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Culture values and entrepreneurial innovativeness: A comparative study of Malaysian ethnic entrepreneurs

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ABSTRACT

Countries are often characterized with a diverse set of subcultures, exerting different impacts on innovation among different ethnic groups. This article comparatively analyzes how national culture, as measured by Hofstede's six cultural values, influences the entrepreneurial innovativeness (EI) of three Malaysian ethnic firms (Malaysian Chinese, Indian, and Malays). Based on a systematic investigation of survey data of 450 small to medium-sized firms (SMEs), we find positive influences of indulgence, collectivism, and low power distance on EI among the three ethnic entrepreneurs in Malaysia. Our study also finds that three other cultural values have a differential impact on Malaysia's ethnic groups. While long-term orientation exerts a significant impact on Malaysian Chinese, masculinity and low uncertainty avoidance have significant but (surprisingly) opposite impacts on the three ethnic entrepreneurs. These similar and different impacts of cultural values on EI among different ethnic groups generates significant theoretical and practical implications.

KEYWORDS

National culture; entrepreneurial innovativeness (EI); Hofstede's cultural dimensions; Malaysian ethnic entrepreneurs; uncertainty avoidance

Introduction

National culture has been widely investigated for its unique impact on creativity-related themes particularly in terms of innovativeness, a process through which firms implement new ideas into practice (Broekhuizen et al., 2017; Tian et al., 2018; Zhu et al., 2018). Specifically, researchers have focused on different cultural dimensions of Hofstede's model (Hofstede, 1980; G. J. Hofstede, 2015) and explored their influences on innovativeness in different contexts and at various analytical levels (Brewer & Venaik, 2014). It has been found that collectivism has positive effects on innovation and innovative practices (Černe et al., 2013; Lin, 2009; Taylor & Wilson, 2012; Vecchi & Brennan, 2009), while masculinity (Halkos & Tzeremes, 2013; Medcof & Wang, 2017; Prim et al., 2017), power distance (Halkos & Tzeremes, 2013; Shane, 1993; Sun, 2009), and uncertainty avoidance (Beugelsdijk & Welzel, 2018; Halkos &

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Tzeremes, 2013; Prim et al., 2017) have negative effects on innovation. Undoubtedly, national culture exerts enormous impact upon firms' innovativeness (Watts et al., 2020).

However, the literature on national culture and entrepreneurial innovativeness (EI) is mainly based on the assumption that countries are made up of a nationwide uniform culture. In reality, numerous countries in the world (e.g., the United States, Canada, China, India and Malaysia) are characterized with a diverse set of subcultures among different ethnic groups (Lenartowicz & Roth, 2001); such plural subcultures may exert different impacts on innovation among different ethnic groups, which warrant much more fine-grained analyses (Prim et al., 2017; Tian et al., 2018). For example, as one of the most representative countries of cultural diversity, Malaysia has dozens of ethnic groups; three major ethnic groups – Malay (54% of the population), Chinese (25%) and Indian (7.5%) – dominate Malaysia's economics and business (Terpstra-Tong et al., 2014). Although Malaysia as a country may share some kind of similar cultural values nationwide, different ethnic groups tend to maintain their unique ethnic identities and have distinct ways in terms of business operations and EI even after more than 50 years of Malaysia's independence (Fontaine & Richardson, 2005; Idris, 2011; Jamil et al., 2014; Lim, 2001; Yow, 2017; Zawawi, 2008). Hence, the impact of national cultural values on entrepreneurial innovativeness may vary significantly among different ethnic groups; such an important issue is largely neglected in the current literature (Prim et al., 2017; Terpstra-Tong et al., 2014; Tian et al., 2020, 2018).

To address this important research gap, the aim of this article was to conduct a comparative investigation of the impact of cultural values of Hofstede's national cultural dimensions (Hofstede, 1980, 1984; G. J. Hofstede, 2015) on entrepreneurial innovativeness (EI) among Malaysia's three primary ethnic groups (Malaysian Chinese, Malay, and Indian entrepreneurs). Given that prior literature has found inconsistent results that suggest effects of selected cultural dimensions on innovation-related topics (Khan & Cox, 2017; Lin, 2009; Medcof & Wang, 2017; Prim et al., 2017; Tian et al., 2020, 2018), we included all six of Hofstede's cultural dimensions in our study. Consequently, we conducted a complete analysis of how national culture influences EI among the three dominant Malaysian ethnic groups. Specifically, we guided the study by focusing on two research questions: (1) What is the impact of Hofstede's six cultural dimensions on EI among Malaysian Chinese, Malay, and Indian entrepreneurs? (2) Are there significant differences regarding the influences of national cultural values on EI among the three Malaysian ethnic groups?

The main contribution of this study was that we incorporated all the six national cultural values regarding their impact on EI among three ethnic groups of entrepreneurs in the multicultural context of Malaysia. To the best of our knowledge, this study is the first academic endeavor to investigate the

influence of all six cultural values on EI among Malaysian Chinese, Malay, and Indian entrepreneurs in a systematic and comparative manner. Such systematic analysis enabled us to paint a fuller picture of how national cultural values influence SMEs' innovation and specifically the innovative activities of their entrepreneurs (Broekhuizen et al., 2017; Tian et al., 2020; Watts et al., 2020; Zhu et al., 2018). The novelty of this study may be further enhanced because we also offer insights to researchers and practitioners through a fine-grained analysis of three different ethnic groups in their EI. Our fine-grained analysis explicitly reveals similar and different aspects of EI regarding influences by different cultural values; such similarities and differences could be potentially applied to a wider range of multicultural countries and societies worldwide.

Literature review

National culture

National culture constitutes the patterns of thinking and also reflects the meaning that people give to various aspects of life; it can be defined as “the collective programming of the mind which distinguishes the members of one group or society from those of another” (Hofstede, 1984: p. 82; G. J. Hofstede, 2015). That is, individuals can interpret their daily life through their national culture which provides them with a reference framework for shared and transferable perceptions, values or practices (Kostis et al., 2018; Sabah et al., 2014). In general, the six cultural dimensions that Hofstede develops are widely employed to depict national culture: indulgence, collectivism, long-term orientation, masculinity, power distance, and uncertainty avoidance. Indulgence, the newest cultural dimension added by Hofstede, refers to “a tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun” (Hofstede et al., 2010, p. 281), while collectivism “pertains to societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetimes continue to protect them in exchange for unquestioning loyalty” (Hofstede et al., 2010, p. 76). Long-term orientation “stands for the fostering of virtues oriented toward future rewards – in particular, perseverance and thrift” (Hofstede et al., 2010, p. 239). A society is called masculine where its individuals are “supposed to be assertive, tough, and focused on material success” (Hofstede et al., 2010, p. 140). Power distance is defined as “the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally” (Hofstede et al., 2010, p. 61), whereas uncertainty avoidance refers to “the extent to which the members of a culture feel threatened by ambiguous or unknown situations” (Hofstede et al., 2010, p. 191).

As one of the core themes in management and organization theory, national culture has been regarded as a powerful factor which exerts significant influences on firms' activities and in turn their performance, such as innovation (Shirokova et al., 2018; Tian et al., 2018). In essence, managerial practices, marketing orientation, and consumer behaviors differ significantly according to cultural differences (Chaganti & Greene, 2002; Morris & Schindehutte, 2005; Watts et al., 2020).

Innovation and entrepreneurial innovativeness

Despite different meanings in different contexts, innovation often refers to the development or enhancement of ideas, products, processes, or technologies (Barringer & Ireland, 2019). Viewed as the adoption of a new or idea behavior, innovation is not just a great idea but also an opportunity to solve a given problem (Tian et al., 2020). Moreover, firms with innovation orientations are usually engaged in value creation strategies such as development of new products or services and improvement of existing products or services (Dobni, 2010). In small business management research, innovativeness is a firm's overall innovative capability in order to introduce new products to the market or develop new markets through the combination of strategic orientation and innovative process or behavior (Beugelsdijk & Welzel, 2018; Deng & Zhang, 2018). In this sense, innovativeness can be defined as a kind of organizational culture or ability to support as well as to be engaged in developing new ideas and translating them into important business opportunities (Barringer & Ireland, 2019; Verhees & Meulenbergh, 2004). In line with our research goal, we are particularly interested in entrepreneurial innovativeness (EI), which is the ability of entrepreneurs to develop new ideas and implement them in their businesses. Such innovative orientation and activities are widely adopted in small business management and entrepreneurial research associated with emerging economies (Ha et al., 2016; Tian et al., 2020).

Impact of national culture on entrepreneurial innovativeness

Several cross-cultural researchers have examined the influence of national culture on innovative practices of firms (Broekhuizen et al., 2017; Shane, 1993; Zhu et al., 2018). Studies find innovative practices that differ across countries can be explained by the manifestation of national culture within a country's firms. Moreover, national cultures influence corporate cultures through a country's managers who affect the firm's innovative outcomes (Broekhuizen et al., 2017; Efrat, 2014). There are also studies that used Hofstede's cultural dimensions as a useful tool to describe national cultural determinants of firms' innovations (Prim et al., 2017; Shane, 1993; Zhu et al., 2018). In this research stream, inconsistent results are often found regarding

the influence of Hofstede's cultural dimensions on innovation in different contexts (Prim et al., 2017; Tian et al., 2018). For instance, studies revealed there is a negative relationship between innovation and the influence of masculinity (Halkos & Tzeremes, 2013; Medcof & Wang, 2017; Prim et al., 2017), uncertainty avoidance (Beugelsdijk & Welzel, 2018; Halkos & Tzeremes, 2013; Prim et al., 2017), and power distance (Halkos & Tzeremes, 2013; Prim et al., 2017; Shane, 1993; Sun, 2009). In contrast, a number of studies have found or argued that there is a positive relationship between innovations and collectivism (Černe et al., 2013; Lin, 2009; Medcof & Wang, 2017; Taylor & Wilson, 2012; Vecchi & Brennan, 2009), indulgence (Khan & Cox, 2017), and long-term orientation (Khan & Cox, 2017; Lin, 2009; Medcof & Wang, 2017).

There is no doubt that Hofstede's cultural dimensions are widely regarded as crucial national cultural values that have an important impact on innovations in general and EI in particular (Prim et al., 2017; Tian et al., 2018). Recent studies (Tian et al., 2020; Watts et al., 2020) found that inconsistent results regarding the influence of Hofstede's cultural dimensions on EI were largely because researchers only selectively analyzed Hofstede's cultural dimensions. To fill the important research gap, we examined all of Hofstede's six cultural dimensions and their impact on EI in a significantly understudied multicultural society (i.e., Malaysia). Moreover, existing literature often focuses on investigation of the influence of national culture on innovations at an aggregate level in the context of a homogenous country or different countries with an assumed uniform set of nationwide culture (Prim et al., 2017; Tian et al., 2020; Zhu et al., 2018). However, a central conceptual and empirical concern stands out: are the general findings applicable to the culturally diversified countries such as Malaysia which consist of a diverse set of ethnic groups?

Hypothesis development

In this study, we articulate Hofstede's six cultural dimensions as independent variables and entrepreneurial innovativeness (EI) as the dependent variable. These causal relations constitute our proposed theoretical framework (see Figure 1), which will be empirically examined by a large scale of survey samples across three Malaysian ethnic entrepreneurs or SMEs in the wholesale and retail industry.

Impact of indulgence on entrepreneurial innovativeness

Related to the gratification versus control of basic human desires, as the newest cultural dimension in Hofstede's model, indulgence, refers to the extent to which individuals enjoy life and momentary pleasures (Beugelsdijk & Welzel, 2018; Gallego-Álvarez & Pucheta-Martínez, 2020). Moreover, this dimension

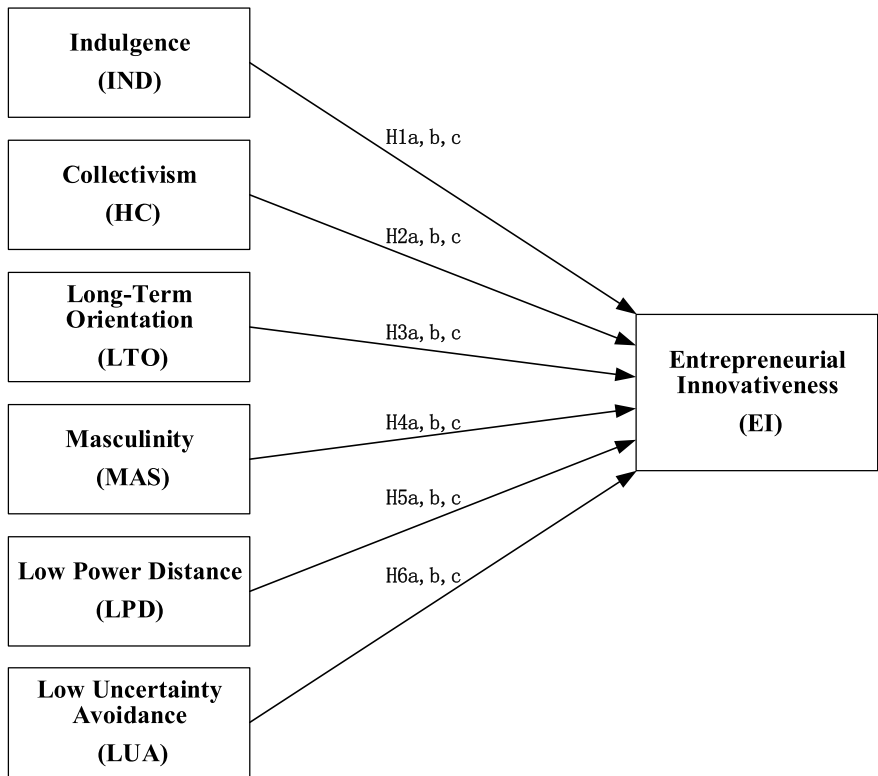


Figure 1. Conceptual framework.

of culture reveals the extent to which people in a country have control over their impulses and desires that are related with the degree of their personal achievement (Prim et al., 2017). Not surprisingly, while most of the prior studies have linked the other five cultural dimensions of Hofstede’s framework with entrepreneurial innovations and behaviors, limited studies have examined the influence of indulgence on innovations in various contexts (Bukowski & Rudnicki, 2019; Khan & Cox, 2017; Griffith & Rubera, 2014). In one of the rare studies on how the indulgence values of Sri Lankan entrepreneurs shape their essential entrepreneurial behaviors, Dissanayake and Semasinghe (2014) found that entrepreneurs, who put an emphasis on their leisure activities, were more likely to be optimism-motivated and their happy lives tended to enhance their entrepreneurial motives.

As a result, those upbeat individuals who are more likely to be involved in EI through continuous learning and getting new ideas may positively affect the entrepreneurs’ innovativeness. In the same vein, individuals often exhibit more positive emotions and optimistic attitudes when they belong to indulgent societies compared to those belonging to restrained cultures (Hofstede et al., 2010; Zhang et al., 2020). By investigating the impact of indulgence on design and technology innovation and market share, Griffith and Rubera (2014) find that positive impact

of design innovation on market share changes are strengthened with the increase of indulgent culture although the presence of indulgence tends to weaken the positive relationship between technological innovations and market share. Researchers (e.g., Khan & Cox, 2017) also observe a positive impact of indulgence on innovation in the context both of developed and developing countries.

Hypothesis 1 (H1): Indulgence has a positive impact on entrepreneurial innovativeness among Malaysian Chinese entrepreneurs (H1a), Malaysian Indian entrepreneurs (H1b), and Malay entrepreneurs (H1c).

Impact of collectivism on entrepreneurial innovativeness

Collectivism refers to a society in which people are integrated into strong, cohesive in-groups, reflecting the degree to which individuals see themselves as a member of knit communities (Beugelsdijk & Welzel, 2018; G. J. Hofstede, 2015; Shirokova et al., 2018; Zhang et al., 2020). Previous studies have provided ample evidence regarding the positive impact of collectivism on innovative practices (Efrat, 2014; Tian et al., 2018). Many studies have also considered the beneficial role of collectivism both for exploitative and exploratory innovations (Černe et al., 2013; Lin, 2009; Taylor & Wilson, 2012; Vecchi & Brennan, 2009). For example, Medcof and Wang (2017) proposed the positive association of collectivism with exploitative innovation, while Rosenbusch et al. (2011) contend the positive influence of collectivism on several types of innovation. Collectivism has been considered more beneficial at the commercialization stage because it fosters cooperative team behaviors and social interactions (Černe et al., 2013). Moreover, in order to commercialize the innovations, employees are required to interact with each other as well as with other stakeholders such as suppliers and customers (Tian et al., 2020). Thus, knowledge sharing through networking plays a vital role in supporting innovations. Furthermore, collectivism facilitates the incremental type of innovations which mostly deal with the improvements of the existing products or services; such incremental processes need collaboration and communication within the firm and also need interactions with important suppliers as well as customers. However, there are a few studies that have mentioned the possible negative impact of collectivism on innovative practises, which is hardly justified empirically (Taylor & Wilson, 2012; Tian et al., 2018). Given that the majority of studies have revealed the positive impact of collectivism on innovative orientation and behaviors, we argue for a positive relationship between collectivism and EI in the multicultural context of Malaysia, an essentially collectivistic society. We thus hypothesize:

Hypothesis 2 (H2): Collectivism has a positive impact on the entrepreneurial innovativeness among Malaysian Chinese entrepreneurs (H2a), Malaysian Indian entrepreneurs (H2b), and Malay entrepreneurs (H2c).

Impact of long-term orientation on entrepreneurial innovativeness

Long-term orientation or Confucian dynamism “stands for the fostering of virtues oriented toward future rewards, in particular, perseverance and thrift” (Hofstede et al., 2010, p. 239). In a long-term oriented society, as people tend to be associated with forward looking perspective, perseverance, and thrift in getting results, they can often adapt traditions according to the new circumstances (Beugelsdijk & Welzel, 2018; Zhang et al., 2020). In addition, they are more likely to possess better ideas regarding important future events. Not surprisingly, individuals in cultures with long-term orientations often focus more on future results and are more receptive to changes than those living in a short-term oriented culture. This is because individuals with the short-term orientation focus more on the past and show more respect to traditions and are less innovative (Van Everdingen & Waarts, 2003). In contrast, individuals in long-term oriented societies lean toward more innovations by focusing on future possibilities (Bukowski & Rudnicki, 2019; Prim et al., 2017). There are also a number of studies that have provided evidence regarding the positive impact of long-term orientation on innovativeness (Khan & Cox, 2017; Gallego-Álvarez & Pucheta-Martínez, 2020; Lin, 2009; Medcof & Wang, 2017; Rujirawanich et al., 2011). For instance, Medcof and Wang (2017) conceptually argued and empirically verified that long-term orientation exerts a positive impact on exploratory innovation. Therefore, we hypothesize:

Hypothesis 3 (H3): Long-term orientation has a positive impact on the entrepreneurial innovativeness among Malaysian Chinese entrepreneurs (H3a), Malaysian Indian entrepreneurs (H3b), and Malay entrepreneurs (H3c).

Impact of masculinity on entrepreneurial innovativeness

The cultural dimension of masculinity refers to the orientation of society toward interpersonal relations (Hofstede, 1980). According to Tsegaye et al. (2019), a masculine culture emphasizes the accomplishment of task and personal success. Yenyurt and Townsend (2003) posited that individuals in a masculine society give more value to material success, wealth, and luxury items. Therefore, the masculine societies are usually believed to be more engaged in innovative activities than the feminine societies. Moreover, in masculine societies, people are often described as assertive, ambitious,

materialistic, competitive, and aggressive (Gallego-Álvarez & Pucheta-Martínez, 2020; Zhang et al., 2020), more success and achievement oriented (De Mooij & Hofstede, 2010). As people in a masculine-oriented society are often positive, confident, accept challenges, and have a strong sense of assertiveness, they are more likely to be innovative and be involved particularly in new product innovation (Efrat, 2014; Rhyne et al., 2002). Furthermore, some empirical studies have found positive and significant impact of masculinity on innovation under various circumstances (e.g., Gallego-Álvarez & Pucheta-Martínez, 2020; Jones & Davis, 2000; Tian et al., 2018). Likewise, the masculine traits such as career-orientation and competitiveness are the key ingredients in the process of innovation and individuals or societies that exhibit a high masculinity index will tend to be more innovative (Shane, 1993; Thomas & Mueller, 2000). For instance, Shane (1993) argued that individuals in high masculine index societies are more likely motivated for innovative activities than those in low masculine index societies because they are more likely to get rewards and success for their harder work. Taken together, we articulate the following hypothesis:

Hypothesis 4 (H4): Masculinity has a positive impact on the entrepreneurial innovativeness among Malaysian Chinese entrepreneurs (H4a), Malaysian Indian entrepreneurs (H4b), and Malay entrepreneurs (H4c).

Impact of power distance on entrepreneurial innovativeness

Power distance refers to the extent to which less powerful members of organizations and institutions within a country accept and expect the unequal distribution of power (Gallego-Álvarez & Pucheta-Martínez, 2020; Zhang et al., 2020). Low power distance has been associated with innovative societies (Bukowski & Rudnicki, 2019; Hofstede, 2001; Tian et al., 2018; Van Everdingen & Waarts, 2003). This is because innovation relies on flow and sharing of information and high power distance averts the spread of knowledge and information (Papula et al., 2018). While innovation is facilitated by decentralization, free communication, and trust between hierarchical levels, high power distance culture within an organization's structure tends to discourage sharing of ideas and knowledge. This is due to the presence of centralized power, organizational hierarchy, top-down control, formal procedures, rules, and flow of vertical communication, and resistance to changes that impacts innovation (Jones & Davis, 2000; Sun, 2009). Alternatively, certain beliefs of low power distance culture encourage innovation due to the free flow of information, less formal control and authority of hierarchy, knowledge decentralization, and support to changes that facilitate innovation (Jones & Davis, 2000).

Many studies found the negative impact of high power distance societies on innovation because the people in such societies find it difficult to innovate (Halkos & Tzeremes, 2013; Shane, 1993; Zhang et al., 2020). This is because if the lower status members have more potential for innovative activities they are not highly valued (Rinne et al., 2012). Moreover, Rhyne et al. (2002) have also argued that the high power distance leads to the lower levels of new product development because innovative ideas by the lower level employees are generally not welcomed by senior management. Similarly, Sun (2009) contended that high power distance negatively impacts innovation because inequalities of wealth and power are allowed to grow in such societies; hence, such societies are more likely to follow a caste system and do not allow progress and upward mobility of its citizens. Given that a society with low power distance believes that with equal distribution of wealth and power among its citizens, people in a low power distance society are more motivated to be innovative (Sun, 2009). The above arguments lead to the following hypothesis:

Hypothesis 5 (H5): Low power distance has a positive impact on the entrepreneurial innovativeness among Malaysian Chinese entrepreneurs (H5a), Malaysian Indian entrepreneurs (H5b), and Malay entrepreneurs (H5c).

Impact of uncertainty avoidance on entrepreneurial innovativeness

Uncertainty avoidance refers to the extent to which people in a society strive to alleviate future events' unpredictability by relying on social norms, bureaucratic practices, and rituals (Hofstede, 2001; Watts et al., 2020). People in societies with high uncertainty avoidance are more likely to use formal interactions with others, keep meticulous records, depend on formalized procedures and policies, take only calculated risks, and show strong resistance toward change. This is in contrast to people in low uncertainty avoidance societies; they are more likely to use informal interactions with others, depend on informal norms, are less calculating while taking risks, and show moderate resistance toward change (Hofstede, 2001; Song et al., 2019; Zhang et al., 2020). Accordingly, high uncertainty avoidance tends to have a negative impact on innovation (Rujirawanich et al., 2011).

Avoiding uncertainty may pose barriers to EI because innovation is associated with changes, which have a certain degree of uncertainty as well (Papula et al., 2018). Given that individuals with high uncertainty avoidance are less likely to be engaged in innovation, a low level of uncertainty avoidance becomes a key factor of successful innovation (Bukowski & Rudnicki, 2019; Chen et al., 2017; Gallego-Álvarez & Pucheta-Martínez, 2020; Papula et al., 2018). Various studies have linked the concept of low uncertainty avoidance to innovation. For instance, scholars (e.g., Rinne et al., 2012; Shane, 1993) have

argued that risk tolerance and acceptance of change are needed for innovative activities, and the uncertainty acceptance or tolerance for ambiguity-innovation relationship should be positive. In addition, individuals with a high index of uncertainty avoidance tend to resist innovation (Hofstede, 2001; Tian et al., 2020). In such societies, risk-averse attitudes imply that individuals often do not take unnecessary risks unless they can get high commercial rewards for their innovative activities (Sun, 2009; Van Everdingen & Waarts, 2003). Phillips and Wright (1977) found that people in Southeast Asia have high tolerance of ambiguity or uncertainty acceptance attitudes and favor more new ideas compared to Britons. In the same vein, people with uncertainty acceptance values are more tolerant for changes, as required for innovation activities (Hofstede, 1980). Based on the above shreds of evidence of high uncertainty acceptance or low uncertainty avoidance with EI, we hypothesize:

Hypothesis 6 (H6): Low uncertainty avoidance has a positive impact on the entrepreneurial innovativeness among Malaysian Chinese entrepreneurs (H6a), Malaysian Indian entrepreneurs (H6b), and Malay entrepreneurs (H6c).

Methodology

We employed standardized questionnaires to conduct the survey among target respondents. All the measures of Hofstede's six cultural dimensions, and entrepreneurial innovativeness (EI) are shown in Table 1.

The measurements were pretested among the experts who belong to different ethnic groups dealing in Malaysian wholesale and retail SME businesses to select the most relevant items related to the study's context (Mullen et al., 2009). Using quota sampling and snowball sampling techniques, we accessed the target respondents from urban regions of West Malaysia, which include:

- Northern Region – Perak, Penang, Perlis, and Kedah;
- East Coast Region – Pahang, Terengganu, and Kelantan;
- Central Region – Federal territories of Kuala Lumpur and Putrajaya and the state of Selangor; and
- Southern Region – Malacca, Johor, and Negeri Sembilan.

The survey started from the last quarter of 2017 to the last quarter of 2018 which took more than 11 months to complete. The technique of snowball sampling involved the process of choosing a sample by using our networks. First, we identified some ethnic entrepreneurs from the wholesale and retail SMEs within our social networks. We then asked them to identify other ethnic entrepreneurs as the basis of our further data collection. However, it was

Table 1. Items' measures and sources.

Variables	Items	No. of items	Source
Indulgence (IND)	IND1: I have time for fun and joyful things in my life. IND2: I am happy and satisfied with my life. IND3: I have freedom of choice. IND4: I like to spend time with my friends. IND5: Overall I am a happy person.	5	Urban and Ratsimanetrimanana (2015)
High collectivism (HC)	HC1: I am well understood and known as a member of my group. HC2: I have respect for authority figures with whom I interact. HC3: I would rather do a group task rather than do alone. HC4: I sacrifice my self-interest for the group I belong to. HC5: For me, the group success and welfare is more important than individual success and reward.	5	Wu (2006) and Yoo et al. (2011)
Entrepreneurial innovativeness (EI)	EI1: I change the appearance or packaging of existing products. EI2: I improve the quality of existing services and promote existing products and services to new target markets. EI3: I introduce new products or services within the same industry. EI4: I open new branches and used to move my business to a new location. EI5: I engage new suppliers and use new supplies. EI6: I develop new promotional techniques and change the price of existing products or services.	6	Idris (2011)
Long-term orientation (LTO)	LTO1: I do planning for the long-term rather than short-term. LTO2: I do careful management of resources (Thrift). LTO3: I continue my tasks in spite of opposition (Persistence).	3	Yoo et al. (2011)
Masculinity (MAS)	MAS1: For me, materialist success is the most important. MAS2: I am motivated to run business in order to generate more money. MAS3: I strive to compete my rivals to get more success in business. MAS4: I really want to generate huge profits from my business. LPD1: I usually make decisions after consulting my employees. LPD2: I like to interact socially with my employees. LPD3: I give important tasks to my employees. LPD4: I always ask opinions from my employees.	4	Hofstede (1980, 1983, 2001)
Low power distance (LPD)	LPD5: My employees are not bound to always obey and agree with the decisions made by me. LUA1: I am comfortable in making decisions according to my feelings or ideas. LUA2: I do not always need to know the specific outcome before starting a project. LUA3: I am comfortable with my immediate decisions in any situation. LUA4: I do not need to know the specific outcome before starting a project. LUA5: I actively try to look at a situation from different perspectives. LUA6: I am willing to make decisions based on my judgments. LUA7: I actively look for the signs that the situation is changing.	5	Yoo et al. (2011)
Low uncertainty avoidance (LUA)		7	Ahmad (2007)

increasingly difficult to use the snowball sampling technique when the sample became large (Kumar, 2011). Given that our sample size was large (450 respondents), we decided to adopt another nonprobability sampling technique (i.e., quota sampling). Using quota sampling, we continued data collection from target respondents until we reached our target sample size (i.e., 150 respondents for each of the three ethnic groups). Our survey techniques are in line with other researchers who have used two or more types of nonprobability sampling techniques to collect data in a similar research setting (Fontaine & Richardson, 2005).

This study targeted the Malaysian ethnic entrepreneurs or SMEs engaged in wholesale and retailing businesses. Wholesale and retailing SMEs consisted of more than 50% of Malaysian service sector, which contributed much more toward the country's GDP, employment, productivity, and exports than SMEs in other service industries (Corp, 2015). We used the definition of SMEs provided by the Small and Medium Industries Development Corporation (SMIDEC) in Malaysia to determine the SME wholesale and retail businesses. In this article, the entrepreneurs had to meet the following criteria:

- (1) Individuals who started their own businesses in wholesale or retail industry only;
- (2) Individuals who are actively participating in the management of the businesses in any state of West Malaysia;
- (3) Businesses that are at least three years old;
- (4) Businesses having between 5 and 30 employees for small size businesses and between 30 and 75 for medium-sized businesses;
- (5) Businesses having sales turnover from RM300,000 to less than RM3 million for small size businesses and from RM3 million to not exceeding RM20 million for medium-size businesses; and
- (6) Only those respondents who belonged to the three Malaysian ethnic groups, that is, Malaysian Chinese, Malaysian Indian, and Malay entrepreneurs.

Overall, 450 entrepreneurs from Malaysian wholesale and retail SMEs eventually participated in this study, including 150 Chinese, 150 Malay, and 150 Indian entrepreneurs. The detailed sample description is shown in Table 2.

The minimum sample size suggested by G*Power 3 software is 77, which would create a power of .80 for our research model with medium effect size (Hair et al., 2017). Since we were able to collect data from 150 respondents for each of the three ethnic groups, our model showed greater statistical power. The Harman's single factor test was conducted to identify common method variance. The result of extraction sums of squared loading for Chinese = 26.37%, Indian = 31.47% and Malay = 28.33% of variance; as each

Table 2. Demographic profile of firms.

Categories	Chinese sample (N = 150)		Malay sample (N = 150)		Indian sample (N = 150)	
	Frequency	Percentages	Frequency	Percentages	Frequency	Percentages
Firm Location						
Selangor	53	35.3	43	28.7	48	32.0
Kuala Lumpur	56	37.3	58	38.7	52	34.7
Putrajaya	5	3.3	2	1.3	3	2.0
Perlis	4	2.7	2	1.3	6	4.0
Kedah	5	3.3	3	2.0	3	2.0
Penang	5	3.3	3	2.0	6	4.0
Perak	3	2.0	4	2.7	6	4.0
Kelantan	2	1.3	6	4.0	3	2.0
Terengganu	2	1.3	6	4.0	4	2.7
Pahang	3	2.0	5	3.3	2	1.3
Malacca	3	2.0	7	4.7	4	2.7
Johor	5	3.3	5	3.3	6	4.0
Negeri Sembilan	4	2.7	6	4.0	7	4.7
No. of Employees						
5-30	121	80.7	118	78.7	124	82.7
30-75	29	19.3	32	21.3	26	17.3
Prior Working Experiences						
No experiences	7	4.6	3	2	5	3.3
1-2 years	48	32	10	6.7	43	28.7
3-4 years	25	16.7	40	26.7	29	19.3
5-7 years	40	26.7	38	25.3	22	14.7
7-10 years	12	8	23	15.3	36	24
11-15 years	18	12	36	24	15	10
Position in Company						
Business owner	134	89.3	123	82.0	122	81.3
Business partner	16	10.7	27	18.0	28	18.7
Years of Company Start Up						
3-5	14	9.3	7	4.7	9	6.0
6-10	64	42.7	84	56.0	50	33.3
11-20	72	48.0	59	39.3	91	60.7
Hours Spent to Manage Business Per Week						
21-40	0	0	25	16.6	0	0
41-60	32	21.3	55	36.7	47	31.3
More than 60	118	78.7	70	46.7	103	68.7
Annual Sales Turnover						
RM 300,000 to less than RM 3 million	121	80.7	118	78.7	124	82.7
RM 3 million to not exceeding RM 20 million	29	19.3	32	21.3	26	17.3
Business Category						
Wholesale	71	47.3	43	28.7	61	40.7
Retail	79	52.7	107	71.3	89	59.3
Wholesale/Retail Format						
Pharmaceutical, medical, and orthopaedic goods	2	1.3	0	0	2	1.3
Textile and clothing	2	1.3	30	20	17	11.3
Tudung	0	0	47	31.3	9	6
Footwear and leather goods	3	2	0	0	13	8.7
Household appliances and equipment	5	3.3	3	2	17	11.3
Hardware, paint and glass	2	1.3	8	5.3	9	6
Sports and recreational goods	4	2.7	2	1.3	12	8
Boutique, salon, and spa	8	5.3	2	1.3	9	6
Gifts and crafts	12	8	5	3.3	6	4
Watches	16	10.7	10	6.7	10	6.7
Carpets	14	9.3	11	7.3	8	5.3
Perfumes	10	6.7	7	4.7	8	5.3

(Continued)

Table 2. (Continued).

Categories	Chinese sample (N = 150)		Malay sample (N = 150)		Indian sample (N = 150)	
	Frequency	Percentages	Frequency	Percentages	Frequency	Percentages
Furniture	6	4	7	4.7	5	3.3
Toys	7	4.7	3	2	5	3.3
Books	8	5.3	10	6.7	5	3.3
Interior decorators	12	8	2	1.3	5	3.3
Towel and bed sheets	15	10	2	1.3	5	3.3
Gold and diamond	24	16	1	0.7	5	3.3
Ownership Structure						
Sole Proprietorship	10	6.7	0	0	8	5.3
Partnership	53	35.3	52	34.7	48	32
Private Limited Company	87	58	98	65.3	94	62.7

of the leading factors was less than 50%, there was no common method bias issue in the data (Tehseen et al., 2017).

The collected data was screened for normality and outliers. Following the suggestions of Ramayah et al. (2017), the multivariate skewness as well as kurtosis was examined. The findings revealed that collected data was not multivariate normal, that is, Mardia's multivariate skewness ($\beta = 4.503$, $p < .01$) and Mardia's multivariate kurtosis ($\beta = 71.884$, $p < .01$). Based on Kline's (2011) guides, the data distribution is considered to be normal only when the kurtosis and skewness values fall below ten and three, respectively (Kline, 2011). Therefore, bootstrapping with resampling of 5000 was used to address the multivariate normality while analyzing data. Furthermore, Cook's distance was used to identify outliers. The responses showing Cook's distance value > 1 were supposed to be removed to get better model fit (Stevens, 1992). However, as no outlier is found from the data, no response is removed. Therefore, a sample of 450 respondents was considered for the data analysis.

In order to test the effects of multiple predictors simultaneously, we used structural equation modeling (SEM) as the analytical approach to estimate a series of separate but interdependent multiple regression equations (Hair et al., 2006; Miller et al., 2020). SEM can estimate causal relationships' unidentified coefficients among latent variables and also specify the hypothetical constructs by observed variables (Hair et al., 2010). As the conceptualized relationships can be better represented by using SEM in measurement of latent variables (Verma et al., 2019), SEM allows the researchers to investigate the relationships between latent and observed variables as well as among latent variables (Shi et al., 2018). Another advantage of SEM is that it improves the relationships' statistical estimation by considering the measurement error through reliability measures (Kline, 2011). Since the goal of this study was to test Hofstede's cultural theory for innovative behaviors of entrepreneurs, covariance-based structural equation modeling (CB-SEM) was the most suitable method to analyze data and test and confirm theory across three ethnic

groups in Malaysia. Following the work of Anderson and Gerbing (1988), we used two steps of CB-SEM including measurement model and structural model to test our hypotheses. The measurement model was analyzed by assessing the reliability and validity of constructs, while model fitness and hypotheses were examined by using CB-SEM in SPSS V.25 & AMOS V.22, respectively.

Empirical results

The measurement model indicated the reliability and validity of constructs. The validity of proposed models was analyzed by conducting confirmatory factor analysis (CFA) through maximum likelihood method. Cronbach's α was used to measure the scale reliability. Cronbach's α values ranged from 0.563 to 0.882, indicating good consistency, as suggested by Hair et al. (2010). In addition, the three parameters, namely factor loadings, composite reliability (CR), and average variance extracted (AVE), were also used to measure convergent as well as discriminant validity. The standardized factor loading of all the items was above the threshold limit of .6 (Verma et al., 2019). The AVE values between .508 and .638 were found above the acceptable limit of .5 (Hair et al., 2010). The CR values ranged from .726 to .912 which exceeded the acceptable limit of .6 as well, indicating internal consistency of multiple indicators (Verma et al., 2019). Further, the AVE square root is higher than the correlation between each variable, indicating good adequacy. Thus, the results of the measurement model are evident regarding good reliability and validity of proposed model. The details about the reliability and validity values are shown in Table 3.

After analyzing the measurement model, we followed the suggestions of Anderson and Gerbing (1988) and analyzed the theoretical framework by using the goodness of fit indices. The results of structural model analysis showed good fit of the proposed model with the values that were above 0.90. We benefited from a set of fit indices to accept or reject the tested model, including CMIN/df, GFI and AGFI (goodness of fit index, adjusted goodness of fit index), IFI (Bollen's incremental fit index), NFI (normed fit index), CFI (comparative fit index), and RMSEA (root mean square error of approximation). Since CMIN heavily depended on sample size, we followed the suggestion of Gao et al. (2020) and considered values of CMIN/df less than 5.00 as appropriate. In the literature RMSEA values, less than .08 were considered acceptable, while GFI, NFI, and CFI values exceeding .95 indicated a good fit (Sahoo, 2019). Based on the above analytical results, it is evident that the proposed hypothetical model showed a good overall data fit for predicting entrepreneurial innovativeness through cultural values. The results of this structural model indicated a good fit (CMIN/df = 2.05, CFI = 0.95, GFI = 0.90, AGFI = 0.85, NFI = 0.92, IFI = 0.95, TLI = 0.95, RMSEA = 0.06), as shown in Table 4.

Table 3. Assessment of reliability and validity.

Constructs	Items	Loadings	α	CR	AVE	1	2	3	4	5	6	7
1. EI	EI1	0.857	0.882	0.912	0.638	0.798						
	EI2	0.851										
	EI3	0.796										
	EI4	0.834										
	EI5	0.861										
	EI6	0.545										
2. HC	HC1	0.797	0.756	0.836	0.508	0.383	0.713					
	HC2	0.734										
	HC3	0.740										
	HC4	0.701										
	HC5	0.574										
3. IND	IND1	0.632	0.769	0.838	0.510	0.475	0.032	0.714				
	IND2	0.628										
	IND3	0.758										
	IND4	0.791										
	IND5	0.746										
4. LTO	LTO1	0.903	0.563	0.726	0.543	0.493	0.037	0.551	0.737			
	LTO2	0.605										
	LTO3	0.897										
5. MAS	MAS1	0.809	0.779	0.856	0.601	0.743	0.249	0.511	0.634	0.775		
	MAS2	0.826										
	MAS3	0.845										
	MAS4	0.594										
6. LPD	LPD1	0.785	0.833	0.866	0.565	0.640	0.299	0.443	0.412	0.705	0.751	
	LPD2	0.647										
	LPD3	0.754										
	LPD4	0.785										
	LPD5	0.777										
7. LUA	LUA1	0.824	0.878	0.906	0.589	0.437	0.261	0.399	0.329	0.585	0.826	0.768
	LUA2	0.834										
	LUA3	0.772										
	LUA4	0.826										
	LUA5	0.670										
	LUA6	0.832										
	LUA7	0.804										

Note: IND = indulgence; HC = collectivism; LTO = long-term orientation; MAS = masculinity; LPD = low power distance; LUA = low uncertainty avoidance; EI = entrepreneurial innovativeness; α = Cronbach's alpha; AVE = average variance extracted; CR = construct reliability; Off diagonal factors = correlations; Bold diagonal factors = square root of variance shared.

Main analysis

The results in Table 5 show the positive and significant impact of indulgence (IND) on EI among Malaysian Chinese ($\beta = 0.126$, $p < .05$), Indian ($\beta = 0.148$, $p < .05$), and Malay ($\beta = 0.479$, $p < .05$) entrepreneurs. Therefore, H1a, H1b, and H1c are supported. These results reveal that Malaysia is largely an indulgent society, where different ethnic

Table 4. Assessment of goodness of fit indices.

Measurement models	CMIN/df	CFI	GFI	AGFI	NFI	IFI	TLI	RMSEA
Threshold values	< 3	> .95	> .95	> .8	> .9	> .9	> .9	.05–.1
Configural invariance (baseline model)	4.081	.90	.80	.78	.86	.88	.84	.093
Metric invariance	2.05	.95	.90	.85	.92	.95	.95	.061

Note: df = degrees of freedom; CFI = comparative fit index; GFI = goodness-of-fit index; AGFI = adjusted goodness of fit index; NFI = normed fit index; IFI = incremental fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation.

Table 5. Testing of hypotheses.

Hypotheses	Chinese sample (N = 150)					Indian sample (N = 150)					Malay sample (N = 150)				
	Direct effects			Decision		Direct effects			Decision		Direct effects			Decision	
	(β)	SE	CR	p-value		(β)	SE	CR	p-value		(β)	SE	CR	p-value	
H1: IND → EI	.126	.044	2.86	.002**	S	.148	.052	2.868	.004**	S	.479	.204	2.345	.019*	S
H2: HC → EI	.633	.100	6.328	.000***	S	.501	.061	8.174	.000***	S	.594	.064	9.298	.000***	S
H3: LTO → EI	.289	.083	3.476	.000***	S	-.016	.071	-0.227	.820	NS	.015	.051	.301	.764	NS
H4: MAS → EI	.039	.053	.730	.466	NS	.088	.050	1.777	.046*	S	-.292	.136	-2.14	.032*	RS
H5: LPD → EI	.289	.132	2.191	.028*	S	.144	.076	1.881	.047*	S	.162	.053	3.056	.028*	S
H6: LUA → EI	-.305	.094	-3.253	.001***	RS	-.227	.069	-3.28	.001**	RS	.075	.033	2.272	.040*	S

* $p < .05$, ** $p < .01$, and *** $p < .001$. Note: IND = indulgence; HC = collectivism; LTO = long-term orientation; MAS = masculinity; LPD = low power distance; LUA = low uncertainty avoidance; EI = entrepreneurial innovativeness; S = supported; NS = not supported; RS = reversely supported; SE = standard error; CR = critical ratio.

entrepreneurs are engaged in innovative activities while enjoying life and fun in their lives. However, there is a difference in the strength of the relationship which could be attributed to their cultural differences. For instance, as shown in Table 5, the direct effect of IND on EI of Malay group is much stronger than the direct effects of Malaysian Indian and Chinese groups. This difference implies that Malays particularly have more sense of control over their lives through recreational and leisure activities (Wahab et al., 2015); they tend to spend more time with families and friends as an effective way to get innovative ideas (Yeoh & Yeoh, 2015). However, Malaysian Chinese often focus more on building business networks and work hard (Yeoh & Yeoh, 2015), whereas the Indians spend their leisure time more in prayers and with specific communities due to their belief system (Wahab et al., 2015).

In addition, as indicated in Table 5, there is a positive and significant impact of collectivism (HC) on EI among Malaysian Chinese ($\beta = 0.633$, $p < .05$), Indian ($\beta = 0.501$, $p < .05$), and Malay ($\beta = 0.594$, $p < .05$) entrepreneurs. Therefore, H2a, H2b, and H2c are supported. However, there is a difference in the strength of the relationship which could be attributable to their cultural differences. For example, the direct effect of HC on EI (Table 5) is stronger among the Malaysian Chinese group followed by Malay and Malaysian Indian groups. This difference may partially explain that Malaysian Chinese are better known for developing strong business networks and personal relationships (i.e., Guanxi) in achieving success (Yow, 2017); such Guanxi networking competency may strongly affect their social capital for implementing innovation (Idris, 2011). Conversely, Malays are more collectivist within their own group but do not remain collectivistic when the competitiveness is increased in society at large (Ahmad, 2007; Wahab et al., 2015). The Malaysian Indians' cultural values often evolve around self and their beliefs in the caste system (Zawawi, 2008); due to their focus on selected communities or groups, collectivism has less impact on their innovativeness.

A significant impact of long-term orientation (LTO) on EI is found only among Malaysian Chinese ($\beta = 0.289$, $p < .05$); thus, H3a only is supported. The findings of H3b and H3c reveal negative and positive but nonsignificant impact of LTO on EI among Indian and Malay entrepreneurs, respectively. Consequently, H3b and H3c among Indian ($\beta = -0.016$, $p > .05$) and Malay ($\beta = 0.015$, $p > .05$) are not supported in this regard. The positive and significant support of H3a is in line with the existing studies which document that Malaysian Chinese have values of hard work and thrift and they are more likely to be long-term oriented compared to other ethnic groups (Idris, 2011; Lim, 2001; Yeoh & Yeoh, 2015). However, the weak impact of LTO on EI among Malays is in part due to their short-term thinking and more family-oriented attitude (Zawawi, 2008). Also, Malays are motivated more likely by upholding their traditions, religion, and accountability of fulfilling social

responsibilities (Idris, 2011; Urban & Ratsimanetrimanana, 2015). Likewise, Malaysian Indians strongly believe on their religion that their present life is accountable for their reincarnation after death (Zawawi, 2008); hence, they tend to focus more on present activities and achieving short-term goals rather than long-term goals.

Regarding the significant impact of masculinity (MAS) on EI, H4b is supported among Indian entrepreneurs ($\beta = 0.088$, $p < .05$), whereas H4a is not supported among Malaysian Chinese ($\beta = 0.039$, $p > .05$). Surprisingly, H4c is negatively supported ($\beta = -0.292$, $p < .05$). This means that masculinity has a positive and significant impact on EI only among Indian entrepreneurs, but a negative and significant impact among Malay entrepreneurs. This surprisingly negative support of H4c among the Malay ethnic group toward masculinity can be attributed to several factors. Unlike Malaysian Indians, Malays are primary ethnic groups; they have privileged access to public-sector jobs, business licenses, government contracts, and educational opportunities in public universities (Ravallion, 2020; Selvarajah & Meyer, 2008). Moreover, national identity in Malaysia is defined by Malay culture and politically associated with material advancement of Bumiputera in general and Malay-Bumiputera in particular (Aminnuddin, 2020; Janssens et al., 2015). Further, Malays' culture perceives courtesy and respect as principal moral values. Because of these cultural attitudes, Malays tend to be less focused on economic pursuits than Indian ethnic groups (Idris, 2011). Consequently, Malays desire to live in harmony and in cordial relationships and place a higher value on personal needs than on work needs.

H5a, H5b, and H5c regarding the impact of lower power distance (LPD) are supported among Malaysian Chinese ($\beta = 0.289$, $p < .05$), Indian ($\beta = 0.144$, $p < .05$), and Malay ($\beta = 0.162$, $p < .05$) entrepreneurs. However, the direct effect of LPD on EI is much stronger among Malaysian Chinese group than both Malay and Malaysian Indian groups. Their cultural differences may partially explain the different strength of the relationship. For instance, Malaysian Chinese are better known to respect hierarchy and authority, which may underlie the more impact of LPD on EI compared to Malays (Lim, 2001). Likewise, due to belief in caste system, Malaysian Indians need to deal with different communities in different ways (Zawawi, 2008), which may account for less impact of LPD on EI particularly compared to Malaysian Chinese.

In terms of the positive and significant impact of low uncertainty avoidance (LUA) on EI of Malaysian ethnic groups, only H6c is supported among Malay entrepreneurs ($\beta = 0.075$, $p < .05$). Contrary to our expectation, there are negative and significant impacts of low uncertainty avoidance (LUA) on EI among Malaysian Chinese ($\beta = -0.305$, $p < .05$) and Indian ($\beta = -0.227$, $p < .05$), thus negatively supporting H6a and H6b. The positive support of H6c among Malay entrepreneurs but negative supports of H6a and H6b

among Chinese and Indian entrepreneurs could be attributed to dimension of religiosity. Existing studies (e.g., Aminnuddin, 2020; Fontaine & Richardson, 2005) found that religious factors play an important role in explaining cultural differences among Malaysian major ethnic groups. As Malaysia's largest ethnic group, Malays are substantially influenced by Islam religion. Islamic practices and values are notably a main factor that affects the development of Malays' community and culture (Aminnuddin, 2020). Because of their strong trust in religion of Islam and fatalism belief, the Malays reveal low uncertainty avoidance. Conversely, Malaysian Chinese and Indians often exhibit high uncertainty avoidance (Fontaine & Richardson, 2005; Lim, 2001); this may account for the negative impact of LUA on EI among the two ethnic groups. The unexpectedly reverse supports of H6a and H6b among Chinese and Indian entrepreneurs could transcend the Malaysian context and have wider theoretical implications, warranting more detailed explanations in the discussion section.

Figure 2 summarizes the results of hypotheses testing across three groups. In addition, we assessed the six latent variables' predictive capability on EI through R^2 values across all the samples. The R^2 value in Chinese, Indian and Malay samples is 0.595, 0.452 and 0.631, respectively. According to the procedure, all values above 0 suggest the predictive capability of the model across all the samples (Hair et al., 2017).

Multigroup analysis

The multigroup analysis was performed using SEM to investigate the significant differences for impacts of all variables on EI across ethnic samples of Chinese, Indians, and Malay. If the basic model structure is invariant across groups, the configural invariance is satisfied. The chi-squared difference (χ^2) test shows that models are invariant, or groups are not different at model level ($\Delta\chi^2 = 242.62$ (82), $p < .01$). Thus, further analysis was conducted for the unconstrained model. Given that no between-group invariance constraints were found in the initial baseline model based on estimated parameters across three groups, as shown in Table 6, the baseline model is identical across the three groups.

Findings of multigroup structural equation analyses' series reveal that the data fits quite well in each of the competing and constrained models (see Table 6). Although chi-squared difference tests reveal that regression weights and constraining factor loadings are equal across samples, the fit of these models are unchanged with respect to other fit indexes. Moreover, the differences for the results of various models are medium and model M2 is superior to other models. Rather, the findings in Table 4 reveal that it is reasonable that only a single model is accountable for the relationships among these variables

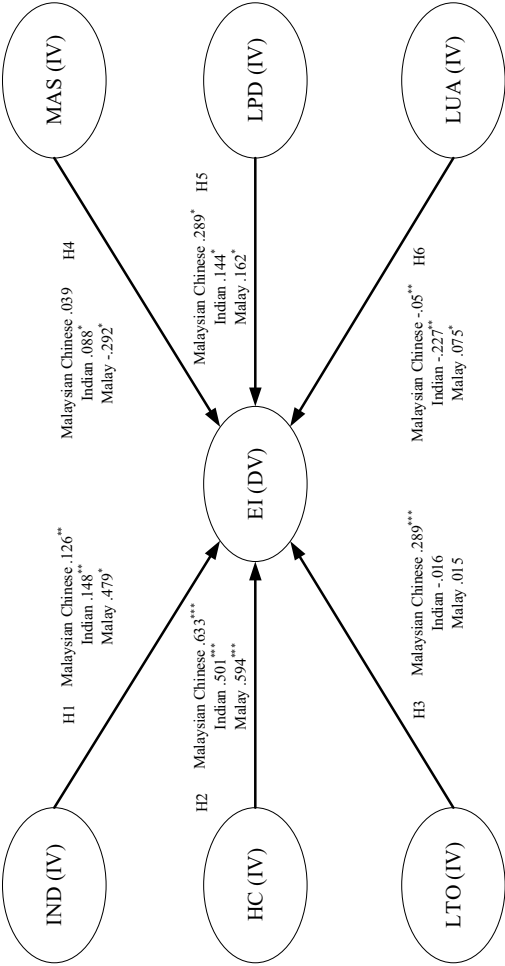


Figure 2. SEM model for Malaysian Chinese, Indian, and Malay samples. * $p < .05$; ** $p < .01$; *** $p < .001$. Note: IND = indulgence; HC = collectivism; LTO = long-term orientation; MAS = masculinity; LPD = low power distance; LUA = low uncertainty avoidance; EI = entrepreneurial innovativeness; IV = independent variable; DV = dependent variable.

Table 6. Fit indices for invariance tests.

Model	χ^2	df	GFI	RMSEA	NFI	CFI	IFI	Model comparison	$\Delta\chi^2$	df	p-value
M1	783.52	124	.95	.063	.92	.95	.95	Chinese-Indian	116.98	45	< .01
M2	769.69	120	.96	.050	.93	.95	.95	Chinese-Malay	236.16	80	< .01
M3	809.03	130	.96	.050	.93	.95	.95	Indian-Malay	249.32	85	< .01

Note: χ^2 = chi-squared difference; df = degrees of freedom; GFI = goodness-of-fit index; RMSEA = root mean square error of approximation; NFI = normed fit index; CFI = comparative fit index; IFI = incremental fit index.

across all three samples and for the differences in regression weights and factor loadings (see Table 5).

Likewise, the validity for differences in *p*-values is also reviewed (see Table 7). Based on Henseler et al. (2009), percentiles greater than 0.95 or lower than 0.05 show significant differences between the analyzed groups with 5% error. Thus, based on Table 7, the significant differences are found in Malaysian Chinese and Indian samples only for the impact of LTO and LUA on EI. However, other path coefficients are indifferent across both groups. Likewise, the significant difference is found in Chinese and Malay samples for the impact of HC, MAS, LPD and LUA on EI and the impact of HC, LTO, MAS, LPD, and LUA are also found statistically different among Indian and Malay samples. However, other path coefficients are found to be indifferent across these groups. The results of multigroup analysis reveal less difference among Chinese and Indian samples, but the Malay sample is found to be more different than the Chinese and Indian samples.

Discussion and conclusion

As one of central themes in management and organization studies, the literature of national culture and entrepreneurial innovativeness (EI) continues to suffer two weaknesses (Tian et al., 2018; Watts et al., 2020). First, the existing literature focuses on selected cultural values of Hofstede's model and analyzes their influences on EI. Second, most studies lack a comparative analysis of the

Table 7. Results of multigroup analysis for direct relations.

Hypotheses	Path Coefficients- diff (Chinese – Indian)	Path Coefficients- diff (Chinese – Malay)	Path Coefficients- diff (Indian – Malay)	p-value (Chinese vs Indian)	p-value (Chinese vs Malay)	p-value (Indian vs Malay)
H1: IND → EI	.046	.092	.046	.383	.276	.249
H2: HC → EI	.005	.517	.512	.564	1.000*	1.000*
H3: LTO → EI	.180	.010	.190	.030*	.554	.988*
H4: MAS → EI	.059	.586	.645	.672	.001*	.000*
H5: LPD → EI	.043	.435	.392	.324	.014*	.019*
H6: LUA → EI	.407	.714	.307	1.000*	1.000*	.938*

p* < 0.05, *p* < 0.01, and ****p* < 0.001.

impact of cultural values on EI among different ethnic groups in a culturally diversified country such as Malaysia. In contrast to existing studies that have dealt mainly with a national emphasis and have not seriously looked at subcultures of the country, we investigate subcultures of Malaysia within a national culture of Hofstede's model by considering all six dimensions. On the basis of a systematic and comparative analysis of three major Malaysian ethnic groups (Chinese, Indian, and Malay entrepreneurs) in the wholesale and retail SMEs, we provide a finer-grained analysis of the influences of Hofstede's full model on their EI. On the one hand, we confirm that collectivism, indulgence and low power distance correlate with EI. On the other hand, we do not find a wholesale support for three other cultural values (long-term orientation, masculinity and uncertainty avoidance), as expected by the conventional wisdom. This might serve as an empirical warning to culture-innovation researchers: they may be missing an important causal mechanism by focusing primarily on the cultural aspects at the country level, while often ignoring those of subcultures. With multiculturalism as an important concept as opposed to assimilation, our fine-grained analysis of Malaysia's three ethnic entrepreneurs both at national and subnational levels contributes to the literature in four distinct ways.

Contributions

First, we conducted a comparative investigation of the impact of all six cultural values of Hofstede's model on EI among Malaysia's three primary ethnic groups (Malaysian Chinese, Indian, and Malay entrepreneurs). As inconsistent results regarding effects of national culture on innovation-related topics are because researchers often focus on Hofstede's several selected cultural dimensions (Beugelsdijk & Welzel, 2018; Cakar & Erturk, 2010; Tian et al., 2020; Watts et al., 2020), we incorporate all six of Hofstede's cultural dimensions into the investigation. Such a complete analysis of how national culture influences EI enables us to better understand research questions, such as which specific cultural values of Hofstede's full model are more likely to generalize similar and/or different impacts upon EI? By considering Hofstede's full model in one systematic study, we are in a better position to paint a fuller picture of how national cultural values influence SMEs' innovation and their EI in particular. The novelty of our complete study is further enhanced because we also offer valuable insights through an investigation of three different ethnic entrepreneurs in their EI both at national and subcultural levels. Our fine-grained analysis explicitly reveals similar and different aspects of EI regarding influences by different culture values.

Second, this study has theoretically argued and empirically verified positive and significant impacts of indulgence, collectivism, and low power distance on EI among Malaysian Chinese, Malay, and Indian entrepreneurs. Our findings

are in congruence with prior studies in terms of the influences of indulgence and collectivism on innovations (Khan & Cox, 2017; Dissanayake & Semasinghe, 2014; Efrat, 2014; Griffith & Rubera, 2014; Tian et al., 2018). Likewise, the significant positive influence of low power distance on EI is also consistent with many other existing studies (e.g., Bukowski & Rudnicki, 2019; Zhang et al., 2020). While the existing literature is conducted mainly at an aggregate country level, we differentiate three major ethnic groups in a multicultural society, thus generating finer-grained analytical results. Our findings reveal that Malaysian Chinese, Malay, and Indian entrepreneurs are more optimistic in an indulgent, collective, low power distance society and are likely to be engaged in innovative activities while enjoying life and fun in their lives. In addition, in the indulgent and collective society, Malaysian ethnic entrepreneurs appear to strongly believe that they may have positive influence on the lives of others through their EI endeavors. In terms of these similarities, we infer from the significant role played by Malaysian overall cultural and institutional environments that have strongly shaped Malaysian innovation activities, suggesting an integrated national cultural perspective.

Third, our study reveals significant differences among three Malaysian ethnic groups regarding how three other cultural values (long-term orientation, masculinity, and low uncertainty avoidance) influence their EI. Specifically, long-term orientation has a positive influence on EI only among Chinese entrepreneurs, but not among Indian and Malay entrepreneurs. Moreover, masculinity has a positive impact on Malaysian Indian entrepreneurs, unexpectedly negative impact on Malay entrepreneurs, and no impact on Chinese entrepreneurs. Further, low uncertainty avoidance has positive influences only among Malay entrepreneurs, but surprisingly negative influences among both Chinese and Indian entrepreneurs. Likewise, our multi-group analysis revealed significant differences for the impact of most of the cultural values on EI among Chinese and Malay as well as among Indian and Malay samples. Such expected and unexpected differences regarding the impact of cultural values on EI among Malaysian ethnic groups clearly demonstrate the importance of a subcultural perspective of EI. The evidence suggests that the subcultural lens could play a significant role when considering its influence on EI even in a single country like Malaysia; this is largely due to the minority social and political status of Malaysian Chinese and Indian ethnic groups in the country, as elaborated further in the following.

Fourth, a major unprecedented finding is that the coefficients on the index of low uncertainty avoidance indicate an increasing relationship between uncertainty avoidance and EI among Malaysian Chinese and Indian entrepreneurs, which negatively support H6a and H6b in that they are less uncertainty averse than their Malay counterparts. This finding runs counter to the normal findings for the variable (Cakar & Erturk, 2010; Hofstede, 2001; Song et al., 2019; Sun, 2009; Watts et al., 2020). In line with the theory advanced in this

article, subcultural perception and minority sociopolitical status may have induced a perverse attitude to uncertainty avoidance among Malaysian Chinese and Indian ethnic groups so that their EI activities are attracted, rather than deterred, by high uncertainty avoidance (as measured conventionally). This suggests that, as minority ethnic groups, Malaysian Chinese, and Indians do not seem to perceive or behave toward uncertainty avoidance in the conventional way as the mainstream ethnic group of Malays. There are two major reasons to account for the anomaly. First, mainly as rather than native Malays, Malaysian Chinese and Indians are not primary political and social players, whereas the Malays are dominant in the political sphere, with the United Malays National Organization (UMNO) as Malaysia's largest and leading political party (Janssens et al., 2015). As economically dominant groups, Malaysian Chinese and Indian prefer explicit laws and well-structured organizations, which provide security, stability and clearly specified regulations (Idris, 2011; Yow, 2017), showing strong evidence of high uncertainty avoidance to ensure their formal business practices. Second, the Chinese and Indian diasporas with close ties to their origins are associated with reduced transaction costs and network effects such as relational assets (Deng et al., 2020), thus mitigating the risk of operating a business in market familiarity abroad. Such social ties and relational assets depress or reverse the conventional findings of studies on the innovative behaviors of most SMEs (Deng & Zhang, 2018; Watts et al., 2020). Our finding for uncertainty avoidance also highlights potential shortcomings in common measures of uncertainty avoidance, which are typically calculated from the point of view of primary ethnic entrepreneurs in a country; such indices need to be recalculated to better capture the perceptions of minority entrepreneurs from emerging markets like Malaysia; simply assigning country-level uncertainty avoidance scores to samples ignores within-country variability (Corp, 2015; Idris, 2011; Wu & Deng, 2020).

Managerial implications

Our study also generates several managerial implications not only for Malaysian ethnic entrepreneurs, but also for those practitioners who are doing businesses or consider business interactions in multicultural countries and societies like Malaysia. Our findings indicate that indulgence, collectivism, and low power distance tend to be the most significant predictors of EI nationwide among the three Malaysian ethnic groups in the context of wholesale and retail SMEs. In this sense, for the purpose of prompting more innovative business activities in the business sector, greater efforts need to be made in terms of developing cultural values and norms that emphasize the indulgence both of individuals and their entrepreneurial business entities while maintaining the collective and low

power distance mechanism. Accordingly, our study suggests that Malaysian ethnic entrepreneurs can enhance their innovativeness when they are happier and more relaxed and work in a more collective manner and practice low power distance in the workplace. With low power distance, employees feel they should be involved with the manager in decision-making. Similarly, when entrepreneurs depict positive attitudes toward life, their EI capabilities are more likely to be strengthened in the collective society and find comfort and energy in the group setting rather than standing as individuals.

However, our findings also suggest that researchers and businesses should consider the importance of cultural fit among different ethnic groups and specifically how their EI activities are influenced differently by the cultural values of masculinity, long-term orientation, and uncertainty avoidance. Reward systems that foster EI in one subcultural context may fail to do so in another. This is because subcultural values continuously influence the preferences, expectations, and incentives of entrepreneurs across a culturally plural society. To stimulate more EI, practitioners need to differentiate innovation structures and incentive plans across different ethnic groups based on their unique cultural values. For example, to encourage Malaysian Chinese and Indian employees to be more actively involved in EI activities, business managers could adopt formalized management to avoid ambiguity and uncertainty in favor of clear goals and operating guidelines. In addition, Malaysian Indians are more likely to be influenced by masculinity culture; hence, to stimulate their EI, incentive plans need to emphasize the accomplishment of the task and be more linked to material rewards and success. Such material advancement incentives are obviously not applicable to Malays whose subculture is more likely influenced by femininity; EI incentive plans for Malays need to consider more their desirable harmony and cordial relationships with members of the workforce.

Limitations and directions for future research

Despite significant contributions, this study has several limitations that can be regarded as opportunities for future research. First, our study adopts only Hofstede's national cultural dimensions to assess their impact on entrepreneurial innovativeness among three Malaysian ethnic groups of entrepreneurs. Future studies may also consider other cultural values such as Schwartz's values, GLOBE and global mind-sets and analyze their unique impact on innovativeness not only in Malaysian multicultural context, but also in other emerging economies. Along these research lines, we may elevate the related research to a new level because in emerging economies such as BRICS countries (Brazil, Russia, India, China, and South Africa) cultural and ethnic

diversity tends to be the norm. Accordingly, further comparative studies across more emerging economies are bound to extend and enrich this study. Second, this study is cross-sectional in nature; the findings warrant further investigation on a longer time series of data. We recommend that future scholars may conduct longitudinal research with a time lag between cultural values and entrepreneurial innovativeness, which evolves over time and is characterized by dynamism. Third, we collected data only from West Malaysia. Future research is needed to verify whether our findings could be applicable to similar ethnic entrepreneurs in East Malaysia. Furthermore, our study focuses on the impact of national culture on EI. However, innovativeness does not necessarily convert into competitive advantage for firms or concrete business outcomes. In the future, researchers could further investigate the mechanism through which EI plays in the relationship between national culture and actual business outcomes. Finally, to broaden our research horizons, investors may also consider more cross-cultural comparative studies across other multicultural countries and assess the influence of different levels of cultural values on entrepreneurial innovativeness among a variety of ethnic groups both in developed countries and emerging economies, including China, India, Brazil, Canada, and the USA.

Despite the above limitations, this work is one of the first systematic attempts to formally model EI among Malaysia's three major ethnic groups by incorporating all six cultural values of Hofstede's theory. Our motivation is to test the extent to which Hofstede's full model that explains EI in most countries is applicable to a multicultural country (i.e., Malaysia) and whether special explanations nested within the theory are needed. We find that Malaysian ethnic groups have both similar and different aspects regarding the effects of national culture on EI. Viewed together, these findings advance our understanding of an ongoing debate on cultural convergence versus cultural divergence of innovativeness across the world by clearly demonstrating that cultural values at the national level influence EI variably and universally across Malaysia's three ethnic groups. As many multicultural countries in the world (e.g., China and the US) remain nation-states with uniform national culture and simultaneously divided subcultural values, both national culture and subculture perspectives could transcend the Malaysian context and have wider theoretical applicability. For instance, white Americans are the primary ethnic groups in the United States, whereas African, Latino, and Asian Americans are other major ethnic groups. Cultural similarities and differences in terms of their corresponding influences on EI found in our study could be applicable to the context of a multicultural US. Hopefully, our study will stimulate scholars to conduct more research inquiries into this research of growing importance in more culturally diversified contexts around the globe.

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