

How socio-cultural transition helps to improve entrepreneurial intentions among women?

Abstract

Purpose

The current research proposes a model that integrates certain psychological and demographic factors in developing and strengthening young Saudi women's perceptions of entrepreneurial resourcefulness, which eventually may lead to the development and enhancement of their entrepreneurial intentions. The study also examines the ways in which changing socio-cultural norms and values may augment investments and/or efforts to enhance cognitive enablers, including entrepreneurial resourcefulness, and thereby build and strengthen entrepreneurial intentions among female entrepreneurs (i.e., human capital) in a transitioning society. Saudi Arabia is a relevant research context because the Saudi government has invested enormous resources to develop the country's human capital, particularly women whose participation in entrepreneurial spheres the government desires to enhance. Saudi Arabia is undergoing a radical socio-cultural transition, and the kingdom seeks to capitalise on this ongoing transformation to further encourage women to tap into their under-utilised potential. This study seeks to corroborate such moderation effects.

Design/methodology/approach

We utilise the intellectual capital (IC) framework and theory of planned behaviour (TBP) to propose the conceptual model in this study. Using a sample of 628 young female respondents—potential entrepreneurs studying at various universities in Saudi Arabia, we test the hypothesised associations through partial least squares (PLS) based path modelling.

Findings

We found a significant positive impact of psychological factors, such as perceived behavioural control, attitude towards entrepreneurship, subjective norms and entrepreneurial self-efficacy, on the development and enhancement of perceived entrepreneurial resourcefulness. In addition, demographic factors, including family income, family background, family business experience and entrepreneurship education, play a significant positive role in enhancing individual's entrepreneurial resourcefulness perceptions. We further found that enhanced perceptions of perceived entrepreneurial resourcefulness develop and enhance entrepreneurial intentions among female entrepreneurs. However, the transformation in social and cultural norms significantly moderates this cause-and-effect relationship.

Originality/value

This study is among the first of its kind to investigate the moderating effects of social and cultural transformation on efforts and/or investments to enhance intellectual capital (more specifically, human capital) and thereby promote entrepreneurship. Our study is also valuable for its focus on a unique context, i.e., female entrepreneurship in the Middle East and, more specifically, Saudi Arabia. The study offers useful insights and implications both for theory and practice, particularly for policymakers seeking to augment their intellectual capital formation efforts through an effective orchestration of socio-cultural transformation, which seeks to empower female entrepreneurs to succeed in the face of significant socio-cultural impediments.

Keywords: Intellectual capital, human capital, socio-cultural transition, theory of planned behaviour, perceived entrepreneurial resourcefulness, entrepreneurial intentions, Saudi Arabia.

Introduction

Organisations and countries around the globe are investing massive stocks of intellectual capital (IC) to compete and succeed in today's knowledge-driven economy (Alvino et al., 2021; Agostini et al., 2017; Guthrie & Dumay, 2015; Khaliq et al., 2011; Pena, 2002; Serenko & Bontis, 2009; Serenko, 2010). Intellectual capital has proved an important precursor of sustainable development through enhancements in innovation capital, value co-creation and organisational performance (Alvino et al., 2021; Rossi & Magni, 2017; Shahzad et al., 2020). No exception to this trend, the Saudi government is paying close attention to the development and enhancement of intellectual capital (more specifically, human capital) to promote innovation and entrepreneurship, especially among the kingdom's female entrepreneurs. Saudi Arabia's Vision 2030 seeks to galvanise entrepreneurial activity by generating alternative sources of income and thereby reducing the kingdom's dependence on oil revenue. In recent decades, the government has increasingly invested in intellectual capital, especially to benefit Saudi women, by promoting (entrepreneurial) education and creating an amicable entrepreneurial ecosystem fostered by a radical socio-cultural transition to encourage and capitalise on Saudi women's entrepreneurial talent (Ali et al., 2019). In addition, the Saudi government has sought to nurture a stronger sense of resourcefulness among young Saudi women, considering this resourcefulness an essential precondition to invigorate women's ventures in the kingdom.

Entrepreneurship research has widely debated perceived resourcefulness as a focal construct encapsulating the process through which entrepreneurs transform ideas into actions (Williams et al., 2019). It has gained significant attention in the scholarly community primarily due to its perceived instrumentality in promoting desirable

entrepreneurship behaviours. Thus, contemporary researchers have sought to explore its antecedents and consequences for entrepreneurialism. Myriad studies have aimed to provide answers to questions including the following: What is (perceived) resourcefulness? What are the characteristics of resourceful actors? How, when, and why do actors perceive themselves to be resourceful? and What are the outcomes of being a resourceful actor? (Williams et al., 2019). The current study seeks to reinforce the scholarly discourse by 1) elucidating the role of certain psychological and demographic factors as important antecedents of entrepreneurial resourcefulness, 2) examining the role of perceived entrepreneurial resourcefulness in the enhancement of entrepreneurial intentions as its outcome and 3) exploring socio-cultural transformation as a contingency that moderates the (cause-and-effect) association between perceived resourcefulness and entrepreneurial intentions.

The current literature refers broadly to resourcefulness as the skills, behaviours, or actions necessary to acquire, use and/or combine available (limited) resources, e.g., finances, materials, knowledge, social ties, etc. (Di Domenico et al., 2010). Recognising that a sense of confidence is crucial for entrepreneurs to realise their ideas and aspirations, entrepreneurs must perceive themselves as resourceful and/or sufficiently able to identify and capitalise upon opportunities through innovative resource permutations (Yaqub et al., 2020). Thus, it seems highly pertinent to investigate research questions such as the following: What factors drive the development of perceived resourcefulness? What psychological factors are important to build a sense of entrepreneurial resourcefulness? More specifically, what is the role of (widely debated) behavioural antecedents, including perceived behavioural control, attitude towards entrepreneurship, subjective norms, and

entrepreneurial self-efficacy, in enhancing perceived resourcefulness? Does it make a difference if the potential entrepreneur belongs to a family with successful business experience, high income and significant entrepreneurship knowledge and skills? How does perceived entrepreneurial resourcefulness affect entrepreneurial intentions and actions? What is the role of an enabling environment in this context? All such questions underscore the necessity of investigating the nature of the associations among demographic and psychological factors as antecedents of perceived entrepreneurial resourcefulness, key entrepreneurial behaviours as their outcomes, and the socio-cultural environment as a moderating condition. To date, scholars have not yet explicitly and empirically tested these relationships and bridging this research gap is the primary emphasis of the current study.

Female participation in entrepreneurial activities is essential for any country's economic and social development. Although women appear to be more socially driven and innovative (Scoutto et al., 2019) than men, female entrepreneurs are treated differently than their male counterparts, and their participation in entrepreneurial activities has historically remained much lower than that of men (Scoutto et al., 2019). Similar disparities are also evident in (entrepreneurial) research, where, despite the significance of female entrepreneurship to sustainability in economic and social development, studies on female entrepreneurs remain scarce (Ahl, 2002; De Bruin et al., 2006; 2007). According to Brush and Cooper (2012), less than 10% of all entrepreneurship research examines female entrepreneurs. The current study thus seeks to contribute to addressing this deficiency by investigating certain dynamics of female entrepreneurship in a unique but critical socio-cultural context—i.e., the Middle East.

As discussed above, although plenty of research available in entrepreneurship literature that examines the influence of numerous social-cultural (for instance, Ali et al., 2011; Ali et al., 2019; and Anggadwita et al., 2021) psychological (Chatterjee and Das, 2015), and personal (for instance, Ahmed et al., 2019), individual (for instance, Ali et al., 2019; Ali et al., 2021; and Anggadwita et al., 2021), and contextual factors (for instance, Gulzar, and Fayaz, 2021) in developing entrepreneurial intentions among individuals. However, there is sparse research available in the literature that examines the influence of psychological (attitude towards entrepreneurship, perceived behavioral control, subjective norms, entrepreneurial self-efficacy), individual factors (education, age, family income, family business experience, and background) in developing entrepreneurial perceived resourcefulness, and entrepreneurial intentions among young women in the context of Saudi Arabia. This study bridges this important research gap in by proposing and testing a theoretical model in the context of young Saudi women.

While there is plenty of research available in the entrepreneurship literature to examine different factors that stimulate entrepreneurial intentions, the current debate examines the interesting and important intersection between intellectual capital and entrepreneurship theories. Scholars are advocating significant role of different components of intellectual capital (i.e., human capital, structural capital, and relational capital) in the development of entrepreneurial intentions (Khan et al., 2021). Similarly, Rahman et al., (2021) found a positively significant role of structural capital, relational capital, and spiritual capital in entrepreneurial opportunity recognition. In their important literature review on the interaction of IC-entrepreneurship studies, Crupi et al., (2021) holds that scholars are increasingly different components of IC to explain venture creation and to

increase competitive performance of firms. Crupi et al., (2021) stress the importance of further research on the interaction and synergies between IC and entrepreneurship. Therefore, it is important to examine how Saudi government's investment in developing Saudi women's entrepreneurship knowledge and skills (human capital), their relational capital acquired by virtue of their family background, social networking, and governmental support can help Saudi women to choose entrepreneurship as career choice. Similarly, how psychological capital accumulated from entrepreneurial self-efficacy, subjective norms, perceived behavioural control leads to the development of perceived entrepreneurial resourcefulness and entrepreneurial intentions Vasconcelos, (2021).

Building upon the work of Mishra and Kumar (2000), who proposed a theoretical model that emphasises the influence of certain demographic and psychological factors on entrepreneurial attitudes and actions while also appealing to the theory of planned behaviour (TPB) and the intellectual capital framework (IICF), we aim to enrich the scholarly discourse by conceptualising and then empirically substantiating the role of some contributory psychological and demographic factors in developing a stronger sense of entrepreneurial resourcefulness among potential female entrepreneurs. In addition, we endeavour to investigate the (moderating) effects of socio-cultural factors in translating this perceived entrepreneurial resourcefulness into entrepreneurial intentions. While doing this we also link these psychological and demographic factors with different components of IC to examine how they can be integrated to better explain this entrepreneurship-IC framework.

The objectives of this study are manifold. First, it provides much needed empirical evidence regarding the importance of psychological factors, including entrepreneurial self-

efficacy, perceived behavioural control and attitude towards entrepreneurship, subjective norms, and demographic factors, such as family income, family business background, family business experience and entrepreneur education and age, in the development and/or enhancement of perceived entrepreneurial resourcefulness. Second, this study examines the translation of perceived entrepreneurial resourcefulness into stronger entrepreneurial intentions. Third, it explores the moderating role of social and cultural transition on the association between entrepreneurial resourcefulness and entrepreneurial intentions. Finally, this study uses entrepreneurship-IC framework to contribute to the body of knowledge in this underdeveloped research sphere. This study investigates these cause-and-effect associations in the unique but pertinent Middle Eastern context—more specifically, in the context of the socio-cultural transformation currently taking place in Saudi Arabia in response to the overarching Saudi Vision 2030, which aims to invest in the development of intellectual capital among female entrepreneurs and thereby enhance their participation and contributions in socio-political and economic domains.

The rest of paper is structured as follows: the next section describes the theoretical background and formulate hypotheses based on literature review, the following section explains the research methods used in this study, the succeeding section presents the results obtained after data analysis, and the final section explains the findings of this research and their discussions in the light of relevant literature, it also elaborates the theoretical, and practical contributions of this study, limitations and directions for future researchers and the conclusion.

Theoretical background and hypotheses

Literature review

Entrepreneurial intention—the primary precursor of entrepreneurial action—is the centrepiece of entrepreneurship research. Scholars have defined entrepreneurial intention in a variety of ways. For instance, Moriano et al. (2012) describes entrepreneurial intentions as ‘the conscious state of mind that precedes action and directs attention toward entrepreneurial behaviours such as starting a new business and becoming an entrepreneur’ (p. 165). Tkachev and Kolvereid (1999) define entrepreneurial intention as ‘one’s willingness in undertaking an entrepreneurial activity or, in other words, becoming self-employed’. Likewise, Pihie et al. (2009) holds that entrepreneurial intentions are a state of mind that impacts entrepreneurial behaviour. Drawing upon these definitions, we postulate that entrepreneurial intentions occupy a central place in the entrepreneurial process of creating new ventures. According to Kruger et al. (2000), entrepreneurial intentions models enhance scholars’ ability to identify not merely the influence of personal or situational factors but also the antecedents of new business start-ups. Traditional entrepreneurship research has underscored a host of individual, socio-cultural, contextual, and other factors important for the creation of new ventures (Misra & Kumar, 2000). However, recent entrepreneurship research has sought to explain how entrepreneurs identify and seek to capitalise upon the available opportunities, specifically focusing upon the role of cognitive scripts (e.g., perceived knowledge access, perceived resourcefulness, etc.) in the entrepreneurial decision-making processes (Read et al., 2016; Shi & Weber, 2020). Scholars are also recently using entrepreneurship-IC framework to see how theories of IC can be used to better explain the entrepreneurial behaviours and attitudes.

Researchers' descriptions of the nature and instrumentality of entrepreneurial resourcefulness in developing entrepreneurial intentions differ. For instance, according to Meichenbaum (1977), 'entrepreneurial resourcefulness refers to the ability to self-regulate and direct one's behaviour to successfully cope with difficult, stressful, and challenging situations. Kanungo and Misra (1992) maintain that 'entrepreneurial resourcefulness comprises of three generic competencies—cognitive, affective and action-oriented'. Misra and Kumar (2000) define entrepreneurial resourcefulness as 'the ability to identify opportunities in the environment and regulate and direct behaviour to successfully cope with the task of creating and managing an organisation to pursue the opportunity'. Bradely (2015) holds that 'entrepreneurial resourcefulness may also be a broader set of capabilities that encompass the more specific actions and skills entrepreneurs use in the development of resources for opportunities. Whereas traditional entrepreneurship research focuses primarily on the 'the pursuit of opportunity without regard to resources currently controlled' (Stevenson & Jarillo, 1990), which implies that the idea is more important than resources (conversely, resources can be arranged if the idea is good enough), the contemporary research involving resourcefulness explicates the process through which entrepreneurs 'turn ideas into realities', and identifies bricolage as a key instrument in this process.

The concept of bricolage, based on the work of Levi-Strauss (1967), refers to entrepreneurs' efforts to (creatively) combine and configure resources to exploit the available opportunities (Baker & Nelson, 2005, Bhide, 1992; Di Domenico et al., 2010; Yaqub et al., 2020). Rao et al. (2000) maintain that bricoleurs often operate in resource-constrained conditions to identify and enable themselves to do innovative things. However,

researchers such as Alvino et al. (2021) and Berraies (2019) reveal intellectual capital to be an important antecedent of innovation performance. Although Baker and Nelson (2005) describe bricolage as a possible dimension of resourcefulness and an important precursor to effective entrepreneurial action, research on bricolage has failed to consider bricolage an essential entrepreneurial capability (C. Welter et al., 2016; Gioia et al., 2000).

While the current study takes entrepreneurial resourcefulness as the focal construct, thus attempt to offer an outright exposition of psychological and demographic factors as its antecedents and instrumentality in causing certain desirable effects (e.g., entrepreneurial intentions) as well as the contextual contingencies (e.g., socio-cultural norms) that moderate these cause-and-effect relationships. We posit that psychological factors, such as attitude towards entrepreneurship, perceived behavioural control, subjective norms, and entrepreneurial self-efficacy, can influence perceptions of entrepreneurial resourcefulness, which may also be enhanced by support (of the entrepreneur) from parents, family, friends, and others close to the entrepreneur. Additionally, we expect entrepreneurial resourcefulness to be higher among individuals who belong to business families and among those with high family income and entrepreneurship or business education. However, social, and cultural impediments may neutralise (if not suppress altogether) this (positive) effect, thus highlighting the need to cultivate favourable socio-cultural ecosystems.

Although Welsh et al. (2014) describe Saudi women as extremely talented, innovative, entrepreneurial, and competent in managing their ventures, female participation in entrepreneurial spheres in the Middle East in general and in Saudi Arabia has historically remained lower than in other contexts. Similarly, Elnadi, Gheith, (2021) also explores Saudi females potentials to exploit entrepreneurial opportunities and the role

of entrepreneurial ecosystems to promote women entrepreneurship in Saudi Arabia. Researchers such as Alturki and Braswell (2010), Danish and Smith (2012) identified lack of training, resources and mentoring, ambiguous policies and regulations, gender inequality and challenging social and regulatory regulations as some of the inhibitors to female participation and/or success in entrepreneurial ventures. In recent times, however, Saudi women's participation has increased tremendously, presumably due to several government initiatives nested within the Saudi Vision 2030 as part of an ongoing social transformation to enhance women's contributions to the economy (especially its entrepreneurial domains). Primarily the result of socio-cultural interventions, similar patterns of women's increasing entrepreneurial participation are also evident in other socio-cultural contexts as well as globally in the growing number of 'pink' ventures (Acker, 1990; Delmar & Davidsson, 2000; Scoutto et al., 2019). Despite the significance of female entrepreneurship, however, studies on female entrepreneurs remain scarce (Ahl, 2002; De Bruin et al., 2006; 2007). Thus, the Saudi government is investing in developing the IC among women to exploit their entrepreneurial potential and increase their participation in the socio-economic development of the Kingdom. The current research contributes to the scant research on female entrepreneurs by exploring the interplay of certain elements of the entrepreneurial ecosystem in developing and enhancing entrepreneurial action among potential female entrepreneurs.

Hypotheses development

The current study appeals to the theory of planned behaviour (TPB) and integrated intellectual capital model (IICM) to arrive at its conceptual framework. TPB is extracted

from the theory of reasoned action (Fishbein & Ajzen, 1975), which centres on the notion that most human social behaviour can be predicted via the intentions model. Numerous researchers have endorsed the ability of TBP to predict actions across various domains of human behaviour (Krueger et al., 2000; Tkachev & Kolvereid, 1999), for instance, Mak and Davis (2014) used TBP to explain intentions to seek mental health services in China. In a recent study, Lira and Costa (2022) examined the influence of TBP in developing conscious consumption intentions, and ethical considerations among consumers in Brazil. Extending TPB to an entrepreneurship context, we contend that the drivers of entrepreneurial intentions include attitudes towards entrepreneurship, subjective norms, and perceived behavioural control (more precisely, perceived desirability of entrepreneurial action). In a similar study, Ali, and Jabeen (2020) applied TBP to explain the role of factors affecting start up intentions among individuals in the context of India. Similarly, Gird, and Bagraim (2008) examines the role of TPB as a strong predictor in developing entrepreneurial intentions among university students. The current study uses TPB as its reference framework to explain the roles that attitude towards entrepreneurship, subjective norms, and perceived behavioural control (the three major constructs professed by TPB) play alongside entrepreneurial self-efficacy and certain (individual and family) demographic factors in promoting entrepreneurial intention by developing and/or enhancing perceived resourcefulness. It examines these cause-and-effect relationships in the context of Saudi Arabia, which has, in recent times, increasingly invested in intellectual capital formation and enhancement, especially among female entrepreneurs, and sought to advance the ongoing socio-cultural transformation to create a favourable ecosystem in which female entrepreneurship can thrive.

The study also uses the entrepreneurial intellectual capital (IC) framework proposed as an IICM by Khalique et al. (2011a). Although early scholars, such as Bontis (1998) and Roos et al. (1997), primarily focused upon the dimensions of intellectual capital, i.e., human, customer and structural, later researchers have expanded their focus to include business capital, social capital, technological capital, and spiritual capital (Beuno et al., 2004; Khalique et al., 2011a). Nonetheless, scholars have consistently identified human capital—i.e., actors' knowledge, skills, abilities, competence, etc. (Bontis 1998; Khalique et al., 2011b)—as the most critical component of intellectual capital. Economic actors, such as entrepreneurs, can generate significant intellectual capital through their competencies, intellectual agility, and innovativeness, among other factors (Bontis et al., 2000). In some recent studies, for instance, Rahman et al., (2021) examines the role of entrepreneurial intellectual capital in recognizing entrepreneurial opportunities in Oman. Similarly, Ciambotti et al., (2021) explores the antecedents of entrepreneurial bricolage using intellectual capital theory among African social entrepreneurs. Recognising that intellectual capital, more specifically human capital, is the most significant strategic asset and an important precursor of innovation capital and sustainable development in knowledge-driven economies (Alvino et al., 2021) the Saudi government has increasingly invested not only in creating human capital but also in nurturing a favourable socio-cultural environment in which this intellectual capital inspires successful entrepreneurial action. We endeavour to investigate whether these investments in the ongoing socio-cultural transformation offer significant opportunities for payoffs by promoting desirable entrepreneurial intentions (and, consequently, actions) fostered by enhanced perceived

resourcefulness among female entrepreneurs. The following sections describe the theoretical foundation of the hypothesised relationships among the subject constructs.

Main effects

Psychological factors and perceived entrepreneurial resourcefulness

Plenty of research has accounted for the impact of various factors in the development of entrepreneurial intentions and/or behaviours. For example, Nandamuri (2013) groups the factors affecting entrepreneurial action into the following categories: i) psychological factors, ii) demographic factors, iii) social factors and iv) other factors. Numerous studies have explored the instrumentality of psychological factors in promoting desirable entrepreneurial behaviours. TPB also highlights the roles of attitudes, perceived behavioural control and subjective norms in developing intentions and behaviours (Ajzens, 1991). In the context of our study, these factors correspond to perceived entrepreneurial resourcefulness, which subsequently strengthens entrepreneurial intentions. While it examines the (direct and/or indirect) role of attitudes towards entrepreneurship, entrepreneurial self-efficacy, and perceived behavioural control in the development of entrepreneurial intentions, the existing literature lacks empirical research revealing the influence of psychological factors in developing and/or enhancing entrepreneurial intentions by building and strengthening perceptions of entrepreneurial resourcefulness. The current research, however, bridges this gap.

Prior research includes a few attempts to investigate the instrumentality of various psychological factors in developing and/or enhancing perceived resourcefulness. Misra and Kumar (2000) highlight certain psychological characteristics, including personality traits, achievement motivation, the locus of control, the need for power, the need for affiliation,

risk-taking and values, as important in developing perceptions of entrepreneurial resourcefulness. Some recent studies, e.g., McGee and Peterson (2017) and Wei et al. (2020), also conclude that entrepreneurs can obtain, modify, and enhance their entrepreneurial self-efficacy and resourcefulness depending upon certain environmental and personal factors. Researchers such as Bostairs and Vamvaka (2016), Liñán and Chen (2009) and Vamvaka et al. (2020) contend that attitudes towards entrepreneurship, subjective norms, perceived behavioural control and entrepreneurial self-efficacy predict entrepreneurial intentions. This study also seeks to investigate this cause-and-effect relationship while integrating perceived entrepreneurial resourcefulness as the mediating condition in the context of female entrepreneurship.

Attitude refers to a persistent tendency to feel or behave towards a certain object (Robbins & Judge, 2015). Human behaviour is preceded by attitudes (Luthans, 2002). Extending this attitude–behaviour connection to the entrepreneurial context, we postulate that individuals must feel positive, pleasant and/or inclined towards entrepreneurial action before they can develop any stronger perceptions (such resourcefulness) and/or intentions. *Perceived behavioural control* refers to the extent to which an individual subjectively considers himself or herself to be in control of a given situation. In Staniewski and Awruk’s (2016) opinion, this perception of being in control promotes entrepreneurial resourcefulness and/or intentions. *Subjective norms* correspond to the social pressure to engage (or not engage) in certain behaviours (Staniewski & Awruk, 2016). Researchers such as Botsaris and Vamvaka (2016), Linan and Chen (2009), Rasli et al. (2013), Santos and Liguori (2019) and Zhang et al. (2015) reveal subjective norms as an important determinant of entrepreneurial intentions. Santos and Liguori (2019) hold that the

subjective norms towards entrepreneurship of parents, family, friends and other people close to the entrepreneur promote intrinsic resourcefulness among individuals, which leads to the development of entrepreneurial intentions. Welter and Xheneti (2013) also argue that social/subjective norms based on network, family and household are important in developing perceived entrepreneurial resourcefulness.

In the context of IICF framework, based on the work from Vasconcelos, (2021) we propose that potential women entrepreneurs accumulate high levels of psychological capital from their entrepreneurial self-efficacy, subjective norms, perceived behavioural control that leads to the development of perceived entrepreneurial resourcefulness and entrepreneurial intentions. Mahfud et al., (2020) also holds that social capital and psychological capital contributes to the development of entrepreneurial intentions among college students. Consistent with the scholarly discourse, we hypothesise the following:

H1: Attitude towards entrepreneurship affects perceptions of entrepreneurial resourcefulness among female entrepreneurs.

H2: Perceived behavioural control affects perceptions of entrepreneurial resourcefulness among female entrepreneurs.

H3: Subjective norms are associated with perceptions of entrepreneurial resourcefulness among female entrepreneurs.

Entrepreneurial self-efficacy (ESE) refers to a person's belief in his/her ability to successfully accomplish activities aimed at achieving and/or enhancing entrepreneurial results (Chen et al., 1998). A successful track record, vicarious modelling, and perceived social support are among the important determinants of self-efficacy (Drnovšek et al., 2010). While differentiating between generalised and specific self-efficacy, most

researchers have classified ESE under the latter and have extensively discussed its effects on careers paths and entrepreneurial performance (Newman et al., 2019; Scholz et al., 2002). Newman et al. (2019) holds that ESE plays a significant role in determining whether individuals will opt to pursue entrepreneurial career paths and initiate entrepreneurial ventures. Similarly, Ahmed et al., holds using venture creating as an entrepreneurship teaching has significant influence in developing entrepreneurial behaviours among young potential entrepreneurs. Our research takes ESE as an important precursor to building or enhancing perceptions of resourcefulness and, therefore, hypothesises as follows:

H4: Entrepreneurial self-efficacy affects Saudi females' perceptions of entrepreneurial resourcefulness.

Demographic factors and entrepreneurial resourcefulness

Demographic factors, including gender, age, education, family business background and family income along with certain other socio-economic characteristics, are vital for enhancing entrepreneurial intentions and/or behaviours. The literature provides adequate evidence for the role of socio-economic factors, such as parental occupation (family background), financial health, education, and location advantages as well as access to the market, as strong predictors of entrepreneurial success (Azhar, 1999). Nandamuri (2013) also holds that demographic factors influence the development of entrepreneurial behaviours. Although plenty of research asserts the importance of gender in promoting entrepreneurial intentions, studies analysing the role of demographic factors in the development of perceptions of entrepreneurial resourcefulness are relatively scarce.

We predict that, like entrepreneurial intentions and other entrepreneurial behaviours, demographic factors also affect perceptions of resourcefulness. More specifically,

individuals who belong to business families perceive themselves to be more resourceful than do those from non-business backgrounds because the former enjoy better access to finances, market information and other resources required to effectively manage start-ups. Similarly, entrepreneurship education, family income, parental occupation and successful family business experience influence perceived entrepreneurial resourcefulness. Nandamuri and Gowthami (2013) report the significant and essential role of family occupation in developing perceived entrepreneurial resourcefulness. They found a high level of entrepreneurial resourcefulness among respondents from families with business backgrounds compared to non-business background respondents. Similarly, Shahzad et al., (2020) describes the role of gender by advocating the importance of women directors to promote entrepreneurial performance. Shi and Weber (2020) explain the role of prior experience in generating positive knowledge outcomes for the entrepreneurial ventures. Berraies (2019) holds that social networks derives innovation in the entrepreneurial ventures. While examining the interaction between entrepreneurship-IICF framework, numerous studies that demographic factors such as education improves social capital of students when they interact with different people such as friends, class fellows, teachers, and other stakeholders in the school environment. Previous studies such as (Paiva et al., 2014). Also, Chia and Liang (2016) also propose the role of education in the development of social capital that helps development of entrepreneurial intentions among students. Based on these studies, we believe that factors such as education, family business background, family business experience contributes to the development of social capital that leads to growth of entrepreneurial intentions among young Saudi women. Drawing upon this discourse, we suggest the following hypotheses:

H5: Family income is significantly related to entrepreneurial resourcefulness perceptions among female entrepreneurs.

H6: Family business background is significantly related to entrepreneurial resourcefulness perceptions among female entrepreneurs.

H7: Successful family business experience is significantly related to entrepreneurial resourcefulness perceptions among female entrepreneurs.

H8: Entrepreneurship education is significantly related to entrepreneurial resourcefulness perceptions among female entrepreneurs.

H9: Age is significantly related to entrepreneurial resourcefulness perceptions among female entrepreneurs, i.e., the older the female entrepreneur, the greater are her perceptions of entrepreneurial resourcefulness.

Perceived entrepreneurial resourcefulness and entrepreneurial intentions

As the above sections explain, entrepreneurial intentions refer to a state of mind or attitude that affects entrepreneurial behaviour among entrepreneurs and, especially, among potential entrepreneurs (Pihie et al., 2009). The development of such a state of mind requires a sense of resourcefulness to translate ideas into reality by structuring and orchestrating an effectively organised effort to capitalise on the available resources. A strong sense of perceived resourcefulness rooted in a successful family business background, high family income, entrepreneurial education, and psychological factors, such as higher entrepreneurial self-efficacy, attitude towards entrepreneurship, perceived behavioural control and subjective norms, is certainly helpful for potential entrepreneurs to develop strong convictions regarding their ability to realise their potential business aims. Previous studies such as Mishra and Kumar (2000) report that entrepreneurial behaviour is

a function of entrepreneurial resourcefulness. Shi and Weber (2020) make an analogous assertion, revealing perceived knowledge access as an important precursor of entrepreneurial intentions. The current study likewise contends that entrepreneurial resourcefulness (i.e., cognitive, affective, and action-oriented competencies) is crucial for potential entrepreneurs because it grants them significant confidence in their abilities to transform innovative ideas into profitable enterprises. We, therefore, posit as follows:

H10: Perceived entrepreneurial resourcefulness is significantly associated with Saudi females' entrepreneurial intentions.

The context

The moderating role of socio-cultural factors

Socio-cultural factors refer to social and cultural norms and values that encourage individuals to pursue entrepreneurial careers. Social values, such as status, respect, and appreciation of successful entrepreneurs, inspire individuals to become entrepreneurs and thus achieve a desirable position within the social hierarchy. In addition, (national) cultural values that support risk-taking, creativity/innovation and autonomy promote the development of favourable entrepreneurial behaviours. A significant body of literature emphasises the positive role of social and cultural values in promoting entrepreneurial accomplishments. Scoutto et al. (2019) reveal a favourable social, economic, cultural, and institutional climate as essential for boosting entrepreneurial activities. Social values, training, economic freedom, and institutional quality are important environmental contingencies to stimulate entrepreneurship and job creation (Castano et al., 2015). Castano et al. (2015) maintain that social and cultural factors stimulate entrepreneurial activities.

Nandamuri (2013) also holds that social factors influence the development of entrepreneurial behaviours. Realising the importance of these social factors, countries invest significantly in social and cultural transformation to create ecosystems in which entrepreneurial action can thrive. Scoutto et al. (2019) attribute the promotion of entrepreneurial activities in Europe to the European Commission's initiatives to enhance gender equality. Similarly, Saudi Arabia has, in recent decades, expended tremendous efforts to reform the fabric of Saudi society, particularly to induce female participation in social and economic (especially entrepreneurial) domains.

Although sufficient evidence highlights the importance of social and cultural values in developing entrepreneurial behaviours, evidence remains scant regarding the moderating role of such values in the association between cognitive antecedents, such as entrepreneurial resourcefulness, and outcomes, such as entrepreneurial intentions. We propose that social and cultural conditions and values enhance the instrumentality of perceived resourcefulness in reinforcing entrepreneurial intentions among female entrepreneurs. We, therefore, present the following hypotheses:

H11: Social factors significantly moderate the relationship between perceived entrepreneurial resourcefulness and entrepreneurial intentions among female entrepreneurs.

H12: Cultural factors significantly moderate the relationship between perceived entrepreneurial resourcefulness and entrepreneurial intentions among female entrepreneurs.

The conceptual model

Figure 1 presents our conceptual model, which envisages the role of psychological factors, such as attitudes towards entrepreneurship, perceived behavioural control, subjective norms, and entrepreneurial self-efficacy, as well as demographic factors, such as family income, family business background, family business experience, entrepreneur education and entrepreneur age, in developing and enhancing perceived entrepreneurial resourcefulness. The hypothesised moderating role of social and cultural factors in the relationship between perceived entrepreneurial resourcefulness and entrepreneurial intentions has the potential to explain how socio-cultural transition may solidify entrepreneurial intentions among women who perceive themselves to be resourceful (or enabled) enough to successfully initiate and pursue their entrepreneurial ventures.

***** Please insert Figure 1 about here*****

Methods

Sample and data

The current study's value lies in examining the impact of socio-cultural transition on the development of entrepreneurial resourcefulness and entrepreneurial intentions among young Saudi women. The Saudi government has increasingly promoted a significant transition in the kingdom's social and cultural values, which traditionally impeded Saudi women's engagement in entrepreneurial spheres (Basaffar et al., 2018). Yee (2020) describes '...these head-spinning times in Saudi Arabia, where the ultra-conservative social and religious codes that micromanage, daily life seem to spring a new leak every month—omen driving! Movie theatres! Usher and Akon rapping to sold-out crowds!'. The

socio-cultural fabric of Saudi society is changing rapidly, and the government is encouraging women to participate in socio-economic spheres of life at unprecedented levels. The Saudi government has announced numerous programmes to encourage young women to participate in entrepreneurial activities and thereby exploit their potential to contribute to the kingdom's socio-economic development. Therefore, this study selects Saudi Arabia as a prime case for its investigation.

This study is part of a larger research project sponsored by the Research and Development Office (RDO) Ministry of Education, Saudi Arabia. This research is characterised by multiple objectives, including examining the role of the entrepreneurial ecosystem in shaping entrepreneurial behaviours among female Saudi university students and the role of universities and entrepreneurship education in developing entrepreneurial knowledge, skills, and attitudes among female university students. It primarily intends to examine how changing socio-cultural environments encourage young Saudi women to feel entrepreneurial resourcefulness and develop their entrepreneurial intentions. To achieve these objectives, we collected data from 628 female students enrolled in universities across Saudi Arabia. After securing formal approval from the administration, research teams collected the data from students in their classrooms. Participation in the data collection was voluntary, and respondents were free to leave the survey questionnaire at any stage. Incomplete survey questionnaires were excluded from the analysis to maintain data quality.

The participants included female university students from diverse socio-economic backgrounds. The survey questionnaire was translated from English to Arabic to ensure a better response from students, and due care was exercised during the translation equivalence and back-translation processes (Mullen, 1995). We also exercised due care to

reduce potential sources of common method bias (Huse et al., 2011). Specifically, we placed items related to the independent and dependent variables at some distance in the survey, randomised the items, used different anchors for various items, ensured that none of the statements implied any preferred response and minimised the length of the instrument as much as possible (Spector & Brannick, 1995). To assess the content validity and mitigate other unpredictable problems related to the fieldwork (e.g. timing), we pilot tested the survey questionnaire with female university students from entrepreneurship backgrounds who were then excluded from the final sample. Finally, after making various modifications, we confirmed that all items were understandable, and the respondents completed the questionnaires successfully.

Measures

We took the instrument to measure entrepreneurial resourcefulness from Misra and Kumar (2000), which includes fifteen items comprising three dimensions: cognitive competence, affective competence, and action-oriented competence, all of which are measured on a five-point Likert scale (1 = not confident at all to 5 = highly confident). The sample items assess the ability to analyse and comprehend large volumes of information, the ability to take risks (cognitive competence), the ability to control feelings of withdrawal and depression, the competitive desire to excel (affective competence) and the ability to take charge and lead employees and find, marshal and control resources (action-oriented competence).

We borrowed the scale to measure entrepreneurial intentions from Liñán and Chen (2009). This scale consists of six items measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The sample items include ‘I will make every effort to start and run my own firm’, and ‘I have very seriously thought of starting a firm’. Numerous

studies, including I. Ali et al. (2019), González-Serrano et al. (2018), Lorz (2011) and Ozgul and Kunday (2015), have employed Liñán and Chen's (2009) entrepreneurial intentions measurement instrument.

The instrument to measure socio-cultural factors was taken from the National Experts Survey (NES) by Global Entrepreneurship Monitor (GEM), a leading entrepreneurship research network across the globe. The NES is part of GEM research to assess various entrepreneurial ecosystem factors. GEM socio-cultural factors measure the extent to which socio-cultural norms motivate individuals to undertake entrepreneurial actions to improve their economic well-being. The sample items include 'In my country, the national culture is highly supportive of individual success achieved through my own personal efforts' and 'Successful entrepreneurs have a high level of status and respect', respectively.

Psychological factors include attitudes towards entrepreneurship, perceived behavioural control and entrepreneurial self-efficacy. The scale to measure attitude towards entrepreneurship was borrowed from Linan & Chen (2009), the scale has four items, and the sample items include 'Being an entrepreneur implies more advantages than disadvantages to me', and 'If I had the opportunity and resources, I would become an entrepreneur'. Perceived behavioural control was also measured using twelve items; sample items include 'Establish and achieve goals and objectives' and 'Develop new products and services. Similarly, entrepreneurial self-efficacy was measured using five multi-dimensional scales developed by Chen et al. (1998) and De Noble et al. (1999), the scale is frequently in entrepreneurship research (Naktiyok et al., 2010). The respondents were asked, 'If you have to start your own business, to what degree would you be able to

complete the following tasks?’ ‘Define your business idea and the strategy of your company’ and ‘Write your business plan (do a market research, financial analysis, etc.)’. These items were also measured on a five-point Likert scale (1 = not effective at all to 5 = very effective).

Subjective norms were measured using three items. The respondents were asked to indicate how much they care about the opinion of the following people: ‘parents/other family members’, ‘friends/fellow students’ and ‘people important to me in general’. The instrument was measured on a five-point Likert scale (1= don't care at all to = care very much). Finally, demographic factors, including family income, family business background, family business experience and entrepreneurship education, were also measured via instruments published well in entrepreneurship literature.

Statistical method

Our statistical analyses utilised structural equation modelling (SEM) through partial least squares (PLS; Hair et al., 2021). Previous studies on entrepreneurship have widely used PLS-SEM (Ali et al., 2019), which is seen as a suitable analytical technique in several disciplines (Manley et al., 2020). We considered the following points while applying PLS-SEM in this study (Ali, 2021; Latan, 2018; Wang et al., 2021): (1) We focused on predicting entrepreneurship intentions as a key target construct (Chin, 2010); (2) Our research framework depicts complex hypothesised associations—i.e. it contains ten direct associations and two moderating effect analyses (Chin, 2010; Richter et al., 2016); (3) The research framework employs composite models—both Model A and Model B—and multi-dimensional models at the first- and second-order levels (Henseler, 2017); (4) The hypothesized associations among the constructs were assumed in the early theory

development stage, which has received less attention in previous studies (Richter et al., 2016) and (5) We used the latent variables scores obtained from SmartPLS 3 for the moderation analysis (Roldán & Sánchez-Franco, 2012). This study employed the SmartPLS 3.3.5 software package (Ringle et al., 2015) to perform the analyses.

Results

Measurement model assessment

We used standardised factor loadings (SFL) to assess the items' individual reliabilities. An acceptable criterion for an item is an SFL that equals or exceeds 0.707 (Fornell & Larcker, 1981), while an SFL that equals or exceeds 0.50 is generally acceptable in early stages of research (Hair et al., 2021; Nunnally, 1978). In Table 1, the SFLs range from 0.61 to 0.85 and are significant at the 1% level in two-tailed test analyses, which means that all SFLs are statistically significant. Therefore, all multi-item constructs exhibit good individual reliability at the item level.

******* Please insert Table 1 about here*******

We evaluated reliability at the construct level by analysing construct reliability. Hair et al. (2017) recommends a value of 0.70 or above as a minimum threshold value for reliability. Table 1 shows that the values of Cronbach's alpha (α) range between 0.76 and 0.89, the values of Dijkstra-Henseler's (ρ_A) range between 0.73 and 0.90 and the values of composite reliability (CR) range between 0.79 and 0.91, indicating suitable convergence. Furthermore, convergent validity was assessed by analysing average variance extracted (AVE) values. An AVE value equal to or greater than 0.50 is considered acceptable

(Fornell & Larcker, 1981). All of the multi-item constructs have an acceptable range of AVE values that exceed 0.50, as shown in Table 2.

This study established discriminant validity as follows. First, according to the Fornell-Larcker criterion, we compared the square of each AVE with the respective correlation of the constructs. Table 2 shows that the squares of the AVEs on the diagonal are significantly greater than the correlation values below the diagonal (Fornell & Larcker, 1981). Second, the heterotrait-monotrait (HTMT) values (above the diagonal in Table 2) are less than the minimum threshold value of .85 (Henseler et al., 2015). These analyses suggest that the discriminant validity requirement is met.

Table 1 reveals that entrepreneurial resourcefulness as second-order construct fulfils the minimum assessment requirements. Table 1 shows positive and significant correlational weights for cognitive competence (0.89), effective competence (0.90) and action-oriented competence (0.88) at the 1% level (Sarstedt, Hair, Cheah et al., 2019; Shujahat et al., 2021).

***** Please insert Table 2 about here*****

Structural model assessment

We confirmed the structural model assessment as follows. First, we calculated multicollinearity using variance inflation factor (VIF) values to avoid potential biases in the path coefficient estimations. With VIF values for all constructs below 3.3, the results in Table 2 reveal the non-existence of collinearity between predictor variables in the model (Hair et al., 2021). The determination coefficient (R^2 value) for entrepreneurial resourcefulness equals 0.68, while it equals 0.48 for entrepreneurial intentions, suggesting a satisfactory level of overall model predictability. Moreover, the Q^2 value for

entrepreneurial resourcefulness equals 0.53, while it equals 0.46 for entrepreneurial intentions, suggesting an acceptable level of model fit in term of predictive relevance.

Testing the hypotheses

The empirical results in Table 3 provide evidence that attitude towards entrepreneurship, perceived behavioural control, entrepreneurial self-efficacy, subjective norms, family income, family business experience, family business background and entrepreneurship education are positively and significantly related to entrepreneurial resourcefulness, Therefore, H1–H8 are supported. The results show that age is not significant predictor of entrepreneurial resourcefulness. Therefore, H9 is not supported. Next, the empirical results provide evidence that entrepreneurial resourcefulness is positively related to entrepreneurial intentions; thus, H10 is supported.

Moderation analysis

We followed the recent recommendation of Sarstedt, Hair, Nitzel et al. (2020) in performing a two-stage moderation analysis (Becker et al., 2018; Henseler & Fassott, 2010; Sarstedt, Hair, Nitzel et al., 2020). Regarding H11 and H12, which postulated the moderating effect of social and cultural factors on the entrepreneurial resourcefulness–entrepreneurial intentions link, the empirical analysis provides evidence that social factors and cultural factors both positively moderate the entrepreneurial resourcefulness–entrepreneurial intentions link. Therefore, H11 and H12 are supported. Plots of the interaction effects illustrate how social factors (Figure 2) and cultural factors (Figure 2) moderate the entrepreneurial resourcefulness–entrepreneurial intentions link. These analyses thus suggest that the entrepreneurial resourcefulness–entrepreneurial intentions

link is stronger when social and cultural factors are high and weaker when social and cultural factors are low.

***** Please insert Table 3 about here*****

***** Please insert Figure 2 about here*****

Discussion and Conclusion

The resource-based view (and its offspring, such as the dynamic capability perspective) assert that the success of any business venture depends upon the resourcefulness of an enterprise, which, at a higher level of abstraction, refers to the capability and/or competency of the organisation to efficiently acquire, configure, utilise and/or leverage the available resources. Extending this notion to the micro unit (individual level) of the organisational structure, it may correspond to the individual managers or entrepreneurs' capability and competency in acquiring, configuring (sometimes referred to as bricolage), utilising and/or leveraging these resources to harness environmental opportunities by initiating, expanding and, if necessary, capitalizing business ventures. The entrepreneurship literature generally attributes the same phenomenon to perceived entrepreneurial resourcefulness. Resources, in general, refer not only to material resources (e.g., finances, technology, human capital, etc.) but also to cognitive resources, social and political capital, etc. Potential entrepreneurs' perception of their own resourcefulness increases their confidence, involvement, and commitment to entrepreneurial initiatives, which, in turn, foster stronger entrepreneurial intentions and lead eventually to desirable entrepreneurial behaviours, such as initiating ventures, taking risks, exercising innovation

and creativity, etc. However, the sequential interaction among these critical entrepreneurial constructs depends upon a host of individual, demographic, social and cultural contingencies prevalent in business ecosystems.

While appealing to the central tenants of TPB and IICM, we hypothesised that positively predisposed entrepreneurs with greater perceived (behavioural) controls, normative compliance and self-efficacy generally perceive themselves to be better enabled than their counterparts who score lower on such (psychological/cognitive) dimensions of human behaviour. Our results strongly corroborate the impact of these psychological factors on the perceived resourcefulness of potential female entrepreneurs in Saudi Arabia, with perceived behavioural control and entrepreneurial self-efficacy as the most significant influencers here. Control theory proposed by Carver and Scheier (2002) also underscores the association between a person's belief in his or her ability to effectively control his/her efforts and his/her resultant perseverance in the (entrepreneurial) effort. The entrepreneurial behaviours of individuals with greater self-efficacy are especially receptive to such cognitive resources. Such psychological entanglements may prove necessary, although not sufficient, for encouraging desirable entrepreneurial behaviours among Saudi women who, due to variant social systems, require them more than women pursuing the same ventures in Western cultures. The findings of this research are in-line with number of previous studies, for instance, in their recent study published in the *Journal of Business Venturing*, Michaelis et al., (2022) examines why some entrepreneurs endorse a particular set of resourcefulness behavior over others. Michaelis et al., (2022) found some psychological factors more important to develop perceived resourcefulness than others. In the context of intellectual capital theory, Ciambotti et al., (2021) advocates the importance

of intellectual capital in the development of entrepreneurial bricolage. Similarly, Rahman et al., (2021) found supporting evidence on the role of intellectual capital in developing entrepreneurial behaviours. Particularly, psychological capital, and spiritual capital values gained from factors such as attitude towards entrepreneurship, subjective norms, perceived behavioral control, entrepreneurial self-efficacy leads to the development of entrepreneurial behaviours as proposed by Vasconcelos, (2021); and Mahfud et al., (2020).

Family, as the primary social institution, has a significant impact on the perceptions and behaviours of its members. Family norms that support entrepreneurial action is an important precondition of such action, especially for women in cultures that score low in femininity. In addition, individuals from high-income cohorts with decent (family) business backgrounds and experience generally perceive their resourcefulness to be greater because they consider themselves to have a greater familiarity and affinity with the entrepreneurial context. The findings of this study reveal similar patterns of entrepreneurship, with family income, education, and background as significant antecedents of perceived resourcefulness among (potential) female entrepreneurs. Finally, the impact of other demographic factors, such as education is very important because young enthusiastic entrepreneurs with a strong educational foundation generally perceive themselves to be better equipped with resources than their counterparts who lack the same educational advantages. These findings are also aligned with some recent literature, for instance, Kony, and Piotrowska (2019) holds that family income and economic security is an important determinant of entrepreneurial resourcefulness. Similarly, Quagraine et al., (2022) advocates education and particularly entrepreneurship education as strongly and positively related to perceptions of entrepreneurial resourcefulness.

In socio-cultural contexts scoring relatively high on masculinity, social contingencies, such as social sensitivity, subjective norms, social approval, normative compliance, etc., emerge as significant preconditions for human actions, including entrepreneurial behaviours. Ubiquitous social conditions, including stronger gender-role specifications, glass-ceiling effects, gender pay inequities, etc., may neutralise the instrumentality of female entrepreneurs' perceived resourcefulness in encouraging entrepreneurial intentions. In general, lower levels of female empowerment may reduce women's perceptions of their own resourcefulness and/or enable that, in turn, cripple their ability to confront the ever-increasing challenges of the entrepreneurial world. For instance, in her important study, Nandamuri (2013) found gender as a significant predictor of entrepreneurial resourcefulness by finding significantly higher entrepreneurial resourcefulness perceptions among males as compared to females. It is, therefore, imperative to create a favourable socio-cultural ecosystem in which investments in intellectual/human capital formation (more specifically, efforts to enhance perceived resourcefulness) can yield the desired effects, i.e., promoting entrepreneurial intentions (and actions). Although Saudi Arabia has advanced its comprehensive Vision 2030 and is currently undergoing a social transformation to create a more egalitarian society with equal opportunities and support for both genders, it will take time for women to escape long-standing social stigmas and accrue social and economic gains. Consequently, the Saudi government must not only maintain its current investments in intellectual capital but also complement such efforts by promulgating favourable social and cultural norms and values to create a beneficial socio-cultural context and thereby enable potential (female) entrepreneurs to overcome the unfavourable connotations of normative compliance that

may otherwise inhibit their ability to contribute vigorously to the kingdom's entrepreneurial domains. The social capital accumulated through education, interaction with different stakeholders such as class fellows, teachers, parents, family business experiences improves leads to the development of entrepreneurial intentions and other related behaviors among young Saudi women as proposed by Chia and Liang (2016); Mahfud et al., (2020); and Paiva et al., 2014).

Theoretical contributions

Entrepreneurial resourcefulness is an emerging area in the field of entrepreneurship research, and this study contributes to this important domain by providing overriding theoretical and empirical evidence for the role of certain demographic and psychological factors in developing favourable perceptions of entrepreneurial resourcefulness; furthermore, it supports the instrumentality of the latter in promoting entrepreneurial intentions. The study finds a significant positive association between psychological factors, including attitude towards entrepreneurship, perceived behavioural control, subjective norms, and entrepreneurial self-efficacy, in developing and enhancing perceptions of entrepreneurial resourcefulness, which eventually led to the development and/or strengthening of entrepreneurial intentions. The study also reveals a significant role for demographic factors, including entrepreneurship education, family business background, successful family business experience and family income, as predictors of perceived entrepreneurial resourcefulness. Furthermore, this study profoundly corroborates the instrumentality of perceived resourcefulness in promoting entrepreneurial intentions. In addition, it attests to the moderating role of socio-economic factors in the relationship

between perceived entrepreneurial resourcefulness and entrepreneurial intentions, which further requires complementary investments in intellectual capital. Finally, the study contributes to the underdeveloped body of knowledge on the entrepreneurship-IC interaction. The entrepreneurship-IC interaction has tremendous potential to strengthen our understanding on how they theories from entrepreneurship and IC can be used to explain the behaviours and attitudes in both domains to yield better outcomes.

The findings of this study support the key assumptions of TPB and IICF by confirming that attitudes towards entrepreneurship, subjective norms and perceived behavioural control can enhance entrepreneurs' perceptions of their own resourcefulness, which eventually promote entrepreneurial intentions, especially among potential female entrepreneurs. The study also supports the core of the IIC framework by empirically substantiating those investments in intellectual capital eventually pay off, although their impact is contingent upon the ecosystem's attributes. In addition, this study enhances our understanding of the demographic, psychological and socio-cultural dynamics of female entrepreneurship in a Middle Eastern context; the field of entrepreneurship lacks literature in such conceptual, geographical, social, and cultural domains. Furthermore, because we conducted our study in Saudi Arabia, a society undergoing a socio-cultural transition, it illuminates the desired cause-and-effect relationships in a unique and important context. Finally, the findings of this study enhance the generalisability of theories developed in the West to Eastern contexts and to the Middle East. In this way, the findings of this study supports/extend the research agenda proposed by numerous recent studies, for instance, Aljarodi et a., (2022); Ghorfi and Girancourt (2022); Konsy, and Piotrowska (2019); Nandamuri (2013); and Quagraine et al., (2022).

Practical implications

This study offers important practical implications, especially for societies undergoing social transformation. Under its Vision 2030, the Saudi government has, in recent decades, increasingly invested in intellectual capital to promote economic, social and cultural gains. The primary focus has been on human capital formation, especially for women whose participation in economic activities has historically remained low—primarily because of various socio-cultural impediments. Realising that any such investments will fail without concomitant efforts to create a desirable socio-cultural environment, the Saudi government has invested significant resources to promote the socio-cultural transformation necessary to augment intellectual capital formation. The results of these efforts are already evident in a tremendous increase in the number of women-led ventures and the unprecedented rate at which Saudi women are now participating in entrepreneurial activities. The results of our study, therefore, confirm that policymakers must nurture a supportive socio-cultural environment if they desire for any investments in intellectual (especially human) capital to yield payoffs, especially in the face of high socio-cultural impediments.

The study also empirically substantiates the assertions that cognitive entablements, such as higher perceived resourcefulness, are important antecedents to the development of desirable entrepreneurial intentions and/or actions and that psychological factors, such as attitude towards entrepreneurship, entrepreneurial self-efficacy, and perceived behavioural control, as well as subjective norms are important precursors for such cognitive emblements. Therefore, any efforts to enhance entrepreneurship (especially among female entrepreneurs) should attend to these psychological aspects of human behaviour.

Because education is a significant antecedent of perceived resourcefulness and entrepreneurial intentions, policymakers must appropriate significant investments to promoting entrepreneurial education, training, development and/or counselling. Beyond the technical aspects of entrepreneurship, the contents of any such programmes must devote significant attention to the conceptual and psychological aspects of entrepreneurial behaviours. As they work to increase female participation in entrepreneurial spheres by promoting perceptions of entrepreneurial resourcefulness and the resultant entrepreneurial intentions, policymakers, educators, training and development specialists and social influencers, especially those in the Middle East, can benefit in myriad ways from this study's findings. For example, in a human resource development context, the choice and execution of effective pedagogies (e.g., venture-based pedagogies) may serve as an initial building block for the development and/or enhancement of cognitive (entrepreneurial) resources, e.g., perceived control, self-efficacy, optimism, hope, etc., which the positive psychology literature has highlighted.

Limitations and directions for future research

The findings of this study are based on data reported by female university students in Saudi Arabia. Because the data are self-reported, they are subject to self-reporting biases. In addition, the generalisability of the study's findings may be limited to Saudi Arabia and any other social and cultural contexts with psychic proximity. While this study employs cross-sectional data, the use of longitudinal data may have yielded more robust results. Future researchers might, therefore, conduct a comparative study between male and female university students not only to cross-validate our model but also to devise gender-

segregated configurational models capable of predicting entrepreneurial resourcefulness and intentions among youth in Saudi Arabia and similar contexts. A cross-cultural study of the predictors of entrepreneurial resourcefulness and intentions also has the potential to yield interesting results. In addition, scholars should examine the role of university support in improving perceptions of entrepreneurial resourcefulness and intentions among university students. The theoretical richness, rigour, and explanatory power of the model, moreover, could be enhanced by introducing additional mediating effects in the perceived resourcefulness–entrepreneurial intentions link as well as moderating effects in the associations among both the antecedents and consequences of perceived entrepreneurial resourcefulness. Furthermore, future research can appeal to other relevant and efficacious frameworks, such as self-determination theory, control theory, social exchange theory, reactance theory, etc. Finally, scholars can extend the models to other social, cultural and/or entrepreneurial contexts.

Conclusion

Utilising both IIC and TPB, this study examined the role of certain demographic and psychological factors in developing and enhancing entrepreneurs' perceptions of their own resourcefulness as well as the instrumentality of social and cultural norms in causing this perceived resourcefulness to affect entrepreneurial intentions among potential female entrepreneurs studying at Saudi universities. We uncovered significant positive effects for demographic factors, including family business background, family business experience, family income and entrepreneur education, on the potential entrepreneurs' perceptions of their own resourcefulness. Such cognitive factors enhance desirable entrepreneurial intentions among potential female entrepreneurs. We also found that socio-cultural norms

moderate the association between perceived entrepreneurial resourcefulness and entrepreneurial intentions, which suggests that any efforts towards or investments in intellectual capital are likely to yield greater payoffs if they are augmented by efforts to nurture a supportive socio-cultural environment, especially in societies where social and cultural impediments are significant.

Funding acknowledgement: The authors extend their appreciation to the Deanship of Research & Innovation, Ministry of Education Saudi Arabia for funding this research work through the Project S-192 (through the initiative of social sciences number 105422009 of the contract).

The authors also acknowledge the support rendered by Ms. Afnan Adaad Ababtain, Director of Women Entrepreneurship Department at the Small and Medium Enterprise Authority (Monsha'at) Saudi Arabia as a consultant in this research. Ms. Afnan was very instrumental in connecting the project team to different stakeholders for data collection and related research pursuits.

References

Acker, J. (1990), "Hierarchies, jobs, bodies: A theory of gendered organisations", *Gender and Society*, Vol. 4 No. 2, pp. 139–158.

Agostini, L. Nosella, A. and Filippini, R. (2017), "Does intellectual capital allow improving innovation performance? A quantitative analysis in the SME context", *Journal of Intellectual Capital*, Vol. 18, No. 2, pp. 400-418.

Ahmed, T. Chandran, V. G. R. Klobas, J. E. Linan, F. and Kokkalis, P. (2020), "Entrepreneurship education programmes: How learning, inspiration and resources affect intentions for new venture creation in a developing economy", *The International Journal of Management Education*, Vol. 18, pp. 100327.

Ahl, H.J. (2002). *The Making of the Female Entrepreneur: A Discourse Analysis of Research Texts on Women's Entrepreneurship*, Doctoral Thesis submitted to the Jönköping University, School of Education and Communication, HLK, Lifelong learning/Encell.

Ahmed, T. Klobas, J.E. and Ramayah, T. (2019), "Personality Traits, Demographic Factors and Entrepreneurial Intentions: Improved Understanding from a Moderated Mediation Study", *Entrepreneurship Research Journal*, Vol. 11, No. 4, pp. 1-16.

Ajzen, I. (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, pp. 179–211.

Ali, I., Badghish, S. & Ali, M. (2019), "Symmetric and asymmetric modelling of entrepreneurial ecosystem in developing entrepreneurial intentions among female university students in Saudi Arabia", *International Journal of Gender and Entrepreneurship*, Vol. 11 No. 4, pp. 435–458.

Ali, I., Ayse Kucuk, Yilmaz, & Ahmed, S. (2011), "Effects of national culture on development of entrepreneurial intentions", *Elixir International Journal*, Vol. 39, pp. 4622–4626.

Ali, J., and Jabeen, Z. (2020), "Understanding entrepreneurial behavior for predicting start-up intentions in India: Evidence from Global Entrepreneurship Monitor (GEM) data", *Journal of Public Affairs*, Vol. 22, No. 1., e2399.

Ali, J., Shabir, S. and Shaikh, A. (2021), "Exploring antecedents of entrepreneurial intentions among females in an emerging economy", *International Journal of Social Economics*, Vol. 48, No. 7, pp. 1044-1059.

Ali, M. (2021), "Imitation or innovation: To what extent do exploitative learning and exploratory learning foster imitation strategy and innovation strategy for sustained competitive advantage? " *Technological Forecasting and Social Change*, Vol. 165, pp. 120527.

Aljarodi, A., Thatchenkery, T. and Urbano, D. (2022), "The influence of institutions on early-stage entrepreneurial activity: a comparison between men and women in Saudi Arabia", *Journal of Entrepreneurship in Emerging Economies*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JEEE-02-2021-0076>

Alturki, N., & Braswell, R. (2010), "Businesswomen in Saudi Arabia: Characteristics, challenges, and aspirations in a regional context". available at: <http://www.monitor.comexpertise/BusinessIssues/EconomicDevelopmentandSecurity/tabid/69/ctl/ArticleDetail/mid/705/CID/20102207132025370/CTID/1/L/en-us/Default.aspx> (accessed 10 September 2021)

Alvino, F., Di Vaio, A., Hassan, R. and Palladino, R. (2021), "Intellectual capital and sustainable development: a systematic literature review", *Journal of Intellectual Capital*, Vol. 22 No. 1, pp. 76-94.

Anggadwita, G., Ramadani, V., Permatasari, A., and Alamanda, D. T. (2021), "Key determinants of women's entrepreneurial intentions in encouraging social empowerment", *Service Business*, Vol. 15, pp. 309–334.

Azhar, K. (1999), "What young entrepreneurs think and do: A study of second-generation Business Entrepreneurs", *The Journal of Entrepreneurship*, Vol. 8 No. 1, pp. 67–77.

Baker, T. and Nelson, R. (2005), "Creating something from nothing: Resource construction through entrepreneurial bricolage", *Administrative Science Quarterly*, Vol. 50 No. 3, pp. 329–366.

Basaffar, A. A., Niehm, L. S., & Bosselman, R. (2018), "Saudi Arabian women in entrepreneurship: Challenges, opportunities and potential", *Journal of Developmental Entrepreneurship*, Vol. 23, No.2, pp. 1850013.

Becker, J. M. Ringle, C. M. and Sarstedt, M. (2018), "Estimating moderating effects in PLS-SEM and PLSc-SEM: Interaction term generation * data treatment", *Journal of Applied Structural Equation Modeling*, Vol. 2 No. 2, pp. 1–21.

Bueno, Edurado, Salmador, Mari'Paz and Rodri' guez, O'scar, (2004), "The Role of Social Capital in Today's Economy Empirical Evidence and Proposal of a New Model of Intellectual Capital", *Journal of Intellectual Capital*, Vol. 5, No. 4, 556-574.

Berraies, S. (2019), "The effect of enterprise social networks use on exploitative and exploratory innovations: mediating effect of sub-dimensions of intellectual capital", *Journal of Intellectual Capital*, Vol. 20, No. 3, pp. 426-452.

Bhide, A. (1992), "Bootstrap finance: The art of start-ups", *Harvard Business Review*, Vol. 70 No. 6, pp. 109–117.

Bontis, N. (1998), "Intellectual capital: an exploratory study that develops measures and models", *Management Decision*, Vol. 36 No. 2, pp. 63-76.

Bontis, N., Chua Chong Keow, W. and Richardson, S. (2000), "Intellectual capital and business performance in Malaysian industries", *Journal of Intellectual Capital*, Vol. 1 No. 1, pp. 85-100.

Botsaris, C. and Vamvaka, V. (2016), "Attitude toward entrepreneurship: Structure, prediction from behavioral beliefs, and relation to entrepreneurial intention", *Journal of the Knowledge Economy*", Vol. 7 No. 2, pp. 433–460.

Bradely, S. W. (2015), "Entrepreneurial resourcefulness". In C. Cooper (Ed.), *Wiley Encyclopedia of Management*, Vol 3. Entrepreneurship Publisher: John Wiley & Sons, Ltd.

Brush, C.G., & Cooper, S.Y. (2012) Female entrepreneurship and economic development: An international perspective, *Entrepreneurship & Regional Development*, 24:1-2, 1-6,

Carver, C.S., and Scheier, M. F. (2002), Control Processes and Self-Organization as Complementary Principles Underlying Behavior, *Personality and Social Psychology Review*, Vol, 4 No. 4, pp. 304-315.

Castaño, M-S., Méndez, M-T. and Galindo, M-A. (2015), "The effect of social, cultural, and economic factors on entrepreneurship", *Journal of Business Research*, Vol. 68, No. 7, pp. 1496–1500.

Chatterjee, N. and Das, N. (2015), "Key Psychological Factors as Predictors of Entrepreneurial Success: A Conceptual Framework". *Academy of Entrepreneurship Journal*, Vol. 21, pp. 102.

Chen, C.C., Greene, P.G. and Crick, A. (1998), "Does entrepreneurial self-efficacy distinguish entrepreneurs from managers"? *Journal of Business Venturing*, Vol. 13 No. 4, pp. 295-316.

Chia, C.-C. Liang, C. (2016), Influence of creativity and social capital on the entrepreneurial intention of tourism students. *Journal of Entrepreneurship Management and Innovation*, Vol, 12, No. 2, pp. 151-168,

Chin, W. W. (2010), "How to write up and report PLS analyses", In V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of partial least squares* (pp. 655–690). Springer.

Ciambotti, G. Sgro, F., Bontis, N., and Zaccone, M.C. (2021), "Local relationships matter! The impact of intellectual capital on entrepreneurial bricolage in African social entrepreneurs", *Knowledge and Process Management*, Vol. 28, pp. 321–330.

Crupi, A., Cesaroni, F. and Di Minin, A. (2021), "Understanding the impact of intellectual capital on entrepreneurship: a literature review", *Journal of Intellectual Capital*, Vol. 22 No. 3, pp. 528-559.

Danish, A.Y., & Smith, H.L. (2012), "Female entrepreneurship in Saudi Arabia: opportunities and challenges", *International Journal of Gender and Entrepreneurship*, 4, 216-235.

De Bruin A, Brush CG, Welter F. (2006). Introduction to the Special Issue: Towards Building Cumulative Knowledge on Women's Entrepreneurship. *Entrepreneurship Theory and Practice*. 30(5):585-593.

De Bruin A, Brush CG, Welter F. (2007). Advancing a Framework for Coherent Research on Women's Entrepreneurship. *Entrepreneurship Theory and Practice*. 31(3):323-339.

Delmar, F. and Davidsson, P. (2000), "Where do they come from? Prevalence and characteristics of nascent entrepreneurs", *Entrepreneurship and Regional Development*, Vol. 12 No. 1, pp. 1–23.

De Noble, A. F., Jung, D., and Ehrlich, S. B. (1999), "*Entrepreneurial Self-Efficacy: The Development of a Measure and Its Relationship to Entrepreneurial Action*", In *Frontiers for Entrepreneurship Research* (pp. 73-78). Waltham, MA: P&R Publication Inc.

Di Domenico, M. Haugh, H. and Tracey, P. (2010), "Social bricolage: Theorising social value creation in social enterprises", *Entrepreneurship Theory and Practice*, Vol. 34 No. 4, pp. 681–703.

Drnovšek, M., Wincent, J. and Cardon, M.S. (2010), "Entrepreneurial self-efficacy and business start-up: developing a multi-dimensional definition", *International Journal of Entrepreneurial Behavior and Research*, Vol. 16 No.4, pp. 329-348.

Elnadi, M. and Gheith, M.H. (2021), "Entrepreneurial ecosystem, entrepreneurial self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia", *International Journal of Management Education*, Vol, 19, No. 1, pp, 1-16.

Fishbein, M., & Ajzen, I. (1975), "*Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*", Reading, MA: Addison-Wesley.

Fornell, C. & Larcker, D. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18, pp, 39–50.

Gioia, D. A., Schultz, M. and Corley, K. G. (2000), "Organisational identity, image, and adaptive instability", *Academy of Management Review*, Vol. 25 No. 1, pp. 63–81.

Gird, A. & Bagraim, J. J. (2008), "The theory of planned behaviour as predictor of entrepreneurial intent amongst final-year university students", *South African Journal of Psychology*, Vol. 38 No. 4, pp. 711–724.

González-Serrano, M. H., Valantine, I., Hervás, J. C., Pérez-Campos, C. and Moreno, F. C. (2018), "Sports university education and entrepreneurial intentions: A comparison between Spain and Lithuania", *Education Training*, Vol. 60 No. 5, pp. 389–405.

Ghorfi T., and Girancourt, D. J. (2022), Women in Entrepreneurship and Social Entrepreneurship in the Arab World, *Entrepreneurship and Social Entrepreneurship in the MENA Region*, pp. 115–154.

Gulzar, F. and Fayaz, A. (2021), "Youth entrepreneurial intentions: an integrated model of individual and contextual factors", *International Journal of Organizational Analysis*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJOA-08-2021-2928>

Guthrie, J. and Dumay, J. (2015), "New frontiers in the use of intellectual capital in the public sector", *Journal of Intellectual Capital*, Vol. 16 No. 2, pp. 258–266.

Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2017), "*A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* ", 2nd Edition, Sage Publications Inc., Thousand Oaks, CA.

Hair, J. F., Jr., Hult, G. T. M., Ringle, C. and Sarstedt, M. (2021), "*A primer on partial least squares structural equation modelling (PLS-SEM)* (3rd ed.) Sage Publications.

Henseler, J. (2017), "Bridging design and behavioral research with variance-based structural equation modelling", *Journal of Advertising*, Vol. 46 No. 1, pp. 178–192.

Henseler, J. & Fassott, G. (2010), "Testing moderating effects in PLS path models: An illustration of available procedures", In V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of partial least squares* (pp. 713–735). Springer.

Henseler, J., Ringle, C. M. & Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modelling", *Journal Academy of Marketing Science*, Vol. 43 No. 1, pp.115–135.

Huse, M., Hoskisson, R., Zattoni, A. and Viganò, R. (2011), "New perspectives onboard research: Changing the research agenda", *Journal of Management & Governance*, Vol. 15, pp. 5–28.

Kanungo, R. N. and Misra, S. (1992), "Managerial resourcefulness: A reconceptualisation of management skills", *Human Relations*, Vol. 45 No. 12, pp. 1311–1332.

Khan, A.M. Arafat, M.Y. and Raushan, M.A. (2021), "Analysing the entrepreneurial intentions through intellectual capital: evidences from India", *International Journal of Intelligent Enterprise*, Vol. 9, No. 1, pp. 41-58.

Khalique, M., Isa, A. H. B. M., Shaari, N., Abdul, J. and Ageel, A. (2011a), "Challenges faced by the small and medium enterprises (SMEs) in Malaysia: An intellectual capital perspective", *International Journal of Current Research*, Vol. 3 No. 6, pp. 398–401.

Khalique, M., Shaari, J. A. N. and Isa, A. H. B. M. (2011b), "Intellectual capital and its major components", *International Journal of Current Research*, Vol. 3 No. 6, pp. 343–347.

Kosny, M., and Piotrowska, M. (2019). Economic resourcefulness: Definition and modelling, *Social Indicators Research*, Vol, 144, pp. 425-449.

Krueger, N. F., Jr., Reilly, M. D. and Carsrud, A. L. (2000), "Competing models of entrepreneurial intentions", *Journal of Business Venturing*, Vol. 15 No. 5, pp. 411–432.

Latan, H. (2018), "PLS path modelling in hospitality and tourism research: The golden age and days of future past", In F. Ali, M. S. Rasoolimanesh & C. Cobanoglu (Eds.), *Applying of Partial Least Squares in Tourism and Hospitality Management* (pp. 53–83). Emerald.

Lévi-Strauss, C. 1967 *The Savage Mind*. Chicago: University of Chicago Press.

Liñán, F. & Chen, Y.-W. (2009), "Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions", *Entrepreneurship: Theory and Practice*, Vol. 33 No. 3, pp. 593–617.

Lira, J.S.d. and Costa, M.F.d. (2022), "Theory of planned behavior, ethics and intention of conscious consumption in Slow Fashion Consumption", *Journal of Fashion Marketing and Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JFMM-03-2021-0071>

Lorz, M. (2011), "*The impact of entrepreneurship education on entrepreneurial intention*" (Publication No. 3966) [Doctoral dissertation, University of St. Gallen, School of Management, Economics, Law, Social Sciences, and International Affairs].

Luthans, F. (2002), "The need for and meaning of positive organizational behavior", *Journal of Organizational Behavior*, 23(6), 695–706.

Mahfud, T. Triyono, M.B. Sudira, P. and Mulyani Y. (2020), "The influence of social capital and entrepreneurial attitude orientation on entrepreneurial intentions: the mediating role of psychological capital", *European Research on Management and Business Economics*, Vol. 26, Issue 1, pp. 33-39

Mak, H.W. and Davis, J. M. (2014), The application of the theory of planned behavior to help-seeking intention in a Chinese society, *Social Psychiatry and Psychiatric Epidemiology*, Vol, 49, pp,1501–1515.

Manley, S.C.; Hair, J.F.; Williams, R.I.; McDowell, W.C. (2020), "Essential new PLS-SEM analysis methods for your entrepreneurship analytical toolbox", *International Entrepreneurship Management Journal*, Vol, 17, pp. 1805–1825.

McGee, J. E. and Peterson, M. (2017), "The long-term impact of entrepreneurial self-efficacy and entrepreneurial orientation on venture performance", *Journal of Small Business Management*, Vol. 57, pp. 720–737.

Meichenbaum, D. (1977). Cognitive-Behavior Modification: An Integrative Approach. New York, USA.

Michaelis, T.L., Scheaf, D.J., Carr, J.C., and Pollack, J.M. (2022), An agentic perspective of resourcefulness: Self-reliant and joint resourcefulness behaviors within the entrepreneurship process, *Journal of Business Venturing*, Vol, 31, No. 1, pp. 1-18.

Misra, S. and Kumar, E.S. (2000), "Resourcefulness: A proximal conceptualisation of entrepreneurial behavior", *The Journal of Entrepreneurship*, Vol. 9 No. 2, pp. 135–154.

Moriano, J. A., Gorgievski, M., Laguna, M., Stephan, U. & Zarafshani, K. (2012), "A cross-cultural approach to understanding entrepreneurial intention", *Journal of Career Development*, Vol. 39 No. 2, pp. 162–185.

Mullen, E. M. (1995). *Mullen Scales of Early Learning* (AGS ed.) American Guidance Service Inc. Circle Pines, Minnesota, United States.

Naktiyok, A., Karabey, C.N. and Gulluce, A.C. (2010), "Entrepreneurial self-efficacy and entrepreneurial intention: the Turkish case", *International Entrepreneurship and Management Journal*, Vol. 6 No. 4, pp. 419-435.

Nandamuri, P. P. (2013), "Entrepreneurial resourcefulness: Is it a function of gender"? *Business Frontiers*, Vol. 3 No. 1, pp. 1–13.

Nandamuri, P.P. and Gowthami, C. (2013), "A study of the association between entrepreneurial resourcefulness and family occupation", *Journal of Management Research*, Vol. 1 No. 2, pp. 15–41.

Newman, A., Obschonka, M., Schwarz, S., Cohen, M., & Nielsen, I. (2019), "Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research", *Journal of Vocational Behavior*, Vol. 110, (Part B), 403–419.

Nunnally, J. (1978), "*Psychometric theory*", McGraw-Hill.

Ozgul, U. & Kunday, O. (2015), "Conceptual development of academic entrepreneurial intentions scale", *Procedia—Social and Behavioral Sciences*, Vol. 195, pp. 881–887.

Paiva, P.C.P. De Paiva, H.N. De Oliveira Filho, P.M. Lamounier, J.A. E.F. E Ferreira, R.C. Ferreira, et al. (2014). Development and validation of a social capital questionnaire for adolescent students (SCQ-AS), *PloS One*, Vol. 9, No,8, pp. 1-8.

Peña, I. (2002), "Intellectual capital and business start-up success", *Journal of Intellectual Capital*, Vol. 3 No. 2, pp, 180–198.

Pihie, L. Akrnaliah, Z. and Bagheri, A. (2009), "Entrepreneurial intention of university students: An analysis of gender and ethnic groups", *The International Journal of Knowledge, Culture and Change Management*, Vol. 9 No. 4, pp. 49–60.

Quagraine, F.A., Kabalan, A.A.M., Adams, S. and Dankwa, A.D. (2022), "3Ps model of entrepreneurial resourcefulness among micro-youth entrepreneurs", *Journal of Entrepreneurship in Emerging Economies*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JEEE-07-2021-0276>

Rahman, S.A., Khan, G.M., AlAbri, S. and Taghizadeh, S.K. (2021), "The role of intellectual capital on entrepreneurial opportunity recognition among SMEs in the Sultanate of Oman", *Journal of Intellectual Capital*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JIC-05-2020-0177>

Rao, H. Davis, G. F. and Ward, A. (2000), "Embeddedness, social identity and mobility: Why firms leave the NASDAQ and join the New York Stock Exchange", *Administrative Science Quarterly*, Vol. 45 No. 2, pp. 268–292.

Rasli, A. M. Khan, S. R., Malekifar, S. and Jabeen, S. (2013). Factors affecting entrepreneurial intention among graduate students of Universiti Teknologi Malaysia. *International Journal of Business and Social Science*, 4, 182–188.

Read S, Sarasvathy S, Dew N, Wiltbank R. 2016. Response to arend, Sarooghi, and Burkemper (2015): cocreating effectual entrepreneurship Research. *Academy of Management Review* 41(3): 528– 556.

Richter, N. F. Cepeda, G. Roldán, J. L. and Ringle, C. M. (2016), "European management research using partial least squares structural equation modelling (PLS-SEM) ". *European Management Journal*, Vol. 33 No. 1, pp. 1–3.

Ringle, C. M. Wende, S. and Becker, J. M. (2015), "SmartPLS 3". *Boenningstedt: SmartPLS GmbH*, <http://www.smartpls.com>.

Robbins, S. P., & Judge, T. A. (2015). *Organizational Behavior* (16th ed.). Pearson Education, Inc, London, United Kingdom.

Roldán, J. L. and Sanchez-Franco, M. J. (2012), "Variance-based structural equation modelling: Guidelines for using partial least squares", *Research Methodologies, Innovations and Philosophies in Software Systems Engineering and Information Systems*, 193.

Roos, J., Roos, G., Dragonetti, N.C. and Edvinsson, L. (1997), "*Intellectual Capital: Navigating in the New Business Landscape*", Basingtoke, Macmillan.

Rossi, M. V., & Magni, D. (2017), "Intellectual capital and value co-creation: An empirical analysis from a marketing perspective", *Electronic Journal of Knowledge Management*, 15(3), 147–158.

Santos, S. C. and Liguori, E. W. (2019), "Entrepreneurial self-efficacy and intentions: Outcome expectations as mediator and subjective norms as moderator", *International Journal of Entrepreneurial Behavior & Research*, Vol. 26 No. 3, pp. 400–415.

Sarstedt, M. Hair, J. F. Jr. Cheah, J. H. Becker, J. M. and Ringle, C. M. (2019), "How to specify, estimate, and validate higher-order constructs in PLS-SEM", *Australasian Marketing Journal (AMJ)*, Vol. 27 No. 3, pp. 197–211.

Sarstedt, M. Hair J. F. Jr., Nitzl, C. Ringle, C. M. and Howard, M. C. (2020), "Beyond a tandem analysis of SEM and PROCESS: Use of PLS-SEM for mediation analyses". *International Journal of Market Research*, Vol. 62 No. 3, 288–299.

Scholz, U., Doña, B. G., Sud, S., & Schwarzer, R. (2002), "Is general self-efficacy a universal construct? Psychometric findings from 25 countries", *European journal of psychological assessment*, Vol. 18, No. 3, 242.

Scuotto, V. Serravalle, F. Murray, A. and Viassone, M. (2019), "The shift towards a digital business model", *Women Entrepreneurs and Strategic Decision Making in the Global Economy*. IGI Global. <https://doi.org/10.4018/978-1-5225-7479-8.ch007>

Serenko, A. (2010), "The development of an AI journal ranking based on the revealed preference approach", *Journal of Infometrics*, Vol. 4 No. 4, pp. 447–459.

Serenko, A. and Bontis, N. (2009), "Global ranking of knowledge management and intellectual capital academic journals", *Journal of Knowledge Management*, Vol. 13 No. 1, pp. 4–15.

Shahzad, F., Hussain Baig, M., Rehman, I.U., Latif, F. and Sergi, B.S. (2020). What drives the impact of women directors on firm performance? Evidence from intellectual capital efficiency of US listed firms, *Journal of Intellectual Capital*, 21(4),513-530.

Shi, W., and Weber, M. (2020), "The impact of entrepreneurs' prior experience and communication networks on perceived knowledge access", *Journal of Knowledge Management*, Vol. 25 No. 2, pp. 1406-1426.

Shujahat, M. Wang, M., Ali, M., Bibi, A., Razzaq, S. & Susanne, D. (2021). Idiosyncratic job-design practices for cultivating personal knowledge management among knowledge workers in organisations. *Journal of Knowledge Management*, 25(4), 770–795.

Spector, P. E. and Brannick, M. T. (1995), "The nature and effects of method variance in organisational research", In G. P. Hodgkinson & J. K. Ford (Eds.), *International Review of Industrial and Organizational Psychology* (p. 249). John Wiley & Sons.

Staniewski, M. & Awruk, K. (2016), "Start-up intentions of potential entrepreneurs: The contribution of hope to success", *Economic Research*, Vol. 29 No. 1, pp. 233–249.

Stevenson, Howard and Jarillo, J. Carlos, A Paradigm of Entrepreneurship: Entrepreneurial Management (1990). University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship, Available at SSRN: <https://ssrn.com/abstract=1505897>

Tkachev, A. & Kolvereid, L. (1999), "Self-employment intentions among Russian students", *Entrepreneurship and Regional Development*, Vol. 11 No. 3, pp. 269–280.

Vamvaka, V. Stoforos, C. Palaskas, T. and Botsaris, C. (2020), "Attitude toward entrepreneurship, perceived behavioral control, and entrepreneurial intention:

Dimensionality, structural relationships, and gender differences", *Journal of Innovation and Entrepreneurship*, Vol. 9 No. 1, 1–26.

Vasconcelos, A.F. (2021), "Individual spiritual capital: meaning, a conceptual framework and implications", *Journal of Work-Applied Management*, Vol. 13 No. 1, pp. 117-141.

Wang, L. Ali, M. Kim, H.J. Lee, S. and Hernández-Perlines, F. (2021), Entrepreneurial orientation, value congruence, and organisational effectiveness: Does the institutional environment matter? *Business Strategy and the Environment*, Vol. 30 No. 5, pp. 2293–2312.

Wei, J. Chen, Y. Zhang, Y. and Zhang, J. (2020), "How does entrepreneurial self-efficacy influence innovation behavior? Exploring the mechanism of job satisfaction and Zhongyong thinking", *Frontiers in Psychology*, Vol 11, pp. 708.

Welsh, D.H.B., Memili, E., Kaciak, E., & Al-Sadoon, A. (2014), "Saudi women entrepreneurs: A growing economic segment", *Journal of Business Research*, 67(5), 758-762.

Welter, C., Mauer, R. and Wuebker, R. J. (2016), "Bridging behavioral models and theoretical concepts: effectuation and bricolage in the opportunity creation framework", *Strategic Entrepreneurship Journal*, 10(1), 5–20.

Welter, F. and Xheneti, M. (2013), "Re-enacting contextual boundaries—Entrepreneurial resourcefulness in challenging environments. In A. C. Corbett & J. Katz (Eds.), *Entrepreneurial Resourcefulness: Competing with Constraints (Advances in Entrepreneurship, Firm Emergence and Growth, Vol. 15*, pp. 149–183). Emerald.

Williams, T. A., Zhao, E. Y., George, G., Sonenshein, S. & Ucbasaran, D. (2019), "Getting more for less: The role of resourcefulness in entrepreneurship". Call for Papers, *Journal of Business Venturing*, Retrieved 10 March 2020 from <https://www.journals.elsevier.com/journal-of-business-venturing/call-for-papers/the-role-of-resourcefulness-in-entrepreneurship>

Yaqub, M.Z., Sreckovic, M., Cliquet, G., Hendrikse, G., Windsperger, J. (2020), "Network innovation versus innovation through networks", *Industrial Marketing Management*, Vol. 90, pp. 79-89.

Yee, V. (2020), "Saudi society is changing: Just take a look at these coffeehouses", *The New York Times*, Retrieved 5 September 2020 from <https://www.nytimes.com/2020/01/15/world/middleeast/saudi-women-coffee-shops.html>

Zhang, P. Wang, D. D. and Owen, C. L. (2015), "A study of entrepreneurial intention of university students", *Entrepreneurship Research Journal*, Vol. 5, pp. 61–82.

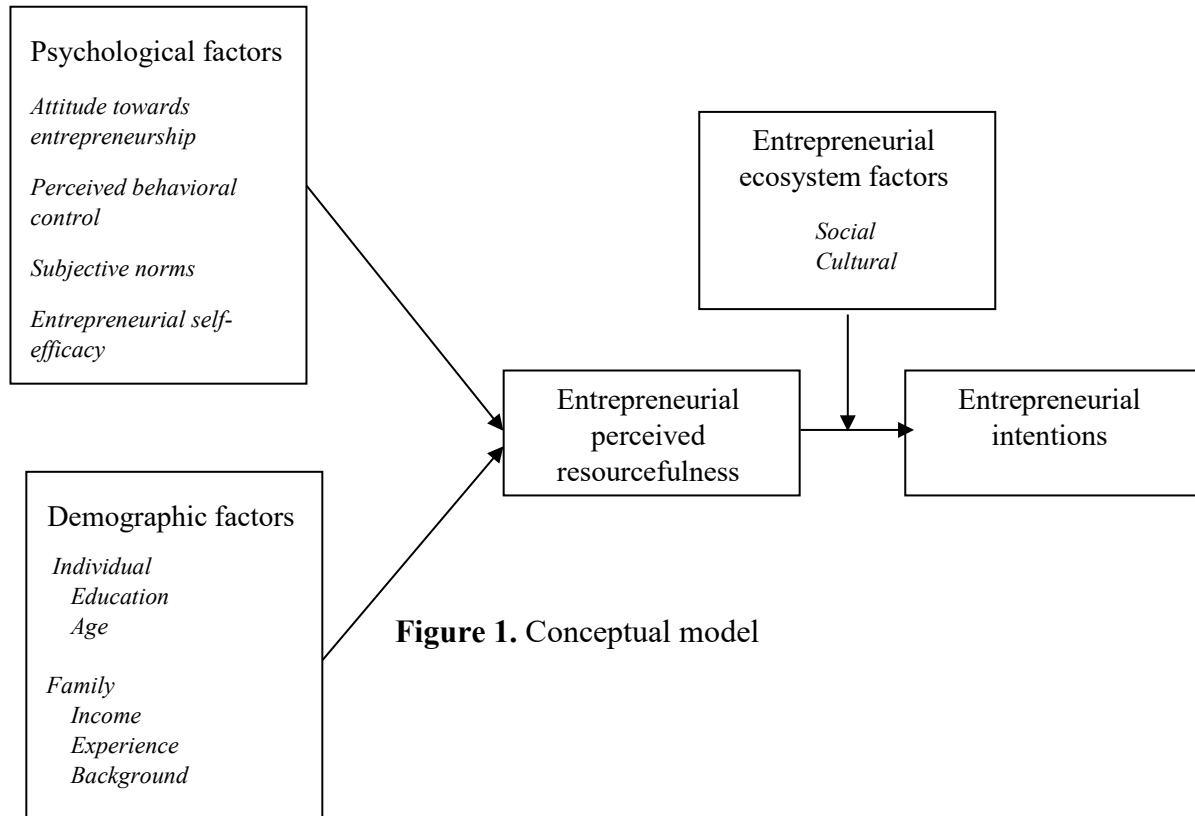


Figure 1. Conceptual model

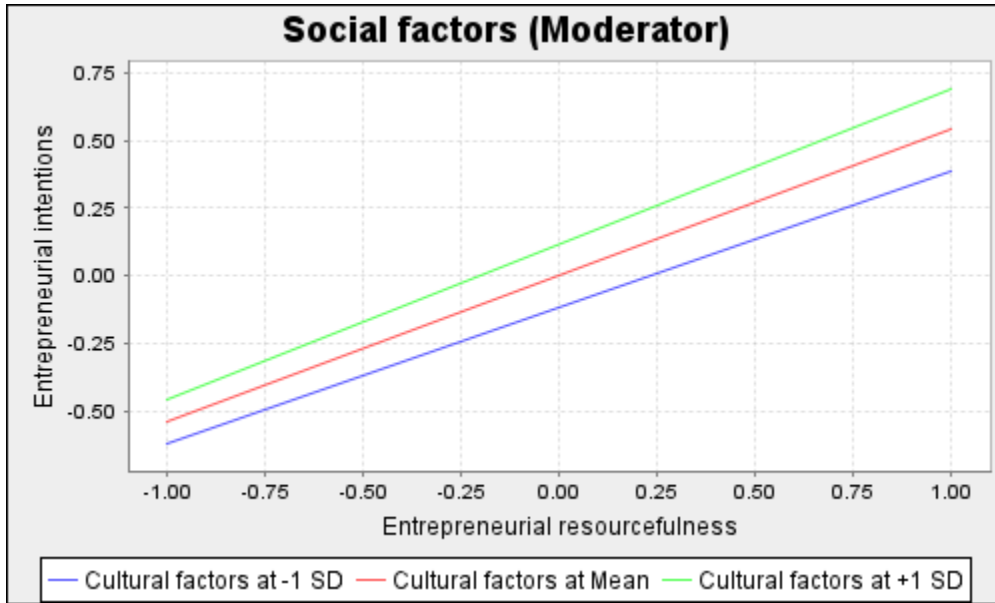


Figure 2. The moderating effect of social factors on the entrepreneurial resourcefulness–entrepreneurial intentions link (see online version for colours).

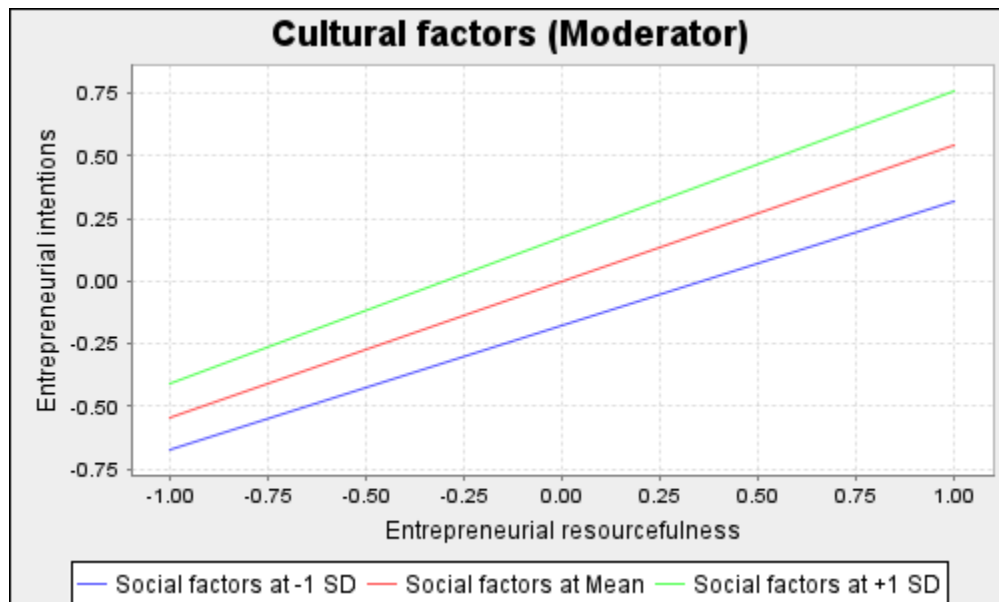


Figure 2. The moderating effect of cultural factors on the entrepreneurial resourcefulness–entrepreneurial intentions link (see online version for colours).

Table 1. Measurement model results: loadings, construct reliability and convergent validity coefficients.

Construct	Code	Loading^a	SE	t-value	α	ρ_A	CR	AVE^b
<i>First-order constructs</i>								
<i>Attitude towards entrepreneurship</i>					0.81	0.82	0.88	0.64
	ATE1	0.71	0.03	24.76				
	ATE2	0.85	0.02	55.01				
	ATE3	0.83	0.02	40.82				
	ATE4	0.82	0.02	41.10				
<i>Perceived behavioural control</i>					0.89	0.90	0.91	0.51
	PBC1	0.70	0.03	24.27				
	PBC2	0.75	0.02	35.19				
	PBC3	0.73	0.03	28.19				
	PBC4	0.61	0.03	18.36				
	PBC5	0.60	0.04	16.83				
	PBC8	0.72	0.02	29.10				
	PBC9	0.79	0.02	41.32				
	PBC10	0.72	0.02	32.53				
	PBC11	0.78	0.02	43.07				
	PBC12	0.70	0.03	26.07				
<i>Entrepreneurial self-efficacy</i>					0.81	0.82	0.87	0.57
	ESE1	0.78	0.02	45.92				
	ESE2	0.81	0.02	44.24				
	ESE3	0.69	0.04	19.13				
	ESE4	0.82	0.01	57.88				
	ESE5	0.65	0.03	20.44				
<i>Subjective norms</i>					0.70	0.73	0.79	0.55
	SN1	0.81	0.03	31.08				
	SN2	0.62	0.05	11.57				
	SN3	0.80	0.03	31.08				
<i>Social factors</i>					0.82	0.82	0.87	0.52
	SF1	0.61	0.04	15.51				
	SF2	0.71	0.03	20.90				
	SF3	0.82	0.02	40.24				
	SF4	0.78	0.02	36.52				
	SF5	0.79	0.02	34.86				
<i>Cultural factors</i>					0.76	0.77	0.84	0.51
	CF1	0.72	0.03	24.62				
	CF2	0.71	0.04	18.96				
	CF3	0.64	0.04	15.48				
	CF4	0.75	0.03	29.95				

	CF5	0.72	0.03	27.12				
<i>Entrepreneurial intentions</i>					0.89	0.89	0.92	0.65
	EI1	0.74	0.02	31.00				
	EI2	0.80	0.02	44.85				
	EI3	0.82	0.02	46.14				
	EI4	0.84	0.02	54.97				
	EI5	0.78	0.02	36.63				
	EI6	0.84	0.02	49.97				
<i>Cognitive competence</i>					0.82	0.82	0.87	0.52
	CC1	0.77	0.02	39.97				
	CC2	0.70	0.03	27.94				
	CC3	0.72	0.03	28.26				
	CC4	0.73	0.03	29.41				
	CC5	0.64	0.04	16.56				
	CC6	0.75	0.02	33.15				
<i>Affective competence</i>					0.78	0.79	0.85	0.53
	AC1	0.61	0.04	15.39				
	AC2	0.80	0.02	47.28				
	AC3	0.75	0.02	32.96				
	AC4	0.75	0.03	27.14				
	AC5	0.72	0.03	27.08				
<i>Action-oriented competence</i>					0.80	0.81	0.87	0.62
	AOC1	0.84	0.01	63.89				
	AOC2	0.73	0.03	25.78				
	AOC3	0.80	0.03	32.60				
	AOC4	0.79	0.02	39.76				
Construct	Code	CW	SE	t-value	α	CR	ρ_A	AVE^b
<i>Second-order constructs</i>								
<i>Entrepreneurial resourcefulness</i>					0.87	0.87	0.92	0.79
	CC	0.89	0.01	79.07				
	AC	0.90	0.01	77.14				
	A	0.88	0.01	78.86				

Note: ^a All loadings are significant at $p < 0.001$ based on $t_{(499)}$, two-tailed test; SE = Standard error; α = Cronbach's alpha; CR = Composite reliability; ρ_A = Dijkstra-Henseler's rho; AVE = Average variance extracted; ^b Percentage of variance of item explained by the construct; CW = Correlational weights of first-order construct on second-order construct.

Table 2. Mean, standard deviations, correlations and discriminant validity results.

Constructs	M	SD	VIF	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Attitude towards entrepreneurship	3.91	0.81	2.20	<i>0.80</i>	0.54	0.46	0.45	0.59	0.60	0.42	0.63	0.04	0.03	0.03	0.00	0.02
2. Perceived behavioural control	3.73	0.75	2.81	0.54**	<i>0.79</i>	0.61	0.42	0.83	0.46	0.42	0.61	0.01	0.06	0.04	0.01	0.06
3. Entrepreneurial self-efficacy	3.77	0.79	2.03	0.46**	0.61**	<i>0.75</i>	0.43	0.71	0.49	0.35	0.52	0.07	0.01	0.01	0.05	0.03
4. Subjective norms	3.79	0.80	1.42	0.45**	0.42**	0.43**	<i>0.74</i>	0.49	0.45	0.32	0.34	0.04	0.04	0.05	0.03	0.02
5. Entrepreneurial resourcefulness	3.82	0.65	3.29	0.55**	0.78**	0.67**	0.46*	<i>0.89</i>	0.56	0.47	0.71	0.06	0.01	0.04	0.03	0.04
6. Social factors	3.76	0.75	1.77	0.60**	0.46**	0.49**	0.45*	0.53*	<i>0.74</i>	0.49	0.50	0.01	0.06	0.02	0.01	0.02
7. Cultural factors	3.57	0.73	1.46	0.42**	0.42**	0.35**	0.32*	0.44*	0.49*	<i>0.71</i>	0.42	0.05	0.01	0.04	0.02	0.06
8. Entrepreneurial intentions	3.78	0.88	2.00	0.63**	0.61**	0.52**	0.34*	0.66*	0.50*	0.42*	<i>0.80</i>	0.00	0.00	0.01	0.03	0.01
9. Family income	2.22	1.46	1.08	0.04	-0.01	.073	.040	.053	-0.15	-0.051	.001	<i>1.00</i>	0.18	0.16	0.01	0.00
10. Family business experience	3.59	0.96	1.10	0.03	.06	0.01	0.04	0.00	0.06	-0.01	-0.00	0.18*	<i>1.00</i>	0.24	0.00	0.04
11. Family business background	1.89	0.31	1.09	0.03	-0.04	0.01	-0.05	-0.04	0.02	0.04	-0.01	-0.16*	-0.24*	<i>1.00</i>	0.04	0.00
12. Entrepreneurship education	2.81	1.17	1.01	-0.01	-0.01	0.05	0.03	-0.01	0.01	-0.03	-0.03	-0.01	-0.00	0.04	<i>1.00</i>	0.03
13. Age	2.09	0.55	1.01	-0.02	0.06	0.03	-0.03	0.04	0.02	0.07	0.01	0.00	0.04	-0.00	-0.03	<i>1.00</i>

Note: M = Mean; SD = Standard deviation; VIF = Variance inflation factor.

Diagonal and italicised elements are the square roots of the AVE (average variance extracted).

Below the diagonal elements are the correlations between the construct values.

Above the diagonal elements are the HTMT values.

Table 3. Significant testing results of the structural model path coefficients.

Structural path	Path coefficient	Significant difference ($p < 0.05$)?	95% confidence interval	BCa	Conclusion
Direct effects					
H1: Attitude towards entrepreneurship → Entrepreneurial resourcefulness	0.11***	Yes	[0.05, 0.17]		Supported
H2: Perceived behavioural control → Entrepreneurial resourcefulness	0.53***	Yes	[0.45, 0.60]		Supported
H3: Entrepreneurial self-efficacy → Entrepreneurial resourcefulness	0.26***	Yes	[0.19, 0.32]		Supported
H4: Subjective norms → Entrepreneurial resourcefulness	0.08**	Yes	[0.03, 0.13]		Supported
H5: Family income → Entrepreneurial resourcefulness	0.04*	Yes	[0.01, 0.03]		Supported
H6: Family business experience → Entrepreneurial resourcefulness	0.05*	Yes	[0.00, 0.05]		Supported
H7: Family business background → Entrepreneurial resourcefulness	0.04*	Yes	[0.01, 0.03]		Supported
H8: Entrepreneurship education → Entrepreneurial resourcefulness	0.03*	Yes	[0.00, 0.03]		Supported
H9: Age → Entrepreneurial resourcefulness	0.01 ^{ns}	No	[-0.02, 0.03]		Not supported
H10: Entrepreneurial resourcefulness → Entrepreneurial intentions	0.53***	Yes	[0.47, 0.59]		Supported
Social factors → Entrepreneurial intentions	0.16***	Yes	[0.09, 0.24]		Supported
Cultural factors → Entrepreneurial intentions	0.12***	Yes	[0.05, 0.18]		Supported
Moderating effects					
H11: Entrepreneurial resourcefulness * Social factors → Entrepreneurial intentions	0.04*	Yes	[0.01, 0.07]		Supported
H12: Entrepreneurial resourcefulness * Cultural factors → Entrepreneurial intentions	0.04**	Yes	[0.02, 0.07]		Supported
The goodness of model fit					
SRMR composite model = 0.03					
Structural model fit					
R^2 (Entrepreneurial resourcefulness) = 0.68					
R^2 (Entrepreneurial intentions) = 0.48					
Predictive relevance of model fit					
Q^2 (Entrepreneurial resourcefulness) = 0.53					
Q^2 (Entrepreneurial intentions) = 0.46					

Note: ns = Not significant based on $t(4999)$, one-tailed test; * $|t| \geq 1.65$ at $p .05$ level; ** $|t| \geq 2.33$ at $p .01$ level; *** $|t| \geq 3.09$ at $p .001$ level.

R^2 = Determination coefficients; Q^2 = Predictive relevance of endogenous (omission distance = 7).

Threshold for R^2 value ≥ 0.25 (weak); ≥ 0.50 (moderate); ≥ 0.75 (substantial).

Threshold for Q^2 value > 0 indicates predictive relevance.

