

THE INFLUENCE OF GENDER AND OPERATIONAL LOCALITY ON ENTREPRENEURIAL KNOWLEDGE AND BUSINESS PERFORMANCE

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Abstract

This study set to examine the influence of gender and entrepreneur's operational locality on entrepreneurial knowledge and business performance. A quantitative approach using a cross sectional survey design is utilised for the study. The participants are made up of 299 micro-entrepreneurs with age ranges from 22 to 39 years old (\bar{x} = 29.93 age). The findings indicate that male micro-entrepreneurs score significantly higher on areas of planning and risk assessment while micro-entrepreneurs from Delta State of Nigeria have higher significant mean scores in six (general business ideas, business attitude, knowledge of capital requirement sources, knowledge of environmental forces, knowledge of risk assessment and entrepreneurial psychology) of the seven parameters of entrepreneurial knowledge and business performance. The findings show valuable empirical contribution with policy implications for gender and location factors in micro-entrepreneurial growth in developing economy.

Keywords: Entrepreneurial Behaviours, Knowledge Management, Business Performance, Gender, Nigeria

1. INTRODUCTION

Women entrepreneurial role in socio-economic wellbeing, has led to various stakeholders' recognition and support for positive attitudes towards women entrepreneurial development (Women in Africa Doing Business, 2008). Nevertheless, gender inequality is still a big challenge, as literature has shown that the proportion of women participating in entrepreneurship is lower than that of men (Hindle et al., 2009). The existence of a gap between men and women in entrepreneurship has made the study an attractive upsurge among academics (Hughes et al., 2012). One other factor affecting how business thrives is the location, and this is due to the availability of resources and access to customers (Isaksen, 2006). With increase in competitiveness among entrepreneurs, are also the issues of operational location and technological developments, which are expected to place more demands on entrepreneurial agility and commitment to entrepreneurial activities (Ferreira et al., 2015; Huang and Wang, 2011; Lisboa et al., 2011).

Researchers suggest that substantial entrepreneurial knowledge may probably help in the smooth running of business in terms of its continuous operation, growth and success (Lotz and Marais, 2007; Mutanda et al., 2014) and the possible lowering of gender gap. Entrepreneurial experience is also expected to be a vital inkling in tapping into knowledge gained from prior ventures in formulating and executing plans (Toft-Kehler et al., 2014), which may then be used to liberate an

entrepreneur from idea stock (Eisenhardt and Martin, 2000). It is crucial therefore to understand the impact of operational locality and gender on entrepreneurial knowledge management and business performance.

2. LITERATURE REVIEW

In advancing this study, knowledge spillover theory of entrepreneurship, which starts from the assumption that entrepreneurial decisions are driven by context, that is, knowledge intensity (Acs et al., 2009; Braunerhjelm et al., 2010) will be relied on. The theory posits that context is rich in knowledge and also full of greater degree of uncertainty and entrepreneurial opportunities (Acs and Armington, 2006; Audretsch et al., 2006). The knowledge spillover theory of entrepreneurship holds that entrepreneurial activity is greater when there is greater investment in knowledge while ability to access knowledge spillovers sources is greater for entrepreneurial opportunity (Acs and Armington, 2004). In sum, knowledge spillover theory shows how entrepreneurship can improve growth through overcoming factors that hinder knowledge spillover. It also emphasises the role of individuals in knowledge gatherings activities, which may serve as the breeding ground for entrepreneurial growth.

Research shows that socio-environmental elements exert a different influence on male and female entrepreneurial perceptions (Eddleston and Powell, 2008; Gupta et al., 2009; Kickul et al., 2008; Mueller and Dato-On, 2008); with such influence

weighing more on women than men (Verheul et al., 2005; Watson and Newby, 2005). While Watson (2012) study shows diverse relationships between gender and firm performance, just as studies by Langowitz and Minniti (2007) and Minniti and Nardone (2007) indicate that women perceive fewer opportunities, higher fear of failure, and higher financial barriers than their male counterparts and also that female-led businesses under-performed compare to male-led businesses (Brush et al., 2006; Fairlie and Robb, 2009). Other factors identify include, females' preference to grow businesses slowly (Jennings and Cash, 2006); greater preferences to avoid risk (Swinney et al., 2006); and not willing to risk personal assets and conservative in selecting growth strategies (Coleman, 2007). Evidence from Ghana suggests that female-owned enterprises are less likely to employ debt financing due to differential access to loan facilities and operating in low-technology industries (Abor and Biekpe, 2006). Loscocco et al. (1991) also contend that the differences between men and women socialization and other experiences may have contributed to differential outcomes in business performance; making female-owned enterprises perform worse than male-owned enterprises.

Research reviews indicate that significant number of small and micro-entrepreneurs blindly run their businesses (Mutanda et al., 2014); lack business and planning skills (vanStel and Storey, 2004); not knowledgeable in financial business matters (Kojo, 2010); have little or limited financial planning skills and do not value the information from financial statements (Alattar et al., 2009). Study by Akande (2011) shows that small businesses fail due to lack of basic business managerial experience as well as poor business record keeping. It means therefore that micro-entrepreneurs, need to possess skills that will enable them to effectively function in the turbulent business environment because most entrepreneurial skills come by learning and practicing (Ezeani et al., 2012).

The basis for the inconsistencies observed in gender unequal entrepreneurship outcomes can be established by focussing on the drive for knowledge and successful performance, as the interaction between the social context and the gender may determine the quest for knowledge and excellent performance. According to social psychology theory of gender (Ridgeway 2011; Ridgeway and Correll 2004), gender status beliefs, which are widely, shared cultural beliefs, generally confer men greater ability and also affect the way potential entrepreneurs are evaluated. The patterns of gender-biased feedback may discourage women from persisting toward an entrepreneurial career and disadvantage them in their quest for social and financial support from potential stakeholders.

Another influencing factor is the geographical location, which Bortamuly et al. (2014) claim is crucial in entrepreneurship development. Possibly because higher competition, higher population density, higher demand for goods and services are contributors to higher entrepreneurship opportunities (Sternberg, 2009), as higher value is assigned to entrepreneurial opportunities in urban locations than available in rural environment (Shane, 2004). According to researches superiority of urban areas entrepreneur over rural area entrepreneur is facilitated by higher expectation of returns,

availability of inputs, productive resources, and better infrastructure facilities (Glaeser et al., 2010; Faggio and Silva, 2014). Low population size and low population density result in limited local demand, which deprive rural entrepreneurs from enjoying economies of scale (Bortamuly et al., 2014). Studies also show flourishing entrepreneurship studies, involving urban areas due to localization and urbanization effects (Glaeser et al., 2010) while entrepreneurial studies in the context of rural area are still under researched. The current study sets to investigate how entrepreneurial knowledge and business performance are influenced by operational locality. Delta and Rivers States in this study can be classified as urban areas with the location of most of the oil companies' offices in Nigeria, while Bayelsa is rural being one of the last created States and with fewer facilities. In addition, Delta State is classified as educational developed while Rivers and Bayelsa States are less educationally developed with Bayelsa State being the lowest in the group (Moti, 2008). The burning questions are: Does location of business operation have any influence of entrepreneurial knowledge and business performance? Are there any gender differences in entrepreneurial knowledge and business performance? To what extents is there interaction between locality and gender on entrepreneurial knowledge and business performance? The following hypotheses will be examined:

1. Male micro-entrepreneurs will significantly score higher on each of the entrepreneurial knowledge factors and business performance than their female counterparts.

2. Micro-entrepreneurs from operational locality of Delta State will score higher on each of the entrepreneurial knowledge factors and business performance than their counterparts from operational localities of Rivers and Bayelsa States.

3. There will be significant interaction between gender and operational locality with male micro-entrepreneurs from Delta State having significant higher scoring than any other grouping on entrepreneurial knowledge and business performance.

3. METHODOLOGY

3.1. Research design

A quantitative approach using cross sectional survey design is utilised for the study due to its flexibility and applicability to quantitative data. This method is considered advantageous, as it allows the measurement of micro-enterprise owners' entrepreneurial knowledge and business performance through the use of structured item statements, thereby allowing differential comparisons using two ways analysis of variance. Operational locality is categorised into three (3) while gender into two (2); these are the independent variables, while the dependent variables are the eight factors that make-up entrepreneurial knowledge and business performance.

3.2. Participants

The micro-entrepreneurs from three States in Nigeria; Bayelsa, Rivers and Delta, which are contiguously located to one another in the southern

part of Nigeria that is a wetland area with many rivers and waterways. They are mainly minority ethnic groups of Ijaw, Urhobo, Itsekiri, Kalabari, Ogoni, and many others (Ojaborotu and Uzodike, 2007). The participants are engaging in entrepreneurial activities of beauty salons; fashion design; Internet and telecommunication services; leather and footwear; and furniture makings for a minimum of 3 years as owners. They are all registered as micro-entrepreneur with the Registrar of Companies, Ministry of Trade and Commerce.

Two hundred and ninety-nine micro-entrepreneurs within the age range 22 to 39 years old with the mean age of 29.93 are the participants. Male micro-entrepreneurs account for 62.2% (192) of the participants; the inability of the female participants to complete the questionnaire properly is responsible for the gap in the useable responses compared with the male participants. One hundred micro-entrepreneurs each from the localities participate in the study. The participants are part of the group of micro-entrepreneurs that are participating in improvement programmes for entrepreneurs and do not have prior training experience in entrepreneurship programme or management.

3.3. Instrument

A structured questionnaire design by the researchers is used to gather the data required for this research. The use of questionnaire is considered appropriate because of the assumption that it will assist in translating the research objectives into specific hypothesis. The items and the sources are adapted from literature searches. The questionnaire comprise a 3-item business performance; and a 24-item entrepreneurial knowledge with 8 dimensions: general business ideas (GBI); business attitude (BA); knowledge of project management (KPM); knowledge of capital requirement sources (KCRS); knowledge of environmental forces (KEF); knowledge of risk assessment (KRA); knowledge feedback and business appraisal (KFBA); and entrepreneurial psychology (EP). The question items are tested for reliability by conducting a prior pilot study research on 30 micro-entrepreneurs. The pilot testing reveal the possible problem on performance measurement due to the different business challenges including the target markets which are corrected to enable the participants to respond on the same parameter irrespective of the business sector. For this study, the reliability coefficient alpha of the variables understudy ranged from 0.74 to 0.92.

3.4. Data analysis

Descriptive statistics such as the rate of response, the frequency distribution, the mean and the standard deviation were used at the first stage. The main statistical analysis is two-ways analysis of variance, which is to test for the main and interaction effects. This approach enables the researchers to examine if there is any difference and the extent of interaction between the independent and dependent variables. Three by two ANOVA is done to show the main and interaction effects between the entrepreneurs' operational localities (3) and gender (2) on business performance and entrepreneurial knowledge.

3.5. Procedure

Prior to the training programme that is designed to promote entrepreneurship in the geographical zone, a structured questionnaire, which is self-administered, is given to the micro-entrepreneurs. Of the 360 questionnaires, which are distributed, only 299 questionnaires are found useable indicating a response rate of 68.98% after screening for missing data and validation process. They are given half an hour to complete the questionnaire. Each questionnaire contains a covering letter inviting respondents to participate voluntarily in the study and the assurance that their individual responses will remain anonymous and confidential. The covering letter also states that completing and returning the questionnaires implies an agreement that their responses can be used for research purposes only.

4. RESULTS

4.1. Descriptive and Result of 3x2 ANOVA

Table 1 and 2 show the means score and standard errors on entrepreneurial knowledge and business performance among micro-entrepreneurs genders and operational localities. The average of the respondents is 29.93 years old with a standard deviation of 3.26. All the micro-entrepreneurs are graduates of higher institutions with most entering micro-entrepreneurial activities due to lack of formal employment.

Table 1. Descriptive summary table of operational localities on entrepreneur knowledge and business performance

	Bayelsa			Delta			Rivers		
	\bar{x}	SE	N	\bar{x}	SE	N	\bar{x}	SE	N
GBI	5.14	.32	100	6.46	.29	100	5.82	.28	99
BA	1.41	.28	100	2.53	.25	100	1.29	.25	99
KPM	.65	.28	100	1.80	.25	99	3.64	.25	93
KCRS	4.56	.39	100	6.86	.35	99	6.02	.35	93
KEF	4.86	.44	99	5.52	.39	99	2.90	.38	99
KRA	3.85	.32	100	4.87	.29	97	4.13	.28	99
KFBA	2.09	.35	100	1.46	.32	100	1.79	.31	99
EP	3.24	.31	99	4.36	.28	100	4.21	.27	99
Perf	25.68	1.57	100	33.59	1.41	100	29.34	1.37	99

Note: GBI = Generation of business idea; BA = Business attitude; KPM = Knowledge of project management; KCRS = Knowledge of capital requirement sources; KEF = Knowledge of environmental forces; KRA = Knowledge of risk assessment; KFBA = Knowledge feedback and business appraisal; EP = Entrepreneurial psychology; Perf. = Business performance.

Table 2. Descriptive summary table of gender on entrepreneur knowledge and business performance

	Male			Female		
	\bar{x}	SE	N	\bar{x}	SE	N
GBI	6.18	.20	192	5.43	.28	107
BA	1.88	.18	192	1.61	.24	107
KPM	2.29	.18	191	1.77	.25	105
KCRS	6.49	.25	187	5.14	.33	105
KEF	4.70	.27	191	4.15	.38	106
KRA	4.69	.21	190	3.87	.28	106
KFBA	2.24	.22	192	1.32	.31	106
EP	4.09	.20	191	3.78	.27	107
Perf	32.24	.99	192	26.83	1.35	107

Table 3. 3 x 2 - ANOVA summary table showing operational locality and Gender differences on entrepreneurial knowledge and business performance among micro-entrepreneurs

	Source	SS	Df	MS	F	Sig.
GBI	State	72.82	2	36.41	4.69	< .01
	Gender	36.61	1	36.61	4.71	< .05
	State * Gender	6.55	2	3.28	.42	> .05
	Error	2276.78	293	7.77		
	Total	2388.79	298			
BA	State	86.84	2	43.42	7.24	< .00
	Gender	4.73	1	4.73	.79	> .05
	State * Gender	.66	2	.33	.06	> .05
	Error	1758.48	293	6.00		
	Total	1861.30	298			
KPM	State	393.92	2	196.96	32.81	< .00
	Gender	17.88	1	17.88	2.98	> .05
	State * Gender	13.72	2	6.86	1.14	> .05
	Error	1740.79	290	6.00		
	Total	2209.55	295			
KCRS	State	222.79	2	111.39	10.03	< .00
	Gender	117.21	1	117.21	10.55	< .00
	State * Gender	38.09	2	19.05	1.71	> .05
	Error	3177.15	286	11.11		
	Total	3533.78	291			
KEF	State	350.86	2	175.43	12.57	< .00
	Gender	20.07	1	20.07	1.44	> .05
	State * Gender	13.84	2	6.92	.50	> .05
	Error	4062.07	291	13.96		
	Total	4474.88	296			
KRA	State	47.26	2	23.63	3.02	< .05
	Gender	43.99	1	43.99	5.61	< .05
	State * Gender	9.89	2	4.93	.63	> .05
	Error	2272.26	290	7.84		
	Total	2360.51	295			
KFBA	State	16.67	2	8.34	.90	> .05
	Gender	55.47	1	55.47	5.96	< .05
	State * Gender	1.78	2	.89	.10	> .05
	Error	2717.89	292	9.31		
	Total	2804.52	297			
EP	State	59.50	2	29.75	4.10	< .05
	Gender	6.19	1	6.19	.85	> .05
	State * Gender	7.22	2	3.61	.50	> .05
	Error	2121.56	292	7.27		
	Total	2205.81	297			
Perf	State	2637.34	2	1318.67	7.15	< .00
	Gender	1920.13	1	1920.13	10.40	< .00
	State * Gender	113.37	2	56.68	.31	> .05
	Error	54079.40	293	184.57		
	Total	58509.07	298			

The findings 3 by 2 analysis of variance reveal significant statistical differences among micro-entrepreneurs on general business ideas [F (2, 293) = 4.69, $p < 0.01$]; business attitude [F (2, 293) = 7.24, $p < 0.00$]; knowledge of project management [F (2, 290) = 32.81, $p < 0.00$]; knowledge of capital requirement sources [F (2, 286) = 10.03, $p < 0.00$]; knowledge of environmental forces [F (2, 291) = 12.57, $p < 0.00$]; knowledge of risk assessment [F (2, 290) = 3.02, $p < 0.05$]; entrepreneurial psychology [F (2, 292) = 4.10, $p < 0.05$]; and business performance [F (2, 293) = 7.17, $p < 0.00$] across the three operational localities (States) while there is no statistical significant difference on knowledge feedback and business appraisal [F (2, 292) = 0.90, $p > 0.05$] across operational localities.

The result of post hoc analysis using LSD, shows significant \bar{x} difference of -1.32 at $p < .01$ between the means score of Delta State micro-entrepreneurs ($\bar{x} = 6.46$) and Bayelsa State micro-entrepreneurs ($\bar{x} = 5.14$) on general business ideas.

The mean score of micro-entrepreneurs Delta State ($\bar{x} = 2.54$) is significantly higher than the mean score of micro-entrepreneurs from Bayelsa State ($\bar{x} = 1.41$) and Rivers State ($\bar{x} = 1.30$) on business attitude.

On the knowledge of project management, Rivers State micro-entrepreneurs has significant higher mean score ($\bar{x} = 3.64$) than Delta State micro-entrepreneurs ($\bar{x} = 1.80$) and Bayelsa State micro-entrepreneurs ($\bar{x} = 0.65$); there is also significant mean difference between Delta State and Bayelsa State micro-entrepreneurs.

Delta State and Rivers State micro-entrepreneurs have significant higher mean score of ($\bar{x} = 6.86$) and ($\bar{x} = 6.02$) respectively on knowledge of capital requirement sources than Bayelsa State micro-entrepreneurs ($\bar{x} = 4.56$).

Post hoc analysis further reveals that Delta State and Bayelsa State micro-entrepreneurs have significant higher mean score of ($\bar{x} = 5.52$) and ($\bar{x} = 4.86$) respectively on knowledge of environmental forces than Rivers State micro-entrepreneurs low mean score of ($\bar{x} = 2.90$).

On the knowledge of risk assessment, there is significant higher mean score difference between Delta State micro-entrepreneurs ($\bar{x} = 4.87$) and Bayelsa State micro-entrepreneurs ($\bar{x} = 3.85$).

Bayelsa State micro-entrepreneurs mean score ($\bar{x} = 3.28$) is significantly low on entrepreneurial psychology than Rivers State and Delta State micro-entrepreneurs mean score of ($\bar{x} = 4.21$) and ($\bar{x} = 4.36$).

On business performance across the three operational localities, the micro-entrepreneurs from Delta State have significant higher mean score of ($\bar{x} = 33.59$) than micro-entrepreneurs from Rivers State mean score of ($\bar{x} = 29.34$) and Bayelsa State mean score of ($\bar{x} = 25.68$).

In summary, Delta State micro-entrepreneurs have higher significant statistical mean score in six of the seven dimensions of entrepreneurial knowledge (general business ideas, business attitude, knowledge of capital requirement sources, knowledge of environmental forces, knowledge of risk assessment and entrepreneurial psychology), in addition to significant higher mean score on business performance. While Rivers State micro-entrepreneurs have higher significant statistical mean score only on knowledge of project management.

The findings on gender factor reveal significant main effect on general business ideas [F (1, 293) = 4.71, $p < 0.05$] with male micro-entrepreneurs report ($\bar{x} = 6.18$) higher mean score on general business ideas than the female micro-entrepreneurs ($\bar{x} = 5.43$).

On knowledge of capital requirement sources, male micro-entrepreneurs means score ($\bar{x} = 6.49$) is significantly higher [F (1, 286) = 10.55, $p < 0.00$] than the female micro-entrepreneurs ($\bar{x} = 5.14$).

The result on knowledge of risk assessment shows significant difference [F (1, 290) = 5.61, $p < 0.05$] with micro-entrepreneurs male report ($\bar{x} = 4.70$) higher mean score than their female counterparts ($\bar{x} = 3.87$); while knowledge feedback and business appraisal result indicates significant

difference [$F(1, 292) = 5.96, p < 0.05$] with male micro-entrepreneurs report ($\bar{x} = 2.24$) higher mean score than female micro-entrepreneurs ($\bar{x} = 1.32$).

Findings on business attitude, knowledge of project management, knowledge of environmental forces, and entrepreneurial psychology reveal no gender statistical significant gender difference.

A further breakdown of the gender differences across the three operational localities of Bayelsa, Delta and Rivers reveal that there are significant differences on business performance mean score [$F(1, 293) = 10.40, p < 0.00$] with male micro-entrepreneurs having a mean score of ($\bar{x} = 32.24$) while female micro-entrepreneurs have a mean score of ($\bar{x} = 26.83$). However, none of the possible interaction factors are significant in this study.

5. DISCUSSION AND CONCLUSION

The study's findings show partial significant. First the findings of hypothesis, which investigate gender difference on entrepreneurial knowledge factors and business performance reveal that male micro-entrepreneurs are significantly different on general business ideas, knowledge of capital requirement sources, knowledge of risk assessment, and knowledge feedback and business appraisal than their female counterparts. The lower scoring of female micro-entrepreneurs in areas of calculation and planning tend to reflect the issue of limited planning skills; inability to seek information, lack of basic business management experience, and poor business record keeping as advance by scholars (such as Akande, 2011; Alattar et al., 2009; Mazarrol et al., 2009; vanStel and Storey, 2004). The lower significant difference of female micro-entrepreneurs compared with their male counterparts, confirms the observation of Swinney et al. (2006) and Coleman (2007) of females preferences to avoid risk and not willing to risk personal assets and conservative in selecting growth strategies. Similarly, the gender difference in knowledge of capital requirement sources endorses Abor and Biekpe (2006) finding that female entrepreneurs are less likely to employ debt financing.

The findings also show that male micro-entrepreneurs have higher mean score on business performance than the female micro-entrepreneurs. This confirms earlier finding that female business owners under-performed than male business owners (Brush et al., 2006; Fairlie and Robb, 2009). Nevertheless, there are no significant gender differences in business attitude, knowledge of project management, knowledge of environmental forces and entrepreneurial psychology; thus confirming Heilbrunn (2004) finding that female-entrepreneurs are now being recognised as successful entrepreneurs and growing due to acquisition of knowledge base which is one of the factors that determine entrepreneurial success. Generally, the mix results can be attributed to gender socialization processes and experience (Loscocco et al., 1991) which are prevalent in the micro-entrepreneurs vicinity.

The results also show that micro-entrepreneurs responses differ across operational localities with micro-entrepreneurs from Delta State locality significantly different from other localities on six of the dimensions of entrepreneurial knowledge

(general business ideas, business attitude, knowledge of capital requirement sources, knowledge of environmental forces, and entrepreneurial psychology), thus confirming that socio-environment exerts influence on the micro-entrepreneurs (Eddleston and Powell, 2008; Gupta et al., 2009; Kickul et al., 2008; Mueller and Dato-On, 2008) being a result of urbanization and ruralisation. It can be said that the need to compete for customers through provision of competitive goods and services, higher demands (Sternberg, 2009) and better infrastructural facilities (Glaeser et al., 2010; Faggio and Siva, 2014) may have motivated micro-entrepreneurs from Delta State locality to perform better on entrepreneurial dimensions than those from other localities.

5.1. Conclusion

The study highlight the widely acknowledged importance of entrepreneurial knowledge behaviour. This study identifies the areas where differences are found to be significant between male and female micro-entrepreneurs; these differences specifically show that male micro-entrepreneurs are more than the female counterpart in the areas of general business ideas, Knowledge of capital requirement sources, knowledge risk assessment, Knowledge feedback and business appraisal and business performance. In addition, the study also show differences in operational localities with urban locality micro-entrepreneurs performing better in most of entrepreneurial knowledge dimensions and business performance. Further study is needed not only to ask the question of why but seek to provide implementable solutions.

The findings contribute to empirical studies on entrepreneurial knowledge, business performance, gender and location (urban and rural areas) as it deepens our understanding of individual entrepreneurial knowledge behaviour not only for academic purpose, but also for management interest as well. Thus, stakeholders need to promote equitable access for women and men on resources, knowledge, information and services so as to facilitate the implementation of corrective measures to address noticeable inequalities in access to and control over resources; including proactive measures to improve probable barriers militating entrepreneurial inequity. Also, foster strategies that can promote competitive entrepreneurial growth across operational localities (urban and rural areas) and gender (with women as the focal point, as they are also a valuable part of entrepreneurial diversity).

There is a need for more entrepreneurship education such as skills training, business counselling, and creation of support networks which must be accessible to everyone including the stakeholders in order to improve their professional and technical competence, especially in the areas of programme conception, design, implementation and evaluation for entrepreneurs.

5.2. Limitation

First, the study is limited in the analysis to those who agreed to participate in the training workshop and study, which is also responsible for disparity in figures of female participants. Second, the dataset is

limited by the set of control variables such as the sector composition in micro-enterprise. Future studies can build on our definition of entrepreneurial knowledge so as to directly assess incremental validities of entrepreneurial knowledge variables. A more thorough examination of the gender gap will be an interesting topic for further research such as composition of economic activities, access to loans and taxation as this may provide valuable policy guidance. Further study using comparisons of different methodological approaches in the context of entrepreneurial knowledge measurement and business performance is also desirable.

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