Who participates in free business training? The case of Vietnamese SMEs

Yuki Higuchi[1]

Sophia University, Tokyo, Japan

Abstract

Effective government programmes should be taken up by their potential beneficiaries. This study investigates the factors associated with the decision of Vietnamese small business owners to participate in free business training programmes. Based on the original survey data, I find that most business owners were unaware of the importance of learning business, and thus, did not take up the training offer. The regression analysis, using bivariate probit model, shows that the risk-taking owners and owners with their relatives also invited to the same training were more likely to participate in the training. These findings suggest that providing ex-ante information about the usefulness of the training and allowing group participation can encourage training participation.

Keywords: Business training, Randomised controlled trial, Willingness to pay, Risk aversion, Industrial cluster

1. Introduction

An increasing number of randomised controlled trials (RCTs) have been conducted to analyse the impacts of government interventions in various fields (White, 2013). Although many programmes have scientifically been proven as effective, these programme offerings must be taken up by their potential beneficiaries to have an effect. Mullainathan (2009) has coined the scenario as the "last-mile problem" in which available solutions are not utilised by those who need them. Examples include free immunization untaken by parents, free agricultural technology unadopted by farmers, and available microcredit unused by microentrepreneurs who need it. The same problem applies to business owners; effective training programmes are not taken by those who need to improve their business.

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[1] Corresponding author: higuchi@sophia.ac.jp

Management capacity has increasingly been recognized by economists as being closely related to business performance, and an emerging body of literature has reported that such capacity can significantly be improved by business training (Berge *et al.*, 2015; Bloom *et al.*, 2013). Despite the effectiveness of such training programmes, a survey of studies on business training interventions found that the take-up rate of such programmes is low, even when they are offered free of charge (McKenzie and Woodruff, 2014). Since the dissemination of training programmes and the resulting improvement in business has great potential to boost industrial development, it is important to analyse why take-up rate is low and investigate how it can be enhanced.

The present study addresses these questions by analysing the case of the free business training programmes provided to Vietnamese small business owners[2]. Based on the firm-level data collected by the World Management Survey (Bloom *et al.*, 2014), Vietnam ranks 24th among the 35 countries surveyed and is followed by Colombia (25th), Kenya (26th), and India (27th). This data is collected from a total of 11,702 manufacturing firms, randomly selected from the census of each surveyed country, using the same module, and thus, it is representative and comparable across countries. The data shows there is a large capacity for business improvement due to the low level of management in Vietnam. Based on the primary data collected from listed Vietnamese firms, Anh and Ly (2020) finds that even the listed firms are below the international standards in various management dimensions. The training programmes were offered to owner/managers of the Vietnamese small and medium enterprises (SMEs) operating in two industrial clusters. The focus on the industrial clusters enables controlling for the influence of heterogeneity or idiosyncrasies caused by geographical factors or differing industries in my statistical investigation.

Based on the analysis of 197 sample business owners, I find that the awareness regarding the importance of learning business was low. Only 13% of the sample owners were willing to pay a small amount of money to participate in the training. With such limited awareness, 36% of the sample owners, after several invitations and persuasion calls, finally decided to participate in the training. Besides, 11% of the sample owners sent their adult children who help their business, instead of participating themselves. The regression analysis shows that the risk-averse owners were less likely to participate in (or sending their children to) the training programmes, probably due to the unknown potential benefit. Further, the owners became more likely to participate if their relatives were also invited to the same programmes. This could be because their relatives' participation reduced the psychological cost of solo participation.

Based on these findings, one way to nudge business owners to take up business training offerings is to widely provide *ex-ante* information on the usefulness of training. The information will help the business owners understand the importance of learning business and

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[2] The present paper is a companion paper to Higuchi *et al.* (2015), which analyse the impacts of the business training programmes on the sample firms. The details of the programmes and their impacts and the study sites and the sample firms are explained in Higuchi *et al.* (2015).

increase their willingness to learn. Additionally, the wide dissemination of such information will encourage discussions in their business network, and allowing the group participation with their business partners or colleagues may further encourage participation.

The following outlines the remainder of the paper's structure. I briefly review the literature and present the theoretical framework in Section 2. I explain the data and econometric methodology in Section 3 and presents results with discussion in Section 4. Section 5 concludes with some policy recommendations.

2. Literature review and theoretical framework

2.1 Literature review

The managerial ability of firms has long been argued to be an important source of productivity in economic theory (Alchian and Demsetz, 1972; Lucas, 1978). It is only recently that economists started to empirically analyse the relationship between management and firm performance. The lack of empirical analysis had been mainly due to the difficulty in measuring and quantifying management. The empirical works pioneered by Bloom and Van Reenen (2007), which found strong correlation between management and firm performance, developed a method to systematically score the level of management practices adopted and used this management score for their empirical analysis. Bloom and Van Reenen's 2007 work only covered developed countries, but they established the aforementioned World Management Survey to cover more countries including those in the developing world.

Since the importance of management was empirically established, several RCTs have been conducted to provide training to improve it. The earliest works include Karlan and Valdivia (2011) and Mano *et al.* (2012). McKenzie and Woodruff (2014) surveyed the RCTs on management training and found the usefulness of such training. However, they also find that the participation rate was generally low. Among the 13 RCTs surveyed (excluding the present one), Mano *et al.* (2012) had the highest participation rate of 87% in Ghana and Bruhn and Zia (2013) had the lowest participation rate of 39% in Bosnia-Herzegovina. The median participation rate was only 67.5%, although most of the training was provided free of charge and the remaining ones charged at most 6 dollars.

Business training programs improve the business, and if many firms improve their business, the industry of the country will develop. To business training programs to have an effect, firms should participate in them. This particularly applies to Vietnam, where the current level of management is low and the industrial structure has been rapidly changing in the past few decades after Doi Moi. I analyse the factors associated with participation in business training in Vietnam to gain insights on how to encourage participation.

2.2 Theoretical framework

The firm owner/managers compare the expected benefit and the cost of participating in the training and decide to participate if the former is greater. While the researchers know that the benefit is most likely to be positive, based on the existing studies discussed in the

previous subsection, the benefit is unknown to most business owners. If the owners know the importance of learning business, the perceived benefit is larger. I use the information on the willingness to pay (WTP) for the training as an indicator for such knowledge. Besides, since the benefit is ex-ante unknown, the risk-averse owners tend to refrain from participating, all else being equal.

For the cost side, while the participation fee was not charged from the participating firms, the owners incur the opportunity cost of their time. Such cost is likely to be larger for an owner with a larger business, which I proxy by the value added of the sample firms. In addition to the economic cost, the psychological cost may also influence the participation decision. The psychological cost includes the cost of solo participation, and it can be reduced by the presence of peers participating together. Taken together, I use the information on WTP, risk preference, business size, and presence of peers to analyse the participation decision of the Vietnamese SME owners.

3. Data and methodology

3.1 Sample selection

In 2010, I, together with the co-authors of Higuchi *et al.* (2015), provided business training programmes to the owner/managers of SMEs in two industrial clusters in the suburbs of Hanoi, the capital city of Vietnam. The manufacturers in these clusters are located near each other and produce similar or related products. As such, the influence of heterogeneity caused by geographical factors or different industries could be controlled for. One cluster produces knitwear products and the other produces construction steel. The development process of the knitwear and the steel cluster is studied and described by Vu *et al.* (2010) and Vu *et al.* (2009), respectively.

153 knitwear firms and 159 steel firms were selected from the lists of all firms in these two clusters for the study of Higuchi *et al.* (2015). The present study focuses on the 89 knitwear and the 108 steel firms, that were randomly selected from the sample firms and were invited to the business training programmes. The total of 312 firms, including the 197 firms invited to the training and are under the present paper, were interviewed in June/July 2010, before the information on the training programmes was made available and disseminated. While most sample firms are owned and managed by a married couple, I defined as the business owners either husband or wife who had the major decision-making power in business operation and interviewed the 197 sample owners.

3.2 Data and descriptive statistics

Based on the face-to-face interview with the sample owners, I collected information on the sample owners' characteristics, such as gender, age, educational attainment, and family composition. Besides, the information on their WTP for the training was elicited. Following the lead of Blumenschein *et al.* (2008), I adopted a certainty approach to mitigate bias arising from the hypothetical nature of the data regarding WTP. After briefly explaining the outline

of the training programme, the sample owners were asked whether they were willing to pay three million Vietnamese Dong (about 150 USD at the time of the survey). If the response was affirmative, they were further asked whether they were definitely sure or probably sure. The business owners who were "definitely sure" of their WTP were regarded as willing to pay for the training. Note that I also asked the same question with an option to pay 150 USD on credit. No sample owner changed their WTP with the credit option, suggesting that liquidity constraint is not binding on the cash payment of 150 USD.

Soon after the completion of the survey, an invitation letter to the training programmes was sent and followed up by telephone calls. Table 1 shows the cross-tabulation of business owners' WTP, versus their actual participation. Only 25 out of the total 197 business owners (13%) were willing to pay a small amount of money. Out of these 25 owners, 17 business owners (or their spouses, in most cases co-owners) participated and 4 owners sent their adult children instead of personally attending. The fact that most owners who were willing to pay participated is consistent with Bonan *et al.* (2014) who found willingness to pay had a strong predictive power of the actual take-up decision of microinsurance. Among the remaining 172 business owners who were not willing to pay, however, as many as 54 owners (or their spouses) participated and 18 owners sent their children. The total training take-up rate was 47%.

Table 1. Business owners' willingness to pay and actual participation

	(1)	**(2)**	**(3)**	**(4)**
Participation	**Yes**		**No**	**Total**
Who participated	**Owner or spouse**	**Children**		
Willingness to pay for the training				
Yes	17	4	4	25
No	54	18	100	172
Total	71	22	104	197

Source: Author's compilation

I pool the observations from the two industrial clusters in Table 1 and subsequent econometric analysis to increase statistical power. If I look at each sample cluster, 89 knitwear firms were invited and 52 of them participated, and 108 steel firms were invited and 41 of them participated (either husband, wife, or child). Hence, the compliance rate was 58% and 41% in the knitwear and steel cluster, respectively. This difference is presumably because the owners in the steel clusters were less educated (the average year of schooling among the sample owners was 6.8 in the steel cluster while 7.9 in the knitwear cluster) and had limited experience of business training (the share of sample owners having previous experience of business training was 2% in the steel cluster while 14% in the knitwear cluster). With such limited human capital investment, the owners in the steel cluster valued the training less. To control for the cluster-level differences, I include the steel cluster dummy variable in the econometric analysis.

After the survey in June/July 2010, the training program was provided between June and September and the follow-up survey was conducted in September/October 2010, in 2011 and 2013. Higuchi *et al.* (2015) use the data from these follow-up surveys to analyse the training impacts on the adopted business practices and business performance, and find that the training had significant positive impacts even in the medium-run (i.e., in 2013). The question of the present paper is why the sample firms did not participate in the free business training, which was indeed proven to be effective.

Table 2. Characteristics of business owners by participation

Participation	(1) Yes	(2)	(3) No	(4) Total
Who participated	Owner or spouse	Children		
	mean (SD)	mean (SD)	mean (SD)	P-value: equality in means
Age	41.5	50.1	45.5	0.000
	(7.93)	(5.30)	(8.09)	
Male	0.42	0.45	0.39	0.849
(yes = 1)	(0.50)	(0.51)	(0.49)	
Years of education	7.9	7.0	6.9	0.069
	(2.50)	(2.57)	(2.83)	
Past training experience	0.13	0.05	0.05	0.134
(yes = 1)	(0.34)	(0.21)	(0.21)	
Risk aversion	6.1	6.3	7.0	0.089
(0-10)	(3.11)	(3.06)	(2.57)	
Patience	2.6	2.8	2.2	0.186
(0-5)	(2.03)	(1.99)	(1.85)	
Willingness to compete	0.76	0.50	0.56	0.013
(yes = 1)	(0.43)	(0.51)	(0.50)	
Number of relatives in the sample	0.85	0.55	0.32	0.001
	(1.56)	(1.01)	(0.78)	
Number of children aged 18 and over	0.9	2.3	1.4	0.000
	(1.51)	(1.60)	(1.44)	
Value added (in 2008)	91320	94362	74547	0.000
(USD)	(164195)	(85833)	(68687)	
Steel village	0.37	0.68	0.64	0.001
(yes = 1)	(0.49)	(0.48)	(0.48)	
Number of observations	70	22	102	

Source: Author's compilation

Next, I categorize the sample business owners into three groups: (1) owners who themselves or whose spouses participated, (2) owners who sent their children, and (3) owners who did not participate. Table 2 shows the characteristics of the owners of each group. In addition to the standard measurement of human capital, i.e., years of education and past training experience, the information on their preferences on risk, time, and competition was collected .

Following the lead of Dohmen *et al.* (2011), the data was collected on the risk preference by asking their subjective risk attitude with a Likert scale ranging from 0 ('very willing to take risks in business') to 10 ('not at all willing to take risks in business'). The larger number indicates a greater level of risk-aversion. The time preference was measured by the five hypothetical questions regarding whether the owners preferred receiving a fixed amount of cash immediately or waiting three months to receive a larger amount of cash. I used the five different amounts for the latter, and construct the patience variable using the switching point. If an owner prefers to receive the immediate cast throughout the five amounts, the patience variable takes the value of zero, and if an owner can wait for even the smallest amount increase, the variable takes the value of five . To measure the willingness to compete, the owners were asked whether they preferred to be paid on an absolute evaluation basis or on a relative evaluation basis where the larger payment is made only to a few owners who perform better than others. The willingness-to-compete variable takes the value of one for those who prefer the relative evaluation.

Compared to the owners who did not participate in the training, those who participated are (i.e., the comparison between column 1 and 3) younger, more educated, having more training experience (although only significant at 15% level), less risk-averse, and more willing to compete. They also have more relatives in the sample, fewer children aged 18 or above, and larger business as measured by the value added. As p-values for the equality in means presented in column 4 are statistically significant for these variables, those characteristics are associated with the decision to participate in the training.

3.3 Methodology

To quantitatively analyse the factors associated with WTP for the training and the actual participation, I estimate a bivariate probit model, which accounts for unobserved factors that influence both the WTP and the participation. The model is expressed as the following:

$$y_1 = 1 \text{ if } y_1^* = x\beta_1 + \varepsilon_1 > 0 \quad y_2 = 1 \text{ if } y_2^* = x\beta_2 + \varepsilon_2 > 0$$

$$= 0 \text{ otherwise} = 0 \text{ otherwise.} \tag{1}$$

y_1 and y_2 are assigned the value of one if the business owner was willing to pay for the training and participated in the training, respectively. They are governed by latent variables y_1^* and y_2^*. x is a vector of owners' characteristics presented in Table 2 and the age squared. The error terms ε_1 and ε_2 are assumed to be jointly normally distributed with means of zero, variances of 1, and the correlation of ρ. I simultaneously estimate the two equations and ρ, using a maximum likelihood approach. The number of owners who sent their children

was too small for quantitative analysis, and therefore the participating owners and those sent their children are not distinguished, and thus, y2 takes the value of one if an owner, a spouse, or a child from the invited firms participated in the training programmes.

4. Results and discussion

Table 3 shows the estimation results. The estimated correlation coefficient of the error terms, ρ, reported at the bottom is positive and significant, suggesting the WTP and actual participation are positively associated with each other and are simultaneously influenced by unobserved factors, even after controlling for observable characteristics of the owners, the business size, and the steel cluster dummy variable. Column 1 shows that the owners of the larger firms are more likely to be willing to pay for management training. Together with the overall low level of WTP among the sample owners, this observation indicates that only owners who operate larger business understood the importance of learning business knowledge and skills..

Column 2 shows the factors associated with actual participation. The coefficient of the risk aversion is negative and significant, indicating that risk-averse business owners are less likely to participate. Due to the minimal awareness about the usefulness of business training programmes, only risk-tolerant owners who could afford to spend time on unfamiliar programmes participated. The *ex-ante* limited information on the training can also be inferred from the small proportion of owners with any experience of business training (Table 2).

Except for the risk aversion, the coefficient of the number of relatives in the sample is positive and significant. This could be because the presence of relatives reduced the psychological cost of participation. The business size has a positive and marginally significant coefficient. I interpret that the owners of larger business incurred larger opportunity cost but, at the same time, understood the importance of learning business more, and thus, the coefficient in column 2 is smaller in magnitude and weaker in statistical significance compared to those reported in column 1.

While admitting that the small number of sample owners send their adult children, I analyse the factors associated with the children's participation. Using the sample of 93 firms that participated in the training, I estimated a probit model where the outcome variable was the dummy variable taking the value of one if the children participated, controlling for the same covariates as the estimation in Table 3. The only significant variables were the owners' age and the steel cluster dummy (results not shown). The coefficient of age and its square show that among the owners 54 or younger, which encompasses most of the sample owners, they became more likely to send their children as they get older. This exercise suggests that owners who sent their children are not substantially distinguishable from those who personally participated except for the age.

Table 3. Bivariate probit estimation of the factors associated with willingness to pay and participation

Dependent Variable	(1) Willingness to pay (yes = 1)	(2) Participation (yes = 1)
Age	0.0348	0.0403
	(0.26)	(0.32)
Age squared / 100	-0.0397	-0.0779
	(-0.27)	(-0.55)
Male	-0.00880	0.207
(yes = 1)	(-0.04)	(0.98)
Years of education	0.0651	0.0149
	(1.55)	(0.35)
Past training experience	-0.467	0.180
(yes = 1)	(-1.33)	(0.49)
Risk aversion	-0.0486	-0.0734**
(0-10)	(-1.45)	(-2.07)
Patience	0.0202	0.0699
(0-5)	(0.42)	(1.42)
Willingness to compete	0.111	0.199
(yes = 1)	(0.49)	(0.94)
Number of relatives in the sample	0.107	0.220**
	(1.14)	(2.10)
Number of children aged 18 and over	0.0279	0.105
	(0.28)	(1.10)
Ln (value added in 2008)	0.0488***	0.0207*
(10 000 USD)	(4.12)	(1.76)
Steel village	-0.864***	-0.421*
(yes = 1)	(-3.75)	(-1.87)
Constant	-1.891	-1.193
	(-0.62)	(-0.42)
The estimated correlation coefficient of the error terms		0.912***
Number of observations		193

Notes: The estimated coefficients are reported. The numbers in parentheses are z-statistics robust to heteroskedasticity. ***, **, and * indicate 1%, 5%, and 10% level of statistical significance, respectively. Three firms are omitted due to the missing data on the economic preference and another one firm is omitted due to the negative value added.

Source: Author's compilation

5. Conclusion

The 2019 Nobel Prize for economics was awarded jointly to Abhijit Banerjee, Esther Duflo, and Michael Kremer for their experimental approach to alleviating global poverty. Mainly thanks to them and their collaborators' contribution, social experiments have increasingly been used to evaluate the effectiveness of public programmes in the past twenty years. Since ineffective programmes are screened out with rigorous impact evaluations, the next step is how to disseminate the effective programmes. To do so, the issue of taking up needs more attention as little is known about how to nudge potential beneficiaries, including the business owners, to participate.

The present study analyses the factors behind the low take-up rate of the free business training and finds that the risk preference and the presence of peers influence the business owners' participating decision. Based on my findings, I emphasize the importance of providing ex-ante information on the usefulness of learning business because it increases the perceived benefit of participation and reduces the perceived risk of participation. Further, as the large-scale experiment with the Indian microentrepreneurs finds that allowing them to participate in business counselling with their friend increased the participation (Field *et al.* 2016), allowing group participation with their business partners or colleagues to reduce psychological cost might be an option.

Lastly, one of the limitations of the present study may be the external validity. The empirical analysis is based on the two industrial clusters, and even these two present differences, including the 17-percentage-point difference in the participation rates. I, however, think the main policy implication of the paper, that is, the importance of increasing the perceived benefit and reducing the cost of the business training holds in a general context.

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