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The Interactive Effect of Cultural Values and Government Regulations on Firms' Entrepreneurial Orientation

Abstract

Purpose – Considering that the social-cultural context is important as in which the entrepreneurs are embedded to conceptualise EO, the purpose of the study is to explicate the influence of the key decision-makers' internalised cultural values and perceptions of government regulations, to offer nuanced explanations of micro-level variations in EO of firms embedded in the same institutional context.

Design/methodology/approach – Using a quantitative approach, relationships are explored in a sample of 201 Malaysian SMEs. Partial least squares structural equation modelling (PLS-SEM) is used for the sample, and an additional test is conducted for a robustness check.

Findings – The study finds that three cultural values of the key decision-maker, namely individualism, masculinity, and uncertainty avoidance, exhibit a significant association with the EO of the firms. Further, the analysis reveals that the positive effects of individualism and masculinity are enhanced when moderated by favourable perceptions of government regulations to entrepreneurship.

Research limitations/implications – The study uses a single key informant in data collection, therefore, the possibility of single-respondent bias. The results must be interpreted in light of these limitations.

Originality/value – The study contributes to the existing literature regarding the relationship between institutions and entrepreneurship. Specifically, it articulates a microfoundations lens to explain the influence of institutions in terms of key decision-makers' internalised cultural values (informal institutions) and their perceptions of government regulations (formal institutions) on the EO of the firm. It further elucidates the need to embrace informal and formal institutions as interdependent factors instead of treating them as standalone constructs in entrepreneurship research and policy design.

Keywords Institutions, Cultural Values, Government Regulations, Entrepreneurial Orientation, SMEs

Paper type Research paper

Introduction

Entrepreneurship is a vital source of innovation, business growth, wealth creation and hence a driver of the social-economic development of countries. Entrepreneurial orientation (EO) has attracted attention for over three decades as a key driver of entrepreneurship (Covin and Wales, 2019; Wales *et al.*, 2020). Regarded as “an organisational attribute reflecting how ‘being entrepreneurial’ is manifested in organisations or business units” (Covin and Wales, 2019, p.4), the majority of EO studies focus on its relationship with firm performance (Donbesuur *et al.*, 2020; Hernández-Perlines *et al.*, 2021; Martens *et al.*, 2016; Putniņš and Sauka, 2019). Knowledge of the factors and conditions that differentiate firms’ EO is relatively under-developed (Deb and Wiklund, 2017; Peng *et al.*, 2019; Wales *et al.*, 2016).

In the extant literature, a country’s cultural values and government regulations are recognised as being influential on entrepreneurship (Atiase *et al.*, 2018; Urban, 2019; Vershinina *et al.*, 2018). Nonetheless, the majority of research falls short in elucidating the potential complementary and interactive effects of these two factors, and often treats them merely as two independent constructs having exclusive direct effects on EO (Chowdhury *et al.*, 2019; Saka-Helmhout *et al.*, 2020). This study seeks to address this shortcoming. We adopt an institutional lens, which underlines culture and regulations as key institutions to shaping the value and behaviour of entities in society, to postulate their interactive effect on the EO of firms, specifically small- and medium-sized enterprises (SMEs) (Kreiser *et al.*, 2010; Urban, 2019). In this regard, we articulate an integrative view to understanding their mutual influence (Alesina and Giuliano, 2015).

While culture and regulations are positioned as important macro-level institutional factors in entrepreneurship research (Bruton *et al.*, 2010; Chowdhury *et al.*, 2019; Sun *et al.*, 2020), the way that these two core institutional components translate into entrepreneurial behavioural

changes at the firm level (Meyer and Peng, 2005), and the bridge between the institutional and individual level in shaping firms' entrepreneurial action (Bjørnskov and Foss, 2016), remain insufficiently addressed. We borrow Ramoglou and Tsang's argument (2016) that objectively existing institutional environment is subjectively interpreted, internalised, and made sense of by key decision-makers, who determine a firm's strategic orientation (Shepherd, 2011). We also advocate a microfoundations lens (Barney and Felin, 2013, p.141) that recommends an additional approach to institutions based on the building blocks of individual attitudes rather than "...macro causes for individual behaviour, thus jumping directly to macro factors such as culture or structure."

Articulating this microfoundations lens to explicate the influence of institutions in terms of the key decision-maker's internalised cultural values and perceptions of government regulations offers nuanced explanations of micro-level variations in EO of firms embedded in the same institutional context (Contractor *et al.*, 2019; Sun *et al.*, 2020). This lens is useful in distinguishing entrepreneurial firms from non-entrepreneurial ones, particularly in countries that are weak in national entrepreneurial culture (Morales *et al.*, 2019) but entail significant cultural diversity at sub-national levels (Sharma 2010; Tehseen *et al.*, 2021). This is the case for our focus on Malaysia, where national entrepreneurial culture and formal (government) support institutions are found to be deficient (GEM, 2017).

In this study, we argue that internalised cultural values of the key decision-maker of a firm have a direct influence on the firm's EO, since cultural values are deeply embedded in societies and resistant to change, exercising "...a lasting grip on the way a society conducts itself" (Williamson, 2000, p.597) contrasting with formal institutions such as rules and regulations (Peng *et al.*, 2019; Nikolaev *et al.*, 2017; Webb *et al.*, 2020) that may undergo revision in response to changes in political power. We propose that individuals' perceptions of the more

transitory, humanly designed formal institutions, that is, government regulations in this study may moderate the direct influence of cultural values on EO (Alesina and Giuliano, 2015; Holmes Jr. *et al.*, 2013; Williams and Vorley, 2015).

This study claims to contribute to the entrepreneurship literature and research on the role of institutions, particularly the role of internalised cultural values and perceptions of government regulations in business development. First, we answer the plea to account for the social-cultural context in which the entrepreneurs are embedded to conceptualise EO. By introducing a microfoundations lens, we provide new insights into explicating how the effects of institutions are channelled through the internalised values and perceptions of key decision-makers to the EO of their firms (Wales *et al.*, 2019). Second, we enrich the explanation of cultural values and government regulations – two central institutional components – in shaping EO, which is a key attribute that characterises entrepreneurial firms (Wales *et al.*, 2016). In doing so, we delineate the specific internalised cultural values of the key decision-maker that may shape the EO of his/her firm and further establish the moderating role of the perceptions of government regulations in the cultural values-EO relationship. Consequently, we offer a nuanced understanding of which and how institutions matter to entrepreneurship. Further, we help integrate the two streams of EO studies (e.g., Kreiser *et al.*, 2010; Urban, 2019) that examine culture and regulation respectively as independent variables by demonstrating significant interactive influence between them (Chowdhury *et al.*, 2019; Saka-Helmhout *et al.*, 2020).

The remainder of the paper is structured as follows. The following section reviews the theoretical framework and existing literature behind this study and presents the hypotheses. The third section describes the research methodology regarding sample and data collection, research context, and measures employed in the study. The fourth section presents and

discusses the statistical analysis. The fifth presents a discussion of findings, and the paper concludes with the implications and limitations of the study.

Theoretical Framework and Hypothesis Development

Institutions and EO

The institutional perspective consists of formal (e.g., officially written and enforced rules and regulations) and informal components (e.g., values, norms, and shared knowledge) (North, 1990). There is a consensus that entrepreneurial action and behaviour are bounded by and can only be fully understood in the institutional context in which they are embedded (Chowdhury *et al.*, 2019; Peng *et al.*, 2019). However, little is known about the role of institutions in fostering the EO of firms (Dai and Si, 2018; Urban, 2019).

Conventional research has primarily studied institutions at the national (country)-level, viewing it as an objective context that influences all the firms embedded in it in the same way and generalising variations at individual and firm levels. However, “entrepreneurship is fundamentally an individual endeavour” (Autio *et al.*, 2013, p.335). This generalised view ignores and/or neglects the individual-level heterogeneity within a national/country and renders two limitations: (1) infers individual behaviours could simply be explained based on data aggregated on a country level and deducing individual variations and (2) obscure the influence of key decision-makers of firms that induce heterogeneous entrepreneurial action in same contexts (Stenholm *et al.*, 2013; Sun *et al.*, 2020).

The extant entrepreneurship and small business literature have stressed the significant role played by the key decision-maker; it thus means that the EO of the firm is highly likely to be a direct reflection of the cognition of the firm's key decision-maker (Liñán and Chen, 2009; Shane, 2003). Further, it is difficult to clearly differentiate between the key decision-maker and the firm, specifically in SMEs, as evident in other studies (Cannavale *et al.*, 2020; Tang *et al.*,

2017). Accordingly, this study will investigate the influence of institutions as manifested in the key decision maker's internalised cultural values and perceptions of government regulations in shaping the firm's EO. This approach resonates with the microfoundations lens to seek firm-level strategic orientation based on the 'characteristic predilections' of key firm decision-makers (Contractor *et al.*, 2019, p.5).

The influence of cultural values and EO

Culture is commonly recognised as a core informal institution (North, 1990) and has been an important regulator of entrepreneurial action and behaviour (Autio *et al.*, 2013; Holmes Jr. *et al.*, 2013; Nikolaev *et al.*, 2017; Rauch *et al.*, 2000; Tehseen *et al.*, 2021). Historically, many extant studies tend to equate 'country' with 'culture', and there has been little research on internal variations within cultures (Kirkman *et al.*, 2017; Moore, 2020). However, Tehseen *et al.* (2021) argued that such assumed uniform set of national culture may limit the understanding of the influence of sub-cultures in a cultural plural society. Similarly, Moore (2020) explained that a focus on the national level alone is artificially reductive because it has been observed that members of the same national culture may have quite different interpretations of it. In sum, applying unified presentations of a single national culture may pose complications in multicultural nations, causing limitations and even distortion in understanding (Kirkman *et al.*, 2017; Tehseen *et al.*, 2021). Weber (1976) explained that the entrepreneurial world is intuitively shaped and interpreted; thus, individual members have the freedom to negotiate a self-identity and to deviate from the single national culture (Hofstede, 1980; Trompenaars, 1993). This deviation can exhibit itself through entrepreneurial behaviour and through the process of entrepreneurship (Kirkley, 2016). Accordingly, differences in the interpretation of culture at an individual level (i.e., the key decision-maker) should be captured and accounted for to explain the EO of the firms.

Different cultural values have been argued to influence individual choices to engage (or not) in entrepreneurial action and behaviour (Autio *et al.*, 2013; Kreiser *et al.*, 2010). Cultures identified as pro-entrepreneurial values encourage the development of individual traits and attitudes congruent with entrepreneurship (Krueger, 2003) and, hence, are more favourable to fostering higher EO in firms (Bogatyreva *et al.*, 2019). Cultural values that are low on both power distance tolerance and uncertainty avoidance, masculine in nature, individualistic, achievement-oriented, future-oriented, and universalistic are seen as particularly favourable towards entrepreneurship because they resonate with innovativeness, proactiveness, and risk-taking that underline EO (Bogatyreva *et al.*, 2019; Litzky *et al.*, 2020; Tehseen *et al.*, 2021).

Among the various conceptualisations of culture (e.g., Hofstede, 1980; Schwartz, 1994; Trompenaars, 1993), Hofstede's version has continued to be the most widely adopted in the culture and entrepreneurship field despite debated criticism (Bogatyreva *et al.*, 2019). Hence, it will be adopted in this study. However, the study does not adopt unquestioningly the pre-existing national cultural indices produced by Hofstede, as in the majority of prior studies. Instead, it collected primary data from key decision-makers of firms using Hofstede's (2001) five cultural dimensions - power distance tolerance, individualism-collectivism, masculinity-femininity, uncertainty avoidance, and the later addition of long-term orientation - to capture internalised cultural values at the individual level.

Power distance tolerance and EO

Researchers have generally theorised a positive relationship between lower power distance tolerance and entrepreneurship (Kreiser *et al.*, 2010; Saeed *et al.*, 2014). Notably, lower power distance tolerance emphasises cultural values such as flexible control mechanisms and hierarchical structures, and an individual's freedom and autonomy are respected regardless of

status and power (Hofstede, 1980). These cultural values are more congruent with attitudes and behaviours in fostering a high level of EO.

Thus, we posit that firms whose key decision-makers have lower power distance tolerance are likely to have stronger EO. First, key decision-makers are likely to encourage flexible control mechanisms, and hierarchical structures in the firm that enable active communication among organisational levels, enabling innovative ideas or products may be shared and developed (Saeed *et al.*, 2014; Tehseen *et al.*, 2021). Second, key decision-makers may also encourage strategic responsiveness of firms towards new opportunities (Saeed *et al.*, 2014). Finally, they also tend to delegate more freedom and autonomy, enabling subordinates to identify and exploit opportunities quickly, adapt risky strategies, and take bold actions that they deem appropriate to improve their firm (Shane, 1993). Considering these arguments, the following hypothesis is developed:

H1. Firms whose key decision-makers have lower power distance tolerance have stronger EO.

Individualism and EO

An individualist culture emphasises individual accomplishments (Hofstede, 1980), and key decision-makers with higher individualism tend to encourage independence, freedom, and autonomy in the firms, allowing subordinates to make their own decisions and action, fostering strong achievement motivation (Hofstede, 1980). Freedom and autonomy given to subordinates to take actions and decisions are found to be essential to gain successful new ideas, even if they may be associated with risky outcomes (Shane, 1993). Greater freedom and autonomy may raise subordinates' self-confidence to be bolder in pursuing novel and creative ideas, more competitive in seeking opportunities, and to show high tolerance to cope with the uncertainties and risks that are generally associated with entrepreneurial actions (Kreiser *et al.*, 2010; Morris *et al.*, 1993; Wennberg *et al.*, 2013; Rauch *et al.*, 2000). Stronger emphasis and recognition of

subordinates' interests and achievements encourage entrepreneurial behaviours. It is, therefore, expected that a firm's EO will be stronger if its key decision-maker has higher individualistic tolerance, and we propose the following hypothesis:

H2. Firms whose key decision-makers have higher individualism have stronger EO.

Masculinity and EO

A masculine culture emphasises values such as assertive behaviour, material goods, and prestige thus tends to exhibit a higher need for measurable achievements (Hofstede, 1980).

Hofstede (1980) acknowledged that individuals with higher masculinity would be more willing to display assertive behaviours, e.g., generating innovative ideas and taking proactive strategies to pursue such ideas even if the outcomes of the effort are uncertain and risky. In this regard, it is expected that key decision-makers with higher masculinity will be more competitive and proactive in seizing and acting on opportunities to achieve a higher payoff for the firm and stay ahead of the competition. Hence, these key decision-makers will internalise and exhibit attitudinal and behavioural patterns in line with greater EO (Covin and Slevin, 1989; Lumpkin and Dess, 2001). Hence, the following hypothesis is proposed:

H3. Firms whose key decision-makers have higher masculinity have stronger EO.

Uncertainty avoidance and EO

Uncertainty avoidance refers to the degree of non-acceptance of uncertainty or ambiguous situations (Hofstede, 1980). The firm's tolerance of uncertainty and EO has been found to have a strong theoretical link (Hofstede, 1980; Kreiser *et al.*, 2010; Rauch *et al.*, 2000; Tahseen *et al.*, 2021; Thomas and Mueller, 2000). We propose a positive association for two main reasons.

First, key decision-makers with lower uncertainty avoidance are less likely to be deterred by risks and uncertainties but are more driven by the positive outcomes they expect. Therefore,

they will perceive more new opportunities even in an ambiguous external environment that they cannot control; and be more enthusiastic, daring, and motivated to explore these opportunities that have not yet been exploited and/or commercialised by their competitors in the market (Shane, 1993). Second, these key decision-makers tend to reject higher levels of internal formalisation and bureaucracy in the firm because they believe rigidity restricts creative and different thinking (Shane, 1993; Thomas and Mueller, 2000). Moreover, reduced bureaucracy and formalisation allow firms to respond and act quicker in pursuing new opportunities. Hence, the following hypothesis is developed:

H4. Firms whose key decision-makers have lower uncertainty avoidance have stronger EO.

Long-term orientation and EO

Long-term orientation is described as the future orientation of a culture, which values perseverance towards future results and assigns relatively greater importance to the future than the present (Hofstede and Bond, 1988; Lumpkin *et al.*, 2010). Hence, a long-term orientation may produce more pragmatic values and attitudes (Bogatyreva *et al.*, 2019; Tehseen *et al.*, 2021), which are often associated with entrepreneurship. We propose that a firm's EO will be stronger if the key decision-maker has long-term oriented cultural values.

First, a core EO characteristic is innovativeness. Innovation often requires long-range planning and dedicated efforts, and it takes time to be incubated, experimented with, developed and commercialised to be successful (Lumpkin *et al.*, 2010). Furthermore, involvement with innovation activities, particularly radical and industry-changing ones, presumes high risks and typically pays off after a long delay (Hechavarria *et al.*, 2016). Therefore, key decision-makers who have long-term oriented cultural values and focus on future results are expected to favour more innovations than those with short-term orientation (Tehseen *et al.*, 2021).

Second, the development of the ability to effectively undertake environmental scanning and forecasting and to seize opportunities ahead of competitors requires patience and perseverance on long-time horizons (Muehlfeld *et al.*, 2017). Key decision-makers must be proactive in anticipating future market and business changes and be persistent in committing resources in the face of uncertainty to reap benefits from entrepreneurial activities in the long run (Caliendo *et al.*, 2020). Therefore, we propose the hypothesis as follows:

H5. Firms whose key decision-makers have long-term orientation have stronger EO.

The moderating effect of government regulations on the cultural values-EO relationship

We propose that key decision-makers' perceptions of government regulations have a moderating effect on the relationship between their internalised cultural values and the EO of the firm (Holmes Jr. *et al.*, 2013; Williams and Vorley, 2015). Entrepreneurial success is likely to be fostered by the influence of key decision makers' internalised cultural values favourable to perceiving and recognising entrepreneurial opportunities in conjunction with the perceived availability of governmental support (Dai and Si, 2018; Nikolaev *et al.*, 2017; Shu *et al.*, 2019; Stenholm *et al.*, 2013).

Favourable government regulations are important in facilitating and stimulating a firm's EO to generate business opportunities as well as providing vital resources and support for SMEs to be entrepreneurial (Boudreux *et al.*, 2019; Camelo-Ordaz *et al.*, 2020; Nikolaev *et al.*, 2017; Shu *et al.*, 2019). Raza *et al.* (2018) noted that government regulations that are perceived as severe and unfavourable could inhibit entrepreneurship. Further, Williams and Vorley (2015) asserted that if government regulations are perceived to be incongruent or inconsistent with the internalised cultural values of its actors, entrepreneurial activities might not be fostered.

Accordingly, we expect the relationship between cultural values on EO will be strengthened when key decision-makers perceive favourable support from the government regulations and/or that are consistent with their cultural values. As such, we propose the following hypotheses:

H6. Key decision makers' perceptions of government regulations moderate the relationship between (a) power distance tolerance, (b) individualism, (c) masculinity, (d) low uncertainty avoidance, and (e) long-term orientation and the EO of their firm.

The above hypotheses are incorporated into the following conceptual framework (See Figure 1).

[Insert Figure I here]

Method

Sample and data collection

Data for this research were collected from a sample of SMEs in Malaysia. SMEs have been the key pillars of Malaysia's economic growth since the 1990s, and the future progress of Malaysia depends greatly upon the development of SMEs. The role of SMEs has been widely recognised due to their significant contribution to business domestically and internationally (SME Corporation Malaysia, 2020). Furthermore, Malaysia is commonly known as a multicultural nation of different ethnicities (Tehseen *et al.*, 2021). Accordingly, the selected national context is one in which the focal topics addressed in this research are particularly salient.

A total of 1,000 SME addresses were obtained from the Malaysia SME Corporation, which is the Central Coordinating Agency, mandated to formulate overall policies and strategies as well as coordinate the implementation of national SME development programs. This list of SMEs was used as the sampling frame for this study. Both manufacturing and services firms were

included to ensure a representative sample. Consistent with previous studies on EO, key informants for this study were top management of the SMEs, including the owners, directors, managing directors, and other managers (Covin and Wales, 2019; Lee *et al.*, 2019; Putniņš and Sauka, 2019). Top management were key informants from SMEs because they often have the decision-making power and possess the most comprehensive knowledge of the characteristics of the organisation, its strategy, and performance (Covin and Wales, 2019).

A total of 203 completed postal questionnaires were returned out of 1,000, that is, a response rate of 20.3%. It is comparable with previous studies in similar contexts (e.g., Galbreath *et al.*, 2019). We examined whether the early and late respondents differed in terms of (1) firm age and (2) firm size in the t-test statistics. The mean differences were insignificant ($p < 0.05$), indicating no non-response bias. The descriptive data of the respondent firms are presented in Table I.

[Insert Table I here]

Furthermore, we employed both procedural and statistical measures to address possible informant and common method biases (Podsakoff *et al.*, 2003). First, some measurement items were reverse coded to reduce or eliminate biases in response. Second, the explained and explanatory variables were organised into different sections in the questionnaire, which could produce a psychological separation between these two types of variables to reduce informants' motivation and ability to retrieve cues and pursue consistency in their responses. Third, we tested Harman's single-factor analysis, and the result indicated that no single factor (< 50%) is explained by most of the variance (Podsakoff *et al.*, 2003).

Measures

This study employed established and validated scales to measure all the proposed constructs. All questions were presented in the form of seven-point scales to ensure specific responses, increased response rates, and accuracy.

EO. This study adopted the most extensively used operationalisation of EO (also known as the M/C&S scale) by Covin and Slevin (1989) based on Miller's (1983) conceptualisation of EO as a unidimensional construct. We are cognisant of debate on the measure of EO regarding whether it should be treated as a unidimensional construct or as multidimensional measures. We adopted the former approach in our analysis in line with the prevailing view that “EO is an organisational attribute *reflecting* what it means for a firm ‘to be entrepreneurial’” (Covin and Wales, 2019, p.8; also see Wales, 2016). Extant studies have verified this use of EO as a unidimensional measure in various contexts and have confirmed that the measure has good reliability and validity at both individual and firm levels (e.g., Galbreath et al., 2019). Inasmuch as EO is an organisational attribute, Wales (2016) called for multilevel research in the EO domain to capture a different combination of managerial attitudes toward firm entrepreneurial behaviour. This study followed this approach.

Cultural values. We operationalised and measured cultural values at the level of individual respondents using the twenty-six items of CVSCALE (cultural values scale) from the work of Yoo *et al.* (2011). This scale has good psychometric properties and demonstrates satisfactory reliability, validity, and usefulness with various sample types, e.g., entrepreneurs, managers, consumers, professionals, etc. (e.g., Donthu and Yoo, 1998; Ma *et al.*, 2020; Tehseen *et al.*, 2021). It was explicitly designed to assess Hofstede's five cultural values at the individual level, given the limitations of using pre-existing national cultural indices, which often lead to methodological difficulties because (1) they are unable to accurately capture psychological and cultural traits of the individual key respondents and hence may mask the deterministic influence

of decision-makers' attributes on the firm's entrepreneurial behaviours and actions and because (2) they involve the assumption of both individual and firm homogeneity (Autio *et al.*, 2013).

Government regulations were measured using the five items of regulatory dimensions of the country's institutional profile for entrepreneurship taken from Busenitz *et al.* (2000). These items were used to capture respondents' perceptions of the favourability of government regulations. This measurement has high internal consistency, reliability, and validity in various studies (Manolova *et al.*, 2008).

Control variables. We controlled for four variables that might influence the proposed hypothesised relationships. At the firm level, we controlled for the effects of two variables - firm age (numbers of years established) and firm size (number of full-time employees) (Wales *et al.*, 2015), respectively. We controlled for the type of industry, whether firms are in the manufacturing or service industry (Wales *et al.*, 2015). Finally, given the multicultural population in Malaysia, we controlled for the attribute of the key decision-makers (i.e., the ethnic group of individual key informants), which may have an impact on a firm's decision-making process (Kreiser *et al.*, 2010).

Analytical techniques

We tested our model using partial least squares structural equation modelling (PLS-SEM). This method is useful particularly in examining a complex model with multiple relationships among constructs simultaneously, including interactive relationships (Chin, 1998). Additionally, PLS-SEM can account for the measurement errors of constructs and explain the model's variance (Hair *et al.*, 2017).

Analysis and results

The PLS-SEM analysis consists of the measurement and structural model (Barclay *et al.*, 1995). We first checked the measurement model to see whether the variables were reliable and had suitable convergent and discriminant validity levels.

Composite reliability (CR), Cronbach's alpha, and average variance extracted (AVE)
CR, Cronbach's alpha, and AVE values exceeded the recommended threshold values of 0.70, 0.70, and 0.50, respectively (Cortina, 1993; Fornell and Larcker, 1981; Nunnally, 1978). Thus, the variables had acceptable values for measurement reliability (see Table II).

[Insert Table II here]

Discriminant validity

Discriminant validity assesses the extent to which measures of one latent construct differ from the measures of another latent construct (Hair *et al.*, 2017). The Fornell-Larcker criterion approach is generally used to assess the discriminant validity of the measurement model (Hair *et al.*, 2017). It compares the square root of the AVE of each construct, which should be greater than the variance shared between the latent construct and other latent constructs in the model (the squared correlation between the two latent constructs) (Fornell and Larcker, 1981). The Fornell-Larcker analysis showed that the square root between constructs did not exceed the AVE (see Table III); hence the discriminant validity of the measure is acceptable (Barclay *et al.*, 1995).

[Insert Table III here]

After confirming the convergent and discriminant validity of the measurement model, we examined the structural model. We tested the proposed hypothesised relationships using the path coefficients and level of significance. A bootstrap sampling method with 1,000 subsamples was applied to test the structural paths (Hair *et al.*, 2017).

Analysis of the structural model shows that three out of the five cultural values significantly affect the firms' EO. These results suggested that individualism had the strongest effect on EO among the five cultural values, $\beta = 0.398$, $T = 5.220$, $p < 0.01$, followed by uncertainty avoidance, $\beta = -0.200$, $T = 2.768$, $p < 0.01$, and masculinity, $\beta = 0.163$, $T = 2.501$, $p < 0.05$. The hypothesised relationships between EO and individualism, uncertainty avoidance, and masculinity were statistically significant. Thus, Hypotheses 2, 3 and 4 were supported. Additionally, these three significant cultural values explained 59% of EO variance (see Table IV). However, the hypothesised relationships between EO and power distance tolerance and long-term orientation were insignificant; hence Hypotheses 1 and 5 were not supported.

[Insert Table IV here]

Hypothesis 6 was to assess the moderating effect of perceptions of government regulations on cultural values-EO relationships. Among the five cultural values, the model suggested that perceptions of government regulations had a positive and statistically significant moderating effect on individualism-EO relationships, $\beta = 0.175$, $T = 2.209$, $p < 0.05$ and masculinity-EO relationships, $\beta = 0.097$, $T = 1.662$, $p < 0.10$. Thereby, Hypotheses 6b and 6c were supported. The moderating effect of perceptions of government regulations increased the variance on EO to 63.2% (see Table IV). Furthermore, the size of the moderating effect of perceptions of government regulations (on individualism-EO and masculinity-EO) was moderate, with f^2 values of 0.24 and 0.36, respectively. However, the hypothesised relationships of moderating effects of perceptions of government regulations on EO for power distance, uncertainty avoidance and long-term orientation were insignificant. Consequently, Hypotheses 6a, 6d and 6e were not supported. Figure II shows the summary of the full model.

[Insert Figure II here]

We created interaction plots at one standard deviation above and below the mean values to better understand and interpret moderation effects. Figures III and IV show that EO increases at a combination of high levels of individualism and masculinity with high levels of perceptions of government regulations. With a positive interaction with EO, the relationship between individualism-EO and masculinity-EO becomes stronger with favourable perceptions of government regulations. Overall, these results clearly suggest that perceptions of government regulations exert a significant and positive moderating effect on the individualism-EO and masculinity-EO relationships, i.e., the greater the key decision-maker perceives government regulations' favourability to be, the higher the EO of their firms.

[Insert Figure III here]

[Insert Figure IV here]

To complete the analysis of the structural model, goodness-of-fit must be examined. The standardised root means square residual (SRMR) was used. For the proposed model, the value of SRMR was 0.071, less than the threshold of 0.085 suggested by Henseler *et al.* (2015), indicating the model had a good fit.

Robustness tests

In addition to the results reported here, we ran a hierarchical multiple regression analysis as a robustness check. The results showed that the main effects of the cultural values and EO and the moderating effects of perceived government regulations on the cultural values-EO relationships were in line with the results presented in the PLS-SEM analysis. Therefore, the results appeared to be robust.

Discussion of findings

Building on our core argument that formal and informal institutional components may not act independently but will interact at an individual level to influence firms' EO, this research extends previous studies (e.g., Engelen *et al.*, 2015; Kreiser *et al.*, 2010; Mueller and Thomas 2001; Tehseen *et al.*, 2021) by testing the interactive effect of key decision makers' internalised cultural values and perceptions of government regulations on EO of firms.

Our findings confirm that three cultural values of the key decision-maker, namely *individualism, masculinity, and uncertainty-avoidance*, to be significantly associated with the EO of firms; these are largely consistent with existing studies (e.g., Engelen *et al.*, 2015; Litzky *et al.*, 2020; Saeed *et al.*, 2014; Tehseen *et al.*, 2021). More importantly, we found that key decision-makers perceptions of government regulations will significantly moderate specific cultural values-EO associations. The findings reveal that the *positive associations of (b) individualism-EO and (c) masculinity with EO were amplified when moderated by favourable perceptions of government regulations to entrepreneurship*. These findings confirm the importance of accounting for the interactive and complementary effects of the two factors in explaining entrepreneurial behaviour and action (Alesina and Giuliano, 2015; Chowdhury *et al.*, 2019; Saka-Helmhout *et al.*, 2020). Previous research on the effect of government regulations on entrepreneurship often show inconclusive findings (Brown *et al.*, 2017; Iakovleva *et al.*, 2013; Mason and Brown, 2013; Nikolaev *et al.*, 2017). As the perception of government regulations may vary, it may not be aligned with key decision-makers' internalised cultural values (Raza *et al.*, 2018; Williams and Vorley, 2015). This corroborates Raza *et al.*'s (2018) argument that entrepreneurship increases when government regulations are perceived to be favourable and congruent with the internalised cultural values of its actors. The findings of this study provide evidence that pro-entrepreneurial cultural values combined with a favourable perception of government regulations foster a higher level of EO of firms.

Nonetheless, there are some unexpected findings of the moderating effect of government regulations. Contrary to our hypothesis, we found that the perception of government regulations does not enhance the significant uncertainty avoidance-EO association. This finding is in line with Raza *et al.* (2018), who explained that actors who have higher tolerance of uncertainty could protect their entrepreneurial quest whether strong formal institutions facilitate entrepreneurship activities. Hence, key decision-makers who have a higher tolerance of uncertainty and insecurity could better absorb and cope with uncertainty in the environment (Engelen *et al.*, 2015; Shane, 1993). Such a strong intrinsic stance, therefore, may be less affected by external intervention, including government regulations, even they are posed as incentives (Li and Zahra, 2012).

Implications and Limitations

Implications for the entrepreneurship and institutions literature

To the best of our knowledge, this is the first study that analyses the interactive effect of informal and formal institutions on the EO of firms. Our study contributes to the research on entrepreneurship in general and EO in particular by interpreting the influence of institutions on firms through a microfoundations lens in terms of the key decision maker's internalised cultural values and perceptions of government regulations.

First, we respond to recent calls to extend the conceptualisation of EO to account for social-cultural context (Lee *et al.*, 2019; Wales *et al.*, 2019), particularly for SMEs, because entrepreneurs are the products of the socio-cultural environment from which they originated and developed. Our findings confirm what has been articulated in the microfoundations lens; it is necessary to not only take context into account but also how key decision-makers with different backgrounds and preferences respond to the same institutional context. It is these individual-level differences that will shape the very different strategy conclusions and

implementations of the firm, including capabilities, strategies, and performance. It is also interesting to note that the key decision-makers' internalised cultural values and their favourable perceptions of government regulations in our study are contributing towards EO of their firms, albeit the national entrepreneurial culture and formal (government) support institutions of Malaysia are found to be deficient (GEM, 2017). It enriches the knowledge of how internalised cultural values and perceptions of government regulations explain the variations in firms' entrepreneurial behaviours and outcomes in the same contexts (Autio *et al.*, 2013; Stenholm *et al.*, 2013; Sun *et al.*, 2020).

Second, we provide an integrative view of the influence of internalised cultural values and perceived government regulations on firms' EO by accounting for their interactive effects (Chowdhury *et al.*, 2019; Saka-Helmhout *et al.*, 2019). Interactive models of institutions have not been adequately studied in extant EO studies; our model captures a more realistic picture of the simultaneous and complementary influence of cultural values and government regulations in an institutional context (Saka-Helmhout *et al.*, 2020; Webb *et al.*, 2020; Williams and Vorley, 2015). This explicit examination of the interplay between informal and formal institutions is an important addition to EO research. In particular, our findings confirm that the key decision-makers' perception of government regulations have enhanced effects on entrepreneurial behaviour and action when it is congruent with their internalised cultural values. Thus, they are core explanators of the variation and inconsistencies of the influence of government regulations found in extant studies (Brown *et al.*, 2017; Iakovleva *et al.*, 2013; Mason and Brown, 2013; Nikolaev *et al.*, 2017). This corroborates Brown *et al.*'s (2017) argument that the development of a policy framework and support mechanism fails to effectively provide appropriate support for the firms because of the policymakers' perceptual mismatch (i.e., blind assumptions). Our study, thus, adds nuances to the understanding of matching and alignment of government policy with pro-entrepreneurial internalised cultural

values to promote SMEs and entrepreneurship.

Implications for the business practitioners and policymakers

For business practitioners, this study highlights the favourable cultural values of individualism, masculinity, and low uncertainty avoidance to fostering a higher level of EO of the firm (Bogatyreva *et al.*, 2019; Engelen *et al.*, 2015; Kreiser *et al.*, 2010). Thus, it encourages business practitioners to nurture an organisational culture that promotes creativity, offers an appropriate degree of autonomy in decision-making, appreciates diversity, recognises individual achievements, and instils greater tolerance of uncertainty and risk (Dabić *et al.*, 2019; Halim *et al.*, 2014). In doing so, they can empower employees with stronger entrepreneurial mindsets and competence in the firm.

For policymakers, this study shows that perceptions of government regulations may vary among their target audience. Thus, it urges policymakers to account for the social-cultural context and directly engage target users when tailoring and implementing entrepreneurship support programmes (Hopp and Stephen, 2012). Specifically, the findings of this study suggest that policymakers may need to align with formal institutional mechanisms, government regulations in particular, with pro-entrepreneurship cultural values to enhance and amplify the intended effect (de la Chaux and Haugh, 2020; Litzky *et al.*, 2020). Further, it could be important to the affirmative outcomes of such programmes and recognise successful cases more openly as a means to cultivate positive perceptions (Nakku *et al.*, 2020). Considering that values and perceptions may change, support programmes also need to be reviewed and assessed regularly to respond to SMEs' conditions and emerging needs.

Limitations and suggestions for future research

The limitations of the study may provide the basis for refining further research. First, data were collected from one key informant in each company which is common in SMEs and EO research. Future research could enhance the robustness by using a multiple informant approach which offers triangulation and reduces the possibility of single-respondent bias and to attain reliability and validity of findings (Covin and Wales, 2019). Second, to enrich the findings derived from a positivist approach adopted by this study, future research could focus on the interpretation of individualised perceptions to elucidate how cultural values impact EO with qualitative research designs. We also call for future studies to investigate the variance of EO among firms within countries and at the sub-national level, as culture is not always homogenous within country borders (Kirkman *et al.*, 2017; Moore, 2020). This will enrich the knowledge of the influence of intra-national cultural diversity in explaining the variation of entrepreneurship within and across countries (Autio *et al.*, 2013; Lee *et al.*, 2019; Stenholm *et al.*, 2013; Tehseen *et al.*, 2021). Third, our study only focused on and captured key decision-makers' cultural values and perceptions of government regulations. Given that the nature of institutions is multi-faceted (Nikolaev *et al.*, 2017; Webb *et al.*, 2020), future research should assess the isolated and combined influence of other potential institutional factors. For instance, the interactive influence of social, political, and economic institutions could provide the basis for future studies (Holmes Jr. *et al.*, 2013; Litzky *et al.*, 2020).

Declaration of Conflicting Interest

The authors of this paper certify that they are not affiliated or involved with any organisation or entity and have neither financial nor non-financial interests associated with the subject matter and materials discussed in this manuscript.

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Table I Descriptive data of the respondent firms

Profile	Description	Frequency	Percentage
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Position of the key respondent in the company	Owner	60	29.6
	Managing Director	5	2.5
	General Manager	68	33.5
	Sales/Marketing Manager	22	10.8
	Others (e.g., Business Development Manager, Production Manager, etc.)	48	23.6
	Total (N)	203	100
Ethnic group of the key respondent in the company	Malay	66	32.5
	Chinese	125	61.6
	India	7	3.4
	Others (e.g., indigenous people of Sabah and Sarawak)	5	2.5
	Total (N)	203	100
Types of Industry	Manufacturing	168	82.7
	Services	35	17.3
	Total (N)	203	100
Firm Size	1 - 4 employees	7	3.4
	5 - 74 employees	101	49.8
	75 - 200 employees	95	46.8
	Total (N)	203	100
Firm Age	1 - 6 years	35	17.2
	7 – 12 years	43	21.2
	13 - 18 years	29	14.3
	19 - 25 years	33	16.3
	More than 25 years	63	31.0
	Total (N)	203	100

Table II Results summary of measurement model

Variable(s)	Cronbach's Alpha >0.60	Composite reliability >0.70	AVE >0.50
Power distance (PD)	0.863	0.901	0.648
Individualism (IND)	0.950	0.960	0.800
Masculinity (MAS)	0.900	0.930	0.768
Uncertainty Avoidance (UA)	0.959	0.969	0.860
Long Term Orientation (LTO)	0.661	0.807	0.587
Government regulations (REG)	0.922	0.941	0.763
Entrepreneurial orientation (EO)	0.859	0.889	0.742

Table III Discriminant validity

	PD	IND	MAS	UA	LTO	EO	REG

PD	0.805						
IND	0.597	0.894					
MAS	0.247	0.417	0.877				
UA	0.546	0.777	0.498	0.928			
LTO	0.038	0.194	0.057	0.361	0.766		
EO	0.444	0.690	0.492	0.682	0.237	0.861	
REG	0.258	0.387	0.412	0.433	0.141	0.516	0.873

Note: Numbers in bold indicate the square root of the average variance extracted for each construct.

Table IV Results summary of structural model

Structural path	Path coefficients	T-values	Hypothesis Supported
Power distance - EO	0.043	0.683	No
Individualism - EO	0.398	5.220***	Yes
Masculinity - EO	0.163	2.501**	Yes
Uncertainty avoidance - EO	-0.200	2.768***	Yes
Long-term orientation - EO	-0.051	0.974	No
Power distance x government regulations - EO	0.001	0.023	No
Individualism x government regulations - EO	0.175	2.209**	Yes
Masculinity x government regulations - EO	0.097	1.662*	Yes
Uncertainty avoidance x government regulations- EO	-0.087	0.860	No
Long-term orientation x government regulations- EO	-0.094	1.300	No
Direct effects model		Interaction effects model	
R^2 in EO	0.590***		0.632***
Adjusted R^2 in EO	0.578***		0.611***
ΔR^2			0.042***

Note: *p < 0.10, ** p < 0.05, ***p < 0.01.

Figure I Conceptual Framework

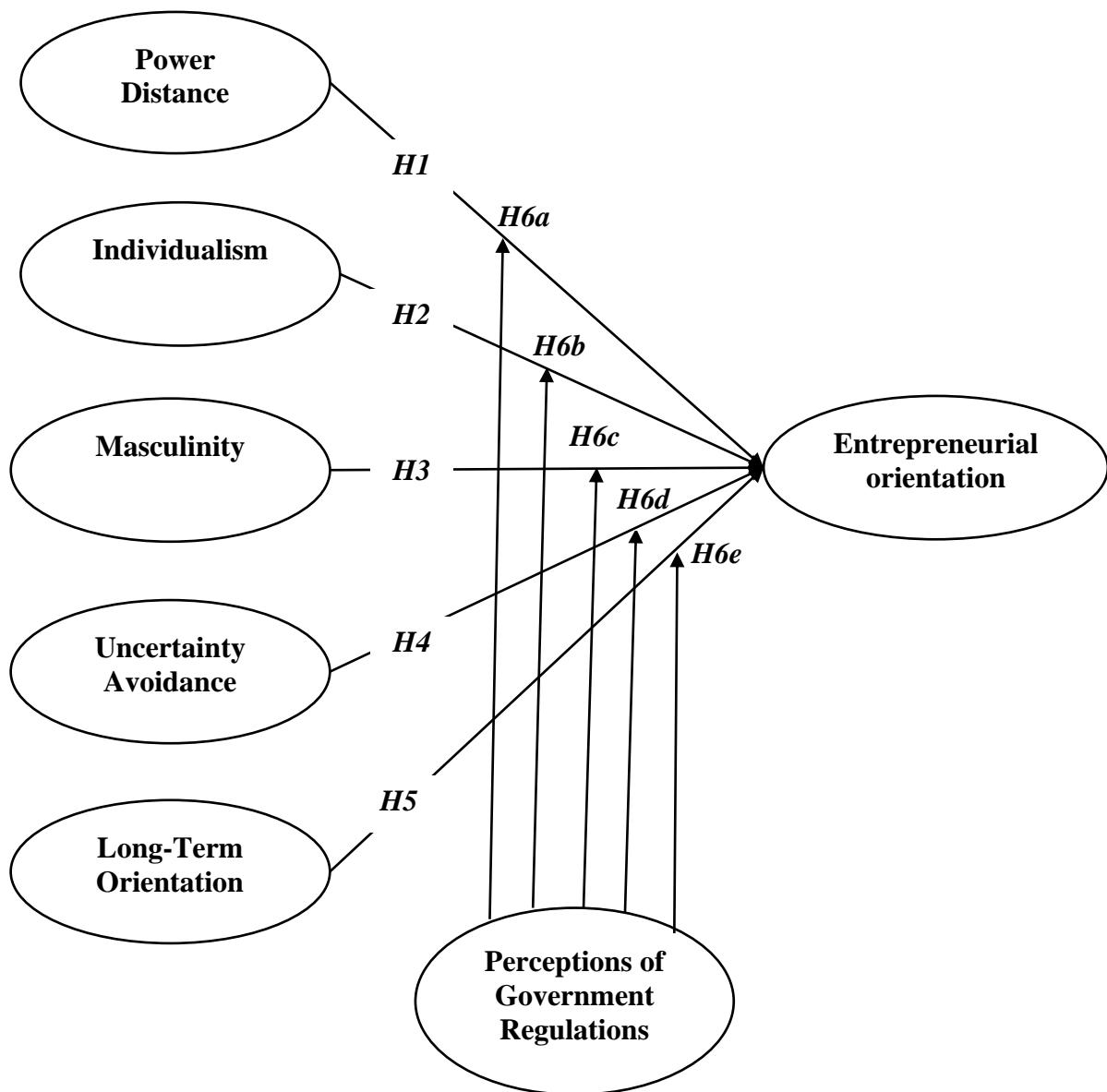


Figure II Summary of the Full Model

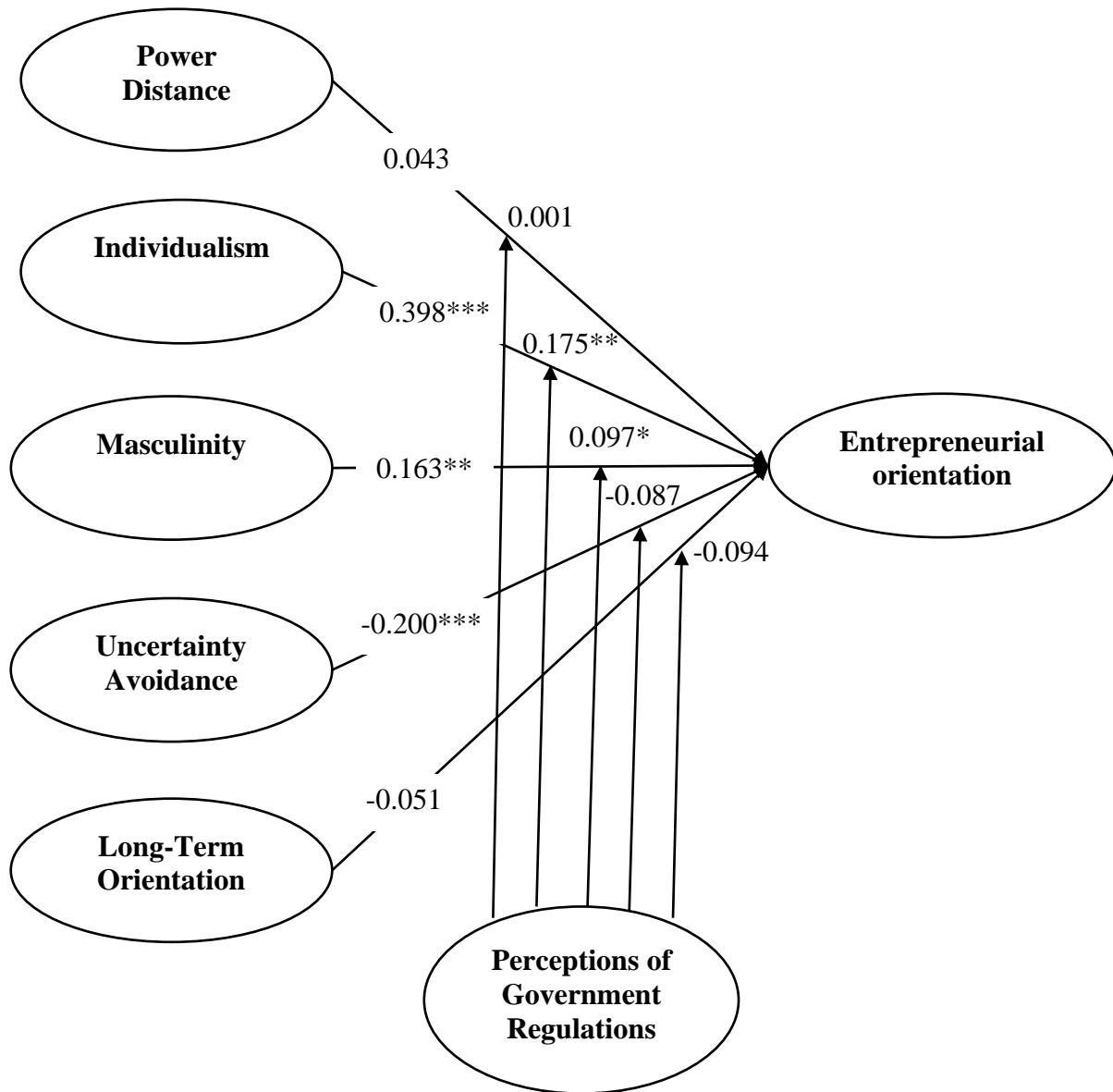


Figure III Slope plot for individualism x government regulations

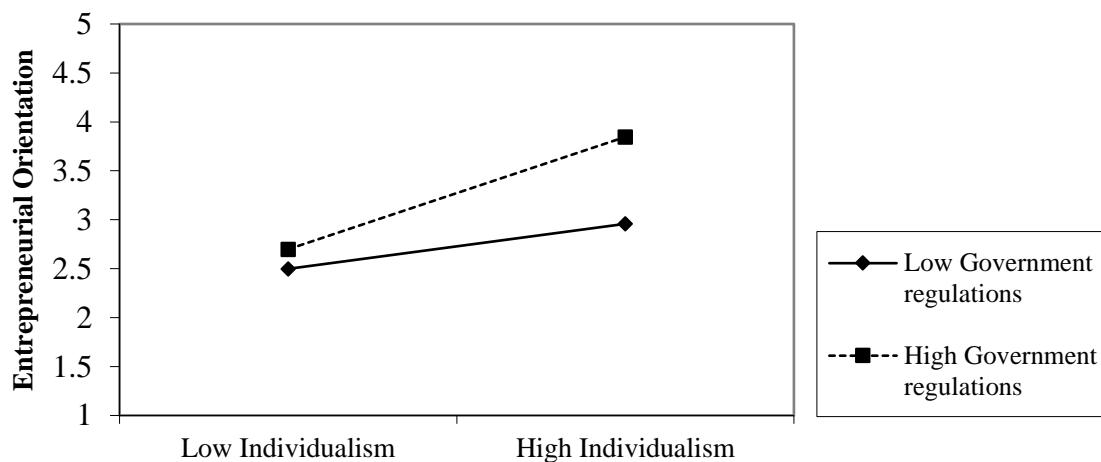


Figure IV Slope plot for masculinity x government regulations

