
MAS	3	1.00	10.00	7.306	2.094	-0.495	-0.352	1.243	0.091
UA	5	1.00	10.00	8.531	1.849	-1.855	3.583	3.641	0.000
LTO	5	1.00	10.00	8.152	1.805	-1.596	2.999	3.224	0.000
ATF	7	1.00	5.00	3.790	0.649	-0.240	1.106	1.842	0.002
EO	5	1.00	5.00	3.793	0.549	-0.663	2.187	2.513	0.028

Note: PD: Power Distance; IND: Individualism; MAS: Masculinity; UA: Uncertainty Avoidance; LTO: Long-term orientation; ATF: Access to finance; Entrepreneurial Orientation EO; K-S Z Test: Kolomogorov-Smirnov Z test.

As shown in Table 36, for PD the values of the responses range from 1 to 10. The PD mean and standard deviation (mean = 3.564, SD = 1.949) show an acceptable spread of the responses. The mean value for IND corresponds to agree to strongly agree (mean = 5.623, Std. Dev. = 2.132). For MAS, the response values range from 1 to 10 (mean = 7.306 and SD = 2.094), while the mean value for UA signifies partially agree to agree (mean = 8.531, SD = 1.849). For LTO, the values of the responses range from 1 to 10 (mean = 8.152, Std. Dev. = 1.805). ATF was estimated using a five-point Likert scale, which gave mean = 3.790 and SD = 0.649, depicting an appropriate spread of responses.

EO's mean and standard deviation (mean = 3.793, SD = 0.549) show an acceptable spread of responses. The scores for the cultural dimension from the study were multiplied by 10 to attain the real cultural dimension scores. As a comparison to this survey data, the Saudi cultural dimension scores were taken from Hofstede's website. The scores are presented in Table 39.

Table 39: Study cultural dimensions score and Hofstede's Saudi national scores

Construct	No. of items	Mean	Mean in real terms	Saudi cultural dimension score
PD	4	3.599	35.99	72
IND	6	5.623	56.23	48
MAS	3	6.554	65.54	43
UA	5	8.531	85.31	64
LTO	5	8.296	82.96	27

Note: PD: Power Distance; IND: Individualism; MAS: Masculinity; UA: Uncertainty Avoidance; LTO: Long-term orientation.

The comparison of the estimated individual cultural dimensions and the published national Saudi cultural dimensions show apparent differences. The Saudi women entrepreneurs in the survey displayed a lower PD score than the national score of Saudi Arabia. This result indicates that the study respondents were less accepting of hierarchical distances than the general Saudi population. For IND, the study respondents' score is marginally higher than the Saudi national score for individualism. The difference shows that the study respondents tend to value personal achievement and autonomy more than the general Saudi population. Next, the difference in the MAS scores reveal that the study respondents are significantly higher in their masculinity scores than the Saudi population. This suggests that the study respondents may be more likely to emphasise competitiveness, success, and material accomplishment than the general Saudi population. The study UA score is much higher than the Saudi national score, and this indicates that the study respondents (Saudi female entrepreneurs) tend to like clear rules and structured situations more than the broader Saudi population. Lastly, the comparison for LTO reveals that the study

respondents are more future-oriented and value long-term planning and determination than the general population of Saudi Arabia.

#### **5.5.4 Construct reliability**

Construct level reliability was estimated using Cronbach's alpha (CA) and Composite Reliability (CR). CA values from 0.600 to 0.700 are termed 'acceptable' and CA values from 0.700 to 0.900 are regarded as 'satisfactory or good' (Hair et al., 2014a). CA is a conservative reliability index associated with limiting the number of items. CR is regarded as a more robust reliability measure than CA and CR scores of 0.70 and 0.90 are considered satisfactory (Adams et al., 2007). CA is labelled a conservative reliability measure, and CR is termed overstating the reliability value (Hair et al., 2014a). Still, it is good to report both CR and CA to check the reliability. Therefore, the current work reports both of the reliability measures. As suggested in Table 40, all the constructs attain acceptable reliability. The minimum CA value is achieved by MAS (CA = 0.562). The minimum CR value is attained by PRO (CR = 0.514).

Table 40: Construct level reliability analysis

Constructs	No. of Items	Cronbach's Alpha (CA)	Result	Composite Reliability (CR)	Result
PD	4	0.664	Acceptable	0.753	Good
IND	6	0.769	Good	0.592	Acceptable
MAS	3	0.562	Acceptable	0.578	Acceptable
UA	5	0.903	Excellent	0.889	Good
LTO	5	0.861	Good	0.847	Good
INN	3	0.888	Good	0.776	Good
RSK	2	0.710	Good	0.732	Good
PRO	3	0.750	Good	0.514	Acceptable
COM	2	0.686	Acceptable	0.653	Acceptable
AUT	6	0.766	Good	0.783	Good
ATF	7	0.866	Good	0.867	Good
EO	5	0.818	Good	0.923	Good

Note: PD: Power Distance; IND: Individualism; MAS: Masculinity; UA: Uncertainty Avoidance; LTO: Long-term orientation; ATF: Access to finance; EO: Entrepreneurial Orientations

### ***5.5.5 Correlation matrix***

Correlation analysis was performed to estimate the relationship between the variables under study. Pearson's correlation analysis reveals that PD and IND are positively and significantly correlated ( $r = 0.198$ ,  $p < 0.01$ ). In the one-tail test, PD is positively correlated with MAS ( $r = 0.168$ ,  $p < 0.01$ ); the association is moderate in the one-tail test, and the nature of the relationship is regarded as weak. IND and MAS are significantly correlated ( $r = 0.283$ ,  $p < 0.01$ ), and the relationship is a weak association in the one-tail test.

PD is positively correlated with UA ( $r = 0.132$ ,  $p < 0.05$ ). The correlation is very weak in the one-tail test; IND and UA are also significantly correlated ( $r = 0.289$ ,  $p < 0.01$ ), and the relationship is weak in the one-tail test. MAS and UA are positively correlated in the one-tail test ( $r = 0.448$ ,  $p < 0.01$ ); the results show a moderate correlation between MAS and UA.

Next, PD is positively correlated with LTO ( $r = 0.132$ ,  $p < 0.05$ ). The correlation is very weak in the one-tail test. IND and LTO are a moderate but significantly positive correlated ( $r = 0.283$ ,  $p < 0.01$ ) in the one-tail test, and the relationship is a weak association in the one-tail test. MAS and LTO are positively correlated in the one-tail test ( $r = 0.466$ ,  $p < 0.01$ ); the results show a moderate correlation between MAS and LT. UA and LTO are a strong positively correlated ( $r = 0.722$ ,  $p < 0.01$ ) in the one-tail test.

PD is positively but insignificantly correlated with ATF ( $r = 0.063$ ,  $p < 0.15$ ). The correlation is very weak in the one-tail test, IND and ATF are significantly correlated ( $r = 0.285$ ,  $p < 0.01$ ), and the relationship is a weak association in the one-tail test. MAS and ATF are positively correlated in the one-tail test ( $r = 0.230$ ,  $p < 0.01$ ); the results show a weak correlation between MAS and ATF. UA and ATF are related weakly ( $r = 0.289$ ,  $p < 0.01$ ) and while LTO and ATF are significantly correlated ( $r = 0.286$ ,  $p < 0.01$ ), and the relationship is a weak in the one-tail test.

Subsequently, PD is positively correlated with EO ( $r = 0.131$ ,  $p < 0.05$ ), and the relationship is very weak relationship in one tail test. EO and IND are a moderate but significantly positive correlation ( $r = 0.318$ ,  $p < 0.01$ ) in the one-tail test. EO and MAS are positively correlated in the one-tail test ( $r = 0.339$ ,  $p < 0.01$ ); the results show a moderate correlation between EO and MAS. EO and UA are a weak positively correlated ( $r = 0.364$ ,  $p < 0.01$ ) in the one-tail test. EO and LTO are positively correlated ( $r = 0.333$ ,  $p < 0.01$ ), but the relationship is a weak association in the one-tail test. EO and ATF are moderate but significantly positive correlated ( $r = 0.577$ ,  $p < 0.01$ ) in the one-tail test. The latent correlation matrix is presented in Table 41.

Table 41: Latent correlation matrix

	PD	IND	MAS	UA	LTO	ATF	EO
PD	1.000						
IND	0.198**	1.000					
MAS	0.168**	0.283**	1.000				
UA	0.132*	0.289**	0.448**	1.000			
LTO	0.129*	0.289**	0.466**	0.722**	1.000		
ATF	0.063	0.285**	0.230**	0.289**	0.286**	1.000	
EO	0.131*	0.318**	0.339**	0.364**	0.333**	0.577**	1.000

Note: PD: Power Distance; IND: Individualism; MAS: Masculinity; UA: Uncertainty Avoidance; LTO: Long-term orientation; ATF: Access to finance; EO: Entrepreneurial orientation

\* $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

## 5.6 Testing of Hypotheses

Regression models were run with EO as the dependent variable, PD, IND, MAS, UA, and LTO as independent variables, and control variables (i.e., business age, business type and business size). Model 2 in Table 42 show that the model can explain 20.7% of the variance in the EO from the input variables. The model's F statistic ( $F = 9.208$ ) is statistically significant and suggests that the predictors collectively can explain EO. The Durbin-Watson test suggests no autocorrelation issue as the Durbin-Watson value is less than 3.00 (Field, 2009).

### **5.6.1 Result of examining direct relationships between NC and EO**

#### **1) Direct Relationship between PD and EO**

*Hypothesis 1 (1): PD is negatively associated with EO.*

The regression results (Model 2 in Table 42) showed a positive but statistically insignificant correlation ( $B = 0.012$ ,  $p > 0.05$ ) between PD and EO. Hence, H1 was not supported.

#### **2) Direct Relationship between IND and EO.**

*Hypothesis 2 (2): IND is positively associated with EO.*

The regression results (Model 2 in Table 42) revealed that IND was positively and significantly correlated with EO ( $B = 0.041$ ,  $p < 0.05$ ). Hence, H2 was supported.

#### **3) Direct Relationship between MAS and EO**

*Hypothesis 3 (3): MAS is positively associated with EO.*

The regression results (Model 2 in Table 42) revealed that MAS was positively and significantly correlated with EO ( $B = 0.046$ ,  $p < 0.05$ ). Hence, H3 was supported.

#### **4) Direct Relationship between Uncertainty Avoidance and EO**

*Hypothesis 4 (4): UA is negatively associated with EO.*

The regression results (Model 2 in Table 42) revealed that UA was positively and significantly correlated with EO ( $B = 0.048$ ,  $p < 0.05$ ). Hence, H4 was not supported because the hypothesised relationship was negative, but we found a positive relationship.

#### **5) Direct Relationship between LTO and EO**

*Hypothesis 5 (5): LTO is positively associated with EO.*

The regression results (Model 2 in Table 42) showed a positive but statistically insignificant correlation ( $\beta = 0.035$ ,  $p > 0.05$ ) between LTO and EO. Hence, H5 was not supported.

Table 42: Regression model for EO

	Model 1	Model 2	Model 3
Constant	3.690	2.468	2.762
<b>Control Variables</b>			
Business age	0.09 (0.018)	0.001 (0.032)	-0.014 (0.028)
Business Type	0.019 (0.018)	0.013 (0.016)	0.018 (0.014)
Business size	0.000 (0.030)	0.001 (0.027)	0.002 (0.024)
<b>Main Effects</b>			
PD		0.012 (0.015)	-0.081 (0.083)
IND		0.041* (0.15)	-0.030 (0.072)
MAS		0.046* (0.021)	-0.102 (0.098)
UA		0.048* (0.024)	0.171 (0.121)
LTO		0.035 (0.025)	-0.064 (0.127)
<b>Moderation Effects</b>			
PD x ATF			0.024 (0.021)
IND x ATF			0.014 (0.019)
MAS x ATF			0.037 (0.025)
UA x ATF			-0.035 (0.032)
LTO x ATF			0.025 (0.034)
<b>R<sup>2</sup></b>	0.005	0.207	0.370
<b>Adjusted R<sup>2</sup></b>	-0.006	0.185	0.341
<b>F</b>	0.458	9.208***	12.528***
<b>Durbin-Watson</b>	1.752	1.857	1.861
<b>Observations</b>	291	291	291

Note: PD: Power Distance; IND: Individualism; MAS: Masculinity; UA: Uncertainty Avoidance; LTO: Long-term orientation; ATF: Access to finance; EO: Entrepreneurial orientation  
The entries in the table are unstandardised coefficients. Standard errors in parentheses.

\*p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001



### **5.6.2 Testing the Moderation of Demographic Variables**

We hypothesise that the relationship between cultural dimensions (PD, IND, MAS, UA, and LTO) are moderated by demographic variables (e.g., age, education, work experience, business size, business age, and business types). The results indicate that none of these demographic factors played any moderation effect on the connection between NC and EO (see Appendix 2).

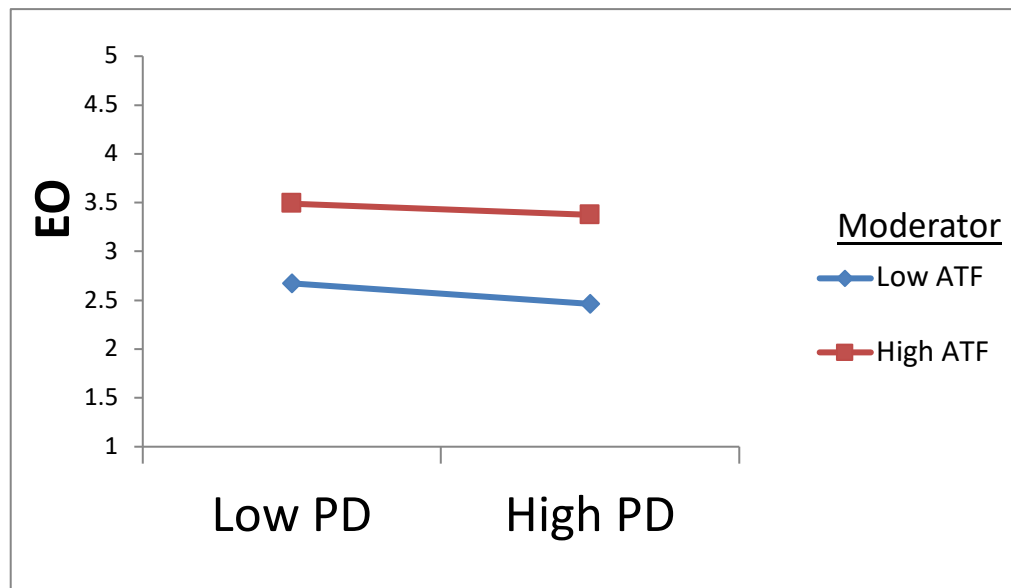
The researcher also performed a robustness exercise based on, different business types (e.g., retail and wholesale, production, service, agriculture, and finance & insurance). To test the robustness of our findings, we create the subsamples based on the business types (e.g., retail and wholesale, production, service, agriculture, and finance & insurance), but the sample size for production, agriculture, and finance & insurance are too small to run the regression. Therefore, we remove these industries from the regression analysis. This classification follows standard industry definitions to ensure consistency. This test helps to determine that the main model results are consistent among the different industry contexts (see Appendix 3).

### **5.6.3 Moderation analysis**

(1) H6: ATF positively moderates the negative relationship between PD and EO.

The regression results (Model 3 in Table 42) suggest that ATF does not moderate the relationship between PD and EO at a statistically significant level ( $\beta = 0.024$ ,  $p\text{-value} > 0.05$ ). Hence, H6 was not supported. The interaction plot illustrates the moderating effect on ATF between the relationship of PD and EO. The x-axis represents the exogenous construct, and the y-axis represents the endogenous construct (see Figure 3).

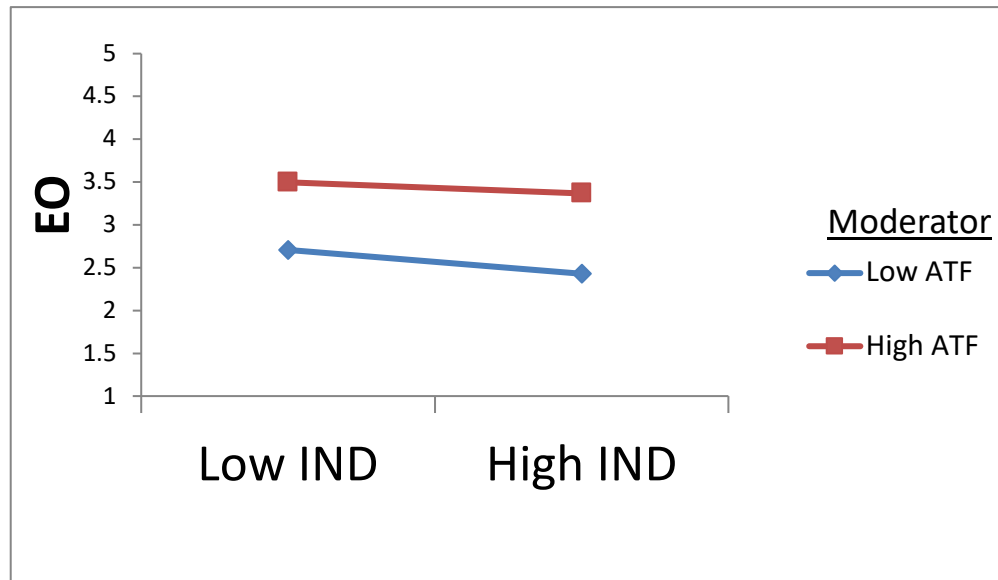
Figure 3: ATF's moderation of the relationship between PD and EO



(2) H7: ATF positively moderates the positive relationship between IND and EO.

The regression results (Model 3 in Table 42) suggest that ATF does not moderate the relationship between IND and EO at a statistically significant level ( $B = 0.014$ ,  $p\text{-value} > 0.05$ ). Hence, H7 was not supported. The interaction plot illustrates the moderating effect on ATF between the relationship of IND and EO. The x-axis represents the exogenous construct, and the y-axis represents the endogenous construct (see Figure 4).

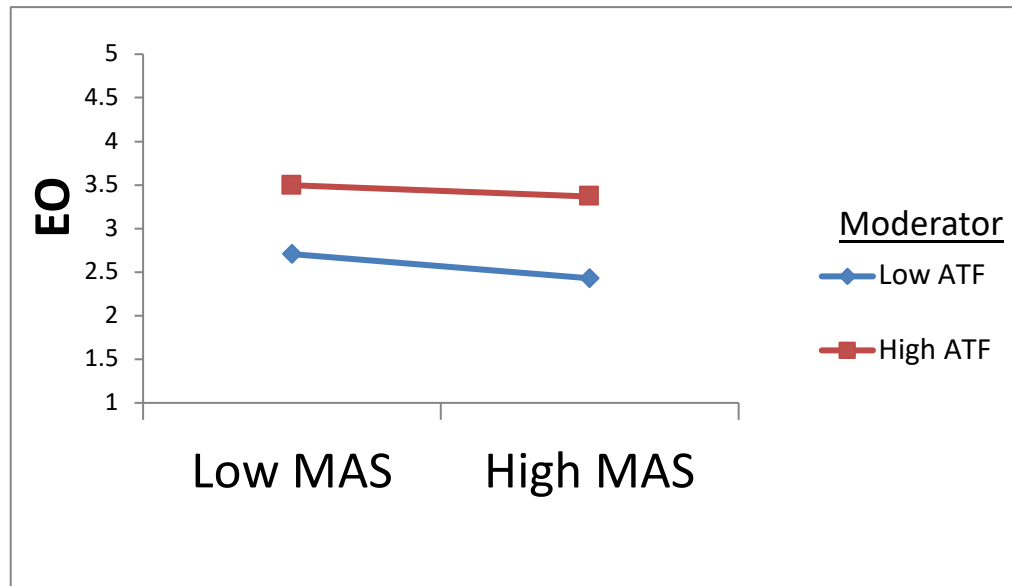
Figure 4: ATF's moderation of the relationship between IND and EO



**(3) H8:** ATF positively moderates the positive relationship between MAS and EO.

The regression results (Model 3 in Table 42) suggest that ATF does not moderate the relationship between MAS and EO at a statistically significant level ( $B = 0.037$ ,  $p\text{-value} > 0.05$ ). Hence, H8 was not supported. The interaction plot illustrates the moderating effect on ATF between the relationship of MAS and EO. The x-axis represents the exogenous construct, and the y-axis represents the endogenous construct (see Figure 5).

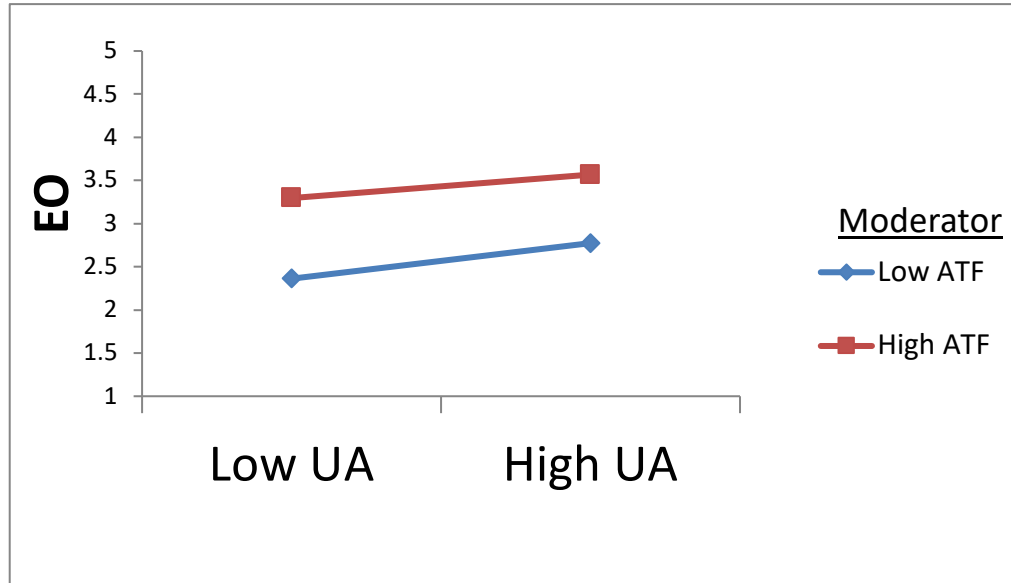
Figure 5: ATF's moderation of the relationship between MAS and EO



(4) **H9:** ATF positively moderates the negative relationship between UA and EO.

The regression results (Model 3 in Table 42) suggest that ATF does not moderate the relationship between UA and EO at a statistically significant level ( $B = -0.035$ ,  $p\text{-value} > 0.05$ ). Hence, H9 was not supported. The interaction plot illustrates the moderating effect on ATF between the relationship of UA and EO. The x-axis represents the exogenous construct, and the y-axis represents the endogenous construct (see Figure 6).

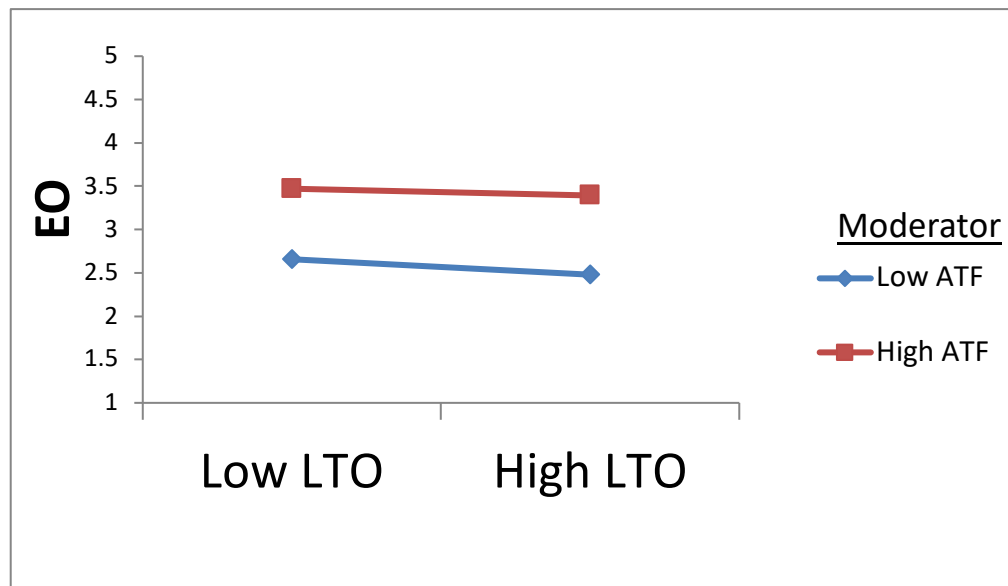
Figure 6: ATF's moderation of the relationship between UA and EO



(5) H10: ATF positively moderates the positive relationship between LTO and EO.

The regression results (Model 3 in Table 42) suggest that ATF does not moderate the relationship between LTO and EO at a statistically significant level ( $\beta = 0.025$ ,  $p\text{-value} > 0.05$ ). Hence, H10 was not supported. The interaction plot illustrates the moderating effect on ATF between the relationship of LTO and EO. The x-axis represents the exogenous construct, and the y-axis represents the endogenous construct (see Figure 7).

Figure 7: ATF's moderation of the relationship between LTO and EO



## 5.7. Summary of Chapter

The chapter documents the research analysis and results. SPSS was utilised to describe the data and the respondents' profile was analysed using SPSS. Similarly, the hypothesis testing was performed in the SPSS by applying linear regression and moderation analysis. The study constructs show adequate reliabilities and are suitable for performing the model testing. The path of the model of the study was evaluated with bootstrapping to justify the study results with the confidence interval and significance level in the assessment's measurement stage. The results revealed that the PD was insignificantly related to EO and offers no support for H1. This result suggests that PD as a cultural dimension that measures the acceptance of PD in society does not have a measurable impact on entrepreneurial orientation. Subsequently, the findings suggest that IND was significantly related to EO and supporting H2. The outcome revealed that MAS was also significantly associated with EO among the study sample, indicating the supporting H3. UA was significantly related to the EO and suggests evidence to supporting H4. Next, the study results showed no signal to the relationship between LTO and EO, therefore H5 was rejected.

Furthermore, the moderation analysis was performed to gauge the moderation effect of ATF on the different study variables. The analysis suggests that ATF insignificantly moderates the association between PD and EO. Therefore, there was insignificant evidence to support H6. The findings indicate that ATF was not significantly moderate the relationship between IND and EO and offers no indication to support H7. Following this, the outcome revealed that the path between MAS and EO was not significantly moderated by ATF and the inability to support the H8. Subsequently, the link between UA and EO was not moderated substantially by ATF, and the results advocate no support for the H9. Next, the study result offers no support for the moderation of ATF between the relationship of LTO and EO, and the result bids no support for accepting H10. The summary of the hypotheses results is provided in Table 43.

Table 43. Summary of study hypotheses results

Hypothesis	Descriptions	Results
H1	PD is negatively associated with EO.	Not accepted
H2	IND is positively associated with EO.	Accepted
H3	MAS is positively associated with EO.	Accepted
H4	UA is negatively associated with EO.	Not accepted
H5	LTO is positively associated with EO.	Not accepted
<b>Moderation Effect</b>		
H6	ATF positively moderates a negative relationship between PD and EO.	No Moderation
H7	ATF positively moderates a positive relationship between IND and EO.	No Moderation
H8	ATF positively moderates a positive relationship between MAS and EO.	No Moderation
H9	ATF positively moderates a negative relationship between UA and EO.	No Moderation
H10	ATF positively moderates a positive relationship between LTO and EO.	No Moderation

Source: author elaboration

Note: it was not possible to estimate SC in regressions.

## **Chapter 6: Discussion, Implications and Conclusion**

### **6.1 Introduction**

This chapter discusses the findings of the study reported in Chapter 5. It begins by reminding readers of the research objectives and questions. First, it reports the results of prior international studies, compares scores on cultural dimensions between Saudi Arabia and the USA, then relates them to entrepreneurship (TEA). It then compares these overall Saudi scores with the individual cultural dimensions reported by Saudi female entrepreneurs, estimating the relations between these dimensions and entrepreneurship (EO). The chapter then concludes by presenting its theoretical and practical implications, followed by the study's limitations and suggestions for further research.

### **6.2 Reminder of the Research Objectives and Questions**

There has been a continuous focus in this study on understanding the critical role of entrepreneurship, cultural dimensions, and different types of support in empowering female entrepreneurs to become entrepreneurially oriented. Further investigation was conducted into how critical factors such as cultural dimensions and ATF have interacted to support EO. Accordingly, this study attempts to understand how NC at the level of individual female entrepreneurs in Saudi Arabia influences EO, and how ATF moderates the relationship between NC and EO. Three research questions were framed as below:

**Research Question 1:** At a national level, and based on prior empirical, international literature, what do Saudi Arabia's national cultural dimensions imply for its aggregate level of entrepreneurship?

**Research Question 2:** How do cultural dimensions, measured at the level of individual female entrepreneurs in Saudi Arabia, correspond with Saudi Arabia's national cultural dimensions?



**Research Question 3:** At the level of individual female entrepreneurs in Saudi Arabia, what are the associations between cultural dimensions and EO?

### 6.3 Discussion

This section aims to address the three research questions described above. Accordingly, Table 44 summarises earlier studies and provides a comparison between the USA and Saudi Arabia's National Score and Saudi Female Entrepreneurs' scores for TEA as below:

Table 44: National scores for cultural dimensions and individual Saudi female entrepreneurs' scores: EO and TEA

Hofstede's Dimensions	Overall Conclusions from Prior International Studies (1)	USA's National Score (2)	Saudi Arabia's National Score (3)	Saudi Scores for Individual Female Entrepreneurs (4)	Significant/ Insignificant Association with EO (5)
PD tolerance	PD tolerance negatively associated with TEA	40	72	35.99	No, insignificant H1
IND	IND positively associated with TEA	60	48	56.23	Yes, significant H2
MAS (Motivation towards Achievement and Success)	MAS positively associated with TEA	62	43	65.54	Yes, significant H3
UA	UA negatively associated with TEA	46	64	85.31	No, insignificant H4
LTO	LTO positively associated with TEA	50	27	82.96	No, insignificant H5
Implications For Overall TEA		High TEA	Low TEA	Ambiguous	

Note: Masculinity was replaced by Hofstede (Hofstede, 2024b) for "Motivation towards Achievement and Success" at a national level.

RQ1: In the context of (1) compare (3) with international average (50) then with (2).

RQ2: Compare (4) with (3).

RQ3: Compare (5) with (1).

Table 44 provides very interesting descriptive results, though it must be remembered of course that levels of entrepreneurship are measured differently at national (TEA) and individual (EO) levels. When comparing the results related to Hofstede's cultural dimensions, we conclude the following:

***6.3.1 Discussion on Hofstede's dimensions at the national level, comparing Saudi Arabia and the USA, and Saudi female entrepreneurs' scores [RQ1].***

This first column of Table 44 presents the balance of associations between NC and TEA from prior international studies. This section compares the Saudi national aggregate scores for Hofstede's dimensions with those of the USA and the internal average, and addresses RQ1 of this study.

1. Comparing between the PD scores of the Saudi national score (72) with the international average (50) and with the USA national score (40) suggests interesting implications. Saudi Arabia has a high score at the national level compared to the USA, which reveals a low score (40). The USA's score is below the international average, while Saudi Arabia's national average is above the international average. The result of the Saudi national average indicates that Saudi Arabia generally is more hierarchical, emphasising the significant cultural norm of respecting authority and centralised decision-making and accepting an unequal power distribution. On the other hand, the USA score may indicate more egalitarianism and participation in decision-making. The score of 72 for the Saudi national score indicates the tendency of Saudi society to be more conservative by preferring to adhere to hierarchical structures and social norms, and this difference may reflect SC. Furthermore, the result of the USA may suggest that in Saudi Arabia there may need to be more empowerment for individuals and less centralised authority. It is important to note that even though Table 44 reveals low social conservatism and a significant difference between Saudi female entrepreneurs' (35.99) and Saudi national scores (72) on PD, there was

still no significant support for H1 (low PD leads to greater EO). The finding of 35.99 for Saudi female entrepreneurs is close to the US estimate (40) and supports the notion that while low tolerance of PD is associated with entrepreneurship levels (TEA) internationally, other cultural dimensions are more important in Saudi females - low PD tolerance is itself no guarantee of high entrepreneurship levels (EO).

2. For IND, the findings related to comparing Saudi Arabia's (48) and the USA's aggregate national (60) with the international average shows that IND is low in Saudi Arabia compared with the USA and the international average (50). This may be a sign that Saudi society leans more towards collectivism than IND, and further suggests that in Saudi Arabia, familial ties, group cohesion and collective responsibilities are important, and they are a confirmation that Saudi Arabia is a conservative society. The USA's score, i.e., 60, was significantly higher than Saudi Arabia's, indicating a strong preference for individual autonomy and self-expression. This score is above the international average of 50 for this IND dimension. US citizens may prefer individual autonomy and independence while Saudi Arabia prioritises group harmony and interdependence with collectivist traditions. At the same time, additionally, Saudi society may be gradually but slowly switching towards a more individualistic culture, especially with changes taking place in Saudi Arabia, such as the Saudi 2030 Vision and the influence of other factors, such as modernisation, and Saudi female entrepreneurs may be leading this trend, with a score of 56.23, close to the USA score (60) and a tendency toward individualism. The importance of this finding for Saudi female entrepreneurs' scores is also emphasised by a significant positive relationship between high IND and EO. This finding corresponds with prior international evidence for TEA and confirms that Saudi female entrepreneurs who feel more individualistic are similarly more entrepreneurial. This finding further confirms that Saudi female

entrepreneurs may be considered a distinctive subgroup that deviate from society in general, which is still regarded as collectivist.

3. A comparison related to MAS shows a Saudi national score of 43, which is much lower than the USA MAS national score of 62. This indicates that the USA culture focuses more on success, achievement, and competitiveness, which are linked with entrepreneurship (TEA). Furthermore, the Saudi national score also indicates that Saudi culture is relatively less driven by material success, competition, and achievement. Nevertheless, even though Saudi Arabia has a low score for MAS, ongoing modernisation, the rise of entrepreneurship, and the availability of support may gradually challenge the cultural norms in Saudi society.

It is also important to note from Table 44 a score of 65.54 on MAS for Saudi female entrepreneurs, which is close to the score of 62 for the USA, but well above the aggregate Saudi Arabian national score of 43. Compared with all Saudi citizens (male and female) Saudi female entrepreneurs tend to succeed in material terms, achieve, and be competitive. The high MAS among Saudi female entrepreneurs implies their low levels of social conservatism: that exhibit materialistic traits associated with entrepreneurial behaviour (EO). These findings for Saudi female entrepreneurs provide significant support for H3, which proposed a positive association between MAS and EO. This confirms that while the general population in Saudi Arabia may tend to be conservative, a subgroup of female entrepreneurs may seem to have a different attitude than the general society, which arguably needs more attention and support for their entrepreneurial business behaviour.

4. With UA, comparisons between the Saudi Arabia (64), the USA (46) and the score at the international level (50) indicates that Saudi Arabia has relatively high levels of UA (i.e., 64 is above 50). This indicates a preference for certainty and risk aversion in the country, possibly limiting

individuals' entrepreneurial behaviour (see below). It also suggests that Saudi society prefers clear rules, structures, and predictability to manage ambiguity and uncertainty, where clear rules and norms are significant pillars for stability and security when facing challenges. In contrast, The UA result for the UA at the national level reported that the USA possessed low UA, i.e., 46. This score reveals that USA citizens (male and female) are ready to take risks, bear uncertainty, and develop innovations. They may be more willing to adapt, more flexible in making changes, and rely less on strict formal hierarchies and rules. However, Saudi female entrepreneurs reported a score of 85.31 at the individual level much higher than 64 at the Saudi national level, and the USA score of 46. Based on this result, these findings suggest that Saudi female entrepreneurs are even more risk averse than the overall population preferring to avoid risk and have clear rules and regulations to guide them in making business decisions. This implies low social conservatism. Even though Saudi female enterprises reported higher UA scores at the individual level - and at an international level, higher UA means less entrepreneurship (TEA) - H4 was not supported. In other words, low UA is associated internationally with greater EO, which was not confirmed for female entrepreneurs in Saudi Arabia. H4 finding suggests that female entrepreneurs in Saudi Arabia operate differently than the theory predicts. Saudi female entrepreneurs have challenges such as insufficient finance and societal bias. Thus, they prefer to be cautious while planning rather than engaging in hazardous operations. In other words, female entrepreneurs do better in societies that do not value uncertainty by being structured and careful, transforming what appears to be a weakness into a strength.

5. A comparison between LTO at the national level for Saudi Arabia (27), the USA (50) and the international average (50) returned intriguing findings. One may conclude that the US score indicates that the US culture leans towards valuing any profitable ventures, whether long or short-term in their pay-offs. This shows a balanced way of dealing with

present and future planning, which may motivate the adaptability and flexibility of entrepreneurial activities. In contrast, the low Saudi LTO national score (27), may indicate that Saudi culture may favour short-term achievement, preserving cultural norms, maintaining available needs and outcomes, working on short-term planning and also prioritising immediate needs over future goals. This may limit the growth and development of entrepreneurship and success.

In contrast, Saudi female entrepreneurs at the individual level scored for LTO at a very high level (82.96) compared with the national levels of Saudi Arabia and the USA. This suggests low social conservatism for Saudi female entrepreneurs, who focus on long-term thinking and planning, unlike the general Saudi population with a short-term orientation. Nevertheless, when H5 was examined to check if LTO was positively associated with EO, a surprising result was revealed: there was no significant association between LTO and EO. This means that, even though Saudi female entrepreneurs may possess LTO characteristics such as long-term orientation and planning, this does not mean they can translate these features into EO and other entrepreneurial behaviours, including proactiveness and innovation. These findings are surprising and show a gap between individual values (individual level score) and the entrepreneurial behaviour of Saudi female entrepreneurs. Additionally, while Saudi female entrepreneurs have low social conservatism, with values deviating from the general Saudi population and national cultural norms, these cultural values still do not influence their EO. Here, one might conclude that factors other than LTO shape Saudi female entrepreneurs' EO.

### ***6.3.2 Discussion on individual Saudi female entrepreneurs' scores compared with Saudi national aggregate scores [RQ2].***

This section compares individual Saudi female entrepreneurs' scores and Saudi national aggregate scores and reflects on RQ2 of this study.

The study findings are interesting, comparing PD at the Saudi national level with the scores of Saudi female entrepreneurs. The Saudi national score for PD was reported as 72, confirming the presence of high PD tolerance in Saudi Arabia for hierarchical structures, a strong respect for authority, and an acceptance of unequal power distribution and authority at the national level, demonstrating the country's high level of SC. On the other hand, the score of Saudi female entrepreneurs of 35.99 is considered low and indicates their low tolerance for higher authority. This may suggest that Saudi female entrepreneurs are not socially conservative and are far from accepting or adhering to traditional cultural or hierarchical norms compared to the national level, which includes males, of course. Additionally, the difference between the national and individual levels of PD in Saudi Arabia may highlight the presence of a shift in the cultural norms in Saudi Arabia and among female entrepreneurs. They may reject the available traditional societal structures that have imposed a constraint on them socially and economically and look for those cultural norms that support their business and entrepreneurial activities and result in maximising their flexibility and indecency.

Similar conclusions to PD also apply IND, where it was found that the national score for Saudi Arabia was 48, indicating that Saudi Arabia is quite a collectivist society that cares more about family ties, group harmony, and societal obligations that are preferred more than personal gains and individual achievements. This is a clear signal that Saudi Arabia at the national level possess SC characteristics where people are more loyal to their social groups, tribe and family than themselves. SC in Saudi Arabia may be further enhanced by cultural norms and religion that stress mutual support and interdependence in the society and its members.

However, the IND score of Saudi female entrepreneurs was 56.23, indicating a noticeable shift from collectivism to individualism in Saudi Arabia. Again, it suggests that Saudi female entrepreneurs are moving toward focusing more on independence, self-dependence, personal goals, and other features that

will help them to succeed in their entrepreneurial endeavours. The difference between the national and individual female scores for IND in Saudi Arabia may be attributed to the Saudi females' unique position within the conservative Saudi context. Adopting an individualistic attitude in an SC society may represent a good choice for Saudi female entrepreneurs to eliminate extant challenges and achieve success. Higher individual scores for IND means that Saudi female entrepreneurs to some extent reject the values of collectivism to some extent. It might mean that they are trying to balance their entrepreneurial aspirations with cultural expectations. In other words, even though Saudi female entrepreneurs may be interested in entrepreneurship, success, gaining independence and developing innovative ideas and businesses, they might still give some attention to their family and close groups. They also may direct their business activities and align them with those activities accepted by Saudi culture which support not entirely breaching the society's rules to ensure harmony. This may signal that Saudi female entrepreneurs are trying to gradually shift from the old traditions and conservative attitudes to modernity.

The result related to the MAS dimension also revealed an interesting finding. MAS is that aspect of culture where society values material success and competitiveness, and achievement over cooperation and life quality. The Saudi Arabia national score was 43, signalling a way for the society to be feminine. This confirms that Saudi Arabian society focuses on and cares more about close relationships and family. Members care for each other over other MAS values, such as aggressive competition or individual success. The Saudi national MAS score indicates that there are social conservatives in Saudi Arabia who are influenced by cultural norms and religion and emphasise cooperation and modesty. On the other hand, Saudi female entrepreneurs' score was 65.54. This score is considerably higher than the MAS national score, confirming that Saudi female entrepreneurs possess higher masculine traits such as achieving personal gain, competitiveness, assertiveness, and the ability to make risky decisions for entrepreneurial activities. This difference between national and individual scores may indicate that Saudi female entrepreneurs fight against the classical



norms and gender in a conservative society. Saudi females try to obtain traits that assist them in succeeding in their entrepreneurial businesses, achieving their objectives and becoming ambitious with an entrepreneurial mindset. Still, this change in the Saudi female entrepreneurs does not mean that they have entirely given up the predominant cultural values in Saudi Arabia. It may mean that Saudi females combine assertive features with supportive societal roles. In short, they try to balance their assertiveness and ambition with societal norms.

For UA, it is found that a national Saudi Arabian score was 64, indicating that people in Saudi Arabia have a high level of UA. This is an indicator that people in Saudi Arabia tend to prefer stability, structured systems, and clear rules and directions. It confirms that Saudi Arabia is a conservative society with conservative traits influenced by religion and traditions, where available cultural norms contribute to minimising ambiguity and provide guidelines for the culture and its people. On the other hand, the finding related to Saudi female entrepreneurs' scores was 85.31, which is considered higher than the national level. This is a very difficult result to explain, with a Saudi female score higher than the national level. This high rate may reveal that Saudi female entrepreneurs prefer to reduce available risks and select a stable business environment. A possible reason for this high UA may be that they still face challenges and difficulties with navigating gender expectations, societal scrutiny, and limited resources of different types. These challenges force female entrepreneurs to work more effectively reduce uncertainty by carefully planning, taking few risks, and engaging in other cautious activities, e.g., founding ventures in low-risk sectors such as the retail, wholesales and service sectors. The difference between individual and national levels might be a clear signal that female entrepreneurs still face challenges and pressures in Saudi conservative society even though the result of the national society has shown that Saudi Arabia at the national level is conservative. Saudi citizens value structure and female entrepreneurs may look for stability and certainty in handling the already male-dominated challenges in society. Accordingly, this

may direct them to make cautious decisions and depend on networks to minimise their uncertainty. Their strong need for order may lead them to make mindful decisions, choose industries with clear rules, or rely on support networks to reduce uncertainty. This might increase the ability of entrepreneurs to adapt to their culture and improve their resilience.

With regard to the LTO dimension, the Saudi national score was 27, which is considered a low score compared to other countries such as the USA. This suggests that Saudi Arabia is a society that focuses on the short-term future rather than the long term. The 27 score of Saudi Arabia also indicates that Saudi Arabia is a socially conservative society influenced by traditions, social and conservative values, and religious practices that influence the decision to become long-term oriented. This low score is also considered a sign of maintaining the cultural heritage and adhering to established practices in the country. On the other hand, when looking at the result of the Saudi female entrepreneurs' score, it is noted that the Saudi female score was about 82.96, which aligns with having a long-term view of the future. This suggests that Saudi female entrepreneurs plan to make long-term and risky decisions, make strategic decisions, and make sustained decisions to ensure success in their businesses. Furthermore, the significant difference between the national and individual scores may reveal that Saudi female entrepreneurs must simultaneously train themselves to adapt to a competitive entrepreneurial atmosphere while overcoming the societal norms and constraints hindering them and their business from growth and longevity. Additionally, the difference between the national and individual scores may further indicate a shift among Saudi female entrepreneurs' mentality, from maintaining traditional norms to prioritising innovation and long-term objectives.

Finally, it should be noted that Saudi female entrepreneurs still exhibit high LTO despite their relatively short-run ventures, with short gestation periods and low capital intensity. For example, it was reported above that the sample

of this study had 62.5% of enterprises operating in the services sector and 31.3% in retail and wholesale sectors, with only 3.8% in production. In contrast, the industrial composition enterprises in Saudi Arabia shows 48.29% of enterprises in retail and wholesale sector and 17.81% in services (General Authority for Statistics, 2017). These sectors featured their tactical focus, which may explain the rejection of the relationship between LTO and EO.

At the same time, it seems possible that the rejection of H5 may be attributed to the distinctive type of businesses founded by female entrepreneurs.

From the above comparison of the Saudi national scores and the Saudi female entrepreneurs' scores, it is concluded that there is a notable difference between the national and individual levels of the cultural dimensions. Accordingly, it is concluded that Saudi female entrepreneurs likely expect a shift from the classical social norms and embrace entrepreneurial traits such as IND and a strong LTO. This move shows their ability to adapt and develop forward-thinking approaches that will help them to overcome the current cultural and societal constraints.

### ***6.3.3 Discussion related to direct relationships between NC and EO [RQ3]: Individual Saudi female entrepreneurs' scores and association with EO.***

H1 assumes that PD tolerance is negatively associated with EO of female entrepreneurs in Saudi Arabia. PD tolerance among Saudi female entrepreneurs was extremely low (35.99) at half the national average (72), and international studies would suggest that such low PD tolerance would be positively associated with entrepreneurship. However, the low PD tolerance of Saudi female entrepreneurs was found **to be not negatively** associated with levels of entrepreneurship (EO). The test for H1 reported a positive but insignificant relationship between PD and EO ( $\beta = 0.012$ ,  $p > 0.05$ ). This finding is not in line with previous studies, which suggest that greater PD hinders the growth and development of entrepreneurship, makes entrepreneurs tolerate interference

from the government, and makes them believe that they are not capable enough of making the right decisions about their business. PD may also reduce the entrepreneurs' self-confidence in managing their businesses. Individuals in countries with higher PD tend to feel they cannot make critical decisions due to a strict hierarchy, poor communication, and low levels of control (Hofstede, 1980; Kreiser et al., 2010; Saeed et al., 2014). In contrast, lower PD tolerance cultures are thought to give more support to entrepreneurial activities by establishing flexible regulatory mechanisms and business structures in their business environments, enabling the development of new ideas and innovative products (Saeed et al., 2014; Tehseen et al., 2021). Overall, the result of the H1 is not in line with previously studies.

One can speculate on the reasons for the lack of support for H1. It may be because of the recent improvements in Saudi society and social norms that the Saudi Government has implemented. Recently, Saudi Arabia introduced the Saudi Vision 2030, a long-term strategy supporting women's and men's empowerment and different economic and social aspects. Hence, due to these social and economic changes, female entrepreneurs in Saudi Arabia might override or ignore adhering to PD rules and regulations that were imposed in the past. In other words, they will not let low PD tolerance affect their willingness to create entrepreneurial ventures. This further indicates that female entrepreneurs have developed a disregard for centrally issued rules and instructions, and a higher open-mindedness due to those new social changes. This can result in a higher confidence in their ability to start their business, even if there are still some cultural limitations. It can also be concluded that H1 was not supported because Saudi female entrepreneurs can now develop strategies that make them more resilient. They may also have low PD tolerance but ignore government opposition to their plans for new enterprises. They adapt and this permits them to navigate easily among pressures from the centre and mitigate their negative influence. Saudi female entrepreneurs may also reduce the effect of PD by establishing good networking and network ties with different parties in society and by

benefitting from available family support. Female entrepreneurs might not accept being pressured by PD if they leverage the available entrepreneurial programmes and training initiatives to help them deal with business challenges and overcome cultural difficulties. Finally, the lack of support for H1 might be due to the selection of an adaptive and resilient sample that is able to manage hierarchal challenges. When comparing the lack of support for H1 with the overall conclusions from prior international studies, we observe that international studies have reported that higher PD tolerance was associated negatively with TEA. Nevertheless, the results found at the individual level among Saudi female entrepreneurs showed no such association. This demonstrates that authority or hierarchy acceptance might not be such a strong reason as anticipated for limiting entrepreneurship and entrepreneurial activities in Saudi Arabia. Entrepreneurial activities may be able to continue to develop and improve despite the presence of higher levels of PD, which is different from the conclusion found by international studies.

The second hypothesis (H2) examined the influence of IND on EO among female Saudi entrepreneurs. The H2 hypothesis assumed that the higher the level of IND, the greater the EO among female entrepreneurs, simply because they will be able to care more about themselves, develop a higher level of self-confidence, and achieve independence. The finding for H2 was that IND had a positive and significant relationship with EO ( $B = 0.041$ ,  $p < 0.05$ ). The  $B$  value indicates that if IND increases, EO will also increase. Additionally, the  $p$ -value reported from testing the H2 was 0.001, which also shows that the relationship between IND and EO is statistically significant and a trusted result as the  $p$ -value result is below the threshold result of 0.05 for significance. This result is consistent with previous studies reporting that people possessing individualistic characteristics can develop a greater level of EO as higher IND indicates greater self-reliance, efficacy and better independence (Hofstede, 1980; Thomas & Muller, 2000a). They will also better identify available business opportunities in the market more quickly than those in more collectivist societies (Engelen et al.,

2015). Additionally, those individuals residing in individualistic cultures may break the extant rules and norms of groups and become involved in risky situations deemed undesirable by other individuals (Kreiser et al., 2010; Morris et al., 1993). Furthermore, individualistic business decision makers or entrepreneurs may give their employees more independence, enabling them to improve their self-efficacy, come up with new and creative ideas, seize business opportunities, deal with ambiguity, and take on entrepreneurial risky project (Chew et al., 2021; Kreiser et al., 2010; Morris et al., 1993; Rauch et al., 2000; Wennberg et al., 2013).

When comparing the finding for H2 with the overall conclusions from prior international studies, we observe that international studies have reported that higher IND is positively associated with TEA, demonstrating that high individualism motivates entrepreneurial activity globally. The same is found in the Saudi context.

The third hypothesis (H3) aimed at examining the influence of MAS on Saudi women entrepreneurs' EO. The H3 hypothesis proposes that the higher the level of MAS, the greater the EO among female entrepreneurs simply because they may tend to value decisiveness and hard work more than quality of life. Additionally, masculine societies also tend to be linked with greater entrepreneurship, innovative activities, recognition, and wealth (Hayton et al., 2002; R. McGrath et al., 1992; Tehseen et al., 2021). They help enhance individuals' achievement, rewards, and acceptance of competition and conflict, ultimately developing more innovative and novel ideas, leading to more entrepreneurial behaviour (Jones & Davis, 2000). MAS measure has revealed a higher score of (65.54) among said female entrepreneurs, which was higher than the Saudi national and USA national scores.

The finding of H3 was positive and significant ( $\beta = 0.046$ ,  $p < 0.05$ ). They may also love individuals' accomplishments and link them with position and wealth. The positive association between MAS and EO reported a value of  $\beta$  as

0.046. The  $\beta$  value indicates that if MAS increases, EO will also increase. Additionally, the p-value reported from testing the H3 was  $< 0.05$ , which also shows that the relationship between MAS and EO is statistically significant and a trusted result. as the p-value result is below the threshold of 0.05 for significance.

When comparing the finding for H3 with the overall conclusions from prior international studies, we observe that international studies have reported that MAS was positively associated with TEA, demonstrating that higher MAS may motivate entrepreneurial activity, as seen both in the Saudi context and globally. The differing results found between the international conclusion and the Saudi female entrepreneurs' results can be attributed to the fact that Saudi female entrepreneurs may have benefited differently from MAS traits; they may have used them as a critical tool for defeating available challenges and social norms and thus enhancing their entrepreneurial activities. This might reflect the unique cultural and social dynamics affecting Saudi female entrepreneurship.

The fourth hypothesis (H4) assumed a negative relationship between lower UA and EO. The tests on the data from individual Saudi female entrepreneurs did indeed demonstrate a significant positive relationship between lower UA and EO. The H4 reported a result as ( $\beta = 0.048$ ,  $p < 0.05$ ) that is not supporting H4 assuming the lower the level of UA, the greater the EO among Saudi female entrepreneurs, possibly because entrepreneurs in a low UA culture may be less averse to undertaking risky entrepreneurial activities (Kreiser et al., 2010). The positive association (Result of H4) between low UA and EO reported does not support the previous literature indicating that individuals in low UA cultures believe that the more constraints imposed, the less innovative thinking develops (Muller & Thomas, 2000; Shane, 1995). It is not also in line with the previous studies emphasising that members of low UA societies can generate novel and creative ideas, deal with uncertainty, and engage in risky entrepreneurial activities (Hofstede, 1980; Kreiser et al., 2010; Muller & Thomas, 2000). Additionally, entrepreneurial firms with a low UA culture and a positive

outlook on their external environment can become more proactive in exploring emerging opportunities and be the first to bring in new customers (Chew, 2017).

One reason that may be understood from the H4 result is that female entrepreneurs in Saudi Arabia tend to work differently than the theory predicts. As Saudi female entrepreneurs encounter difficulties such as low funding and societal bias, they tend to be careful when planning instead of taking risky activities accordingly. They build solid networks, start safer businesses, and grow step-by-step. In other words, in cultures that do not prefer uncertainty, female entrepreneurs do better by being organised and cautious - turning what seems like a weakness into their strengths. The finding of the H4 further suggests that high UA may drive EO through necessity-based ventures and institutional support mechanisms like Saudi Vision 2030 programs that align with findings from (Hill et al., 2023; Roomi et al., 2021; Valdez et al., 2011) stating that institutional support enables high-UA individuals to pursue entrepreneurship as stability-seeking behaviour. The results imply UA's impact on EO is context-dependent, with Saudi entrepreneurs exhibiting 'cautious proactiveness'—advancing business goals through planning rather than risk-taking.

The fifth hypothesis (H5) proposed that LTO is positively associated with the EO among Saudi women entrepreneurs. This hypothesis proposes that Individuals associated with an LTO culture believe that significant events will occur in the future. It also assumes that entrepreneurs believe in perseverance, frugality, saving, and investing (Bogatyreva et al., 2019). They also believe that having a LTO can develop more planning skills (Gielnik et al., 2014), which aid in developing entrepreneurial behaviour (Zahra et al., 2004). However, the test for H5 among individual Saudi female entrepreneurs showed that the LTO is positively but insignificantly associated with EO ( $\beta = 0.035$ ,  $p > 0.05$ ). This result of H5 is not in line with previous studies reporting that individuals associated with an LTO culture believe that significant events will occur in the future. They may believe in perseverance, frugality, saving, and investing (Bogatyreva et al.,



2019). Furthermore, previous findings related to LTO revealed that individuals with high LTO can develop more planning skills (Gielnik et al., 2014) which facilitate individuals' entrepreneurial behaviour (Zahra et al., 2004). They are maybe willing to engage in risky activities that yield higher returns over time than individuals with a low LTO culture, who may prefer to accept a jobs in existing firms with a stable income and less risk (Bogatyreva et al., 2019). Nevertheless, even though the H5 was not supported significantly, one may speculate on the reasons for this:

1. While LTO focuses on future planning and obtaining long-term gains and requires long-term commitment, EO may also involve quick decisions and actions related the business that aid innovativeness, risk-taking, and proactiveness. The quick actions undertaken by entrepreneurs allow them to seize available business opportunities and meet customers' current demands instead of waiting for future expectations and uncertainty. Obviously, this depends on the type of business under consideration.
2. Often, it becomes challenging for EO and LTO to work together simply because LTO individuals desire steady business growth. EO may require quick actions and risky activities that will bring handled with more significant uncertainties; therefore, entrepreneurs might reject an LTO.
3. Entrepreneurs with high LTO generally develop a careful strategies. In contrast, EO entrepreneurs might opt for a quick plan to seize available market opportunities, weakening the connection between LTO and EO.
4. Furthermore, it is essential to note that as entrepreneurs operate in a dynamic environment, limiting their activities to long-term ones would hinder their entrepreneurial mindset, especially innovations in fast-moving industries that require higher resilience levels.
5. Entrepreneurs operate in different market sectors; hence, the available specific demands by customers and the regulatory environment may weaken the association between EO and LTO. This is because those entrepreneurs with LTO might need more time to establish themselves in those industries that require quick actions. Accordingly, the rejection of

H5 could be attributed to the misalignment between LOT focus and EO dynamic cultures.

H5, which predicted that LTO would positively influence EO, was rejected, contrasting with the conclusion of international studies emphasising a positive link between LTO and EO. This might be attributed to the context of the study specifications, which might be different from other contexts.

#### ***6.3.4 Discussion related to the moderation analysis of ATF between NC and EO.***

This section discusses the moderation hypotheses, and we start with H6, which assumes that ATF can positively moderate the relationship between PD and EO. ATF is considered essential for entrepreneurship (Boudreaux et al., 2019). It allows entrepreneurs to obtain the resources they need for their businesses, develop novel and innovative products and services, and devise marketing campaigns for them, as well as expand their existing business and generate more EO (Bygrave et al., 2003; Raza & Muffatto, 2019; Saeed et al., 2014; Tehseen et al., 2021; Xiao et al., 2022). Nevertheless, despite all these positive expectations about H6, the result of this hypothesis revealed that ATF insignificantly moderated the path between PD and EO ( $\beta = 0.024$ ,  $p > 0.05$ ). The H6 finding is not in line with previous studies (Bygrave et al., 2003; Raza & Muffatto, 2019; Saeed et al., 2014; Tehseen et al., 2021; Xiao et al., 2022).

This unexpected finding could be attributed to various reasons. For example, while it is believed that ATF can help entrepreneurs to grow and expand their businesses, ATF in cultures with high PD tolerance may not significantly help entrepreneurs overcome the negative effect of hierarchical systems. ATF alone cannot be the only way of empowering entrepreneurs to develop new innovative ideas and act independently if the societal norms around authority and hierarchy remain robust and higher levels of hierarchy and authority in society continue to exist. Furthermore, while ATF can help entrepreneurs to grow and develop their businesses, it may not push or motivate

the wish of entrepreneurs in high PD countries to stand against existing traditions, authorities, or systems.

Additionally, in conservative countries or countries with high PD tolerance, entrepreneurs may prefer not to disturb the existing systems by undertaking innovative and risky activities because of available cultural constraints. This could explain why ATF cannot moderate the relationship between PD and EO. Also, ATF may need wider support for entrepreneurs; hence, entrepreneurs may need more resources, such as market opportunities, motivations, and other institutional support, to help overcome cultural constraints and hierarchical limitations. It is also significant to note that the relationship between PD and EO is complex; even though ATF is important for business, it may not be the most critical element that strengthens the relationship between PD and EO, as other factors such as government support, education, and others may also play an important role.

Regarding the result of H7, this hypothesis assumed that ATF positively moderates the relationship between IND and EO. The H7 assumption was built based on previous literature confirming that individualistic cultures enable individuals to think innovatively, develop innovative new products and services, carry out risky projects, and not impose group restrictions on their decisions and actions (Kreiser et al., 2010; Morris et al., 1993). Individualistic people positively influence entrepreneurial behaviour (Kreiser et al., 2010; Mueller et al., 2013). Nevertheless, despite all these positive expectations about H7, the data analysis revealed that ATF negatively but insignificantly moderated the path between IND and EO ( $\beta = 0.014$ ,  $p > 0.05$ ). The finding of H7 was not in line with previous studies arguing that ATF will allow entrepreneurs to continue thinking innovatively, develop novel ideas, take business decisions, seize and exploit available opportunities in the market, and maximise the use of the available resources, ultimately leading to better entrepreneurial behaviour and further business expansion (Raza & Muffatto, 2019; Tellis et al., 2009; Xiao et al., 2022; Xie et al., 2015).

The result could be attributed to a number of reasons, including the fact that female entrepreneurs with a high level of individualism might have enough commitment and motivation to undertake risky activities and introduce new and innovative ideas and projects, irrespective of financial support. Being individualistic may be an internal motive that motivates entrepreneurs to desire personal growth and success; accordingly, entrepreneurs may pay less attention to ATF in terms of their behaviour related to risk-taking, proactiveness, innovation and others.

It is also important to note that ATF is one of many solutions for a successful venture in many cases. The decision to take risky business decisions, develop proactive ideas and compete in the market might be generated from inside the female entrepreneurs. It is only sometimes necessary to link it to ATF, which might explain why ATF is insignificant when mediating the relationship between EO and IND. Also, it must be noted that despite the positive role that ATF may play in businesses, one must still acknowledge that ATF is not the only support that can support EO; other factors such as network ties, networking, and mentorship may also have an influence on explaining how ATF mediates the relationship between IND and EO. Furthermore, it should be observed that in some cultures, female entrepreneurs' success and entrepreneurial behaviour may depend primarily on their self-reliance and their need to develop economic independence; hence, they may rely highly on their own skills and resourcefulness, even if there are problems with ATF, which may explain why the ATF result is insignificant. Even if ATF is generous in specific contexts, the usage and access to funding will depend mainly on the available norms and institutional barriers. These may limit female entrepreneurs' access to resources for various reasons, including poor credit history or absence of loan grantees.

The finding related to H8 was surprising results. H8 assumed the ability of ATF to positively moderated the relationship between MAS and EO. In general, people with characteristics associated with masculinity have ambition, competitiveness, a love of money, less concern for the quality of life, and

assertive behaviour (Hofstede, 2011). Those individuals with masculine features also value material goals, prestige, ambition, engaging in risky activities, and increasing self-efficacy (Kreiser et al., 2010). They are more engaged in entrepreneurial activities with innovative behaviour (Hayton et al., 2002a; Tehseen et al., 2021). Despite this, the results revealed that ATF insignificantly moderated the path between MAS and EO ( $\beta = 0.037$ ,  $p > 0.05$ ). The H8 findings is not in line with previous studies arguing that when entrepreneurs obtain sufficient funds, they will be able to exploit the available opportunities in the market and conduct the required research to identify available demand gaps, in addition to thinking innovatively and creatively and developing new novel products and services without constraints (Raza & Muffatto, 2019; Tellis et al., 2009; Xiao et al., 2022; Xie et al., 2015). There could be reasons for that. For example, when MAS is considered a personal trait, it might strongly influence EO without interference from other external factors such as ATF. ATF may substantially impact EO more than the interaction between EO and MAS. Furthermore, if the study sample had a similar ATF, it would have been challenging to detect any moderating effect. Hence, the proposed hypothesis might have been rejected.

H9 predicted that ATF moderated the negative relationship between UA and EO. UA refers to how people of a particular culture feel unhappy or threatened by uncertainty (Hofstede, 1980, 2011) and therefore wish to avoid it. The H9 findings returned negative significant results; it revealed ATF did not moderate the relationship between UA and EO ( $\beta = -0.035$ ,  $p > 0.05$ ). The finding of H9 is also not in line with previous studies arguing that Individuals with a low UA culture can use the financial assistance provided to them to design novel products and services, conduct market research to explore new opportunities, select risky investments, and expand their entrepreneurial business scope (Fuentelsaz et al., 2015; Li & Zahra, 2012; Raza & Muffatto, 2019; Tellis et al., 2009). The reason is a strong cultural preference for stability in high-UA contexts. For that, in those communities, ATF alone cannot reduce risk, as

deeply ingrained preferences for predictability often outweigh the benefits of finance. Furthermore, ATF alone may have no power to influence psychological status about risk and uncertainty. Other factors like social support, mentorship, government guidelines, and incubators may have more energy to support engagement in high-risky activities. These results show that while UA directly affects EO as a moderator, there is a need for holistic packages rather than only ATF to encourage female entrepreneurs to engage in high-risky activities.

To elaborate further, cultures that provide adequate ATF may produce highly confident entrepreneurs ready to take on high-risky projects and conduct more adventures leading to their UA level. This differs from cultures with limited ATFs that work with less assurance, feel less confident of success, and continue to avoid uncertainties because of the possible risks attached. ATF is essential for enhancing confidence and encouraging their entrepreneurial mindset.

Regarding the findings for H10, it was rejected. In H10, it was assumed that ATF positively mediated the relationship between LTO and EO. Nevertheless, the moderation analysis revealed that ATF did not positively or significantly moderate the positive relationship between LTO and EO; rather, it weakened the relationship between LTO and EO ( $\beta = 0.025$ ,  $p > 0.05$ ). This is, in fact, a surprising result and it was not in line with previous findings arguing that individuals with an LTO devote more planning time to entrepreneurial activities (Gielnik et al., 2014; Zahra et al., 2004). Also, financial support will allow individuals to set long-term plans and strategies for their business and minimise the possibility of potential risk (Holmes et al., 2013; Shu et al., 2016; Tellis et al., 2009; Xiao et al., 2022). They are also interested in long-term planning for high-risky activities that generate more return, developing decision-making skills for the long term, examining available opportunities in the surrounding environment, and seizing available opportunities after careful thinking and consideration. This finding of H10 may indicate that entrepreneurs with high LTO receiving ATF may become more cautious about investment and may avoid potential risks as much as possible. They may also opt for stable long-term

businesses instead of taking immediate action related to quick entrepreneurial projects. Additionally, it must be said that entrepreneurs with LTO generally tend to concentrate on cautious planning, stability, and sustainable growth for their businesses. Accordingly, when entrepreneurs receive greater ATF, they might change their mind about investing in aggressive businesses and instead enter new businesses to secure and protecting the available funds and security and safeguarding the resources they need.

Furthermore, another possible explanation for the H10 result may be that when entrepreneurs gain ATF, they may change their minds about concentrating on achieving long-term objectives and instead pursue those with short-term goals. Hence, more will be needed to maintain short-term vision because immediate ATF will help them to quickly pursue short-term business opportunities. This switch can weaken the positive relationship between LTO and EO. In some cases, entrepreneurs may become risk-averse after receiving ATF. They may tend safeguard the available money and resources instead of investing them, weakening the association between LTO and EO. The findings of H10 may also be attributed to some cultural effects, such as when entrepreneurs reside in a culture with a cash shortage, they may become cautious and tend to safeguard money instead of investing it in entrepreneurial activities. The association between LTO and EO can also be weakened when entrepreneurs feel overconfident. When entrepreneurs have good access to funds, they may feel happy and satisfied. This may reduce their willingness and energy to establish new enterprises, expand existing ones, or engage with risky and innovative businesses. They may will not need to push hard as they already have money. Finally, if entrepreneurs use ATF for other purposes, this may result in misalignment with LTO and weaken the relationship between LTO and EO.

## **6.4 Theoretical Implications**

This is one of the few studies that analyse cultural dimensions at an individual level, in particular focusing on female entrepreneurs in Saudi Arabia.

In other words, it considers the micro-foundations of studies based on Hofstede's cultural dimensions and emphasises the need to go behind national averages. The study also provides a comprehensive model combining EO, NC and ATF. It is one of the few research studies combining these variables (RQ3). The findings of this study confirm that specific EO dimensions, namely MAS, and IND, contribute positively to enhancing EO among Saudi female entrepreneurs.

Furthermore, as the study compared national-level scores with Saudi female entrepreneurs' scores, it was found that there are some differences between them, indicating that Saudi female entrepreneurs may exhibit a change in their attitudes towards extant social norms and constraints. They may attempt to challenge available norms and modes of contracting. The study also compares the findings of international studies on cultural dimensions with the results of the developed hypotheses proposed by the research model and reports exciting findings. Furthermore, this study contributes to the existing literature about entrepreneurship and cultural factors by showing how cultural values shape EO, which may help policymakers to develop specific strategies that align with these cultural values and motivate higher levels of EO. This may contribute to economic growth and development, new job creation, and innovation. Additionally, this study is one of the few research projects concentrating on female entrepreneurs in Saudi Arabia, a largely ignored area.

## **6.5 Practical Implications**

While this study attempted to understand how NC influences EO with the moderating effect of ATF. Despite reporting some surprising results, practical implications can still be drawn from these findings. Starting with the (H1) connection between PD and EO, the results revealed the unexpected inability of PD to influence EO positively. This result highlight that the structure of the hierarchy and PD tolerance in Saudi Arabia do not necessarily negatively influence EO among female entrepreneurs. Nevertheless, policymakers, governmental bodies, and other developmental organisations can benefit from



active female entrepreneurs by encouraging them to act as role models for others in society. This may ensure the empowerment of new entrepreneurs and respect for extant structures and norms.

Furthermore, the positive findings regarding the connection between IND and EO can also guide policymakers towards further improving in female entrepreneurship. This finding means that autonomy and personal achievement may generate more EO. Accordingly, policymakers may wish to concentrate on building self-confidence, individual goals and self-reliance among female entrepreneurs by providing mentorship initiatives, publicising female entrepreneurs role models, and ensuring that these workshops increase women entrepreneurs' self-reliance and personal growth. These initiatives may also contribute to reducing the gap in business between men and women (Aljarodi et al., 2022). MAS and its connection with EO indicated that EO can be enhanced by competition and assertiveness. Hence, policymakers may develop tailored programmes that reward success and celebrate achievement, ultimately supporting female entrepreneurs. Policymakers, accelerators, and business incubators may all develop certain rewards, such as competitions, to encourage new ideas and innovative businesses.

Regarding the connection between UA and EO, it is worth noting that there may be a need to provide Saudi female entrepreneurs with training in risk assessment. They may also need to be provided with essential resources for business planning and a simulation business environment to allow them to manage uncertainty. These initiatives may improve the ability of entrepreneurs to deal with uncertainty.

The findings related to LTO and EO indicate that policymakers may need to encourage female entrepreneurs to choose long-term investments; hence, business support organisations may need to provide awareness programmes on long-term investment and planning, and their business growth, and offer female entrepreneurs incentives to persevere. Furthermore, as PD and LTO had no

significant influence on EO, and ATF had no positive influence, other variables need to be incorporated such as government policies, social capital, and economic environment into a future model as they may hinder or enhance EO. In short, ATF alone cannot affect EO; hence, a consideration of wider factors such as institutional support, mentorship programmes, or peer networks may be needed. Alternatively, the insignificance of ATF could suggest that governments may leave entrepreneurs to market forces without any state formal institutional support.

Policymakers aware of ATF's insignificance may need to realise that ATF is not the only motivator for EO, and there may be a need to work with other factors. Also, policymakers may leave entrepreneurs to market forces to enhance EO among female entrepreneurs. Alternatively, policymakers may need to work on developing networking programmes, knowledge resources, and training programmes and incorporating them as a package to support female EOs in building their skills and confidence. On the other hand, the insignificant influence of ATF may imply that no other formal institutions may be significant, either.

## **6.6 Limitations of the Study**

Like any other research, this research has many limitations. For example, the sample collected in this research included only a sample of female entrepreneurs; hence, this might limit the generalisability of the findings with regard to comparisons between mixed-gender and male entrepreneurs. On the other hand, comparisons with national cultural dimensions must recognise that the latter aggregate all genders. Furthermore, as this study used a cross-sectional research design, it is difficult to infer causality and changes over time. The research relied on Hofstede dimensions only, which raises the possibility of different results and views if another cultural framework is used. Limiting the study to a specific region or country means that the results may not be replicated or applied in other countries. The inability of the study to confirm positive and significant moderation of the relationship between NC and EO may emphasise

the need to develop a more complex model. It also shows the need to incorporate multiple interacting variables in future studies.

### **6.7 Future Research Directions**

This study examined the influence of NC on EO with the moderating effect of ATF. Future studies may focus on other aspects. For example, it would be interesting to investigate how other support tools and mechanisms, such as market access, skill development, and mentorship programmes, support EO among female entrepreneurs. It would also be exciting to examine the interactions of NC and EO with specific sectors such as technology, services, or other industries dominated by Saudi female entrepreneurs, instead of taking samples from all sectors. Future researchers may also expand their research to various regions and areas, countries, and economic contexts. They may also concentrate on conducting longitudinal studies to understand how NC and EO interact in response to access to resources and changes in societal norms. Additionally, it would be interesting to determine whether demographic factors such as education, age, and marital status interact with EO and NC. On the institutional level, it would be interesting to establish how Saudi strategies and policies contribute to the encouragement of Saudi female entrepreneurs and pave the way for their entrepreneurial success. Including other cultural dimensions, such as indulgence or other alternative cultural frameworks, may provide a better understanding of their impact on EO. Future researchers may consider applying qualitative approach methods such as interviews or focus groups instead of quantitative ones to understand in depth how female entrepreneurs perceive and navigate cultural barriers. A focus on how social stigma, patriarchal values, and family dynamics influence women's entrepreneurial behaviour and access to resources may also be a good research avenue to investigate. Finally, there is an excellent opportunity to examine the influence of online platforms and other digital tools on reducing adverse cultural effects on EO and supporting entrepreneurs.

## 6.8 Conclusion

Entrepreneurship plays a vital role in developing economies by creating new job opportunities and empowering youths, males, and females. However, in Saudi Arabia, there are many challenges facing entrepreneurs, particularly females, related to its cultural dimensions. This motivated the current investigation into how NC influenced EO among female entrepreneurs in Saudi Arabia, especially with the continued support provided for them through Saudi Vision 2030. The study also examined the moderation effect of ATF on the relationship between NC and EO, though this proved to be insignificant.

The study collected data from a sample of 291 Saudi female entrepreneurs operating in Saudi Arabia, particularly from Riyadh. The sample was collected via an online questionnaire sent to the Saudi female entrepreneurs. The data were analysed with the help of SPSS and other necessary tools to test the hypotheses. The study revealed several results, including the following: greater IND, and higher MAS positively influenced EO. In contrast, higher LTO, lower UA and lower PD showed no significant association. Furthermore, the hypothesised moderating effect of ATF on the relationships between NC and EO was insignificant. The findings of this research may be interpreted in various ways. On the one hand, the study could conclude by emphasising the need for comprehensive support to enhance Saudi female EO, e.g., with mentoring programs, customised entrepreneurial training, and other market access initiatives. On the other hand, the stand-out finding of low UA (related to EO) of Saudi female entrepreneurs could justify either, leaving Saudi women alone, or reducing their uncertainties.

## Appendices

### Appendix 1: Questionnaire

**Title:** The Entrepreneurial Orientation of Females in KSA: The associations with Informal Institutions and Formal Institutions

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Dear Respondent,

You are invited to participate in a research study which is part of the fulfilment of the researcher's Doctor of Philosophy degree. To participate, you may wish to understand why the research is being done and what it will involve. Please discuss it with the researcher or research assistants if you wish. Please ask us if there is anything that is not clear or if you would like more information. Please decide whether or not you want to take part in it. The researcher aims in this study to investigate the influence of Informal Institutions, Formal Institutions, on the entrepreneurial orientation of female entrepreneurs in Saudi Arabia.

The study is based on a questionnaire of female entrepreneurs in Saudi Arabia, and completion should take no longer than 15 minutes. Participation in the survey is voluntary, and all data are strictly anonymous. The researcher confirms that the data collected through this survey will be used only for academic purposes and no other purpose. No one other than the researcher and his supervisors will have access to the raw data. The ethics committee has approved this study of the College of Social Sciences at the University of Glasgow, U.K. If you have any concerns regarding the research, please contact the researcher at xxxxxxxx@student.gla.ac.uk.

Thank you for your kind cooperation.

### Demographic Information

**Education Level:** Uneducated (    ), Primary School (    ), Secondary School (    ), Bachelor's Degree (    ), Postgraduate degree (    ).

**Work Experience:** 1- 5 years (    ), 6- 10 years (    ), 11-15 years (    ), above 15 years (    ).

**Age of Respondents:** 18 - 28 years (    ), 29 - 39 years (    ), 40 - 49 years (    ), above 49 years (    ).

**Type of Business:** Retail & Whole sales (    ), Production (    ), Services (    ), Finance & insurance services (    ), Agriculture (    ), other (    )

**Age of the Business:** Below 2 years (    ), 2-5 years (    ), 5-10 years (    ), above 10 years (    ).

**Size of the Business:** 1 person (    ), 2-5 persons (    ), 6-10 persons (    ), More than 10 persons (    ).

Construct	Sign	Measures	Source of measures	Source of responses
Power Distance (PD)	PO1	People in higher positions should make most decisions without consulting the people in lower positions.	Yoo, Donthu, & Lenartowicz, (2011)	Female Entrepreneurs
	PO2	People in higher positions should not ask the opinions of people in lower positions too frequently.		

	PO3	People in higher positions should avoid social interaction with people in lower positions.		
	PO4	People in lower positions should not disagree with decisions by people in higher positions.		
	PO5	People in higher positions should not delegate important tasks to people in lower positions.		
Individualism (IND)	IND1	Individuals should sacrifice self-interest for the group (either at school or the workplace).	Yoo, Donthu, & Lenartowicz, (2011)	Female Entrepreneurs
	IND2	Individuals should stick with the group even through difficulties.		
	IND3	Group welfare is more important than individual rewards.		
	IND4	Group success is more important than individual success.		
	IND5	Individuals should only pursue their goals after considering the welfare of the group.		
	IND6	Group loyalty should be encouraged even if individual goals suffer.		
Masculinity (MAS)	MAS1	I generally solve problems with logical analysis.	Yoo, Donthu, & Lenartowicz, (2011)	Female Entrepreneurs
	MAS2	I generally solve problems with intuition.		
	MAS3	I can solve complex problems that usually require an active, forcible approach.		
	MAS4	I feel I can always do all my jobs.		
Uncertainty Avoidance (UA)	UN1	It is important to have instructions spelled out in detail so that I always know what I'm expected to do.	Yoo, Donthu, & Lenartowicz, (2011)	Female Entrepreneurs
	UN2	It is important to closely follow instructions and procedures.		
	UN3	Rules and regulations are important because they inform me of what is expected of me.		
	UN4	Standardised work procedures are helpful.		
	UN5	Instructions for operations are important.		
Long Term Orientation (LTO)	LT1	Careful management of money is important.	Yoo, Donthu, & Lenartowicz, (2011)	Female Entrepreneurs
	LT2	It is important to go on resolutely even when there is opposition.		
	LT3	Personal steadiness and stability are important.		
	LT4	It is important to plan for the long-term.		
	LT5	Giving up today's fun for success in the future is important.		

	LT6	It is important to work hard for success in the future.		
Innovativeness	IN1	We actively introduce improvements and innovations in our business.	Hughes & Morgan, (2007)	Female Entrepreneurs
	IN2	Our business is creative in its methods of operation.		
	IN3	Our business seeks out new ways to do things.		
Risk-taking	RT1	The term “risk taker” is considered a positive attribute for people in our business.	Hughes & Morgan, (2007)	Female Entrepreneurs
	RT2	People in our business are encouraged to take calculated risks with new ideas.		
	RT3	Our business emphasises both exploration and experimentation for opportunities.		
Proactiveness	PR1	We always try to take the initiative in every situation (e.g., against competitors, in projects when working with others).	Hughes and Morgan (2007)	Female Entrepreneurs
	PR2	We excel at identifying opportunities.		
	PR3	We initiate actions to which other organisations respond.		
Competitive Aggressiveness	CO1	Our business is intensely competitive.	Hughes & Morgan, (2007)	Female Entrepreneurs
	CO2	In general, our business takes a bold or aggressive approach when competing.		
	CO3	We try to undo and out-manoeuvre the competition as best as we can.		
Autonomy	AU1	Employees are permitted to act and think without interference.	Hughes & Morgan, (2007)	Female Entrepreneurs
	AU2	Employees perform jobs that allow them to make and instigate changes in the way they perform their work tasks.		
	AU3	Employees are given freedom and independence to decide on their own how to go about doing their work.		
	AU4	Employees are given freedom to communicate without interference.		
	AU5	Employees are given authority and responsibility to act alone if they think it to be in the best interests of the business.		
	AU6	Employees have access to all vital information.		
	PATF1	In my country, there is sufficient equity funding available for new and growing firms.		



Access to Private Finance	PATF2	In my country, there is sufficient debt financing available for new and growing firms.	(Ali et al., 2019)	Female Entrepreneurs
	PATF3	In my country, there is sufficient funding available from informal investors (family, friend and colleagues), who are private individuals (other than founders) for new and growing firms.		
	PATF4	In my country, there is sufficient Professional Business Angels funding available for new and growing firms.		
	PATF5	In my country, there is sufficient venture capitalist funding available for new and growing firms.		
Access to Government Finance	GATF1	Local and national governments have financial support available for individuals who want to start a new business such as finance, training and others.	(Chew, 2017)	Female Entrepreneurs
	GATF2	Even after failing in an earlier business, the government assists entrepreneurs financially in starting again.		

**العنوان:** التوجه الريادي للإناث في المملكة العربية السعودية: الارتباطات مع المؤسسات غير الرسمية والمؤسسات الرسمية

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أنتي مدعوة للمشاركة في دراسة بحثية تعد جزءاً من تحقيق درجة الدكتوراة في الفلسفة للباحث. قد ترغب في فهم سبب إجراء البحث وما الذي سيتضمنه، يرجى مناقشتها مع الباحث أو مساعدي الباحث إذا كنت ترغب في ذلك. يرجى سؤالنا عما إذا كان هناك أي شيء غير واضح أو إذا كنت ترغب في مزيد من المعلومات. الرجاء تحديد ما إذا كنت تريد المشاركة فيها أم لا. يهدف الباحث في هذه الدراسة إلى التحقيق في تأثير المؤسسات غير الرسمية، والمؤسسات الرسمية، والمحافظة الاجتماعية على التوجه الريادي لرائدات الأعمال في المملكة العربية السعودية. تستند الدراسة إلى استبانة لرائدات الأعمال في المملكة العربية السعودية، يجب ألا يستغرق إكمالها أكثر من 15 دقيقة. المشاركة في الاستطلاع تطوعية، وجميع البيانات مجهولة تماماً. يؤكد الباحث أن البيانات التي سوف يتم جمعها من خلال هذا الاستطلاع ستستخدم فقط للأغراض الأكاديمية وليس لأي غرض آخر. لن يتمكن أي شخص آخر غير الباحث ومشرفيه من الوصول إلى البيانات الأولية. وافقت لجنة الأخلاقيات بكلية

العلوم الاجتماعية بجامعة جلاسكو بالمملكة المتحدة على هذه الدراسة. إذا كانت لديك أية مخاوف بشأن البحث،

يفرجى التواصل بالباحث على xxxxxxx@student.gla.ac.uk

شكرا لتعاونكم،

أؤكد أنني قد قرأت وفهمت ورقة معلومات المشارك للدراسة أعلاه وأتيت لي الفرصة لطرح الأسئلة. أعلم أن مشاركتي طوعية وأنني حره في الانسحاب في أي وقت دون إبداء أي سبب. أعلم أيضًا أنه لن يتم عرض أسماء المستجيبين. أفهم أيضًا أنه يمكن استخدام مواد الاستطلاع في المنشورات المستقبلية، سواء المطبوعة أو عبر الإنترنت وفقًا لذلك، وأوافق على المشاركة في هذه الدراسة البحثية.

( ) موافق

( ) غير موافق

**المستوى التعليمي:** ( ) غير متعلم، ( ) المرحلة الابتدائية، ( ) المرحلة المتوسطة، ( ) الثانوية العامة، ( ) دراسات عليا

**سنوات الخبرة:** ( ) 1-5 سنوات، ( ) 6-10 سنوات، ( ) 11-15 سنوات، ( ) أكثر من 15 سنة

**العمر:** ( ) 18-28 سنة، ( ) 29-39 سنة، ( ) 40-49 سنة، ( ) أكثر من 49 سنة

**نوع العمل:** ( ) تجارة البيع بالتجزئة والجملة، ( ) صناعي، ( ) خدمات عامة، ( ) خدمات تمويل وتأمين، ( ) زراعة، ( ) أخرى

**عمر العمل:** ( ) أقل من سنتين، ( ) 2-5 سنوات، ( ) 5-10 سنوات، ( ) أكثر من 10 سنوات

**حجم العمل:** ( ) موظف واحد، ( ) 2-5 موظفين، ( ) 6-10 موظفين، ( ) أكثر من 10 موظفين

المفاهيم/ المؤشرات	الرمز	مقاييس	المصدر	مصدر الردود
مسافة القوة	PD1	يجب على صناع القرار في المناصب العليا اتخاذ القرارات دون استشارة موظفيهم العاديين في المناصب الدنيا.	يو ، دونثو ، ولينارتوفيتش (2011) ،	رائدات الأعمال
	PD2	يجب على صناع القرار في المناصب العليا عدم اخذ رأي موظفيهم في المناصب الدنيا باستمرار.		
	PD3	يجب على صناع القرار في المناصب العليا تجنب التواصل الاجتماعي مع موظفيهم في المناصب الدنيا.		
	PD4	يجب على الموظفين العاديين في المناصب الدنيا عدم اعتراض قرارات صناع القرار في المناصب العليا.		

		يجب على صناع القرار في المناصب العليا عدم تفويض أعمال و مهام مهمة لموظفيهم في المناصب الدنيا.	PD5	
رائدات الأعمال	يو ، دونثو ، ولينارتوفيتش (2011)	يجب على الأفراد التضحية بمصالحهم الذاتية لصالح الجماعة لضمان تحقيق المصلحة العامة.	IND1	الفردية
		يجب على الأفراد التمسك بالجماعة حتى ولو كلفهم ذلك الكثير من الصعاب.	IND2	
		تعتبر رفاهية الجماعة أكثر أهمية من انجازات ورفاهية الفرد.	IND3	
		يعتبر نجاح الجماعة أكثر أهمية من النجاح الفردي.	IND4	
		لا يجب على الأفراد السعي لتحقيق أهدافهم الخاصة إلا بعد التأكد من عدم تعارضها مع اهداف ورفاهية الجماعة.	IND5	
		يجب الاستمرار في تشجيع الولاء والانتماء للجماعة حتى إذا تعارض ذلك مع أهداف الشخص الفردية.	IND6	
رائدات الأعمال	يو ، دونثو ، ولينارتوفيتش (2011)	اعمل دائماً على حل مشاكي بالتحليل المنطقي.	MAS1	الذكورة
		بشكل عام عند حدوث اي مشكلة اعمل على حلها بالحدس والتخمين.	MAS2	
		يمكنني حل المشكلات المعقدة حتى التي تتطلب اسلوباً معقداً وصعباً.	MAS3	
		أشعر أنني أستطيع دائماً القيام بجميع أعمالي.	MAS4	
رائدات الأعمال	يو ، دونثو ، ولينارتوفيتش (2011)	من المهم أن تكون هناك تعليمات وارشادات واضحة تساعدني في معرفة ما يجب ان اقوم به.	UA1	عدم اليقين
		من المهم اتباع التعليمات والإجراءات بدقة.	UA2	
		تعتبر القواعد واللوائح مهمة كونها توجه الموظف بما يجب عليه القيام به.	UA3	
		تعتبر إجراءات العمل الموحدة مفيدة للعمل.	UA4	
		تعتبر التعليمات والارشادات مهمة لإنجاز العمل.	UA5	
رائدات الأعمال	يو ، دونثو ، ولينارتوفيتش (2011)	تعتبر إدارة اموال المشروع بحذر من الامور الهامة.	LTO1	التوجيه طويل المدى
		من المهم الاستمرار في العمل بحزم حتى عندما يكون هناك معارضة من بعض الافراد.	LTO2	
		من المهم ان يكون الفرد قوي الشخصية متميز بالثبات والاستقرار.	LTO3	
		يعتبر التخطيط طويل المدى من الامور الهامة.	LTO4	
		يعتبر التضحية بسعادة ورفاهية اليوم امر مهم لضمان نجاح المستقبل.	LTO5	
		من المهم أن تعمل بجد لتحقيق النجاح في المستقبل.	LTO6	
رائدات الأعمال	هيوز ومورجان ، (2007)	نعمل دائماً على تقديم ابتكارات وطرق لتحسين الاداء في مشروعنا.	IN1	الابتكار
		يتميز مشروعنا باستخدام أساليب ابداعية في العمل.	IN2	
		في مشروعنا نحرص على ايجاد طرق جديدة لتنفيذ المهام.	IN3	
رائدات الأعمال	هيوز ومورجان ، (2007)	يعتبر مصطلح "مخاطر" سمة إيجابية للموظفين العاملين معنا في المشروع.	RT1	المخاطرة
		يتم تشجيع الموظفين على تحمل المخاطر المصحوبة بأفكار جديدة.	RT2	

		يتم التركيز في عملنا دائما على مبدأ الإستكشاف والتجريب للفرص.	RT3	
رائدات الأعمال	هيوز ومورجان ، (2007)	نحاول دائماً أخذ زمام المبادرة عند العمل (مع الآخرين او عند مقارنة المنافسين).	PR1	الاستباقية
		نمتلك قدرة عالية في تحديد الفرص واغتنامها.	PR2	
		نتميز دائماً بأعمال تجعل الشركات الاخرى تبحث في كيفية الرد علينا.	PR3	
رائدات الأعمال	هيوز ومورجان ، (2007)	يعتبر عملنا تنافسي لحد كبير.	CO1	التنافسية
		بشكل عام، نتخذ شركتنا اسلوب حازم وصارم عند منافسة الشركات الاخرى.	CO2	
		احياناً نترجع عن المنافسة لنعود بشكل اقوى وأفضل للفوز.	CO3	
رائدات الأعمال	هيوز ومورجان ، (2007)	يُسمح للموظفين بالتصرف والتفكير دون تدخل.	AU1	الاستقلالية
		يؤدي الموظفون وظائف تسمح لهم بإجراء بعض التغييرات ونقوم بتشجيعهم على ذلك بما يتناسب مع اداء مهام عملهم.	AU2	
		يُمنح الموظفون الحرية والاستقلالية ليقرروا بأنفسهم كيفية القيام بعملهم.	AU3	
		يتم منح الموظفين حرية التواصل مع بعضهم البعض دون تدخل.	AU4	
		يُمنح الموظفون حرية التصرف بمفردهم فيما يرونه مناسب ويصب في مصلحة الشركة.	AU5	
		يملك للموظفين حرية الوصول إلى جميع المعلومات الحيوية بالشركة.	AU6	
رائدات الأعمال	(علي ، علي ، وبادغيش ، (2019)	في المملكة، يتم دعم أسهم الشركات الجديدة والمتنامية.	PATF1	التمويل الخاص
		في المملكة، يوجد تسهيلات للقروض لتمويل الشركات الجديدة والمتنامية.	PATF2	
		في المملكة، تحاول العائلة والأصدقاء والزملاء دعم وتمويل الشركات الجديدة والمتنامية حتى ولو لم يكونوا من المساهمين المؤسسين.	PATF3	
		في المملكة، هناك تمويل ملائكي كافٍ ومتاح للشركات الجديدة والمتنامية.	PATF4	
		في المملكة، هناك تمويل كافٍ ومتاح لرأس المال الاستثماري للشركات الجديدة والمتنامية.	PATF5	
رائدات الأعمال	(تشييو ، تانغ ، باك ، (2021)	في المملكة، يوجد دعم مالي متاح للأفراد الذين يرغبون في بدء عمل تجاري جديد مثل التمويل والتدريب وغيرها.	GATF1	التمويل الحكومي
		حتى بعد الفشل في عمل سابق، تساعد الحكومة رواد الأعمال مالياً في البدء من جديد.	GATF2	

## Appendix 2: Moderating Effect of Demographic Variables

	Main Model	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	2.632	2.769	1.440	3.114	3.373	2.939	2.183
Main effects							
AGE	-0.080 (-1.781)	-0.156 (-0.816)	-0.083 (-1.802)	-0.075 (-1.673)	-0.086 (1.935)	-0.066 (-1.472)	-0.076 (-1.685)
EDU	-0.007 (-0.246)	-0.004 (-0.148)	0.193 (1.069)	-0.014 (-0.502)	-0.009 (-0.348)	-0.012 (-0.451)	-0.005 (-0.190)
WEXP	0.076 (1.779)	0.077 (1.772)	0.076 (1.7470)	-0.238 (-1.449)	0.090** (2.121)	0.085* (1.973)	0.071 (1.647)
BTYPE	0.020 (0.619)	0.023 (0.717)	0.022 (0.685)	0.019 (0.603)	0.017 (0.546)	0.025 (0.799)	0.208 (1.295)
BAGE	-0.024 (-0.561)	-0.023 (-0.538)	-0.020 (-0.465)	-0.021 (-0.498)	-0.036 (-0.855)	-0.180 (-1.205)	-0.021 (-0.497)
BSIZE	0.007 (0.223)	0.006 (0.198)	0.004 (0.153)	0.011 (0.389)	-0.258** (-2.129)	0.011 (0.381)	0.007 (0.241)
PD	0.006 (0.370)	-0.008 (-0.203)	0.017 (0.185)	-0.024 (-0.758)	-0.028 (-0.792)	-0.055 (-1.421)	0.014 (0.250)
IND	0.045** (2.977)	0.060 (1.599)	0.090 (1.066)	0.082** (2.679)	-0.097** (2.787)	0.130** (3.288)	0.079** (2.125)
MAS	0.044** (2.151)	0.049 (0.891)	0.097 (0.863)	0.035 (0.830)	0.016 (0.325)	-0.002 (-0.046)	0.032 (0.597)
UA	0.049** (2.021)	-0.023 (-0.343)	0.186 (1.192)	0.081 (1.652)	0.118** (2.093)	0.066 (1.118)	0.001 (0.008)
LTO	0.029 (1.134)	0.076 (1.103)	-0.054 (-0.343)	-0.064 (-1.235)	-0.124** (-2.103)	-0.018 (-0.293)	0.114 (1.626)
Moderating Effects							
PD x AGE	-	0.007 (0.369)	-	-	-	-	-
IND x AGE	-	-0.007 (-0.438)	-	-	-	-	-
MAS x AGE	-	-0.002 (-0.085)	-	-	-	-	-
UA x AGE	-	0.034 (1.157)	-	-	-	-	-
LTO x AGE	-	-0.022 (-0.725)	-	-	-	-	-
PD x EDU	-	-	-0.002 (-0.128)	-	-	-	-
IND x EDU	-	-	-0.008 (-0.555)	-	-	-	-
MAS x EDU	-	-	-0.009 (-0.468)	-	-	-	-
UA x EDU	-	-	0.022 (0.885)	-	-	-	-

<b>LTO x EDU</b>	-	-	0.013 (0.513)	-	-	-	-
<b>PD x WEXP</b>	-	-	-	0.017 (1.207)	-	-	-
<b>IND x WEXP</b>	-	-	-	-0.017 (-1.296)	-	-	-
<b>MAS x WEXP</b>	-	-	-	0.004 (0.230)	-	-	-
<b>UA x WEXP</b>	-	-	-	-0.013 (-0.645)	-	-	-
<b>LTO x WEXP</b>	-	-	-	0.051 (1.189)	-	-	-
<b>PD x BSIZE</b>	-	-	-	-	0.013 (1.139)	-	-
<b>IND x BSIZE</b>	-	-	-	-	-0.018 (-1.154)	-	-
<b>MAS x BSIZE</b>	-	-	-	-	0.009 (0.587)	-	-
<b>UA x BSIZE</b>	-	-	-	-	-0.025 (-1.371)	-	-
<b>LTO x BSIZE</b>	-	-	-	-	0.057 (1.894)	-	-
<b>PD x BAGE</b>	-	-	-	-	-	0.023 (1.737)	-
<b>IND x BAGE</b>	-	-	-	-	-	0.032** (-2.348)	-
<b>MAS x BAGE</b>	-	-	-	-	-	0.018 (0.999)	-
<b>UA x BAGE</b>	-	-	-	-	-	-0.006 (-0.273)	-
<b>LTO x BAGE</b>	-	-	-	-	-	0.020 (0.872)	-
<b>PD x BTYPE</b>	-	-	-	-	-	-	-0.005 (-0.706)
<b>IND x BTYPE</b>	-	-	-	-	-	-	0.010 (1.590)
<b>MAS x BTYPE</b>	-	-	-	-	-	-	0.007 (0.757)
<b>UA x BTYPE</b>	-	-	-	-	-	-	0.007 (0.484)
<b>LTO x BTYPE</b>	-	-	-	-	-	-	-0.006 (-0.535)
<b>R<sup>2</sup></b>	0.218	0.223	0.225	0.241	0.255	0.243	0.228
<b>Adjusted R<sup>2</sup></b>	0.187	0.177	0.179	0.197	0.211	0.199	0.183

<b>F</b>	7.084**	4.910**	4.964**	5.439**	5.860**	5.493**	5.060**
Durbin-Watson	1.888	1.896	1.872	1.903	1.913	1.902	1.930
Observations	291	291	291	291	291	291	291

**Note:** PD: Power Distance; IND: Individualism; MAS: Masculinity; UA: Uncertainty Avoidance; LTO: Long-term orientation; EO: Entrepreneurial orientation; EDU: Education; WEXP: Work experience; BSIZE: Business size; BAGE: Business age; BTYPE: Business type.

\*=  $p < 0.05$ ; \*\* =  $p < 0.01$ ; \*\*\* =  $p < 0.001$



### Appendix 3: Robustness Test Based on business Type

	Main Model	Model 1 (Retail and wholesale)	Model 2 (Services)
Constant	2.533	2.117	2.783
Main effects			
PD	0.011 (0.727)	0.013 (0.320)	0.006 (0.299)
IND	0.042** (2.830)	0.070** (2.675)	0.026 (1.338)
MAS	0.045** (2.200)	0.038 (1.039)	0.048 (1.826)
UA	0.050** (2.130)	0.021 (0.423)	0.55 (1.946)
LTO	0.033 (1.313)	0.093 (1.931)	0.012 (0.393)
R <sup>2</sup>	0.205	0.346	0.140
Adjusted R <sup>2</sup>	0.191	0.308	0.115
F	14.719***	9.008***	5.727***
Durbin-Watson	1.862	1.906	1.914
Observations	291	91	182

**Note 1:** PD: Power Distance; IND: Individualism; MAS: Masculinity; UA: Uncertainty Avoidance; LTO: Long-term orientation.

\*=  $p < 0.05$ ; \*\* =  $p < 0.01$ ; \*\*\* =  $p < 0.001$

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