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RESEARCH ARTICLE

Motives of Entrepreneurs in Entering the Informal Economy using the Global Entrepreneurship Monitor (GEM) Data

Emilina R. Sarreal
De La Salle University, Philippines
emilina.sarreal@dlsu.edu.ph

Abstract: The GEM 2013 Adult Population Survey (APS) conducted in the Philippines revealed that out of the 677 owner-manager respondents, 293 or 43% had not registered their business with the Department of Trade and Industry (DTI), which handles business name registration as the initial step for entering the formal economy. According to the Department of Labor and Employment's (DOLE) 2016 report (as cited by Pasion, 2017), the informal sector employs 15.6 million of the Filipino workers which comprise 38% of the total working population. This implies that a large number of informal entrepreneurs employ these people to help them run their business operations. As for its impact on the Philippine's economy, it accounts for 61% of the country's Gross Domestic Product (GDP) in 2015 (DOLE, 2016). The study examined the motives of the informal entrepreneurs' unregistered businesses using the GEM APS data and employing a multinomial logistic regression approach due to the dichotomous nature of the dataset. The significant variable for deciding to be informal entrepreneurs is necessity-driven with no other choice for work as the major motivation and goal of being entrepreneurs. It was also revealed that socio-demographic characteristics (such as age, gender, education, and marital status) exert significant interaction effect on the relationship of urbanization and the decision to enter the informal economy. The average income of the entrepreneur also increases the likelihood of registering the business. In general, entrepreneurs will not engage in informality if they receive adequate support, resources, and opportunities. Informal entrepreneurs simply need guidance and awareness. By availing of the entrepreneurship programs, Filipinos can have the opportunity to uplift their living conditions; and as a result of rising poverty incidents, it can be deduced that addressing these concerns is necessary.

Keywords: Informal economy, informal entrepreneurship, necessity-driven, opportunity-driven, urbanization, ease of doing business, entrepreneurial role model, socio-demographic characteristics

JEL classifications: E26, J46, L26, O17

The relative ease of entry and low requirements for education, skills, technology, and capital in most economic aspects of an underground business were among the factors cited in the policy brief released by Philippine Commission on Women that trigger the Filipinos' entrepreneurial instincts to start entering the informal sector (Pasion, 2017). The Philippine Statistics Authority (PSA, 2009) was able to recognize 10.5 million informal sector operators in the Philippines upon the completion of the Informal Sector Survey last 2008. In the Informal Sector Survey of the PSA (2009), it revealed that the majority of these informal entrepreneurs are engaged in agriculture, hunting, and forestry businesses (41.3%). Meanwhile, the wholesale and retail trade sector comes second, comprising 29.6% of the total number of informal operators. Lastly, the remaining 29.1% is composed of individuals that own a business in the transport, storage, and communications sector. It was also noted that most of these informal business operators conduct their businesses in the CALABARZON region (11%). It is then followed by Central Luzon (8.3%) and Western Visayas (8.1%). The CAR region has the least number of informal entrepreneurs as they only comprise 1.5% of the informal economy (PSA, 2009).

In addition, the PSA's press release indicated that "41.3% of the unregistered businesses belong to the agriculture, hunting, and forestry sectors; and the poverty incidence of farmers, fisherfolks, and children belonging to poor families ranges from 31.4% to 34.3%" (PSA, 2017). This implies that because many poor Filipino families do not earn sufficient income to sustain their needs, they are most probably faced with no choice but to enter the informal economy.

Recent news articles have also presented several pieces of evidence that a lot of Filipinos engage in activities within the confines of the informal economy. In Metro Manila alone, the Bureau of Internal Revenue (BIR) identified 82,000 unregistered business establishments upon matching the database of the Local Government Units in the region and the BIR's records ("BIR uncovers more than 80,000 unregistered businesses in MM," 2008). In the Visayas area, 10% of the 1,200 establishments examined in Lapu-Lapu City in Cebu turned out to be unregistered (Galolo, J., 2016). Similarly, the same case happens in the boundaries of Mindanao as the same tax-collecting agency was able to penalize 180 out of the 300 local firms that were subjected to their tax mapping operation due to being unregistered ("BIR slaps penalties," 2014). Most of those firms' violations involve outdated entries in books of accounts, irregular or non-issuance of receipts, and non-existence of books of entries at all.

Objectives and Problem Statement

In this research, the main problem is the interaction effects of socio-demographic characteristics on the relationship of motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective with the entrepreneurs' decision to enter the informal economy using the Global Entrepreneurship Monitor's (GEM, 2013) Adult Population Survey (APS) Global Individual Level Data for Registration Optional Questions. Specifically, this study further intended to address the following research questions:

1. What is the degree of influence of entrepreneurial motivation and goals on the decision of entrepreneurs to enter the informal economy?
2. What is the degree of influence of entrepreneurial culture on the decision of entrepreneurs to enter the informal economy?
3. What is the degree of influence of institutional perspective on the decision of entrepreneurs to enter the informal economy?
4. What is the interaction effect of socio-demographic characteristics which include gender, age group, educational attainment, average income, and marital status on the motivation & goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective leading to the entry into the informal economy?

This study aims to identify the factors entrepreneurs consider as well as the effects of sociodemographic characteristics in entering the informal economy. In addition, this study also assesses the risks prevailing in the informal economy such as the inaccessibility of resources. As informal (or unregistered) businesses must remain inconspicuous, they can only acquire and utilize limited resources to conduct their operations. Given these constraints, the study can encourage informal business owner-managers to formalize their businesses. Through formalization, they will be able

to leverage more resources and opportunities; and this will ultimately improve their business performance.

Review of Literature

Enterprise Performance of Unregistered Businesses

Williams, Martinez-Perez, and Kedir (2016) investigated the impact of delaying registration on future enterprise performance. Primarily, their research results refuted the preconceived notion that registration offers greater benefits than non-registration. Numerous studies have presented that business registration augments legitimacy due to its compliance with the law. This compliance entails payment of taxes and acquisition of licenses (or certifications). On the contrary, it has been perceived that non-registration decreases legitimacy; thus, it adversely affects enterprise performance. Regardless of these previous findings, Williams et al. (2016) asserted that registration does not constantly equate to favorable enterprise performance. They then claimed that unregistered businesses could acquire legitimacy to a certain extent. This can be accomplished by providing their stakeholders with assurance that their products and services are of high quality.

Based on the prior research, delayed registration enables businesses to defer the payment of registration and ancillary costs. Registration costs include (but are not limited to) business name reservation, licenses, permits, and direct/indirect taxes. Conversely, ancillary costs include those levied by corrupt bureaucrats. Furthermore, it has been revealed that micro-businesses are often established by owners awaiting formal employment or striving to supplement their net income. Provided that they are not considering business expansion, they perceive business registration and regulatory compliance as unnecessary and costly.

Other studies have similarly disclosed that "delaying registration until firms reach a certain size may be optimal" (Williams et al., 2016, p.778). Aside from avoiding registration costs, unregistered businesses can outperform registered businesses by utilizing their limited resources to address more immediate areas of concern. This ultimately prompts them to establish a relatively strong foundation prior to their registration. This foundation necessitates the reinforcement of both internal and external factors. Internal factors involve operational routines and interpersonal relationships. These can be enhanced through training, experience, and familiarity with the operations. On the contrary, external factors involve networking and resources. These can be improved by establishing connections with potential stakeholders (e.g., investors, customers, suppliers).

Williams et al. (2016) subsequently noted that "the longer they spend unregistered, the higher might be their future firm performance" (p. 779). Firm performance has then been measured through annual sales, employment, and productivity growth. Statistics show that 10.2% of the surveyed formal businesses had delayed their registration. Nonetheless, they had successfully outperformed those who registered from the outset. These businesses specifically acquired the following results: 14.5% higher average annual sales growth, 31.6% higher annual employment growth, and 71% higher annual productivity growth (Williams et al., 2016). The data, therefore, revealed that there is a positive relationship between delayed registration and firm performance. This implies that the higher the number of years unregistered, the higher the firm performance measures.

Persistence of Informal Sector

According to Levy (2008, as cited in Rothenberg et al., 2016), informal businesses typically do not pay official taxes. This is because the government cannot recognize each of the businesses that are part of the informal sector. In effect, most businesses that are unregistered tend to be free from paying taxes. On the other hand, it also affects the registered businesses. As informal businesses tend to have a lower cost (i.e., production cost), they can offer relatively lower price compared to registered businesses. In effect, there would be an unfair competition between the two (Farrell, 2004, as cited in Rothenberg et al., 2016). Lastly, it also affects the informal business itself. Given that they do not have any license to operate, it would be difficult for them to obtain credit from banks and other financial establishments (Rothenberg et al., 2016).

There are different reasons why some firms/businesses choose to remain or enter the informal sector. Rothenberg et al. (2016) provided three different theories to explain the preceding sentence: (1) exclusion model, (2) rational exit model, and (3) dual economy model.

Exclusion Model

The exclusion model primarily signifies the burdensome regulations of the government when formalizing a business (Rothenberg et al., 2016). Based on this study, many businesses engage in the informal economy because they do not want to be involved in the long and burdensome process of registering their business. In addition, they view the registration procedure as expensive; thus, their preference to be in the informal economy.

The study also provided some ways on how this problem or issue can be resolved. According to Rothenberg et al. (2016), by "removing the barriers to entry, cutting the red tape, and improving the legal environments" (p. 97) more businesses would probably shift from informal to the formal sector. In addition, they also pointed out that if registration cost can only be lowered, then many businesses would most likely formalize.

Rational Exit Model

The rational exit model is when a firm/business shifts to the informal economy due to the high regulatory costs of being formalized. This means that the business owner feels that the cost of staying in the formal economy is greater than the benefits (Rothenberg et al., 2016). Formalized business owners expect to experience lesser risk, lower payments to government officials, and better access to banks. However, these advantages tend to be overpowered by the amount of registration costs, tax payments, and the likes. This then prompts them to leave the formal economy. For this model, Rothenberg et al. (2016) suggest that the government should not only focus on improving the registration cost but also increase the benefits that businesses might acquire if they decide to formalize their business.

Dual Economy Model

Unlike the first two models which are related to government policies and regulations (i.e., burdensome regulations and regulatory cost), the dual economy model specifically explained informality as the "by-product of poverty" (Rothenberg et al., 2016). It was stated that businesses in the informal economy are relatively small; most of which are owned by poor and lesser educated entrepreneurs. In addition, their productivity is relatively low which results in a lesser likelihood of survival in the formal sector. According to Rothenberg et al. (2016), the only solution for this model is to increase the economic growth of the country. The government should try to lessen the poverty rate of the country because the main point of this model revolves around "poverty"; thus, informality is caused by poverty.

Overall, the study of Rothenberg et al. (2016) confirmed that the main cause why firms or businesses engaged in the informal economy is because of the combination of rational exit model and dual economy model. On the other hand, the exclusion model is slightly irrelevant on the decision of businesses to not formalize.

Entrepreneurial Preference and Business Formation

Entrepreneurial preference is defined as the preference of an individual in terms of choosing what path to pursue (i.e., to go formal or informal), considering their socio-demographic characteristics (Babbitt, Brown, & Mazaheri, 2015; Jiminez, Palmero-Camara, Gonzalez-Santos, Gonzalez-Bernal, & Jiminez-Equizabal, 2015). On the other hand, business formation refers to those individuals who have already decided on what sector they want their business to be in, given or considering certain condition/s.

Babbitt et al. (2015) asserted that socio-demographic characteristics (i.e., gender, education, age, location, and marital status) has indeed a significant impact on the preference of an entrepreneur to operate formally or informally. Jiminez et al. (2015) also asserted that socio-demographic characteristics, specifically the education level of an individual, made them prefer to engage in a formal or informal business situation.

For the moderating variable, the socio-demographic concerning urban-rural life determines whether the respondents reside in urban or rural areas. Prior studies (e.g., Elgin & Oyvat, 2013) have examined the informal sector in the urban and rural areas.

The need for a universal research model that defines the factors that affect a person's decision to engage in informal businesses may be resolved through the use of the combined rational exit and dual economy models with the socio-demographic variable influence of urban-rural location of entrepreneurs (Rosenthal et.al, 2016 and Elgin & Oyvat, 2013).

Framework

The study's framework espouses the combination of rational exit and dual economy models of Rosenthal, et al. (2016) with the moderating effect of socio-demographic characteristics as indicated in the research findings of Babbitt et al. in 2015. The *rational exit* and *dual economy* models (Rosenthal et. al., 2016) reveal how the stringency of regulations drives entrepreneurs to enter the informal economy that constitute the institutional perspective. The institutional perspective, alongside the entrepreneurs' motivation and goals; orientation; and culture, serve to influence the entry into the informal economy.

First, entrepreneurial motivation and goals influence entrepreneurs' decision to start a business venture in the informal economy. Their motives may revolve around profit, values, necessity, and/or opportunity (Williams & Nadin, 2012; Williams & Youseff, 2014). Williams & Youseff (2014) differentiated necessity-driven from opportunity-driven entrepreneurs with the former engaging in the informal economy due to their lack of choice; while opportunity-driven entrepreneurs engage as a matter of choice. Thus, Williams & Youseff (2014) revealed that if an individual is profit-driven or necessity-driven, then he/she is more likely to engage in informal business activities while opportunity-driven entrepreneurs enter the informal economy to exploit available opportunities. Furthermore, Williams & Youseff (2014) surmised that opportunity driven entrepreneurs may also be construed as value-driven entrepreneurs who specifically seek to promote the well-being of the public (or their target market).

As for entrepreneurial orientation, Olabisi, Olagbemi, and Atere (2014) reveal that the exposure of an individual to different entrepreneurial activities and business advisors positively impacts the enterprise performance of his/her business in the informal sector. Thus, those with a background or training in business tend to be more successful in running their own businesses, even if it is not yet registered. Formalization of businesses does not constantly equate to success because the acquisition of the necessary expertise and experience are the real drivers of success.

The third independent variable is entrepreneurial culture measured in terms of innovation, and risk-taking may then increase the resolve of entrepreneurs to enter the informal economy (Correa, Vale, & Cruz, 2016).

The last independent variable covers the institutional perspective as it specifically addresses the level of urbanization and the ease of doing business which were observed by Elgin & Oyvat (2013) to have an inverted-U relationship. Elgin & Oyvat (2013) found that the size of the informal economy increases during the commencement of the population shift from rural to urban areas, and declines upon the end of the shift due to the stricter enforcement of policies. Thus, urbanization coupled with strict enforcement of regulations decreases the ease of entry in the formal economy. For that reason, most individuals have ultimately opted to venture into the informal economy.

The *independent variables* include the following: (1) entrepreneurial motivation and goals; (2) entrepreneurial orientation; (3) entrepreneurial culture; and (4) institutional perspective. The *moderating variable* encompasses the socio-demographic characteristics; and these consist of gender, age group, educational attainment, marital status, and average income. The *dependent variable* covers the entrepreneurial entry into the informal economy.

Thus, the following null hypotheses were tested:

Ho_1: Motivation and goals do not significantly influence the decision of entrepreneurs to enter the informal economy.
Ho_2: Entrepreneurial orientation does significantly influence the decision of entrepreneurs to enter the informal economy.
Ho_3: Entrepreneurial culture does significantly influence the decision of entrepreneurs to enter the informal economy.
Ho_4: Institutional perspective does not significantly influence the decision of entrepreneurs to enter the informal economy.
Ho_5: Motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective do not significantly influence the decision of entrepreneurs to enter the informal economy.

The moderating variable encompasses the socio-demographic characteristics; and these consist of gender, age group, educational attainment, marital status, and average income. With the assumed interaction effect of these variables, the following hypotheses were tested:

Ho_6: Gender does not enhance (or reduce) the influence of motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective on the decision of entrepreneurs to enter the informal economy.

Ho_7: Age does not enhance (or reduce) the influence of motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective on the decision of entrepreneurs to enter the informal economy.

Ho_8: Educational attainment does not enhance (or reduce) the influence of motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective on the decision of entrepreneurs to enter the informal economy.

Ho_9: Marital status does not enhance (or reduce) the influence of motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective on the decision of entrepreneurs to enter the informal economy.

Ho_{10}: Average income does not enhance (or reduce) the influence of motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective on the decision of entrepreneurs to enter the informal economy.

Research Design

The quantitative research design covered the data extracted from the Global Entrepreneurship Monitor's (GEM, 2013) Adult Population Survey (APS) Global Individual Level Data for Registration Optional Questions. The GEM 2013 APS was the year when the optional questions on business registration was included as a special topic in the annual survey.

Thus, descriptive and causal-explanatory research designs were used for this research**.**

Sample Size

The sample size was limited to the owner-managers respondents of the GEM APS survey in the Philippines who were primarily identified through their response in the dichotomous question: *Are you, alone or with others, currently the owner of a business you help manage, self-employed, or selling any goods or services to others?* The respondents who stated "yes" are then categorized as owner-managers. Having filtered the data, the sample size had been reduced to 677 respondents.

The respondents further include the entrepreneurs operating in both the formal and informal sector. Informal entrepreneurs were determined through the question: *Have you registered your business with the Department of Trade and Industry?* The individuals who responded with "no" are automatically classified as informal entrepreneurs. After filtering the data, the sample size had ultimately been reduced to 293 respondents. Most of these respondents (i.e., 77 out of 293) specifically belong in the 35- to 44-year-old age group.

Results

Regression Analysis

This study validated the aforementioned null hypotheses summarized in Table 1 which presents the generated regression results. The following logistic regression equations were used to test the hypotheses, where p is the probability of entering the informal economy; logistic regression coefficients $\beta_0 \ldots \beta_n$ are the coefficients of the logistic regression equation for Ho_1 where the independent variable motivation and goals are composed of being Necessity-Driven (x_1), or Opportunity-Driven (x_2):

$$\text{logit}(p) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon \quad (1)$$

Logistic regression equation for Ho_2 where the independent variable entrepreneurial orientation are composed of Entrepreneurial Training and Activities (x_3), and Entrepreneurial Role Model or Advisors (x_4):

$$\text{logit}(p) = \beta_0 + \beta_1 x_3 + \beta_2 x_4 + \varepsilon \quad (2)$$

Logistic regression equation for Ho_3 where the independent variable entrepreneurial culture are composed of Innovation (x_5), and Risk taking (x_6):

$$\text{logit}(p) = \beta_0 + \beta_1 x_5 + \beta_2 x_6 + \varepsilon \quad (3)$$

Logistic regression equation for Ho_4 where the independent variable institutional perspective are composed of Urbanization (x_7), and Ease of entry of starting a business (x_8):

$$\text{logit}(p) = \beta_0 + \beta_1 x_7 + \beta_2 x_8 + \varepsilon \quad (4)$$

Logistic regression equation for Ho_5 where the combination of all independent variables were included and are composed of motivation and goals represented by either being necessity-driven (x_1), or opportunity-driven (x_2); entrepreneurial orientation is composed of entrepreneurial training and activities (x_3), entrepreneurial role model or advisors (x_4); entrepreneurial culture is composed of innovation (x_5), and risk taking (x_6); and institutional perspective has urbanization (x_7), and ease of entry in starting a business (x_8) as its measures. Equation 5 shows this relationship as:

$$\text{logit}(p) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \beta_8 x_8 + \varepsilon \quad (5)$$

Significant Predictors of Entry Into the Informal Economy

Motivation and goals of necessity-driven entrepreneurs. The influence of motivation and goals, in terms of being opportunity-driven and necessity-driven, on the decision of entrepreneurs to enter the informal economy was the only hypothesis to be proven to exist among GEM 2015 respondents. The other hypotheses generated by the study involving the independent variables taken individually and as a set of predictors, which include motivation and goals, entrepreneurial orientation, an entrepreneurial culture, and institutional perspective, failed to show their influence on the decision to enter the informal economy.

Based from the regression analysis of Brisueño, Lim, Saripada, and Yaoching (2017), Table 1 presents the probability value (p-value) of the final model at 0.042, indicating that motivation and goals in terms of being opportunity and necessity-driven, influence the decision of entrepreneurs to enter the informal economy. However, motivation and goals can only explain 8.3% of the decision to enter the informal economy. This is relatively low because McFadden (as cited in Enkelmann, 2013) indicated that a good model fit entails an adjusted R^2 greater than or equal to 0.20 or 20%. Being necessity-driven resulted in a beta coefficient of -1.865 and a p-value of 0.041. This indicates that holding all other variables constant, a unit increase in the necessity-driven variable would decrease the likelihood of registering the business by 1.865. It can, therefore, be deduced that the more entrepreneurs have no better choices for work, the more they opt not to register their businesses.

Table 1. *Summary of Multinomial Logistic Results*

Hypotheses		Coefficient estimate	p-value	McFadden's Adjusted R^2	Model Sig
Ho_1: Motivation and goals				**0.083**	**.042***
	Intercept	-1.400	0.090		
	Necessity-driven = No better choices for work	-1.865	**0.041***		
Ho_2: Entrepreneurial Orientation				**0.010**	**0.768**
	Intercept	-2.478	0.000		
Ho_3: Entrepreneurial Culture				**0.017**	**0.693**
	Intercept	-2.424	0.000		
Ho_4: Institutional Perspective				**0.068**	**0.105**
	Intercept	-5.121	0.000		
Ho_5: All variables				0.179	0.116
	Intercept	-3.915	0.024		
	Urbanization = Urban	2.175	**0.045***		

The reference category is 2 (The business has not been registered in the DTI).
**significant model (or variable)*

The integrative model (all variables) in Table 1, where all predictor variables were found not significant (p = .116) in influencing the entrepreneurs' decision to enter the informal economy, yielded the highest explanatory power with McFadden's R^2= 0.179. This implies that motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective can only explain entry into the informal economy by 17.9%. We nonetheless deemed that this would not suffice because a good model fit must generate a McFadden's R^2 greater than or equal to 0.20 or 20%. Other variables aside from motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective should eventually be tested to increase the goodness of fit of the model.

Although the combination of all the independent variables for this study was not proven to exert influence on the decision of entrepreneurs to engage in informal entrepreneurship, urbanization, a construct of the institutional perspective, showed significant and positive influence on the decision to enter the informal economy.

Results in Table 1 disclose that the entrepreneurs who registered their businesses, relative to the reference category of entrepreneurs who did not register their businesses, regarded urbanization as a significant predictor in the model. It can be observed that the urbanization variable obtained a beta coefficient of 2.175 and a p-value of 0.045. Holding all other variables constant, a unit increase in the urbanization variable would increase the likelihood of registering the business by 2.175. This implies that when an entrepreneur resides in an urban area, he/she would most probably register the business.

Elgin and Oyvat (2013) claimed that urbanization decreases the size of the informal economy. It can, therefore, be presumed that entrepreneurs located in the urban areas would mostly register their businesses despite burdensome regulations.

Average Income as Predictor of Entry Into the Informal Economy

With the inclusion of the socio-demographic variables such as gender, age group, educational attainment, marital status, and average income of the GEM respondents, their interaction effects were individually tested across the relationships of the set of predictor variables such as motivation as goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective on the decision of entrepreneurs to enter the informal economy.

The following logistic regression equations were used to test the hypotheses, where p is the probability of entering the informal economy; logistic regression coefficients $\beta_0 \ldots \beta_n$ are the coefficients of the logistic regression equation while the interaction effect of the moderating variables such as gender (M_1); age (M_2); educational attainment (M_3); marital status (M_4); and average income (M_5) were each cross multiplied with the independent variables of motivation and goals which are composed of being necessity-driven (x_1), or opportunity-driven (x_2); entrepreneurial orientation is composed of entrepreneurial training and activities (x_3), entrepreneurial role model or advisors (x_4); entrepreneurial culture is composed of Innovation (x_5), Risk taking (x_6); and institutional perspective composed of urbanization (x_7), and ease of entry in starting a business (x_8). The following moderated regression equations 6 to 10 represent hypotheses 6 to 10:

$$\text{logit}(p) = \beta_0 + \beta_1(x_1 * M_1) + \beta_2(x_2 * M_1) + \beta_3(x_3 * M_1) + + \beta_4(x_4 * M_1) + \beta_5(x_5 * M_1) + \varepsilon \quad (6)$$

$$\text{logit}(p) = \beta_0 + \beta_1(x_1 * M_2) + \beta_2(x_2 * M_2) + \beta_3(x_3 * M_2) + + \beta_4(x_4 * M_2) + \beta_5(x_5 * M_2) + \varepsilon \quad (7)$$

$$\text{logit}(p) = \beta_0 + \beta_1(x_1 * M_3) + \beta_2(x_2 * M_3) + \beta_3(x_3 * M_3) + + \beta_4(x_4 * M_3) + \beta_5(x_5 * M_3) + \varepsilon \quad (8)$$

$$\text{logit}(p) = \beta_0 + \beta_1(x_1 * M_4) + \beta_2(x_2 * M_4) + \beta_3(x_3 * M_4) + + \beta_4(x_4 * M_4) + \beta_5(x_5 * M_4) + \varepsilon \quad (9)$$

$$\text{logit}(p) = \beta_0 + \beta_1(x_1 * M_5) + \beta_2(x_2 * M_5) + \beta_3(x_3 * M_5) + + \beta_4(x_4 * M_5) + \beta_5(x_5 * M_5) + \varepsilon \quad (10)$$

Regression analysis based on Brisueño et al. (2017) reveals the model fitting information generated after the inclusion of the socio-demographic variables (Table 2). Only the interaction effect of average income was proven to be significant with p = 0.018. Thus, average income as a covariate is significant. This indicates that average income enhances the influence of motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective on the decision of entrepreneurs to engage in informal entrepreneurship. The inclusion of average income has the highest explanatory power of 0.232. This suggests that motivation and goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective can now explain entry into the informal economy by 23.2%. It must consequently be noted that this is a

Table 2. *Parameter Estimates of Motivation and Goals, Entrepreneurial Orientation, Entrepreneurial Culture, Institutional Perspective, and Business Registration Moderated by Socio-Demographic Variables*

Business Registration		Coefficient estimates	Sig.	Model Adjusted R^2	Model Sig.
Ho_6: All Variables Moderated by Gender	Intercept	-5.137	0.010	0.189	0.102
	Gender	0.689	0.192		
	Urbanization = Urban	2.155	**0.048***		
Ho_7: All Variables Moderated by Age group	Intercept	-4.181	0.032	0.179	0.144
	Age Group	0.057	0.759		
	Urbanization = Urban	2.191	**0.044***		
Ho_8: All Variables Moderated by Educational Attainment	Intercept	-4.802	0.014	0.187	0.111
	Educational Attainment	0.269	0.237		
	Urbanization = Urban	2.149	**0.048***		
Ho_9: All Variables Moderated by Marital Status	Intercept	-3.249	0.075	0.187	0.108
	Marital Status	-0.321	0.264		
	Necessity-driven = No better choices for work	-2.026	**0.042***		
	Urbanization = Urban	2.216	**0.044***		
Ho_{10}: All Variables Moderated by Average Income	Intercept	-5.592	0.004	0.232	.018*
	Average Income	0.379			
	Opportunity-driven = Yes	2.230	**0.043***		

Note:
The reference category is 2 (The business has not been registered in DTI).
**significant model (or variable)*

good model fit, and this is attributed to the fact that the explanatory power (McFadden's R^2) is greater than 20%.

The average income covariate generated a beta coefficient of 0.379 and a p-value of 0.002. Assuming the other variables remain constant, a unit increase in the average income covariate would increase the likelihood of registering the business by 0.379. This is prompted by the fact that entrepreneurs with adequate income can manage the costs associated with the formal economy (e.g., business registration and taxes).

Average income's interaction with opportunity-driven variable obtained a beta coefficient of 2.230 and a p-value of 0.043. As the other variables remain constant, with higher average income, opportunity-driven entrepreneurs would have a higher likelihood of registering the business by 2.230. This suggests that the recognition of viable business opportunities would most probably induce higher income entrepreneurs to register their businesses.

Interaction Effects of Urbanization and Socio-Demographic Variables

Although gender, age, educational attainment, and marital status did not exert significant interaction effects, the variable "urbanization" proved to be a significant predictor when combined with these socio-demographic variables. Urbanization and gender interaction generated a beta coefficient of 2.155 and a p-value of 0.048 while urbanization and age interaction generated a beta coefficient of 2.191 and a p-value of 0.044. Urbanization and educational attainment interaction generated a beta coefficient of 2.149 and a p-value of 0.048 while urbanization and marital status interaction generated beta coefficient of 2.216 and a p-value of 0.044.

As the other variables remain constant, a unit increase in the urbanization variable would increase the likelihood for older, female, educated, and married entrepreneurs of registering the business by 2.191, 2.155, 2.149, and 2.216, respectively. This similarly indicates that when older, female, educated, and married entrepreneurs reside in the urban area, they would most probably register their businesses. Urbanization prompts entrepreneurs to enter the formal economy. This is the case because compared with rural areas; urban areas typically employ more stringent rules and regulations (Elgin & Oyvat, 2013). As these rules govern each individual, these do not discriminate against gender. The government, therefore, justly enforces these regulations within its jurisdiction; and given this consideration, all entrepreneurs are compelled to comply with the regulations governing the formal economy (e.g., business registration).

It can also be deduced that the older generation is expected to formalize their businesses. Dogrul (2012) supported this claim as he asserted that compared with the younger cohort (15 to 24 years old), the middle-aged cohort is less active in the informal economy. He then attributed this to the fact that the middle-aged cohort is more concerned about financial stability and security; these are the benefits which cannot be provided by informal entrepreneurship.

Jiminez et al. (2015) specifically asserted that as aspiring entrepreneurs receive formal education, they would expectantly engage in formal entrepreneurship. This is prompted by the fact that attaining secondary and tertiary education results in "higher self-confidence, lower perceived risk, and enhanced human capital" (p. 205).

The interaction effect of marital status with being necessity-driven exerted significant influence on the decision of entrepreneurs to enter the informal economy. Marital status and necessity-driven interaction generated a beta coefficient of -2.026 and a p-value of 0.042. Olabisi, Olagbemi, and Atere (2014) mentioned that most individuals enter the informal sector for household survival. This then denotes that single parents (including widows, separated, and divorced) may resort to informal entrepreneurship so they can earn additional income for their families.

Conclusion

The results of the study imply that motivation and goals specifically of the necessity driven entrepreneurs significantly influence the decision of entrepreneurs to enter the informal economy to earn supplemental income. It can be concluded that the motivation and goals of being necessity-driven is a significant predictor of entry into the informal economy with a beta coefficient of -1.865. This then implies that necessity-driven entrepreneurs, who have no better choices for work, will most probably enter the informal economy. On the contrary, results revealed that being opportunity-driven resulted in a beta coefficient of 1.419. This indicates that opportunity-driven entrepreneurs will most probably enter the formal economy. Entrepreneurial orientation, entrepreneurial culture and institutional perspective did not individually influence the decision of entrepreneurs to enter the informal economy as shown by p-values ($p>.05$). Even the combination of all variables was not found to significantly influence the entry to informal economy except for the urbanization variable which obtained a beta coefficient of 2.175 and a p-value of 0.045. Holding all other variables constant, a unit increase in the urbanization variable would increase the likelihood of registering the business by 2.175. This implies that when an entrepreneur resides in an urban area, he/she would most probably register his/her business. Elgin and Oyvat (2013) attested to the aforementioned claim. As discussed in the review of related literature, urbanization decreases the size of the informal economy. It can therefore be presumed that when urban areas impose burdensome regulations, its citizens would reluctantly comply to prevent any complications

Although gender, age, educational attainment, and marital status did not exert significant interaction effects on the entry into the informal system, the average income covariate is significant at $p=.018$. This indicates that average income enhances (or reduces) the influence of motivation & goals, entrepreneurial orientation, entrepreneurial culture, and institutional perspective on the decision of entrepreneurs to engage in informal entrepreneurship. the average income covariate generated a beta coefficient of 0.379 and a p-value of 0.002. Assuming the other variables remain constant, a unit increase in the average income covariate would expectantly increase the likelihood of registering

the business by 0.379. It can then be presumed that the increase in the average income of entrepreneurs would result to the increase in the probability that they would register their businesses. This is prompted by the fact that entrepreneurs with adequate income can manage the costs associated with the formal economy (e.g. business registration and taxes).

Being opportunity-driven obtained a Beta coefficient of 2.230 and a p-value of 0.043 ($p<.05$). As the other variables remain constant, a unit increase in being opportunity-driven would increase the likelihood of registering the business by 2.230. This suggests that the recognition of viable business opportunities would most probably induce entrepreneurs to register their businesses. This may be attributed to the fact that the viability of a business opportunity primarily involves profitability. With this in mind, entrepreneurs would register their businesses since they would expectantly derive profits from these opportunities.

Recommendations

Given that being necessity-driven as a motivation and goal, residing in urban areas and average income of entrepreneurs proved to be significant predictors in the deciding their entry into the informal economy, courses of action for both the entrepreneurs and government are prescribed to reduce informal entrepreneurship. Interview results of Brisueño et al. (2017) with a DTI Senior Trade and Industry Development Specialist from the Bureau of SME Development (DTI Main Office) yielded the following recommendations for the entrepreneurs to encourage them to formalize their businesses.

The Necessity-Driven entrepreneurs (Motivation and goals)

As a result of being necessity-driven entrepreneurs as the main motivation and goal to enter the informal sector, it is recommended that the government should initially focus providing both existing and aspiring entrepreneurs, regardless of age, gender, and size of business, with financial assistance. Necessity-driven individuals (or low-income earners) venture into business for survival purposes, thus, necessitating cheap sources of capital to start up and eventually expand. The foregoing initiatives may then encourage entrepreneurs to formalize or register their businesses. An expert from the DTI office (Brisueño et al., 2017) mentioned the need for the government to disseminate the following entrepreneurship programs to provide MSMEs with financial assistance:

> 1) Pondo sa Pagbabago is a flagship project of President Rodrigo Duterte that aims to discourage individuals from borrowing money at usurious rates because it only entails a 2.5% interest rate and does not require any collateral; 2) Shared facilities of DTI across the country cater to different sectors who are in need of machinery, tools, and equipment which can be utilized by small entrepreneurs and enterprises. DTI has a minimum of 2,000 shared service facilities nationwide which have provided machineries for the production of bamboo crops, banana chips, coconut products, rubber, and the like. (p. 244)

Furthermore, the DTI expert interviewed in Brisueño et al. (2017), emphasized the need for entrepreneurs engaged in any business enterprise specializing in production, processing, and trading and services, with total assets not exceeding Php3 million, to register using the Guidebook for Barangay Micro Business Enterprise (BMBE) Act of 2002 (DTI, 2016). Upon registration, the entrepreneurs will receive incentives and other privileges including tax exemption, minimum wage exemption, and specialized lending (or credit window) facilities.

The preceding programs, although available, were not widely recognized by Filipinos. These programs provide good opportunities for informal entrepreneurs to formalize their entry or register their businesses.

Entrepreneurial Orientation and Culture

Brisueño et al. (2017) concluded that most entrepreneurs with low educational attainment do not have adequate knowledge and training which makes them vulnerable to informality, and will subsequently engage in informal business. In this case, both the government and the entrepreneurs must, therefore, make an effort to create opportunities for them to increase their knowledge, training, and skills. As very few Filipinos are aware of the available entrepreneurship programs, DTI should intensify the promotion of these programs so that many potential and existing entrepreneurs can avail of the said benefits and incentives.

A notable example given by the DTI expert in Brisueño et al. (2017) was the SME Roving Academy—a continuous learning program of DTI. The program, according to the DTI expert interviewed by Brisueño et al. (2017, p. 253), "encourages Filipinos to attend seminars, training, or capability building training to inculcate an entrepreneurial mindset, increase their knowledge regarding the core of entrepreneurship before they venture into a business, and inform them of the possibilities and gains of doing business". This program, according to the SME Roving Academy Operational Manual (DTI, 2019) is comprised of different stages summarized by the DTI expert in Brisueño et al. (2017):

> Capability building stage aims to teach the participants how to conceptualize business ideas and eventually start a business; market readiness stage is –designed for entrepreneurs who already have a business (or product) idea, and needed appropriate marketing strategies. Different cost-efficient strategies, such as costing, pricing, and online marketing) are taught in this stage. Market orientation stage aims to define the positioning of a certain product to prepare and increase the awareness of the entrepreneurs regarding the export market. (pp. 10–13)

DTI also provides a mentoring program called Kapatid Mentor Me program (DTI, 2019) which involves three key components:

1. The Mentor ME (Micro-Entrepreneurs) program which caters to coaching and mentoring of large corporations with MSMEs on the different aspects of business operations;
2. The Adopt-an-SSF (Shared Service Facility) program which helps MSMEs or small entrepreneurs by giving them access to the SSFs in their community; and
3. The Inclusive Business (IB) model of linking MSMEs into the value chains of large companies.
4. At the end of this program, according to the interview of Brisueño et al. (2017) with the DTI expert, the mentor will assist the mentee (i.e., the entrepreneur) prepare a business improvement plan designed to enable business expansion or to improve sales performance to encourage entrepreneurs to formalize their businesses.

Institutional Perspective

Consistent with the opinion found in Pamintuan (2015), the findings of this study where institutional perspective of having stringent laws and procedures in business doing business, the informal entrepreneurs are primarily concerned with the costs, inconveniences (due to red tapes), and uncertainties in the market. Thus, the entrepreneurs should be encouraged to formalize their businesses to take advantage of the benefits and opportunities offered by the succeeding laws and programs implemented by the government.

1. Go Negosyo Act of 2013 (2014) is a law where MSMEs can opt to register their businesses in the established Negosyo Centers. Entrepreneurs can visit at least 613 Negosyo Centers nationwide to register their businesses and avail of business assistance;
2. The Bureau of Domestic Trade Promotion and Export Marketing Bureau, a DTI bureau, assists entrepreneurs by providing them with several platforms to market their products, including trade fairs, trade events, market matching, buyer-supplier matching, road shows, and Go Lokal.
3. DTI also offers several business options to provide aspiring entrepreneurs with some "tried and tested" business models of the public-private partnerships such as Philippine Franchise Association and Filipino Franchisers Incorporated.

References

BIR slaps penalties against 180 unregistered businesses in Zamboanga. (2014, August 27). *MindaNews*. Retrieved from http://www.mindanews.com/top-stories/2014/08/bir-slaps-penalties-against-180-unregistered-businesses-in-zamboanga/

BIR uncovers more than 80,000 unregistered businesses in MM. (2008, July 29). *ABS-CBN News*. Retrieved from https://news.abs-cbn.com/business/07/29/08/bir-uncovers-more-80000-unregistered-businesses-mm

Babbitt, L. G., Brown, D., & Mazaheri, N. (2015). Gender, entrepreneurship, and the formal–informal dilemma: Evidence from Indonesia. *World Development, 72*, 163-174. https://doi.org/10.1016/j.worlddev.2015.02.019

Brisueño, M. G., Lim, G. C., Saripada, N. M., & Yaoching, A. D. (2017). *Informal entrepreneurship: Key drivers of Filipino entrepreneurs' entry into the informal economy based on GEM APS for 2013* (Unpublished undergraduate thesis). De La Salle University, Manila.

Correa V.S., Vale, G.M, & Cruz, M. (2016). Entrepreneurial orientation and religion: the Pastor as an entrepreneur. *Revista de Administração*. DOI: http://dx.doi.org/10.1016/j.rausp.2016.10.005

Dogrul, H. G. (2012). Determinants of formal and informal sector employment in the urban areas of Turkey. *International Journal of Social Sciences & Humanity Studies, 4*(2), 217–231. Retrieved from http://www.sobiad.org/ejournals/journal_ijss/arhieves/2012_2/h_gunsel_dogrul.pdf

DOLE Report. (2008). Workers in the informal economy. *DOLE*. Retrieved from https://www.dole.gov.ph/fndr/bong/files/Workers%20in%20the%20Informal%20Economy.pdf

Department of Labor and Employment. (2016, May 16). *DOLE's Ministerial statement on the 9th ASEAN plus three labor ministerial meeting*. Retrieved from https://www.dole.gov.ph/files/Ministerial%20Statement%20of%20Sec%20RDB%20at%20the%209th%20ASEAN%20Plus%20Three%20Labor%20Ministerial%20Meeting.pdf

Department of Trade and Industry. (2019). *Programs and projects*. Retrieved from https://www.dti.gov.ph/programs-projects

Department of Trade and Industry. (2016). *Guide to Republic Act No. 9178: "Barangay Micro Business Enterprises (BMBEs). Act of 2002*. Retrieved from https://drive.google.com/file/d/0B0ilL7KAK3i5NXUtdmZFbkZtNHc/view

Elgin, C., & Oyvat, C. (2013). Lurking in the cities: Urbanization and the informal economy. *Structural Change and Economic Dynamics, 27*, 36–47. https://doi.org/10.1016/j.strueco.2013.06.003

Enkelmann, S. (2013). *Government popularity and the economy: First evidence from German micro data.* Retrieved from http://www.leuphana.de/fileadmin/user_upload/Forschungseinrichtungen/ifvwl/WorkingPapers/wp_274_Upload.pdf

Galolo, J. (2016, March 12). 100 establishments found violating BIR regulations. *Sunstar.* Retrieved from https://www.sunstar.com.ph/article/62885

Global Entrepreneurship Monitor. (2013). Global entrepreneurship monitor 2013 report. Retrieved from http://www.gemconsortium.org/report/48772

Global Entrepreneurship Monitor. (2013). GEM 2013 APS global individual level data – Registration optional questions. Retrieved from https://www.gemconsortium.org/data/sets?id=aps

Go Negosyo Act of 2013, Republic Act 10644, An Act Promoting Job Generation and Inclusive

Growth through the Development of Micro, Small and Medium Enterprises. Congress of the Philippines (2014).

Jiminez, A., Palmero-Camara, C., Gonzalez-Santos, M. J., Gonzalez-Bernal, J., & Jiminez-Equizabal, J. A. (2015). The impact of educational levels on formal and informal entrepreneurship. *BRQ Business Research Quarterly, 8*, 204–212. Retrieved from http://0-www.sciencedirect.com.lib1000.dlsu.edu.ph/science/article/pii/S2340943615000213

Olabisi, S. Y., Olagbemi, A. A., & Atere, A. A. (2014). *Factors affecting small-scale business performance in informal economy in Lagos State-Nigeria: A gendered based analysis*. Retrieved from http://www.ilo.org/public/english/iira/documents/congresses/regional/lagos2011/5thsession/session5a/smallscaleent.pdf

Pamintuan, A. M. (2015, November 24). Entrepreneurs. *The Philippine Star.* Retrieved from http://www.philstar.com/opinion/2015/11/25/1525704/entrepreneurs

Pasion, P. (2017, May 9). Fast facts: What you need to know about PH's informal sector workers. Rappler. Retrieved from: http://www.rappler.com/newsbreak/iq/169006-fast-facts-philippines-informal-sector-workers

Philippine Statistics Authority. (2009, January 14). Informal sector operators counted at 10.5 million (Results from the 2008 informal sector survey). Retrieved from https://psa.gov.ph/content/informal-sector-operators-counted-105-million-results-2008-informal-sector-survey

Philippine Statistics Authority. (2017, June 30). Farmers, fishermen and children consistently posted the highest poverty incidence among basic sectors – PSA. Retrieved from https://psa.gov.ph/poverty-press-releases

Rothenberg, A. D., Gaduh, A., Burger, N. E., Chazali, C., Tjandraningsih, I., Radikun, R., . . . Weilant, S. (2016). Rethinking Indonesia's informal sector. *World Development, 28,* 96–113. Retrieved from https://ac.els-cdn.com/S0305750X15300978/1-s2.0-S0305750X15300978-main.pdf?_tid=fbf608ab-eb6f-4a01-bbe2-4729ba9322c7&acdnat=1551578680_cd8cd1a8960f09d94e757255c7049a35

Williams, C. C., Martinez-Perez, A., & Kedir, A. M. (2016). Informal entrepreneurship in developing economies: The impacts of starting up unregistered on firm performance. *Entrepreneurship Theory and Practice, 41,* 773–799. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/etap.12238/epdf

Williams, C. C. & Nadin, S. (2012). Re-thinking informal entrepreneurship: Commercial or social entrepreneurs?. *International Journal Social Entrepreneurship and*

Innovation, 1(3), Retrieved from http://eprints.whiterose.ac.uk/87307/1/IJSEI%201_3_Paper%207.pdf

Williams, C. C., & Youssef, Y. (2014). Is Informal Sector Entrepreneurship Necessity- or Opportunity-driven? Some Lessons from Urban Brazil. *Business and Management Research*, *3*(1). Retrieved from www.sciedu.ca/journal/index.php/bmr/article/download/4302/2471