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Determinants of Training Implementation and Intention in Lao Firms

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Abstract: The present study aims to investigate determinants of training implementation and intention for firms in Lao PDR. In developing countries like Lao PDR in particular, enterprises are increasingly required to be internationally competitive through such efforts as developing human resources to deal with regionalization and globalization. Training is seen as a major way to develop human resources, but it has not yet been implemented intensively enough. Therefore, it is worth investigating the determinants of training in these firms. We utilize data from the Enterprise Survey 2013 by Deutsche Gesellschaft für Internationale Zusammenarbeit and analyze stratified random sample of 658 small and medium enterprises using ordinary least squares (OLS) and logistic regressions. The results are non-uniform among the different dependent variables, such as engagement in vocational training, the existence of training intention for entrepreneurs and employees, and skills variety of training premeditation for employers and employees. For instance, a gender of entrepreneur has a significantly positive effect on training implementation but an insignificant effect on training plan. Education of entrepreneur has an unconvincing effect on training execution but a significantly positive outcome on training will. Some other independent variables show more inconclusive but explainable results (e.g., firm size, competition problems, membership of a business organization, and age of entrepreneur). However, located in Vientiane Capital has a significant effect but firm-age and ethnicity of entrepreneur are insignificant. The results suggest to pay more careful attention to the potential differences among different training-related variables.

Keywords: Training, Entrepreneurs, Employees, Developing countries, Lao PDR

1. Introduction

Developing countries, including Lao PDR, faced globalization and regionalization and consequently, firms in those countries are increasingly required to be internationally competitive to deal with intensifying pressure from new and existing competitors. This high contention increase more anxiety for small and medium-sized enterprises (SMEs), which tend to be dominant in developing countries and have relatively limited resources. The present study focuses on human resource (HR) development for achieving sustainable competitive advantage. Among other measures, formal training is regarded as one of the major ways to achieve HR development, but it has not been implemented intensively enough thus far in Lao firms. Training is just one type of opportunity among other learning opportunities, but it can be an important one. Training is expected to stimulate employees' intentions to take other opportunities and coordinate fragmented learning experiences into more systematic-ones. As discussed extensively in Hansson (2007), studies on organization-based determinants of training have been very limited. The units of analysis for training-determinant studies are individual trainees rather than organizations, partly because the theoretical background for such studies is labor economics. On the other hand, when corporations are the units of analysis, more often than not, from the perspective of HR management studies, their scope is skewed for training outcomes, such as organizational performance. However, the above-mentioned results from studies on training determinants and consequences mean we should not ignore the relatively neglected research area of organization-based determinants of training. More specifically, as organizational characteristics have been proved to predict individual training participation, we investigate the organizational-level evidence. Also, at the organizational level, as training is expected to affect

performance positively, it is worth analyzing the determinants of training. The other important aspect of studies concerns the measurement of training and its consequences for the results of the causal-relationship analysis. Two major ways of measuring in the literature are the proportion of wage bills spent on training (intensity) and those of employees trained per year (incidence) (Hansson, 2007). Although we cannot analyze this precisely due to data constraints, we would add additional aspects to this discussion, such as training implementation and intention, training for entrepreneurs and employees. The structure of the rest of the present paper is as follows. Section 2 reviews prior studies. Specifically, potential determinants of training and measurement of organizational involvement in training are discussed. Section 3 presents the methodology, in particular, data collection, assessment and the analytical method. Section 4 provides the analytical results while Section 5 presents further discussion of the results. Section 6 concludes.

2. Literature review

2.1 Scope of literature review

As mentioned in the introduction, studies on organizational-based determinants of training have been quite limited. Hence, to develop hypotheses for the present study, we have to refer to previous studies that did not have precisely the same scope. To provide a rationale for our proposed hypotheses, we rely on training studies as much as possible. However, when we cannot find relevant discussion, we expand our scope into broader areas, such as the effects on HR management, including those not covering training, and the consequence of entrepreneur characteristics or a business network on organizational level decisions more generally. After that, we provide a rationale for our hypotheses regarding the determinants of training, based on the prior studies in a broader sense. Essentially, we incorporate two aspects: the organizational characteristics and the entrepreneur characteristics. The latter is a unique feature of this study. Our motivation for its inclusion lies in its importance in the decision-making process involving training, especially in the case of smaller firms that are dominant in developing countries.

2.2. Organizational characteristics

In addition to such factors as company age, company size, and industry, which are usually incorporated in the analysis of training determinants, the survey has other company-based variables that may provide a better understanding of what influences the decision to train people. More specifically, business location, competitive problems, and membership of business organizations are variables that may predict organizational level involvement in training. First, the effect of firm-age on HR management practices, including training, has been analyzed but the results are inconclusive. Some studies, including those on Asian developing countries, found firm-age has a positive effect on training while others found an insignificant effect (De Kok *et al.*, 2006). Islam *et al.* (2011) analyzed Bangladeshi SMEs and suggested that the length of time in operation may be associated with learning curves, and therefore, more experienced firms probably have learned much from their experiences more than newcomers. Kristiansen *et al.* (2003) studied Indonesian companies and found that length of time in operation was significantly linked to business success.

Hypothesis 1.1: Firm age has a positive effect on organizational involvement in training.

Firm size, which is often measured by the number of employees, has been expected in prior studies to predict the incidence and intensity of training. Hoque and Bacon (2006) indicated that small firms are less likely to provide training than large enterprises. That is due to more training cost, less chance of return on training investments and the absence of research. According to De Kok *et al.* (2006), it is not low employee numbers that directly explain the lack of professional HR management practices, including training, but the lack of specific organizational and human resources. The lack of information that firms suffer from concerning about managerial resources tends to condition their behavior toward management training (Barrutia *et al.*, 2014). Although Hansson (2007) concluded that the size of the organization is not associated with training incidence and intensity, many other studies have found that firm size has a positive effect on HR management practices, including training (De Kok *et al.*, 2006; Grund and Martin, 2012). Hoque and Bacon (2006) found the same result even within their SME sample. Waddoups (2011) found that much less training occurs in firms with fewer than ten workers.

Hypothesis 1.2: Firm size has a positive effect on organizational involvement in training.

In Lao PDR, like many other developing countries, there is a huge gap between Vientiane Capital and other regions regarding access to training, among other aspects. There is a skewed distribution of training opportunities in the capital

city. Also, to the gap in physical access, access to information on training may be another obstacle to involvement in training (Barrutia *et al.*, 2014).

Hypothesis 1.3: Being located in Vientiane Capital has a positive effect on organizational participation in training compared with being situated in other regions.

As there have been no prior studies precisely investigating the result of competition problems, on firms' inclusion in training, we explore studies that are relevant to some degree. Under competitive conditions, firms are likely to have more incentives involving in training to acquire knowledge and skills. Weinstein and Obloj (2002) analyzed the effect of foreign competition on HR management innovations in the case of post-socialist Poland. Although their study did not include training in the components of HR management alterations, training nevertheless seems relevant, judging from such implements as performance appraisal, mission statement, and an employee suggestion program.

Hypothesis 1.4: Competition problems have a positive effect on organizational involvement in training.

Even after controlling for the outcome of business location, we expect that different-access to information on training may exist and could affect an organization's involvement in training (Barrutia *et al.*, 2014). One potential source of this information gap is membership of business organizations, which could facilitate participation in training. While there is no direct evidence, Lerner *et al.* (1997) proved the effect of business organization membership on firm performance among Israeli female-headed firms. In this context, we could expect there are several mediators between the two. Since training is one of the main business development services provided by business organizations, it is one potential mediator.

Hypothesis 1.5: Membership of business organizations has a positive effect on organizational involvement in training.

2.3 Entrepreneurial characteristics

To develop hypotheses regarding the consequences of entrepreneurial characteristics, we have to pay attention to whether trainees are entrepreneurs and employees. When trainees are employees, we have to consider a more indirect-process, as entrepreneurs' characteristics affect their decisions on whether employees should be trained. On the other hand, when trainees are entrepreneurs, in addition to employers' characteristics that influence their decisions on whether they should be trained themselves; individual-level determinants of training are directly applicable.

Grund and Martin (2012) argued that employers are less willing to provide formal training programs to women because of a lower probability their training investments will amortize, and proved their hypothesis by their empirical study. It was found that male workers acquired more opportunities participating in training than female workers, in the case of non-agricultural private-sector workers in six European countries (Albert *et al.*, 2010). We refer to the argument by Kolvereid (1996), who found that males had significantly higher entrepreneurial intentions than females. These higher entrepreneurial intentions may positively affect their training. This concept applies to training for entrepreneurs directly, which is relevant to our study. In the case of training for employees, male entrepreneurs are expected to pursue long-term growth of their firms compared with female entrepreneurs, and thus, may tend to feel more strongly about providing training opportunities for their employees.

Hypothesis 2.1: Male-headed firms have a positive effect on organizational involvement in training compared to female-headed firms.

According to Ng's (2005) review, it has been well documented in UK studies that the probability of receiving training decreases as an individual ages (Green & Zanchi, 1997; Greenhalgh & Mavrotas, 1996; Oosterbeek, 1996), as well as in a US study (Barron *et al.*, 1997) and an Australian study (Miller, 1994). The human capital theory provides support for these results. That is, the profitability of training decreases with age because a younger worker has more years to amortize her/his training investments (Renaud *et al.*, 2004). Renaud *et al.* (2004) showed that age negatively influenced training participation. In our study, this discussion can be applied to training for entrepreneurs directly. In the case of training for employees, older entrepreneurs, especially those in SMEs, are expected to consider that their businesses will survive for shorter periods than those of younger entrepreneurs, and then, they may tend to feel that their employees have fewer years to amortize firm-investments.

Hypothesis 2.2: Higher age of entrepreneurs has a negative effect on organizational involvement in training.

We find no prior studies on the impact of an entrepreneur's ethnicity on training. However, we can refer to some potential disadvantages for minority groups in accessing information on external formal training. Feagin and Imani (1994), studying contracting and bidding processes by African-American construction entrepreneurs, and Storey (2004), studying racial discrimination for the micro firm credit market in Trinidad and Tobago, did not consider the effects on external formal training, but nonetheless showed that fewer opportunities were available for entrepreneurs of ethnic minority groups. In our study, this discussion can be applied to training for both employers and employees directly, because insufficient information for entrepreneurs leads to less training opportunities for both in similar ways.

Hypothesis 2.3: Entrepreneurs from majority ethnic groups have a positive effect on organizational involvement in training compared to those from ethnic minority groups.

Grund and Martin (2012) insisted that most authors pay attention to the complementary-effect of schooling and further training rather than their substitution effect. Hence, better-educated employees are more efficient in learning, so that further training is rather beneficial for them. Just like other entrepreneurial characteristics, especially in relation to training for entrepreneurs, individuals with higher education are more likely to participate in training, although the effects are not for all levels (e.g., tertiary education in Albert *et al.*, 2010; secondary and tertiary education for managers as well as primary and secondary education for non-managers in Hoque and Bacon, 2006). In our study, this discussion can be applied to training for entrepreneurs directly. In the case of training for employees, more educated entrepreneurs, especially those in SMEs, seem to be more willing to arrange efficient training for their employees than less educated entrepreneurs, and then, may tend to provide their employees with more opportunities for training.

Hypothesis 2.4: The higher education of entrepreneurs has a positive effect on organizational involvement in training.

2.4 Industry as a control variable

We have access to a control variable, the industry dummy. Although industry difference is out of the scope for our analysis of organizational and entrepreneurial determinants of formal training, we would like to control this aspect based on the results of prior studies. For instance, Albert *et al.* (2010) found that being a manufacturing firm had a positive effect on training in the United Kingdom and Spain while there was no evidence in four other European countries. However, in other studies, the industry had an insignificant result (De Kok *et al.*, 2006).

2.5 Measurement of organizational involvement in training

Concerning all the above-mentioned hypotheses, we do not expect different results for different dependent variables, as Hansson (2007) did. He analyzed models with two dependent variables measuring training, that is, "percentage of wage bills spent on training" and "proportion of employees trained." In fact, he obtained different results for some independent variables, such as availability of training policy, the percentage of manual workers, and staff turnover.

We analyze the effects of predictors on five different dependent variables related to training at the organizational level. More specifically, they are

1. Actual engagement in vocational training;
2. An entrepreneur's intention to improve her/his skills generally;
3. An entrepreneur's intention to train their employees generally;
4. An entrepreneur's intention to improve her/his skills multifariously; and
5. An entrepreneur's intention to train her/his employees multifariously.

We can undertake all the analyzes owing to the availability of the data in the survey. First, dependent variable 1 is on the actual engagement or implementation of training while other dependent variables are on intentions. As for intention, there may be decisions regarding prospects for business conditions shortly, in which case, the results may not appropriately reflect the gap between their actual implementation and intention (the sum of no and real implementation, even though planned or intended). However, to some extent, by investigating these two types of training-related variables, we may be able to make an argument about the gap between actual implementation and plans or intentions. Second, we can investigate the difference between general intention (dependent variable 2 and 3) and the degree of skills variety (dependent variable 4 and 5), although the data allow us to analyze the aspect of training intention only. Lastly, for the same four models on training intention, we can compare the cases of training for entrepreneurs (dependent variable 2 and 4) and employees (dependent variable 3 and 5) although again, the data allow us to analyze the aspect of entrepreneur's intention only. As the meanings of entrepreneurial characteristic variables are different between the two cases just above, we should not make a direct comparison in these aspects. For instance, the training for entrepreneurs, we consider the intentions of trainees themselves while the training for employees, our focus is on those of people who are not trainees. However, we may still be able to discuss the potential difference in the results.

3. Methodology

3.1 Data collection

To test the hypotheses in the current research, we utilize the data from the Enterprises Survey 2013 by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ; German Federal Enterprise for International Cooperation). The data was collected in 2013 in five randomly selected Lao provinces, namely, Vientiane Capital, Champasak, Luang Prabang, Luangnamtha, and Savannakhet. The sample size is 722 enterprises. Only formally registered firms were selected. The survey questionnaire consists of eight parts. The first six parts involve quantitative data, that is, fundamental data, characteristics of the business/entrepreneur, problems and framework conditions of the business, skills, business development services, and business taxes and finance, respectively. The remaining two parts are for recommendations. For our research analysis, we use data from parts 1 to 4. Due to missing values in the data from 64 firms, they are excluded from further analyzes, and the remaining 658 samples are utilized to test our hypotheses.

3.2. Measurement

Table 1: Independent/control variables and measurements/descriptions

Independent Variables	Measurements/Descriptions
Firm age	The number of years since the firms has been set up
Firm size	The number of full-time employees
Business location	1 represented to "Vientiane Capital" while 0 is "other provinces."
Competition problem	1 represented to "Having problems" while 0 is "No problem."
Membership of business organization	1 is being a member of at least one business organization; 0, on the contrary, is not being a member of any business organization.
Gender of entrepreneurs	1 represented to male while a female is 0.
Age of entrepreneurs	The age of employers/top/owner-managers
Ethnicity of entrepreneurs	1 was "Lao" while 0 set as dummy variables for "other ethnic groups."
Educational level of entrepreneurs	There are nine levels based on the lowest to the highest respectively, namely no schooling, some primary, completed primary, lower secondary, upper secondary, vocational-2 years, technical (3 years), higher, and post-graduated
Industry sector	1 represented to "Manufacturing section", 0 applied to "Non-manufacturing Section".

The independent and dependent variables are listed one by one below in Tables 1 and 2, respectively. The tables elaborate on each variable, specifically, the questions asked in the questionnaire as well as the scales. We modify some data for our analytical purpose.

Table 2: Dependent variables and measurements/descriptions

Dependent Variables	Measurements/Descriptions
Actual engagement in vocational training	1 represented to “Having an engagement in formal training. 0 refers to “No engagement.”
The entrepreneur’s intention to improve her/his skills generally	1 is for if the entrepreneurs intend to learn any skills among ten types through training to improve their business while 0 is for those do not. Ten types are as follows; formulate a business plan, financial management, marketing management, legal framework for doing business, informational management, production management, technology management, quality management, HR management, and others
The entrepreneur’s intention make their employees trained generally	To know whether the entrepreneurs desire their employees participating in any of eight types of training. 1 represented for answer “yes” while 0 is for “No”. Eight types are as follows; customer service, accounting, record keeping, foreign languages, the operation of machinery and tools, computer, documentation and filing, and others.
The entrepreneur’s intention to improve her/his skills multifariously	Measured by how many out of 10 different types of skills entrepreneurs intend to enhance.
The entrepreneur’s intention make their employees trained multifariously	Measured by how many out of eight different types of training the employers prefer to invest in training employees

3.3 Analytical method

After all, variables are computed by the descriptive statistics function, ordinary least squares, and logit regressions to test the hypotheses. These analyzes perform with SPSS 22.0.

4. Results

Table 3 illustrates the demographic information, specifically, the proportion and percentage of our respondents in 2013 about organizational and entrepreneurial characteristics. These variables are expected to affect the involvement in training—both actual implementation and future intention. Organizational characteristics include firm-age, firm size, industry sectors, business location, competition problems, and membership of business organizations. First, the majorities (64.3 percent) of companies are ten years old or less while 25.3 percent of corporate are between 11 and 20 years old. Second, 85.7 percent of business-units in our sample are small, followed by medium and large enterprises, respectively. Third, industry sectors are divided into manufacturing and non-manufacturing (others).

As the descriptive statistics show, there are more non-manufacturing firms (85.3 percent) than those manufacturing (13.9 percent). Fourth, our research highlights that business location, particularly in Vientiane capital, as an independent variable. Table 3 indicates that 76.2 percent of the sample is in other provinces. Although only 23.8 percent of businesses is in Vientiane Capital, this location is estimated to influence organizational involvement in training significantly. Fifth, there is only a narrow gap between entrepreneurs/managers whose firms had dealt with competition problems, and those who had not (51.8 and 47 percent, respectively). Lastly, there is a slightly higher proportion (53.2 percent) of businesses who were members of business organizations than those who were not (46.8). Entrepreneurial characteristics consist of gender, age, ethnicity, and education levels. In this case, 52.2 percent of entrepreneurs are men and 47.5 percent women. We categorize age into five groups, as shown in Table 3. The proportion of each age group is not very different, except for entrepreneurs under the age of 25 years (5 percent). Most entrepreneurs are between 46 and 55 years old (27.6 percent) followed by those between 36 and 45 years old (27.3

percent), those over 56 years old (21.3 percent), and those between 26 and 35 years old (17.5 percent). In this research, ethnicity is an interesting variable on the investigation. The data reveal that the majority of the sample is ethnic Lao (85.7 percent). Other ethnicities comprise only 9 percent. The last independent variable is education level. We found that 26.6 percent of entrepreneurs had completed upper secondary school, 23.9 percent had bachelor's degrees, and 16.2 percent had completed lower secondary school. In Table 4, the results of three logistic regression models are shown. For Model 1, actual engagement in formal vocational training is positively influenced by firm size ($\beta=0.007$, $p<0.05$), business location ($\beta=0.661$, $p<0.01$), competition problems ($\beta=0.754$, $p<0.01$), membership of business organization ($\beta=0.428$, $p<0.05$), and gender ($\beta=0.523$, $p<0.05$). Thus, H1.2, H1.3, H1.4, H1.5, and H2.1 are supported, whereas the other hypotheses are not.

For Model 2, an entrepreneur's intention to improve her/his skills generally is significantly positively influenced by business location ($\beta=0.503$, $p<0.05$), competition problems ($\beta=0.478$, $p<0.01$), and education level ($\beta=0.178$, $p<0.01$). Hence, H1.3, H1.4, and H2.4 are confirmed. Moreover, the independent variable for the age of entrepreneur produced a significantly negative effect. Thus, H2.2 is also supported. Even though other variables, like firm age, firm size, and gender, are positively related to an entrepreneur's intention to improve her/his skills generally in the model, these results are not significant. Therefore, H1.1, H1.2, and H2.1 are not valid. Furthermore, we obtain unexpected results for two independent variables: membership of business organization and ethnicity of entrepreneurs. These variables negatively affect the intention and are not significant. Therefore, H1.5 and H2.3 are rejected. For Model 3, an entrepreneur's intention to train his/her employees generally is positively influenced by firm size ($\beta=0.032$, $p<0.01$), business location ($\beta=0.457$, $p<0.05$), competition problem ($\beta=0.519$, $p<0.01$), and education level ($\beta=0.114$, $p<0.05$). Hence, H1.2, H1.3, H1.4, and H2.4 are supported. Although the variable for the age of entrepreneur fits the hypothesis, its coefficient is not significant. Thus, H2.2 is rejected, along with the remaining hypotheses.

Table 3: Demographic information

Characteristics	Frequency	Percent
1. Organizational characteristics		
Firm age (years old)		
≤ 10	464	64.3
11-20	185	25.3
21-30	57	7.9
31-40	9	1.2
≥ 41	2	0.3
Missing	5	0.7
Firm size		
Small-sized firm	619	85.7
Medium sized firm	82	11.4
Large sized firm	21	2.9
Industry sectors		
Manufacturing sector	100	13.9
Non-manufacturing sector (others)	616	85.3

Missing	6	0.8
Business location		
Vientiane	172	23.8
Other regions	550	76.2
Competition problem		
No problem	339	47.0
Having problems	374	51.8
Missing	9	1.2
Membership of business organizations		
Yes	384	53.2
No	338	46.8
2. Entrepreneurial characteristics		
Gender		
Male	377	52.2
Female	343	47.5
Missing	2	0.3
Age (years old)		
≤ 25	36	5.0
26-35	126	17.5
36-45	197	27.3
46-55	199	27.6
≥ 56	154	21.3
Missing	10	1.4
Ethnic group		
Lao	619	85.7
Other ethnic groups	65	9.0
Missing	38	5.3
Education		
No schooling	16	2.2
Some primary school	9	1.2
Completed primary school	73	10.1

Lower secondary school	117	16.2
Upper secondary school	188	26.1
Vocational	61	8.5
Technical	31	4.3
Higher (under graduated)	172	23.9
Post-graduated	54	7.5
Missing	1	0.1

Table 4: The analytical results of logistic regression models

	Model 1		Model 2		Model 3	
	Actual engagement with formal vocational training centers		Entrepreneur's intention to improve her/his skills generally		Entrepreneur's aim make their employees trained	
	Coefficients	Odds ratio	Coefficients	Odds ratio	Coefficients	Odds ratio
Independent Variables						
Firm age	-0.003	0.997	0.001	1.001	0.002	1.002
Firm size (the number of employees)	0.007**	1.007	0.004	1.004	0.032***	1.032
Business location	0.661***	1.936	0.503**	1.653	0.457**	1.579
Competition problem	0.754***	2.126	0.478***	1.613	0.519***	1.680
Membership of business organization	0.428**	1.534	-0.107	0.898	-0.022	0.978
Gender of entrepreneurs	0.523**	1.687	0.221	1.248	0.230	1.258
Age of entrepreneurs	-0.013	0.987	-0.015**	0.985	-0.002	0.998
Ethnicity of entrepreneurs	-0.026	0.974	-0.249	0.780	0.312	1.366
Education of-entrepreneurs	0.083*	1.087	0.178***	1.195	0.114**	1.121
Industry sectors	-0.243	0.784	0.201	1.223	-0.068	0.934
Constant	-2.265***	0.104	0.183	1.201	-0.910*	0.402
Nagelkerke R²	0.113		0.086		0.120	
Model Chi-square	50.425***		41.819***		56.698***	
N= 658						

Note: * P ≤ 0.1, ** ≤ 0.05, *** ≤ 0.01

Table 5 shows the analysis results for the degree of diversity in training intention for entrepreneurs and employees by OLS.

Table 5: The results of OLS models

	Model 4			Model 5		
	Degree of diversity for different skills (skills for entrepreneurs)			Degree of diversity for different skills (skills for employees)		
	Coefficients	β	VIF	Coefficients	β	VIF
Independent Variables						
Firm age	0.001	0.008	1.109	-0.002	-0.017	1.109
Firm size (# the number of employees)	0.006***	0.118	1.145	0.007***	0.154	1.145
Business location	0.453***	0.101	1.059	0.610***	0.155	1.059
Competition problem	0.344**	0.091	1.026	0.079	0.024	1.026
Membership of business organization	0.042	0.011	1.047	0.377***	0.113	1.047
Gender of entrepreneurs	0.198	0.052	1.103	-0.021	-0.006	1.103
Age of entrepreneurs	-0.007	-0.050	1.151	0.002	0.019	1.151
Ethnicity of entrepreneurs	-0.095	-0.015	1.063	0.117	0.021	1.063
Education of entrepreneurs	0.157***	0.168	1.139	0.168***	0.204	1.319
Industry sector	0.111	0.020	1.033	-0.280	-0.056	1.033
Constant	0.857**			0.075		
R²	0.079			0.130		
Adjusted R²	0.064			0.116		
F-statistics	6.049***			7.425***		
N=658						

Note: * $P \leq 0.1$, ** ≤ 0.05 , *** ≤ 0.01

For Model 4, investigating the degree of diversity of different skills for entrepreneurs, four hypotheses are supported: H1.2 on firm size (beta=0.006, $p < 0.01$); H1.3 on business location (beta=0.453, $p < 0.01$); H1.4 on competition problems (beta=0.344, $p < 0.05$); and H2.4 on education of entrepreneurs (beta=0.157, $p < 0.01$). Other variables are not significant, and so, the remaining hypotheses are not valid.

Furthermore, Model 5, investigating the degree of diversity of different skills for employees, is positively affected by the same variables as Model 4—firm size, business location, and education level, with coefficients of 0.007, 0.610, and 0.168, respectively ($p < 0.01$)—except for competition problems. Moreover, membership of business organization (beta= 0.377, $p < 0.01$) has a significantly positive effect. Therefore, H1.2, H1.3, H1.5, and H2.4 are supported. Other variables are insignificant, which means their associated hypotheses are not supported.

5. Discussion

This research revealed both dissimilar and similar results for each dependent variable. With regard to the five analytical models, we set three means of comparison for further discussion, namely, training implementation or intention, existence or skills variety of training, and training desire for entrepreneurs or employees. Moreover, most of our focus should be on the partially supported hypotheses (firm size for H1.2, competition problems for H1.4, membership of business organization for H1.5, gender of entrepreneur for H2.1, age of entrepreneur for H2.2, and education level of entrepreneur for H2.4), even though we should not ignore the overall results for the five models in terms of business location (H1.3, supported), firm age, and ethnicity of entrepreneur (H1.1 and H2.3, respectively, invalidated).

Before the main discussion on the dissimilar results, we briefly analyze the similar results. There is no further substantial discussion on the evidence that being located in Vientiane Capital is effective for training involvement by firms, as we expected, because of greater possibility of accessing training information and less travelling and accommodation costs. In this context, the argument about the training gap between the capital city and other regions is applicable. On the other hand, firm age and ethnicity of entrepreneur have commonly insignificant effects on training-related variables. We expected a positive impact from firm age, especially based on empirical studies in Asian developing countries. However, other studies in developed countries found insignificant results, as mentioned in the literature review. It is necessary to undertake a more detailed investigation on the conditions affecting the different results. With regard to ethnicity of entrepreneur, our expectation was that the majority ethnic group is able to enjoy more access to training. However, the government, international aid agencies, and non-governmental organizations have intentionally provided minority ethnic groups with more training opportunities in order to reduce the gap between the majority and minority ethnic groups. Such continuous efforts may have had a significant counter-effect as a result of which the total effect has turned out to be insignificant.

For further reference, the competition problem variable has a similar result to the business location variable, excluding Model 5. Essentially, we could understand this result as our argument being appropriate. In addition, the age of entrepreneur has similar results to firm age and ethnicity of an entrepreneur, excluding Model 2. For this case, we could understand that long-term perspective is lacking among entrepreneurs, training is more likely to develop knowledge and skills for the short term, and consequently, young and old entrepreneurs have similar intentions and behavior. For both variables, we provide an interpretation of the exceptions later in the discussion. Next, we discuss the inconclusive results regarding the remaining hypotheses, by comparing models with different types of dependent variables. First, this research investigated the gap in the results for training implementation (Model 1) and intention (Models 2, 3, 4, and 5). The findings indicated an obvious difference based on gender and education level of an entrepreneur; gender had a positively significant effect on implementation but an insignificant effect on intention, whereas education level had an insignificant effect on implementation but a positively significant effect on intention. The result for gender implies there is no significant difference between male and female entrepreneurs at the stage of having intention. Therefore, there seem to be some other obstacle for female entrepreneurs when it comes to acting on their intentions. Although the education level of entrepreneurs was not important for decision-making on training at the present time, it encouraged entrepreneurs to have greater intention to allow their firms to join training programs in the near future due to the benefits from training. In other words, higher-educated entrepreneurs may be more sensitive to their own and their employees' skills development.

Membership of business organization had similar results to the gender of an entrepreneur, excluding Model 5. Essentially, we may understand this result as business organizations currently being more effective at realizing entrepreneurs' existing training intentions through implementation rather than enhancing entrepreneurs' intentions. Basic training information seems to be disseminated properly but there may be room for improvement in cultivating potential intentions or even creating intentions for sustainable development of member firms. In addition, firm size has similar results to education level of an entrepreneur, excluding Model 2. For this case, we may understand this result as the higher training intentions of larger firms not being actualized as vocational training, to a considerable extent. Hence, the effects on training implementation captured by the available data are not significantly different among different sized firms. One possible explanation is that to some extent, larger firms can prepare similar learning opportunities within their firms through on-the-job training. For both variables, we provide an interpretation of the exceptions later in the discussion.

We compare the results of the models on entrepreneurs' intentions to improve their skills generally (Model 2) and entrepreneurs' intentions to train their employees generally (Model 3) as well as the results of the models on entrepreneurs' intentions to improve their skills multifariously (Model 4) and entrepreneurs' intentions to train their employees multifariously (Model 5). As mentioned earlier in this section, we can introduce the two aspects of the existence or skills variety of training intentions as well as training intentions for entrepreneurs or employees. The challenge is that the results cannot be interpreted simply based on a single aspect. Hence, we have to combine both so as to make a meaningful analysis. More specifically, among the four models of intention, the results of Model 2 concerning firm size (insignificant) and age of entrepreneur (positively significant) differ from those of three other models of intention. Furthermore, the results of Model 5 concerning the competition problems (insignificant) and membership of business organizations (positively significant) differ from those of the three other models of intention. Why did we obtain these inconclusive results? It may be worthwhile to consider the interaction effects based on the two abovementioned aspects: existence of training intention for entrepreneurs for Model 2 and skills variety of training intention for employees for Model 5.

For Model 2, we could explain the inconclusive results on the effect of firm size as general training intention for entrepreneurs being less sensitive to the disadvantages of smaller firms. Unit training costs are higher due to economies of scale (the number of entrepreneurs in a firm do not differ by firm size), there is less chance of returns on training investments because of less internal labor markets (entrepreneurs are on the top of the hierarchy), and there is less employee retention (most entrepreneurs are considered to be owner managers). However, when it comes to skills variety of training intention, we could face additional conditions, such that entrepreneurs of larger firms are likely to require more types of skills because of their broader scope of management, even though they may not be directly in charge of those tasks. The other point is that the age of entrepreneur variable significantly affects training intention. This is essentially because the variable functions as an individual characteristic of trainees. Compared with training for employees, it is expected that entrepreneurs have longer-term perspectives and younger entrepreneurs have more time to obtain returns. In addition, compared with skills variety, the general incidence of training intention may be affected by age in a more straightforward way.

For Model 5, the way of measuring the competition problems may affect the results. In the questionnaire, respondents were asked whether they faced 21 types of problems. We treated all the information very simply—that is, no competition problems or some problems—although intentions to develop skills variety may be influenced generally by the degree or variety of the competition problems. This measurement specification may have caused the insignificant effect of the competition problems on skills variety of training intention for employees. The argument is less likely to apply in the case of training intention for entrepreneurs, because an entrepreneur's job scope is more general than that of employees, while the components of job scope are more interrelated within the individual entrepreneur. Here, one aspect of the competition problems is more likely to lead to training intention for skills variety. Unlike the competition problems, membership of business organizations was found to be positively significant only in Model 5 among the four training intention models. This result may indicate that entrepreneurs have less information on skills variety, specifically in relation to training programs for employees beyond their existing interests. Therefore, even rather basic information is more likely to make entrepreneurs have intentions. We can attribute this to the general and interrelated nature of entrepreneurs' job scope. This seems to have caused the contrasting results to the other four models.

6. Conclusion

The present study examined the determinants of training implementation and intention in the case of firms in Lao PDR. Based on OLS and logistic regression model analyses, we obtained non-uniform evidence among different training-related dependent variables regarding training implementation or training intention, the existence or skills variety of training intentions, and training intention for entrepreneurs or employees. For instance, gender of entrepreneur had a significantly positive effect on training implementation but an insignificant effect on training intention. The opposite result was found in the case of education of entrepreneur, indicating an insignificant effect on training intention but a significantly positive effect on training implementation. Some other independent variables (firm size, competition problems, membership of business organization, and age of entrepreneur) show more inconclusive results but we could argue why this is the case. On the other hand, we found uniform results for some variables, such as the effectiveness of being located in Vientiane Capital, while there are no significant results for firm age and ethnicity of an entrepreneur.

On the whole, we conclude that we may have to pay more careful attention to the potential gaps in the results among different training-related variables, in order to make customized interventions. In particular, the gap between training

implementation and intention is noteworthy because we may be able to identify obstacles that inhibit realization of intention.

Our study suffers from several limitations that suggest directions for improvement via further research. First, factors with a mediation effect may play a substantial role; therefore, testing for their effects could make the findings more robust. Second, additional factors may need to be considered. For instance, as the model has been tested only against five training-related variables, wider coverage is desirable. Moreover, it would be useful to consider organizational level and employee-related independent variables (in terms of gender, age, education, and so on), although we could not include them in the present study due to data limitations.

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