Entrepreneur and Venture Support Programs in

Ho Chi Minh City
Da Nang
Phnom Penh

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By

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Executive Summary

This report, commissioned by the Asian Development Bank, provides a description of young companies and their founding entrepreneurs in Ho Chi Minh City, Da Nang, and Phnom Penh, and an assessment of the venture support programs designed to support their growth. The assessment was conducted between March and October 2016 and is based on information gathered from 515 companies. Based on our analysis, and experience in the evaluation of business support programs, we provide recommendations to improve program effectiveness, and possible next steps.

Sixteen programs in Vietnam and Cambodia participated in this pilot assessment project. The programs range from large government-funded programs, to more modest donor-funded and university affiliated programs. Nearly all of the programs were recently founded. Our assessment of the impact of the venture support programs is based on data from 206 client companies.

To provide context for later analyses, we begin by presenting company and entrepreneur characteristics of a random sample of young Da Nang companies, as well as the companies selected for support by the programs. Our analysis of primary company characteristics includes number of employees, annual revenues, and company age. The analysis reveals that the supported companies and the random sample from Da Nang mirror each other quite closely. The most prominent difference we observed between the two groups was with regard to industrial sector. We found that the supported companies are more likely than the random sample to operate in high tech sectors (e.g., ICT). On other secondary measures, only subtle differences exist between the two groups. Specifically, compared to the random sample, supported companies have more ambitious growth plans, more highly educated employees, a greater propensity to be pre-revenue, and are more focused on expanding their networks and improving their business capabilities. Regarding entrepreneur attributes, compared to the random sample, supported companies are led by entrepreneurs who tend to be younger and more highly educated, with more international experience.

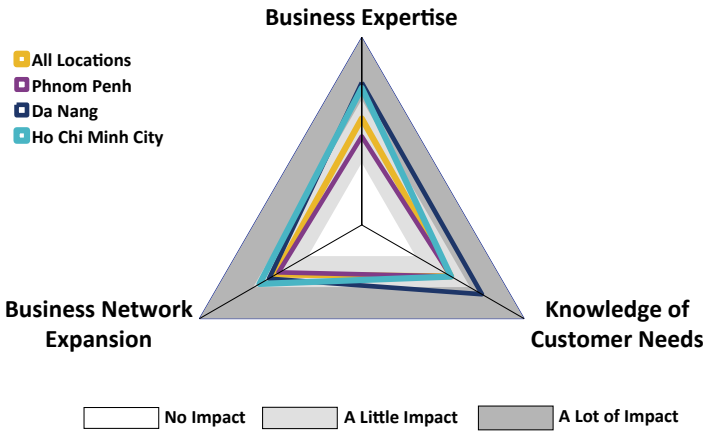
We then examine predictors of company growth and find that for companies in the random sample, growth is predicted by company age and the presence of a company website (expanding networks, seeking greater exposure). For supported companies, growth is predicted by company age, and by the age and gender of the entrepreneur (male). While companies led by young entrepreneurs are more likely to be selected for support, supported companies led by older entrepreneurs are more likely to have experienced growth.

When we assess the impact of programs, we find that the best predictor of impact on the resources and capabilities of companies is the degree to which

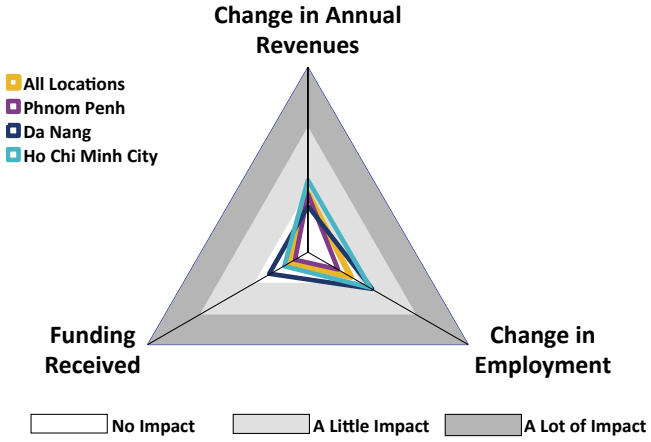
entrepreneurs avail themselves of program services. We also find that companies led by younger and less educated entrepreneurs experience greater impact. Finally, significant positive predictors are domestic displacement of employees (who worked or studied outside the town or city they grew up), the level of education of employees, and the work experience of the lead entrepreneur. Broadly, the yearning for knowledge, coupled with intense learning from quality programs, best explains impact on resources and capabilities.

The diagrams below show that programs have a lesser impact on company performance (revenues and employment), than on company resources and capabilities. This is because the programs, the companies, and the entrepreneurs all tend to be young and have not yet had the time to achieve substantive impacts on company performance.

The best predictor of impact on company performance is impact on company resources and capabilities. This is a critically important finding that validates the purpose of the programs, because it is impact on the resources and capabilities of entrepreneurs and companies that is the immediate goal of the programs. Other significant predictors of impact on performance are company growth plans (yearning for growth), the international displacement of employees (broader knowledge base), the fact that the lead entrepreneur's parents owned a business, and the lead entrepreneur's level of education.



Average Impact on Resources and Capabilities



Average Impact on Performance

We found twelve recurring themes that were offered by survey respondents In terms of opportunities for improvement for the venture support programs. These are summarized in the list below and merit the attention of all program funders and managers:

- Facilitate financial linkages
- Improve the quality and coverage of mentoring, training, and workshops
- Provide assistance with strategic company developments
- Provide and update information in a timely manner
- Improve program administration
- Improve coordination and scheduling of training sessions
- Improve selection of trainers and mentors
- Evaluate participants fairly
- Create networking opportunities
- Enhance product development and marketing strategy support
- Improve the business facilities and infrastructure
- Facilitate business linkages

While these suggestions for improvement come directly from the customers of the venture support programs, we offer the following perspectives that are more directly linked to broader business development strategies in Vietnam and Cambodia.

From a public policy perspective, the creation and growth of small companies will rely upon two key factors: 1) the quality and number of entrepreneurs and companies that have great ideas, motivation, and capabilities to bring high value products and services to customers. In this respect we view Vietnam and Cambodia as being well-placed for the creation of good companies, thanks to relatively strong educational systems, a young and industrious population, proximity to other rapidly growing economies, and geographical and cultural assets. 2) A supportive ecosystem for the entrepreneurs and companies, including quality venture support programs. In this respect, we observe that leaders are focussed and are taking action. Concerning support for, and management of, venture support programs we see the following as imperatives worthy of attention that arise from evidence assembled as part of this project:

- Ensure clarity on program mandates
- Identify clear and reasonable expectations of performance,
- Ensure provision of quality, focussed, and customized services designed for company needs,
- Judiciously select companies to support, consistent with program mandates
- Be assertive in terms of providing financing or facilitating financing of companies,

- Enable deep, intensive engagements between the venture support programs and companies.

Finally, our report offers recommendations for 'next steps'. They focus on Vietnam because of the consultant's deeper engagement in Vietnam, and build on discussions involving Vietnamese officials that travelled to Canada in September 2016, Asian Development Bank representatives, and The Evidence Network representatives. Some elements of these suggested next steps are also pertinent to Cambodia, where additional discussions were held, and incubator impact assessments occurred.

Recommendation 1: Conduct an annual survey of business incubator inputs and activities.

Recommendation 2: Commission the development of online tools to support the evaluation of Vietnamese incubators by Vietnamese experts.

Recommendation 3: Develop an open advanced course in incubator evaluation.

Recommendation 4: In two or three years time, conduct a matched-sample evaluation of the effectiveness of business incubators in Ho Chi Minh City, Da Nang, and Phnom Penh using data from 2016 and subsequent surveys.

Recommendation 5: In two or three years time, develop a model of Vietnamese venture potential using data from 2016 and subsequent surveys.

Recommendation 6: Commission a study to assess the national R&D capacity. Such a study should consider international benchmarking data, national data, and expert judgment.

Recommendation 7: Identify one or more universities to sponsor widespread cooperative education programs.

Recommendation 8: Consider educational exchanges for Vietnamese students.

Recommendation 9: Consider the sponsorship of non-profit business incubators.

Recommendation 10: Build on the strengths of Vietnam's cities to develop unique advantages.

Beyond the findings that translate into advice for participating venture support programs, this assessment has broad implications for the manner in which venture support is provided, and subsequently assessed, throughout the Mekong region. Policy should encourage the intentional selection of specific program mandates, and programs should be assessed regularly to determine alignment with, and achievement of, their stated mandate. By designing programs to ensure that the right companies receive the right services at the right stage in their company development, the Mekong region will continue to benefit from the growth and prosperity of young, innovative companies.

Contents

Introduction

The underlying motivation for this report, commissioned by the Asian Development Bank, was to conduct a pilot evaluation of the impact of venture support programs, specifically business incubators in Vietnam and Cambodia, and to make recommendations on how to improve their impact.

As this is the first assessment of venture support programs in the Mekong region, the findings are presented as a baseline for future assessments. They are intended to provide insights in support of policy development and program management.

Background

Globally, the goal of many jurisdictions is to foster the rapid growth of companies in the interests of creating wealth, jobs, and social advancement. This is done through taxation and regulation schemes that are preferential to some companies, innovative private sector-facing approaches of universities, and through mission-specific non-profit organizations that work in a variety of ways to support company success. This work focuses on business incubators and other venture support programs in Vietnam and Cambodia.[1]

The principal challenge of venture support programs is to provide the right mix of high quality services to entrepreneurs or companies that have the potential for growth. Thus, important management and policy decisions must necessarily focus on the selection of entrepreneurs or companies to support, and the provision of services that will have maximum impact.[2] This objective is balanced by other considerations such as the wish to support women entrepreneurs, or companies in specific industries.

For these reasons, this assessment, conducted by The Evidence Network Inc. during March – October 2016, was designed to gather information on entrepreneur and company demographics, as well as to quantify the impact of each of the participating incubators and business support programs.

This was done with a view to:

- Identify the characteristics of entrepreneurs and companies that are associated with company growth, not only determining the broader potential in the region for company growth, but possibly enabling some companies to be preferentially selected to receive business support so as to make their growth even faster.

[1] Incubators are manifested as initiatives that provide physical space to companies. They often provide additional services to companies such as coaching and mentoring.

[2] This refers to a focus on 'selection' and 'treatment', terms well-known to evaluation specialists.

- Identify the characteristics of incubators and their services to determine which incubator and service characteristics have greatest impact, in the interests of evidence-based decisions to improve incubator performance.

Participating Venture Support Programs

Sixteen business support programs and incubators (herein 'venture support programs') in Ho Chi Minh City and Da Nang in Vietnam, and Phnom Penh in Cambodia, participated in the impact assessment project. These programs range from large government funded and university affiliated programs, to small, highly specialised social enterprises, serving client companies across a range of industries. The table below lists the participating programs. Collectively, these programs serve a total of approximately 800 companies.

Participating Venture Support Programs

Ho Chi Minh City	Da Nang	Phnom Penh
Business Startup Support Centre	Da Nang Business Incubator	Emerging Markets
Agri Business Incubator	College of Information Technology Incubator	Ministry of Commerce 101 program
Business Incubation and Innovation Centre – Nguyen Tat Thanh University	Da Nang SME Association	National Business Plan Competition
Nong Lam University – Center for Technology Business Incubation		WeCreate
Saigon Hi-Tech Park – Incubation Center		NOMI Network
Information Technology Park – Vietnam National University in HCMC		
Quang Trung Software Business Incubation Center		
Ho Chi Minh City University of Technology – Technological Business Incubator		

Random Sample of Young Companies

Together with the Da Nang Institute for Socio-Economic Development (DISED), we interviewed a random sample of 309 young companies (less than six years old) in Da Nang. As indicated in TEN's 'Data Collection Proposal' document, submitted to ADB, part of our commitment within the scope of this project was to identify the attributes of entrepreneurs and newly founded ventures in Da Nang, Ho Chi Minh City, and Phnom Penh. The random sample of young companies from Da Nang provides additional insight into the attributes of new ventures.

The inclusion of the random sample of young companies in Da Nang provides a control group against which our analysis of the supported companies may be compared. This comparator group is important as it offers the context to help understand the population of entrepreneurs and companies from which the business support programs have drawn their participants. The random sample of young companies also provides insight into the design of future support programs for companies not currently being supported by existing incubators.

Influences on Company Growth

To better understand the circumstances and prospects of Mekong region ventures we analyzed the influences on company growth. We conducted a qualitative analysis of the motivations for venture creation and then conducted a statistical analysis of the effects of eight company and seven entrepreneur characteristics on growth in terms of revenues and employment. We also considered barriers to growth.

Venture Support Program Impact

We assessed the impact of the 16 Mekong region venture support programs on the sample of approximately 800 companies that participated in programs.

Report Structure

In the next section we present profiles of ventures and entrepreneurs in Ho Chi Minh City, Da Nang, and Phnom Penh, differentiating between the random sample of young companies, and the companies participating in venture support programs. Next we consider the factors that influence or impede company growth. Section 3 reports on the impact of venture support programs and Section 4 provides program specific highlights. In Section 5 we report on best practices and opportunities for improvement, in Section 6 we present possible next steps, and in Section 7 we conclude. Throughout the report we make recommendations and observations pertinent to incubator managers and policy specialists.

Appendices 1-4 present supplementary analyses and diagrams. Appendix 1 provides aggregated details for data from Ho Chi Minh City, Da Nang, and Phnom Penh ('All Locations'), while Appendices 2-4 provide analyses and details for each of the individual cities.

1. Profiles of Companies and Entrepreneurs

1.1 Comparison of a Random Sample of Young Da Nang Companies and Companies Selected for Support[3]

As described in the Introduction, together with the Da Nang Institute for Socio-Economic Development (DISED), we elected to survey a random sample of young companies in Da Nang to establish a baseline. The baseline information serves three purposes. First, it gives us a sense of the population of young companies in Da Nang, which is likely reasonably representative of the population of young companies in urban regions throughout the Mekong region. Second, it allows us to compare supported companies with companies that have not engaged with the venture support programs, and thereby to infer the criteria that were used to select companies for support. Finally, it will facilitate future studies that seek to establish the effectiveness of interventions in support of young companies by comparing supported to unsupported companies.

The random sample was selected, based on yearly tax contributions, from a population of young companies founded between 2011 and 2016. Table 1.1 below provides a breakdown of the 309 companies that were interviewed.

Table 1.1 Random Sample of Young Companies in Da Nang

Quintile	Yearly Tax Contribution	Identified Interview Sample Within 1,734 Person Quintile	Individuals Contacted for Interviews	Interviews Conducted	Response Rate
1	0 – 1M VND	240	120	63	53%
2	1M – 1.9M VND	240	208	84	40%
3	1.9M – 3.9M VND	240	168	70	42%
4	3.9M – 14.2M VND	180	110	43	39%
5	14.2M – 11B VND	180	139	49	35%

[3] We have been asked to exclude those companies supported by the Da Nang SME Association from the analysis sample on the basis that programming of the Da Nang SME Association differs substantively from the other venture support programs, and therefore cannot be considered in the same analysis context. All analyses of impact therefore exclude the Da Nang SME Association including the descriptions in Appendix 1 (All Locations), and Appendix 2 (Da Nang). We have, however, included the SME Association in our aggregate presentations of company and entrepreneur characteristics, on the premise that the SME Association supports companies (albeit in different ways than the incubators), and the number of respondents that engaged with the Da Nang SME Association constitute a relatively small portion of the total population (20 of 206 respondents).

For companies selected for support, survey data on company and entrepreneur attributes were obtained from 206 companies supported by 16 business support programs or incubators in Ho Chi Minh City, Da Nang, and Phnom Penh.

The two samples--the supported companies and the random sample of young companies from Da Nang--mirror one another quite closely. We tested for significant differences between the supported companies and the random sample of young companies in terms of primary measures used to compare companies – total employees, annual revenues, and company age. Table 1.2 shows T-Test results comparing the random sample of young companies with the supported companies. For all three measures any differences are not significant. These findings re-enforce the fact that the comparisons between the supported companies and the random sample of young companies are appropriate.

Table 1.2 T-Test Results – Supported Companies Compared with the Random Sample of Young Companies

Variable	Group	Average	Significance
Total employees	Supported	10.7 employees	**Not significant**
	Random Sample	10.7 employees	
Annual revenues	Supported	$70,461.8 USD	**Not significant at conventional levels**
	Random Sample	$104,083.3 USD	
Company age	Supported	3.0 years	**Not significant**
	Random Sample	3.0 years	

While the random sample of young companies and the supported companies mirror one another on primary measures, they do have subtle differences on other measures, as set out below.

Table 1.3 shows some of the comparisons on non-primary measures.

We found:

- Supported companies have more ambitious growth plans (although our T-tests did not find this to be significant)
- The supported companies have more highly educated employees
- There is a greater propensity for the supported companies to be pre-revenue

- The supported companies are looking to expand their networks and improve their business capabilities (as evidenced by a much larger portion having websites compared to the random sample).

Table 1.3 Comparison of Company Demographics

Demographic Measure	Random Sample	Supported Companies
Ambitious growth plans	15%	34%
Highly educated staff (> 65% of staff have university degrees)	34%	61%
Pre-revenue	21%	34%
Have potential for international exposure (have a website)	21%	60%

Figure 1.1 depicts the revenues generated by companies segmented by the year the company was founded. It provides a comparison between the venture support client companies and the random sample of young companies operating in Da Nang. Consistent with Table 1.2 above we do not see a striking difference between the companies receiving support and those selected at random in terms of their reported annual revenues. We note, however, that the percentage of supported companies with less than 35K USD revenues is greater for all years (except 2012 or earlier) founded, compared to the random sample; as well the percentage of supported companies earning 150K-1 million USD in annual revenues is smaller for all years founded, compared to the random sample.

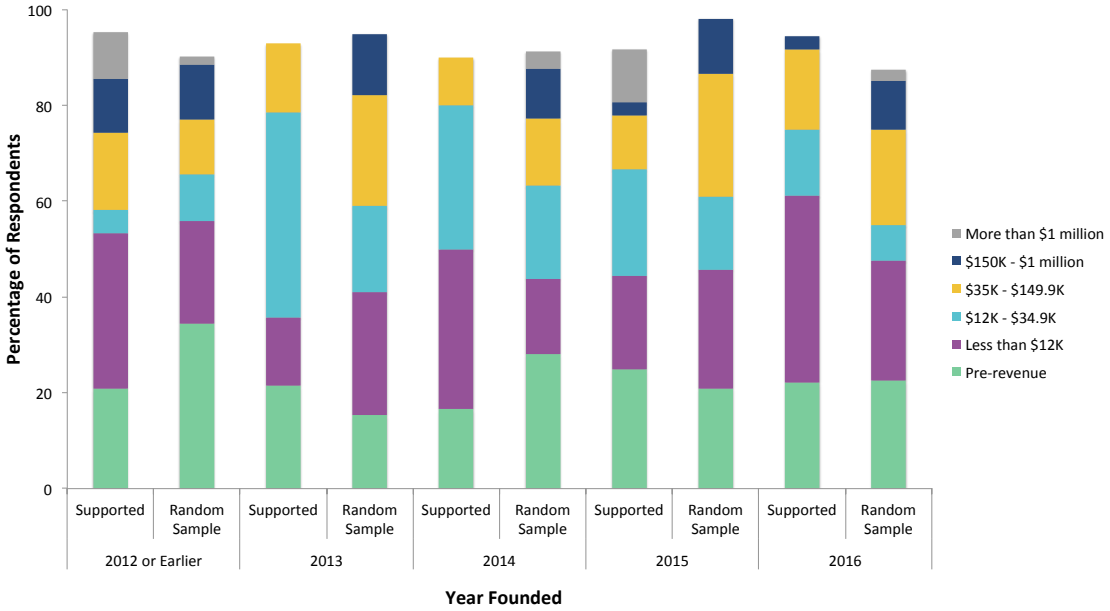


Figure 1.1 Annual Revenues (USD) by Year Founded Comparison of Supported Companies and the Random Sample of Young Companies

As shown in Figure 1.2, we find that the venture support programs provide support to companies operating in an array of industries. Of particular note is that the supported companies are more likely than the companies in the random sample to operate in high tech sectors, such as the information and communications technology (ICT) industry.

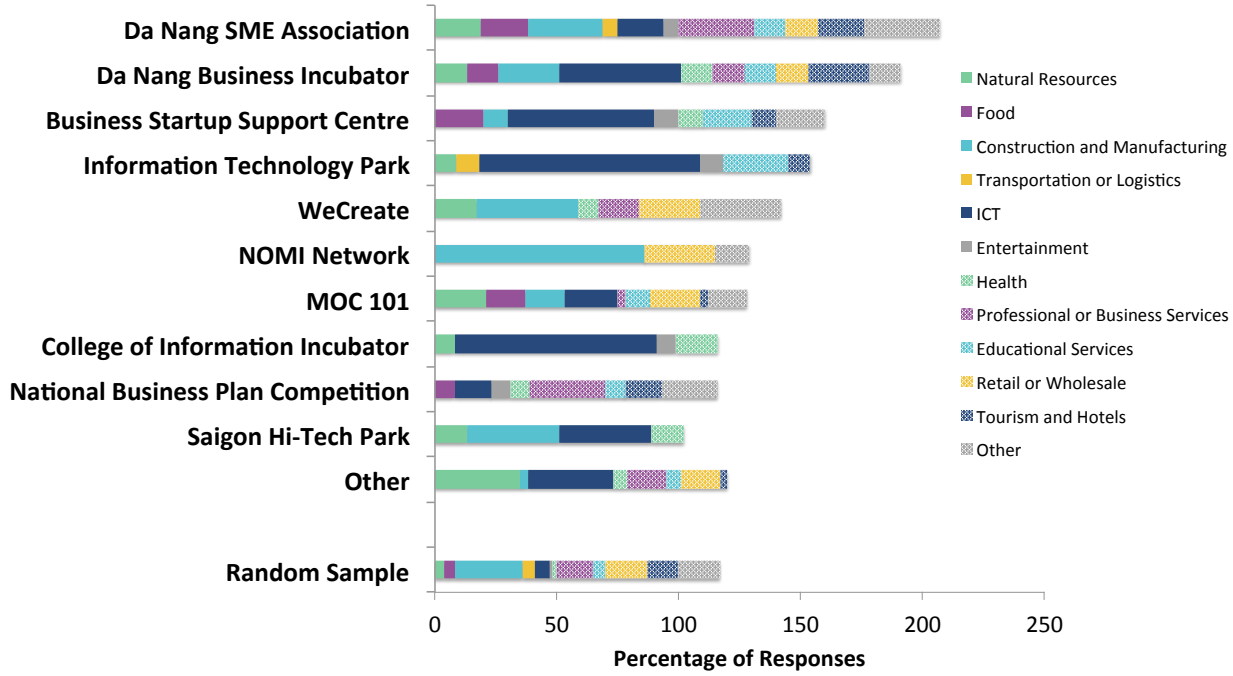


Figure 1.2 Company Sector Comparison of Venture Support Programs and Random Sample of Young Companies

Further, we determined the average number of founders and employees from each sector in the random sample of young companies. Our results show that those companies in Da Nang operating in the Food Processing industry tend to generate higher revenues and employ more people than those operating in all other sectors. However, we must draw such conclusions with caution, as there are very few (7) companies included in the sample size for this sector. Companies operating in the Materials and Manufacturing industrial sector, which has 16 respondents, also demonstrate relatively high average annual revenues and a high average number of employees. However, the companies operating in the Construction industry, which has a sample size of 69 companies, are also

generating some of the highest annual revenues (third highest sector), and have some of the largest workforces (fourth highest sector). Because of its sample size, which represents 22% of the total number of the random sample of young companies, results for this sector are more meaningful than those with smaller sample sizes.

Figure 1.3 provides a comparison of the growth plans reported by the companies participating in the venture support programs and those reported by the random sample of young companies. We find that although companies in both groups are motivated to grow, and consistent with the information provided in Table 1.3 above, the percentage of supported companies that report plans for high growth far exceeds the percentage of the random sample that report such ambitious plans for growth.

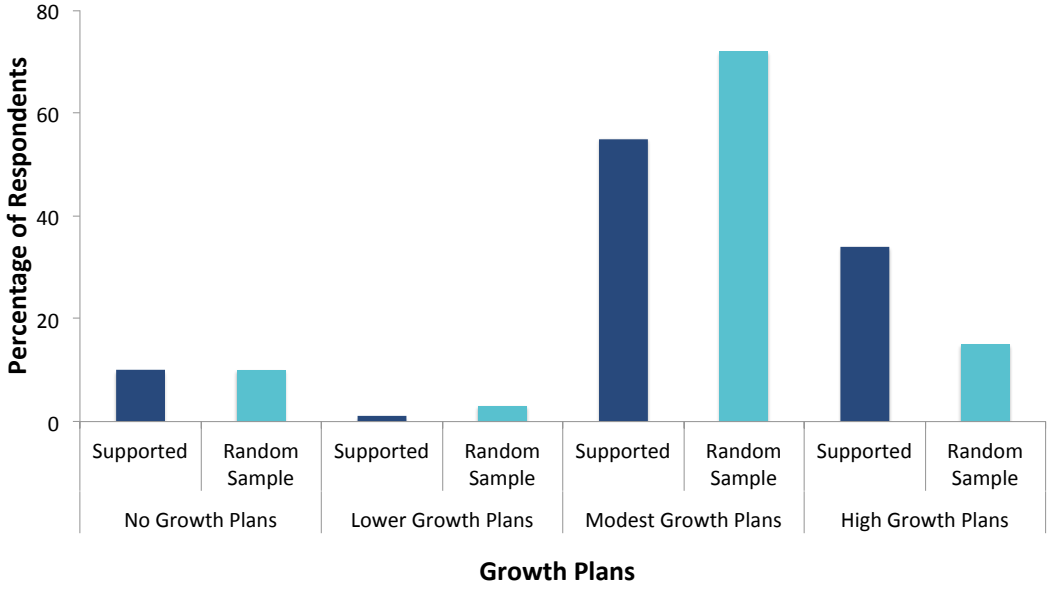


Figure 1.3 Company Growth Plans Comparison of Venture Support Programs and the Random Sample of Young Companies

1.4 Entrepreneur Characteristics of Random Sample of Young Companies and Companies Selected for Support

The profile of the 309 entrepreneurs that founded the companies in the random sample of young companies operating in Da Nang indicates that these individuals tend to be more mature, with prior work experience, but with less international experience.

In contrast to the profile of entrepreneurs in the random sample, the profile of the 206 entrepreneurs participating in the venture support programs indicates that these individuals tend to be younger and more highly educated, with more international experience, as well as a moderate amount of work experience. Table 1.4 summarizes the key differences between the datasets.

Table 1.4 Comparison of Entrepreneur Characteristics

Entrepreneur Characteristic	Random Sample	Supported Companies
Over the age of 35	60%	31%
Well educated (at least a college or university certificate)	60%	82%
International experience	8%	40%
Prior work experience of 5 years or more	63%	52%

Figure 1.4 shows that supported entrepreneurs are typically much younger than those from the random sample.

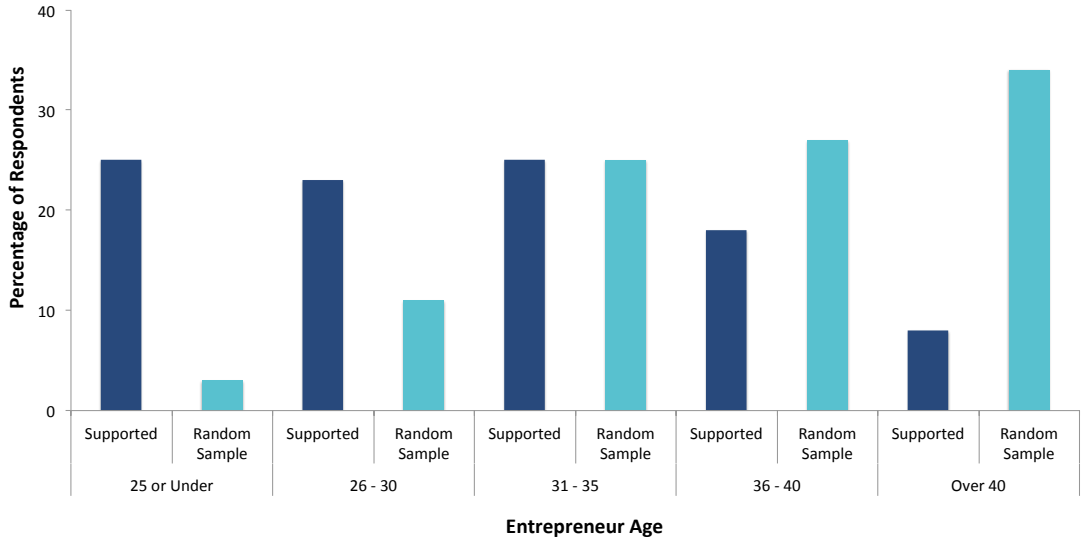


Figure 1.4 Entrepreneur Age Comparison of Venture Support Programs and Random Sample of Young Companies

Figure 1.5 shows that supported entrepreneurs tend to be more experienced internationally than their counterparts from the random sample.

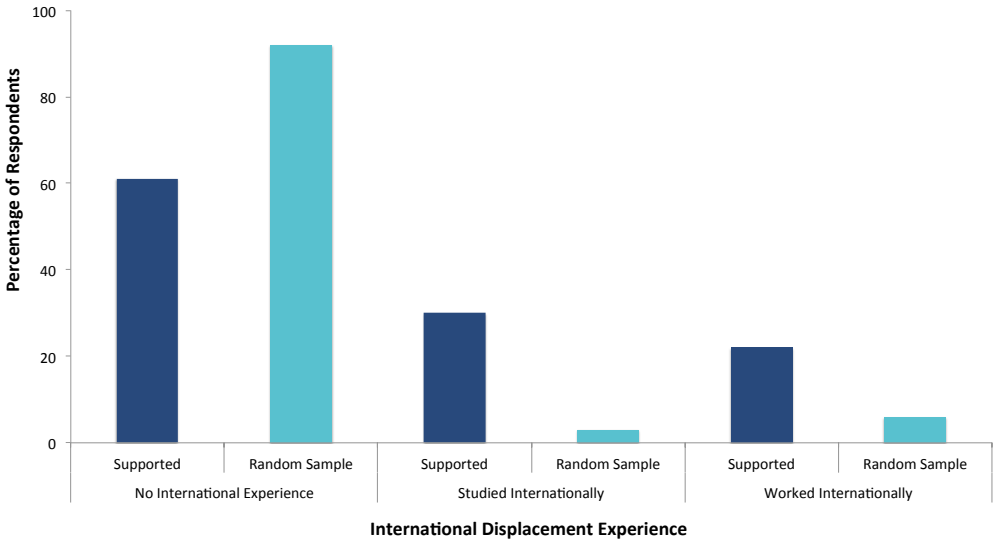


Figure 1.5 Entrepreneur International Displacement Experience Comparison of Venture Support Programs and Random Sample of Young Companies

1.7 Predictors of Selection for Support

The venture support programs should have a clear mission and should select the companies for support that will best allow them to achieve that mission. In this pilot assessment we examine the criteria for selection for support. Rather than consider the stated criteria, we consider the actual criteria as revealed by those companies that were selected for support, except for the Da Nang SME Association ('y' in Table 1.5 below), relative to the group of randomly selected young companies, including the Da Nang SME Association ('n' in Table 1.5 below).[4]

To identify which companies are more likely to be selected for admittance into the venture support programs, logistic regression was used to examine the relationship between the receipt of program support, and venture and entrepreneur descriptors.

[4] Companies that had engaged with the Da Nang SME Association were considered as not having received support, and were therefore grouped with the random sample of young companies for purposes of this analysis. We conducted a secondary analysis that excluded the companies that had engaged with the Da Nang SME Association entirely. The results did not deviate from the original findings at conventional levels of statistical significance.

For this statistical analysis, we include program support as the dependent variable:

- Program support (y/n): indicates whether or not a company has been selected to participate in one of the venture support programs

We consider two types of predictors as independent variables:

- Company attributes (C)
- Entrepreneur attributes (E)

From this analysis we find that that companies which are smaller in size[5], companies that have more employees with displacement experience[6] (either domestic or international), and companies that have a website are more likely to be selected for program support. Also, from our consideration of entrepreneur characteristics we find that companies founded by younger entrepreneurs, with a higher level of education, and with a larger network of Facebook friends are more likely to be selected for program support.

Details on the Model 1 may be found below in Table 1.5. Model 1 regresses company attributes and entrepreneur attributes against *Program support*, based on the full sample of all surveyed companies.

Model 1, which includes both the company and entrepreneur attributes, explains 40% of the variance in the dependent variable, *Program support.* Of the company attributes, *Size* is significantly and negatively associated with *Program support* (significant at the 90% confidence level), indicating that smaller companies are more likely to be supported by programs. *Displacement experience of employees* is significantly associated with *Program support* (significant at the 99.9% confidence level), indicating that companies that have more employees with domestic and international displacement experience are more likely to receive support. *Website* is also significantly associated with *Program support* (significant at the 99% confidence level), indicating that companies that have a website are more likely to receive program support.

Of the entrepreneur attributes, *Entrepreneur age* is significantly and negatively associated with *Program support* (significant at the 99.9% confidence level), indicating that companies founded by younger entrepreneurs are more likely to be supported by programs. Our consideration of entrepreneur attributes also finds

[5] The number of founders and employees and the mid-point values for the annual revenues responses were multiplied to get an indicator of company size.

[6] Respondents were asked to indicate how many founders and employees in their companies have worked or studied outside the town or city where they grew up, or have worked or studied outside of their home country.

that *Level of education*, and *Facebook friends* are significantly associated with *Program support* (significant at the 90% confidence level, and at the 99.9% confidence level, respectively), indicating that companies founded by entrepreneurs with a higher level of education, as well as those that have more Facebook friends are more likely to be supported by programs.

Table 1.5 Significant Predictors of Selection for Program Support

Variable	Model 1 Program Support (y/n)
C: Age	
C: Size	- $^{\alpha}$
C: Growth Plan	
C: Funding received ($)	
C: Displacement experience of employees	+***
C: Employees that are family members	
C: Employees that have university degrees	
C: Website	+**
E: Age	-***
E: Gender (male)	
E: Parents that own a business	
E: Level of education	+ $^{\alpha}$
E: Work experience (years)	
E: International experience	
E: Facebook friends	+***
Model Characteristics	
Total N	393
Adjusted R^2	.40
Chi^2(dof)	*** (15)

dof = Degrees of freedom α = p < .1, * = p < .05, ** = p < .01, *** = p < .001

Recommendation

This recommendation pertains to the mandate or goals of the incubators or venture support programs, and their selection of clients.

As shown above, the companies selected by the venture support programs are those that are smaller companies, led by younger more highly educated entrepreneurs, who have reach to others as indicated by more Facebook friends, web presence, and experience of employees in other jurisdictions, nationally or internationally.

But if the objective of the support program is to associate with companies and entrepreneurs that are delivering revenues, we find that older (typically larger) companies, with older entrepreneurial leaders (see Tables 2.1 and 2.2 in the next section) would be selected.

This raises the question of the mandate of the venture support programs. With the current selection practices, programs and their government funders will have to be patient, and wait for incubated companies to grow. Are the venture support programs, and the governments that support them, willing to wait? If not, program clients will need to be selected differently.

For Incubator Managers

Select companies and entrepreneurs that are clearly associated with the mandate of the program.

If the selection of companies and entrepreneurs implies some undefined time to market (and sales revenues) ensure that this is clear in program management practices, and in the mandate especially as it pertains to the requirement for patience on the part of funders and other stakeholders.

For Policy Considerations

Seed, or more generally, private financing of companies is more likely to occur for companies that are closer to being investment ready, for example with well-defined markets and early revenues. These companies are more likely to be attractive to private sector incubators.

Governments and policy makers need to be very clear about their patience in support of early stage companies, compared to the requirements to see early returns in terms of company revenues from the companies they have supported.

There is a strong case to be made for governments to support the earliest stage companies and entrepreneurs, increasing their capabilities and market prospects, until they are 'investor ready', and possibly attractive to commercial incubators and other market systems.

2. Influences on Company Growth

In addition to profiling the types of companies operating in Da Nang or participating in the venture support programs, we analyzed the respondents' aptitude for growth. In this section we explore three areas that pertain to company growth: 1) the entrepreneur's motivation for starting their company, 2) statistical predictors of company growth, and 3) barriers to company growth as identified by the respondents.

2.1 Motivation for Company Launch

We know that highly motivated entrepreneurs are more driven to grow their company and are more likely to achieve success in the marketplace. By understanding the motivations of the surveyed entrepreneurs, we gain meaningful insights into the potential for success among the respondent companies. In support of this, the participants in the venture support programs, as well as the random sample of young companies in Da Nang, were asked an open-ended survey question regarding their motivation for starting their company. The responses are summarized below into four recurring themes. We find that frequently entrepreneurs are motivated by self-interest, such as the need to be financially independent or to advance their career, while others are driven by their interest in the greater good. A few report having been motivated by elements of both their own self-interest and their interest in the greater good.

Prosperity and Independence

The most commonly expressed motivation for starting their company was the entrepreneurs' desire for prosperity and independence ("For self-employment and independence", "[To] be financially independent"). In many cases, the entrepreneurs expressed the desire to increase wealth, but not to necessarily achieve financial 'independence' ("Earn more income"). Entrepreneurs also commonly expressed a desire to earn income to support their family ("Earn money for family").

Improve Socio-Economic Factors

The second most frequently cited motivation was the desire to improve socio-economic factors. Commonly, respondents indicated their goal was to improve the economy ("For economic development", "Create employment") and social welfare ("Ensure safe and clean food for consumers", "Reduce poverty"). From this we see that the respondent entrepreneurs are in-tune with the current needs of society and are motivated to tackle these challenges.

Opportunity for Career or Company Development

The third most cited motivation was the identification of an opportunity for the development of the entrepreneur's career, or company. This theme captures respondents who indicated that they saw an opportunity in the market for their product ("Cambodia needs to have a fashion industry which is owned by Cambodians", "Seize market opportunities"), as well as those that wanted to further develop their career or company ("Make business better", "Develop business", "Develop my career and take advantage of previous experience").

Passion or Personal Interest

Finally, many respondents also identified a passion for their particular line of business as their motivation for having started their company. The majority of these respondents indicated that they truly enjoyed operating their business ("I like the work I am doing", "Business passion").

2.2 Predictors of Company Growth

To better understand the characteristics and behaviours of growing companies we conducted statistical examinations of the relationships between company growth, in terms of annual revenues and employment, and predictors of this growth.[7]

We consider three predictors of growth as independent variables:

- Company attributes (C)
- Entrepreneur attributes (E)
- Whether or not the company has been supported by a venture support program (Y/N)

From this analysis we find that, for both the random sample of young companies and the supported companies, older companies are likely have higher annual revenues and more employees. This is important as it speaks to both the time required for companies to achieve improvements in their performance, as well as the important role of the venture support programs in supporting young companies, especially young innovative companies, so that they may eventually grow.

Random Sample of Young Companies

Table 2.1, below, shows the results of our analysis of the growth of the random sample of young companies. Models 1 and 2 regress company attributes and

[7] Companies from the Da Nang SME Association were excluded from the sample for this regression analysis.

entrepreneur attributes against *Annual revenues* and *Number of employees (including founders),* respectively.

Both Model 1 and Model 2 indicate that companies that have a website are more likely to grow in terms of annual revenues and number of employees (including founders). In Model 1, older companies are more likely to have higher annual revenues, indicating that it takes time for companies to have improvements in their market performance. Additionally, companies founded by older entrepreneurs, and entrepreneurs with a higher level of education are more likely to grow in terms of annual revenues.

In Model 2, companies that have received more financial support, and companies founded by entrepreneurs whose parents own a business are more likely to have a greater number of employees (including founders).

These findings are consistent with the expectation that companies with financial resources and that have entrepreneurial parents are more likely to grow in terms of employment.

In Model 2 we also find that companies with an ambitious growth plan are more likely to grow in terms of employment. This is expected, as companies with an ambitious growth plan will seek to hire more employees (see following section).

Table 2.1 Predictors of Company Growth for Random Sample of Young Companies

Variables	Model 1 Annual Revenues	Model 2 Employees
C: Age	+**	
C: Growth plan		+ α
C: Funding received ($)		+**
C: Displacement experience of employees		
C: Employees that are family members		
C: Employees that have university degrees		
C: Website	+***	+**
E: Age	+ α	
E: Gender (male)		
E: Parents that own a business		+**
E: Level of education	+*	
E: Work experience (years)		
E: International experience		
E: Facebook friends		
Model Characteristics		
Total N	270	268
Adjusted R^2	.15	.12
F (dof)	*** (14)	*** (14)

dof = Degrees of freedom α = p < .1, * = p < .05, ** = p < .01, *** = p < .001

Supported Companies

Table 2.2, below, shows the results of our analysis of the growth of supported companies. Models 3 and 4 regress company attributes and entrepreneur attributes against *Annual revenues* and *Number of employees (including founders)* respectively.

Both Model 3 and Model 4 indicate that older companies are more likely to have higher annual revenues, and a greater number of employees (including founders). This speaks to the fact that it takes time for companies to achieve improvements in market performance.

We also find that companies founded by male entrepreneurs are more likely to have higher annual revenues, and a greater number of employees (including founders). This is noteworthy, as gender played no role in determining the likelihood of company growth for the random sample. Further, in our previous analysis in which we analyzed predictors of support, we found no relationship between participation in the venture support programs and entrepreneur gender. As such, being a male entrepreneur does not increase the likelihood that their company will be supported. However, once companies are selected into venture support programs, the companies led by men are more likely to grow as a result of the support. This finding is consistent with prior research, which suggested that female entrepreneurs receive fewer hours of advisory services compared to their male peers.[8]

Similarly, we find that companies founded by older entrepreneurs are more likely to have higher annual revenues, and a greater number of employees (including founders). From our previous analysis in which we analyzed predictors of support, we found that companies founded by older entrepreneurs were less likely to participate in the venture support programs. However, as this current analysis indicates, once companies founded by older entrepreneurs are selected for participation in the venture support programs, they seemingly achieve more growth in their market performance.

Model 4 indicates that companies that have more employees that are family members are more likely to grow in terms of their number of employees (including founders). However, this growth may not be advantageous as hiring family members may be driven more by social obligations than a business need.

[8] Cumming, D. J., and Fischer, E. M. (2012). "Publicly funded business advisory services and entrepreneurial outcomes". *Research Policy, 41*.2 (2012): 467-481.

Finally, website is not a predictor of growth for supported companies, but it has been shown to be significantly associated with growth in the random sample of young companies. One of the reasons for this difference may be that the majority of supported companies have websites, while only 20% of the young companies from the random sample have websites. It should be noted that the existence of a company website was previously found to be significantly associated with participation in the venture support programs. As such, it may be that having a company website can both increase an unsupported company's exposure, thereby engendering growth, and increase a company's legitimacy, thereby allowing them to gain access to venture support programs.

Table 2.2 Predictors of Company Growth for Supported Companies

Variable	Model 3 Annual Revenues	Model 4 Employees
C: Age	+**	+*
C: Growth plan		
C: Funding received ($)		
C: Displacement experience of employees		
C: Employees that are family members		+*
C: Employees that have university degrees		
C: Website		
E: Age	+***	+*
E: Gender (male)	+*	+*
E: Parents that own a business		
E: Level of education		
E: Work experience (years)		
E: International experience		
E: Facebook friends		
Model Characteristics		
Total N	147	146
Adjusted R^2	.21	.18
F (dof)	*** (14)	*** (14)

dof = Degrees of freedom α = p < .1, * = p < .05, ** = p < .01, *** = p < .001

2.3 Barriers to Company Growth Reported by the Random Sample of Young Companies

The entrepreneurs representing the random sample of young companies were asked to identify barriers to their company's growth. To standardize the responses, a list of 28 potential barriers to growth was provided to each respondent. These barriers were selected for inclusion in the survey based on TEN's experience surveying startup companies, and were previously identified in the Survey of Innovation and Business Strategy conducted most recently in 2013 by Statistics Canada.

The 28 potential barriers to growth were classified into seven categories:

1. Human resource barriers
2. Customer & supplier development barriers
3. Market barriers
4. Financial barriers
5. Government-induced barriers
6. Technology & infrastructure barriers
7. Language barriers

We find that the top five barriers to growth for the random sample of young companies operating in Da Nang are: 1) the high cost of debt financing, 2) the low prices demanded by customers, 3) the lack of available debt financing for companies such as theirs, 4) the burdensome government administrative procedures, and 5) the small size of Vietnam's domestic market. For a complete list of barriers to growth please refer to Table 2.3.

We further analyzed the barriers to growth for entrepreneurs operating in Da Nang to determine if different sub-sections of the surveyed sample reported substantive differences in their barriers to growth. From this analysis we determined that a greater percentage of entrepreneurs representing companies founded in 2015 or 2016 reported that the high cost of debt financing is a barrier to growth, compared to companies founded prior to 2015. Additionally, a greater percentage of male entrepreneurs, as well as entrepreneurs representing companies with plans for modest or ambitious growth reported that the burdensome government administrative procedures are a barrier to growth, compared to female entrepreneurs as well as those representing companies with plans for no growth, or decreased growth. Finally, we found that a greater percentage of entrepreneurs representing pre-revenue companies as well as companies generating less than 500 million VND reported that the small size of Vietnam's domestic market is a barrier to growth, compared to companies that generate 500 million VND or more annually.

Table 2.3 Barriers to Growth Arranged by Percentage of Respondents

Barrier Category	Barrier	% Identified as a Barrier to Growth
Financial	Debt financing is too expensive	50%
	Debt financing is not available to companies like ours	43%
	Equity financing is not available to companies like ours	30%
	We have been unable to raise equity financing	28%
Customer & Supplier Development	Customers demand prices that are too low	46%
	Customers prefer competitors' offerings	30%
	Customers can not be identified	28%
	Qualified suppliers are not available	18%
	We can not attract qualified suppliers	13%
Government Induced	Government administrative procedures are burdensome	38%
	Taxes are too high	34%
	The government privileges state owned enterprises	30%
	Government regulations are restrictive	30%
Market	The domestic market is too small	37%
	We are too small to export	24%
Human Resources	Qualified technical employees are not available	23%
	Qualified sales employees are not available	20%
	We can not attract qualified sales employees	15%
	Qualified managers are not available	15%
	We can not attract qualified technical employees	15%
	We can not attract qualified managers	14%
Technology & Infrastructure	Technology changes too quickly	19%
	We do not know how to take advantage of the internet	12%
	The transportation infrastructure is inadequate	11%
	The internet is unreliable	6%
	Electrical power is unreliable	5%
Language	We can not communicate in Mandarin	25%
	We can not communicate in English	23%

The entrepreneurs representing the random sample of young companies were also asked an open-ended question regarding their greatest barriers to growth. For the purposes of this evaluation the responses were summarized in a number of recurring themes, the top three of which are presented below. We find that barriers stem from either external or systemic sources, such as a lack of available capital, or internal sources, such as a lack of experience or expertise. It is important to note that the majority of respondents cited multiple barriers to their company's growth.

Limited Access to and Availability of Capital

In keeping with the findings from the quantitative analysis on barriers to growth presented in Table 2.3, as well as what we would expect from young start-ups, one quarter of all respondents described access to capital as one of their greatest barriers to growth.

The issues pertaining to capital were sometimes described as simply a lack of available capital ("Difficult to expand business due to lack of capital."), while others identified a lack of knowledge or the complexity of the administration as the source of their frustration with accessing capital ("Want to borrow capital for business expansion but lack information, understanding, and mortgages.").

Additionally, respondents made note of the high interest rates and prohibitive costs associated with borrowing capital from financial institutions ("High interest rate, mortgage is required for loans. It is difficult to access guaranteed funds.").

Of particular interest is the degree to which respondents described their lack of access to capital as being an external issue beyond their control, rather than internalizing this barrier as their own inability to secure funding.

Fierce Competition

The second most frequently cited barrier to growth was intense competition in their given industry. For some respondents this competition comes from the presence of foreign entities ("Seafood stock is decreasing, not enough for export, competition with Chinese traders to buy."), while for others the competition stems from large, established, local companies ("Fierce competition [in] the market, big events of the city often involve big companies with few opportunities for SMEs…" and "Competition for customers with long-established companies make it difficult to look for customers.").

Additionally, respondents noted the implications of the fierce competition they face, such as lowered price points ("Fierce competition leads to low selling price while fixed cost[s] lead to low profits."). Others made mention of the detrimental business practices of their competitors ("Enterprises take dumping measures." and "Many units compete with too low price leading to low quality of products. This creates difficulty for companies with [a] reputation [such] as mine.")

Difficulty Cultivating a Reliable Customer Base

Many respondents identified difficulty in securing a sustainable customer base as one of their greatest barriers to growth. For some the barrier is a difficulty in merely identifying who their customers should be ("Look[ing] for potential customers is the biggest difficulty of the company."), while others felt that the overall size of the available market was too small to support their company ("Not too many customers for construction equipment…we can only sell to Lao Cai, Saigon, not Da Nang.").

Similarly, respondents also cited the low prices demanded by their customers as a barrier to their company's growth ("Da Nang customers set high requirements and offer low price[s]."). Further, respondents noted that a lack of stability in the economy, and subsequently their particular market was a barrier ("New companies do not have a stable market.").

Finally, the way in which business is conducted with customers is a barrier to growth. As much business is done on credit, small enterprises have difficulty collecting on their clients' outstanding debts ("Customers buy on credit, difficult to collect debts.").

2.4 Barriers to Growth Reported by Supported Companies

The client companies of the venture support programs were also asked to identify the greatest barriers to their company's growth. Of particular note are the similarities in the barriers reported by companies operating in each of the three participating cities. Given this overlap in responses, we present the thematic analysis combined for all locations, the top three of which are presented below. Additional themes include the underlying costs of doing business, the competitive landscape, issues with infrastructure and technology, managerial capabilities, and difficulty engaging in partnerships.

Limited Access to and Availability of Capital

Similar to what was found during the interviews with the random sample of young companies operating in Da Nang, supported companies most frequently identified access to capital as one of their greatest barriers to growth. The lack of access to capital results in broad ranging limitations for the respondent companies, such as technical restraints ("Capital expenditures to ensure regulations on food safety and hygiene are met."), constraints on the marketing budget ("Currently our company [lacks funds] to market [our] products."), and resourcing limitations ("We do not have enough money to pay for experience[d] technical members.").

Insufficient Human Resources

A number of respondents reported personnel issues as one of their greatest barriers to growth. These issues range from difficulty sourcing appropriate staff ("It was very difficult to identify and recruit a capable CEO."), to issues with employee retention ("Difficulty in employing experienced technical members.").

Lack of Sales and Marketing Expertise

Companies participating in the venture support programs also cited issues with sourcing and selling to potential customers as one of their greatest barriers to growth. Underlying some of these responses is a lack of marketing knowledge ("How to bring products to clients?"), while others struggle with meeting customer needs ("Changing habits of users."). Additionally, the overall size of the domestic markets in Vietnam and Cambodia are in and of themselves a barrier to the growth of some companies.

Recommendation

For Incubator Managers

Take all steps possible to facilitate financing of start-ups, and work with others to establish appropriate financing vehicles

Establish strong internal mentorship capabilities to help companies achieve a deep understanding of markets in terms of channels to markets, customers, and supply chains.

For Policy Considerations

Companies cannot be built without financing. Take all steps possible to lower barriers and enable easier access to capital.

Reduce administrative burdens faced by companies, especially small ones.

3. Impact of the Venture Support Programs

3.1 TEN's Methodology

Approaches to assessing the results of investments in business support programs range from state of the art evaluation methodologies, to substitutes for evaluations such as 'success stories'. State of the art evaluation methodologies are highly rigorous but are very demanding in terms of data requirements. As a consequence, they are rarely feasible and are used infrequently outside of academia. The most frequently used approaches to reporting on the results of investments are not evaluations, but are often used in place of evaluations. These include success stories, the presentation of firm performance data, the presentation of client satisfaction data, and economic impact analyses, which are attempts to estimate the total impact of interventions on the GDP of a region.

In the middle ground between these two extremes are methodologies that are both reliable and feasible. Such approaches include matched sample approaches that seek to identify differences in the performance of treated and untreated firms, and approaches that rely upon the judgement of survey respondents to distinguish between differences in performance that are attributable to interventions, and differences in performance that would have happened in the absence of interventions.

Core to the methodology employed in this assessment is the attribution of impact described more fully in the Appendices; impact directly attributable to the work of venture support programs. We capture this by relying on the aforementioned expert judgement of company representatives engaging with the venture support programs to determine the impact of the program being assessed. This results in defensible and reliable impact data, which the programs can confidently claim as their true impact on the clients they serve.

Impact on resources and capabilities (e.g., skills and knowledge) is the short-term impact of the venture support programs. Impact on performance (e.g., jobs and revenues) is the medium-term impact of the programs. To accurately assess impact on client performance we consider both the change in client performance and the degree to which the change is attributable to the program.

The achievement of longer-term, or ultimate, socio-economic impact depends on the achievement of impacts on client performance, which originates from the achievement of shorter-term impacts on clients' resources and capabilities.

3.2 Survey Response Rates

In June 2016, 206 companies that had participated in venture support programs responded to a web-based survey.[9] During the same period the 309 entrepreneurs representing a random sample of young companies operating in Da Nang were interviewed. Table 3.1 provides further details on the response rate by program.

Table 3.1 Response Rate by Venture Support Program

Location	Program	Program Size	Invitations	Respondents	Response Rate
Phnom Penh	Emerging Markets	8	7	6	86%
	Ministry of Commerce 101 program	87	83	58	70%
	National Business Plan Competition		20	14	70%
	WeCreate	18	17	14	82%
	NOMI Network	20	10	8	80%
	Total	**133**	**137**	**100**	**73%**
Ho Chi Minh City	Business Startup Support Centre	100		10	
	Argi Business Incubator		17	6	35%
	Business Incubation and Innovation Centre – Nguyen Tat Thanh University	15	8	5	63%
	Nong Lam University – Center for Technology Business Incubation		9	3	33%
	Saigon Hi-Tech Park – Incubation Center	~20	16	8	50%
	Information Technology Park – Vietnam National University in HCMC	~10	16	11	69%
	Quang Trung Software Business Incubation Center	10	9	7	78%
	Ho Chi Minh City University of Technology – Technological Business Incubator		6	5	83%
	Total	**141**	**81**	**55**	**56%**
Da Nang	Da Nang Business Incubator	8	8	8	100%
	College of Information Technology Incubator	15	15	13	87%
	Da Nang SME Association	500	33	20	61%
	Total	**523**	**56**	**41**	**73%**

[9] The Business Startup Support Centre (BSSC) has approximately 100 clients. However, we do not have information on the response rate for the BSSC, as they provided the survey link to their clients directly. As a result, we do not include the BSSC in the overall response rate calculation.

3.3 Nature of the Support Services

The nature of the support services offered by each of the venture support programs is noteworthy, as they directly impact respondents' resources and capabilities, which in turn lead to impacts on performance, and eventually to long-term impacts in the form of socio-economic benefits.

Table 3.2 provides a list of the support services offered by each of the 16 venture support programs assessed, organized by location. The year the program was founded is included to provide context for the following analyses of impact, as many of the programs have only just started.

Table 3.2 Support Services Offered

Location	Program	Year Program Founded	Support Services Offered
Phnom Penh	Emerging Markets	2012	- Provision of management, financial, and legal advice - Mentorship and guidance - Facilitation of financing - Analytical support
	Ministry of Commerce 101 program	2015	- Mentorship and coaching - Boot camp entrance program - Facilitation of financing - Networking and events - Promotion opportunities
	National Business Plan Competition	2016	- Workshops and training programs - Leadership camp - Networking and events - Online learning forum
	WeCreate	2015	- Business building programs - Facilitation of financing - Networking and events (workshops, training, etc.) - Mentorship and coaching
	NOMI Network	2016	- Technical training - Improved market access

Table 3.2 (Continued)

Location	Program	Year Program Founded	Support Services Offered
Ho Chi Minh City	Agri Business Incubator		- Access to facilities and equipment
	Business Incubation and Innovation Center – Nguyen Tat Thanh University	2015	- Networking and events - Workshops - Mentorship and coaching
	Nong Lam University – Center for Technology Business Incubation		- Research and transfer advanced technology on agriculture, forestry and fishery, environment and natural resources - Organizing technical training courses for students, technicians and extension staff - Demonstration projects - Scientific and technology services (e.g., information, consultancy, technology transfer)
	Saigon Hi-Tech Park – Incubation Center	2002	- Mentorship and coaching - Facilitation of financing
	Information Technology Park – Vietnam National University in HCMC	2003	- Mentorship and coaching - Facilitation of financing - Networking and events
	Quang Trung Software Business Incubation Center		- Access to facilities and equipment - Business development services
	Ho Chi Minh City University of Technology – Technological Business Incubator		- Networking and events - Training program - Facilitation of financing
	Business Startup Support Centre		- Access to facilities and equipment - Facilitation of financing - Consultation - Training - Trade promotion
			-
Da Nang	Da Nang Business Incubator	2016	- Mentorship and coaching - Facilitation of financing - Prototype development support - Networking and events
	College of Information Technology Incubator		- Mentorship and coaching - Facilitation of financing - Provision of training - Networking and events
	Da Nang SME Association		- Regulatory guidance - Assistance with business registration, tax procedures, and contract dispute resolution - Networking and events

3.4 Intensity of Use of the Support Services

Figure 3.1 illustrates the intensity of use[10] of the support services offered by each venture support program with eight or more responses to the support services questions. The programs with fewer than eight responses were grouped together into the 'Other Programs' category.

We find that the National Business Plan Competition had the greatest percentage of respondents indicating high intensity of use of its support services.

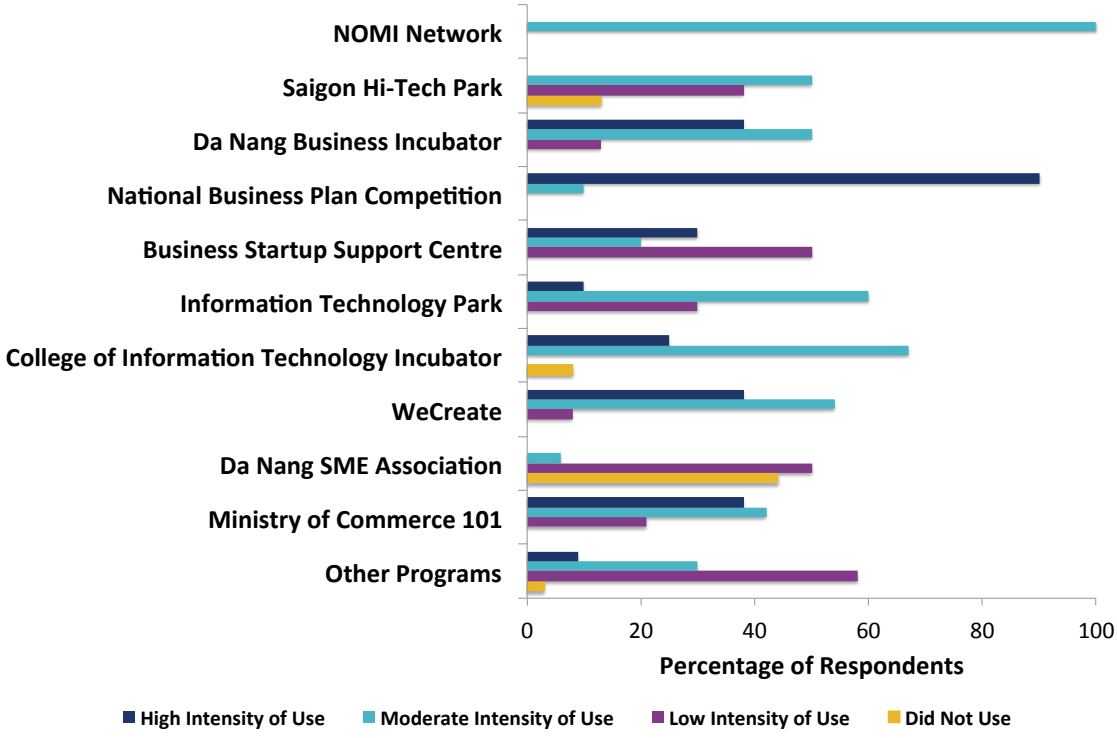


Figure 3.1 Intensity of Use of Support Services by Program

[10] For analysis purposes, we created a combined intensity of use of support services variable, using the averages of the respondents' indication of intensity of use of the support services, or, where applicable, the degree of participation in training sessions.

Predictors of Intensity of Use of Support Services

To better understand the characteristics and behaviours of supported companies that used support services we conducted statistical examinations of the relationships between intensity of use of services[11], and predictors of the intensity of use[12].

We consider four types of predictors of the intensity of use of services as independent variables:

- Company attributes (C)
- Entrepreneur attributes (E)
- Satisfaction with services provided by venture support programs [13]
- Reasons to join in the venture support programs (R)[14]

From this analysis we find that companies that joined in the venture support programs for the purpose of networking and learning (e.g. mentors, instructional sessions) are more likely to use the support services with a higher intensity, while companies that joined in the programs for access to office space are less likely to use the support services or use the services with a lower intensity. This finding indicates that the venture support programs are more attractive to entrepreneurs and companies for the purposes of networking and learning compared to access to office space.

Additionally, companies with plans for modest (vs. high) growth or sustained operations, companies that have fewer employees with international displacement experience, and companies that founded by entrepreneurs with more Facebook friends are more likely use the support services with higher intensity.

Details on Model 1 may be found in Table 3.3 below. Model 1 regresses company attributes, entrepreneur attributes, satisfaction variables, and reasons to join in the programs against intensity of use services.

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[11] For full-time programs, the *intensity of use of support services* variable is calculated as the average of Mentoring, Networking, Instruction, Working space, Access to funding, and Business support services. For training programs, the *intensity of use of support service* variable is calculated based on the degree of participation in training sessions.

[12] Companies that engaged with the Da Nang SME Association are excluded from the analysis sample.

[13] Respondents were asked to indicate their satisfaction with the services provided by the venture support programs on a three-point scale from 'Not satisfied' (coded as 0) to 'Highly satisfied' (coded as 1).

[14] We include five dummy variables as reasons to join in the programs: 1) Networking, 2) Access to office space, 3) Learning, 4) Access to funding, and 5) Business support services.

Model 1, explains 25% of the variance in the dependent variable, *Intensity of use of services*. Model 1 shows that *Networking, and Learning* are significantly associated with *Intensity of use of services* (significant at the 95% confidence level, and at the 90% confidence level respectively), indicating that companies that joined in the programs for networking and learning purpose and more likely to use support services with a higher intensity. Moreover, *Access to office space* is significant and negatively associated with *Intensity of use of services* (significant at the 95% confidence level), indicating that companies that joined in the programs for access to office space are less likely to use support services or use services with a lower intensity. Of the company attributes variables, *Growth plan,* and *International displacement experience of employee* are significantly and negatively associated with *Intensity of use of services* (both significant at the 90% confidence level), indicating that companies with plans for modest growth or sustained operations, and companies that have fewer employees that have international displacement experience are more likely to use the services with a higher intensity. Of the entrepreneur attributes variables, *Facebook friends* is significantly associated with *Intensity of use of services* (significant at the 95% confidence level), indicating that companies that founded by entrepreneurs with more Facebook friends are more likely to use services with a higher intensity.

Table 3.3 Predictors of Intensity of Use of Support Services[15]

Variable	Model 1 Intensity of Use of Services
C: Age	
C: Size	
C: Growth plan	- α
C: Funding received ($)	
C: International displacement of employees	- α
C: Domestic displacement of employees	
C: Employees that are family members	
C: Employees that have university degrees	
C: Website	
E: Age	
E: Gender (male)	
E: Parents that own a business	
E: Level of education	
E: Work experience (years)	
E: International experience	
E: Facebook friends	+ α
Satisfaction with services	
R: Networking	+*
R: Access to office space	-*
R: Learning	+ α
R: Access to funding	
R: Business support services	
Model Characteristics	
Total N	138
Adjusted R^2	.25
F (dof)	*** (20)

dof = Degrees of freedom α = p < .1, * = p < .05, ** = p < .01, *** = p < .001

[15] Companies that engaged with the Da Nang SME Association are excluded from the analysis sample.

3.5 Impact of the Venture Support Programs on Company Capabilities

Following our logic model approach for assessment of impact (see Appendices), the venture support programs achieve impact on company performance by helping to improve companies' resources and capabilities. This improvement to the resources and capabilities of companies is the direct impact of the programs, achieved through the various support services available to companies.

For the purposes of this assessment, three measures were used to assess the impact of the venture support programs on improvements to companies' resources and capabilities[16]:

- Business expertise,
- Business network expansion, and
- Knowledge of customer needs.

As shown in Figure 3.2, the majority of companies attributed the venture support programs with positive impacts on improvements to their resources and capabilities.

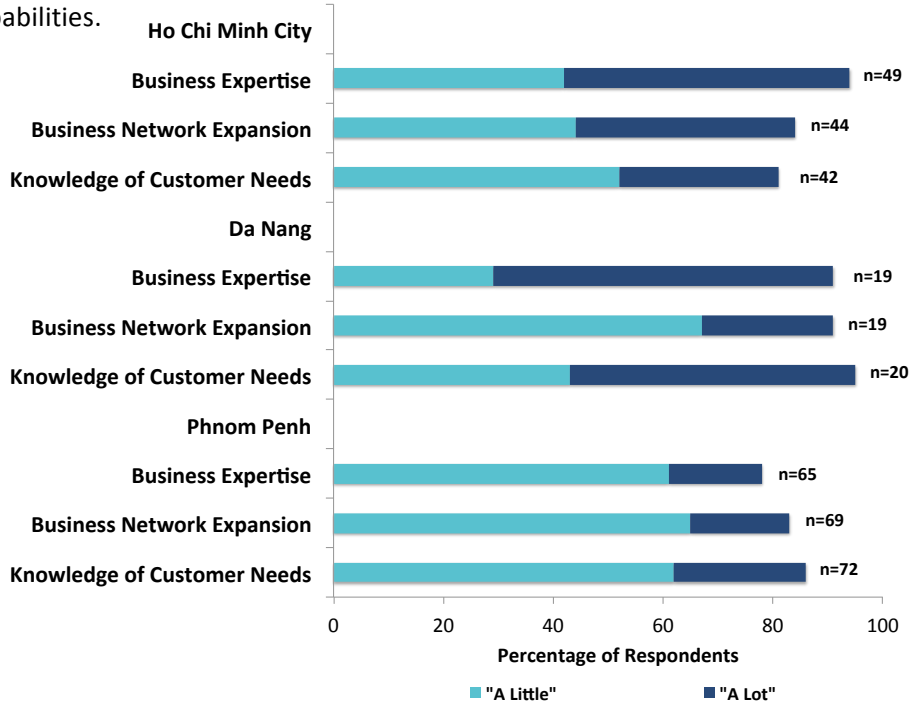

Figure 3.2 Percentage of Companies Attributing Positive Impact on their Resources and Capabilities

[16] The Da Nang SME Association was excluded from the aggregate impact analysis, as the association does not provide project specific product or services-related support to their membership.

As shown in Figure 3.3, in general, we found the average impact attributed by companies on their resources and capabilities to be moderate to high (4.7 – 7.6 out of 10), relative to our experience with other venture support programs.

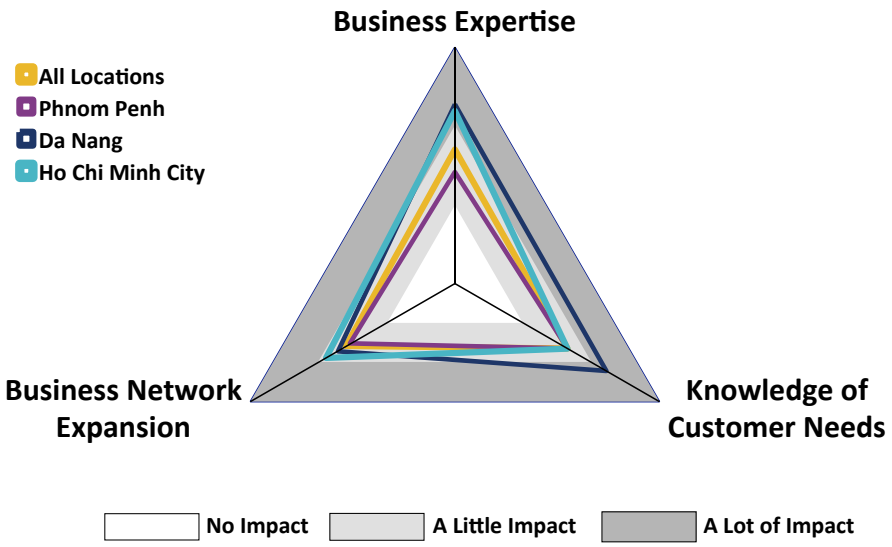

Figure 3.3 Average Impact on Resources and Capabilities

We found that respondents who indicated their company was founded in 2016 reported greater average impact on improvements to their company's resources and capabilities, compared to companies that were founded in 2015 or earlier. This finding is expected, as improvements to resources and capabilities are essential for less capable younger firms, something more difficult to achieve with older firms.

Further, the average impact on resources and capabilities attributed by companies is higher for those that:

- Have a more highly educated workforce, with domestic displacement experience
- Generate low revenues, or are pre-revenue
- Have received financing or funding
- Were founded by young, male, less-experienced, or less educated entrepreneurs

This is expected, as inexperienced entrepreneurs, with small, new companies, trying to break into the market will be focused on advancing their resources and capabilities to lay the foundation for company growth.

Recommendation

This recommendation pertains to the relationship between incubator mandate, mix of services, and expected impacts.

In the present case, companies that are pre- or low- revenue are experiencing the greatest impacts. If the mandates of the incubators are to preferentially impact these companies, then expectations are being met. But what about older, more mature companies?

Since older, more mature companies are also being served (according to the data set), then there is room for improvement in terms of the impact being made upon them. Similarly, there is greater impact being made on companies that have received financing or funding, leaving room for improvement for impact on those that have not received funding.

This leads to the perspective that services need to be tailored to companies and entrepreneurs that have different attributes, are in different stages of development, and so on.

For Incubator Managers

Ensure that a suite of services can be customized for companies that have similar attributes. A broad-brush approach is unsuitable in terms of achieving maximum impact.

For Policy Considerations

Ensure that incubators and business support programs have sufficient resources, competencies, and overall capabilities to provide customized high quality services across the breadth of their clients.

The average impact on resources and capabilities was further segmented by use of support services. The impact attributed by those respondents who indicated their company had used any of the support services with 'moderate' or 'high' intensity was compared to the impact attributed by those who indicated their company used the support services to a lower degree, or did not use them.

As shown in Figure 3.4, the average impact on companies' resources and capabilities is greater for those companies that used the support services with 'moderate' or high' intensity. This suggests that the more a company uses the

services provided by the venture support program, the more benefit they derive from the experience.

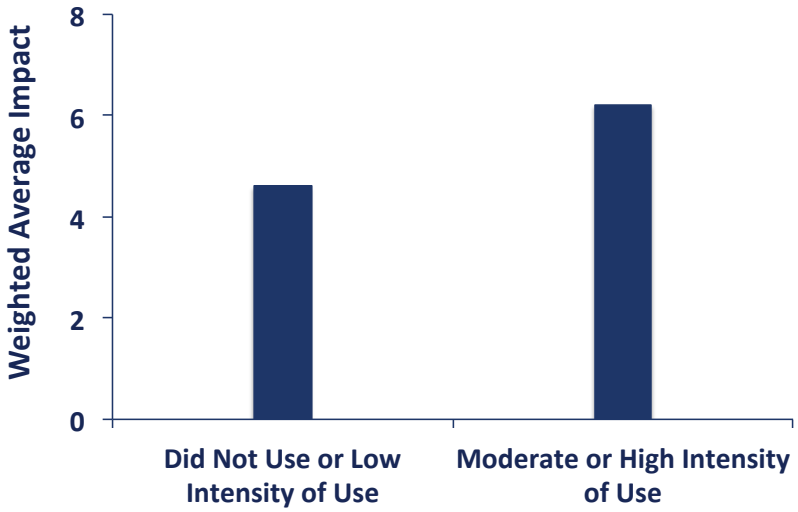

Figure 3.4 Average Impact on Resources and Capabilities Segmented by Intensity of Use of Services

In an effort to more deeply understand the relationship between the support services offered and the impact of the venture support programs on resources and capabilities, as shown in Figure 3.5 we further segment the impact data by the various support services provided. From this analysis we find that while the attribution of impact increases as the intensity of use of the support services increases, the attribution of impact is greatest for those that most intensively used the access to funding services and the instructional sessions.

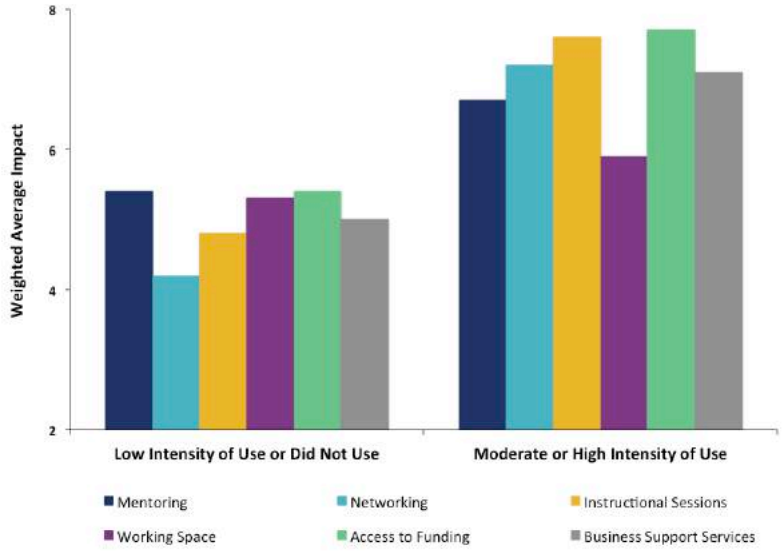

Figure 3.5 Average Impact on Resources and Capabilities Segmented by Intensity of Use of Specific Services

Recommendation

For Incubator Managers

It is recommended that the service offerings of incubators be made in such a fashion as to ensure they are used intensively. Consistent with TEN's findings in other countries, those entrepreneurs and companies that use services more casually or less intensively benefit less. We recommend that:

- Deep engagement between incubators and their clients be made a requirement for being selected as a client, especially when the government or other parties are paying for the service offerings
- The incubator has the ability to respond to increased demands when services are used intensively
- Motivated companies are selected; companies with ambitious growth plans get to revenues sooner, and are motivated to benefit from incubator services to a higher degree

For Policy Considerations

We recommend that:

- Incubators and business support programs have sufficient resources to provide services that will be used intensively
- Incubators be required to monitor service use, and to survey companies on their intensity of use and impact of the incubators – if services are not used, and impact is lower, the management of the incubator must be required to take action in the interests of efficient use of funds

3.6 Impact of the Venture Support Programs on Company Performance

Following our logic model approach for the assessment of impact, the venture support programs achieve long-term impacts in the form of socio-economic benefits by helping companies to improve their performance. However, company performance improvements are the indirect impact of the venture support programs and occur as a consequence of the impact that the venture support programs have on improving companies' resources and capabilities.

For the purposes of this assessment, three measures were used to assess the impact of the venture support programs on improvements to companies' performance:

- Change in annual revenues,
- Change in employment, and
- Funding received.

As shown in Figure 3.6 a lower percentage of companies attributed the venture support programs with positive impacts on improvements to their performance compared to impacts on resources and capabilities.

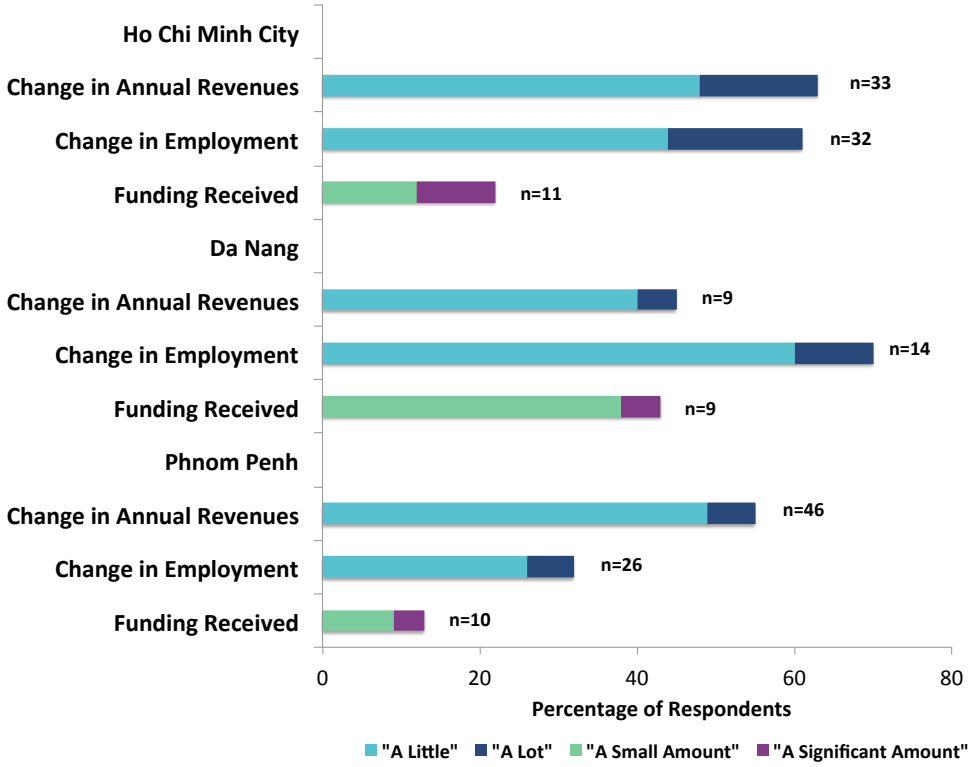

Figure 3.6 Percentage of Companies Attributing Positive Impact on their Performance

As shown in Figure 3.7 in general, we found the average impact attributed by companies on their performance to be fairly low (0.8 – 3.9 out of 10), relative to our experience with other venture support programs.

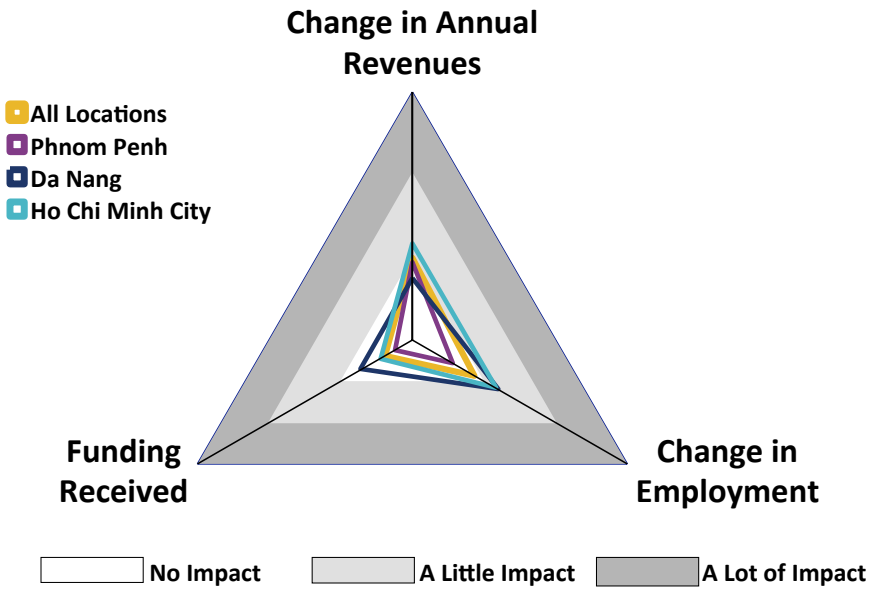

Figure 3.7 Average Impact on Performance

As outlined in the methodology section of this report, it takes time for impacts on the performance of companies to be realised. As such, given that 76% of the supported companies first engaged with the programs in 2015 or 2016, the lower impact on company performance is in keeping with what we expect to see as these companies have not yet had time to realise the longer term benefits of their engagement with the venture support programs.

Further, 57% of the supported companies were founded in 2014 – 2016, and younger companies generally do not have the absorptive capacity to translate support into improvements on their performance metrics at such an early stage in their business lifecycle.

We also found that respondents who indicated their company first interacted with the venture support programs in 2014 or earlier reported greater average impact on improvements to their company's performance, compared to companies that first engaged with the venture support programs in 2015 or later. This finding is expected, as improvements to performance occur in the longer term, and require a longer period of engagement with the venture support programs for impact on these measures to be realized.

Further, the average impact on performance attributed by companies is higher for those that:

- Were founded in 2014 or earlier
- Generate revenues
- Have received financing or funding
- Report plans for modest or ambitious growth
- Were founded by younger, less-experienced entrepreneurs

This is expected, as older companies, that are already generating revenues, and are focused on growth will have the capabilities to translate support into improvements on their performance measures.

We tested for significant differences among the measures and found that companies attributed higher impacts to the programs in terms of the *Change in annual revenues* and the *Change in employment* measures, compared to the impact on *Funding received* measure (significant at the 99% confidence level). This finding aligns with our expectations, since few of the venture support programs are focused on assisting companies with securing capital.

The average impact on performance was further segmented by use of support services. The impact attributed by those respondents who indicated their company had used any of the support services with 'moderate' or 'high' intensity, were compared to the impact attributed by those who indicated their company used the support services to a lower degree, or did not use them.

As shown in Figure 3.8, the average impact on companies' performance is only slightly greater for those companies that used the support services with 'moderate' or high' intensity.

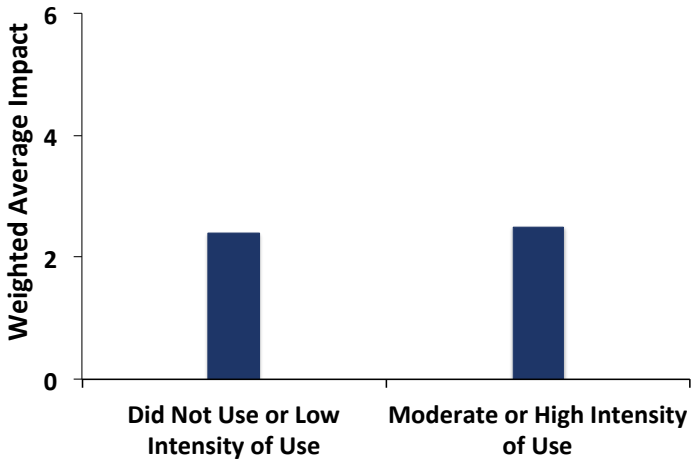

Figure 3.8 Average Impact on Performance Segmented by Intensity of Use of Services

In an effort to more deeply understand the relationship between the support services offered and the impact of the venture support programs on company performance, as shown in Figure 3.9 we further segment the impact data by the various support services provided. From this analysis we find that while the attribution of impact increases as the intensity of use of the support services increases, impact is greatest for those that most intensively used the access to funding support services.

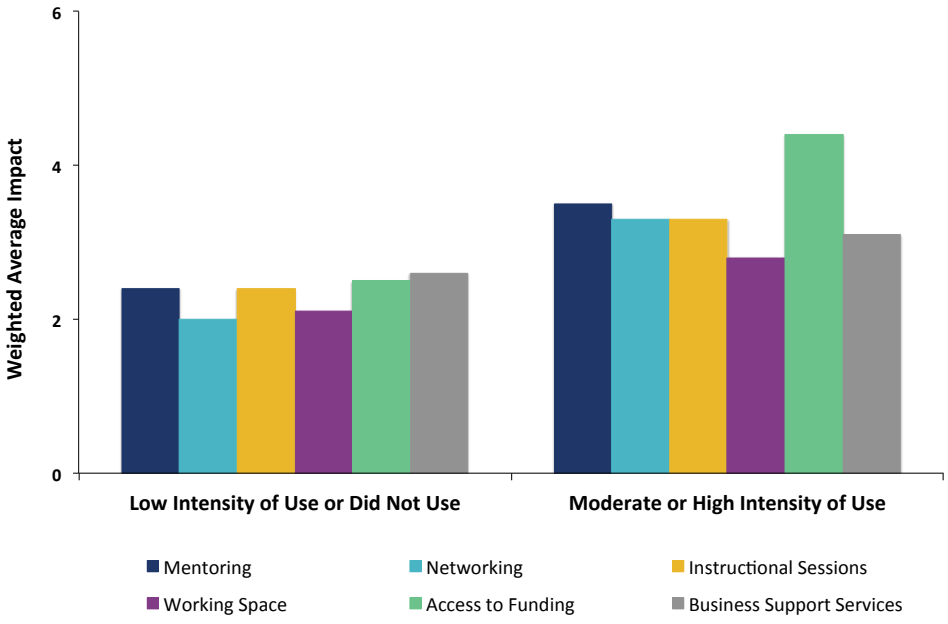

Figure 3.9 Average Impact on Performance Segmented by Intensity of Use of Services

Recommendation

These recommendations are related to incubator mandate, service offerings, and to expected impacts.

If the goal of the incubator is to achieve early impact on company performance (measured in terms of revenues, employment and funding received), then they ought to select relatively older companies, with revenues and ambitious growth plans. These companies will require a different set of services than companies that are just forming.

Moreover, as we have seen earlier, those companies that achieve revenues will be older, with highly educated older entrepreneurs.

Together, these recommendations are paramount in terms of incubator impact on market performance of 'market ready' companies.

On the other hand, the connection to mandate is important. Many of the companies currently being served by the supported-incubators that were part of this assessment, were small, pre-revenue, with young 'learning' entrepreneurs. As noted earlier there is plenty of justification for governments to support these types of entrepreneurs, but patience will be needed in terms of waiting for impact on market performance (e.g., impact on revenues).

For Incubator Managers and Policy Considerations

Establish clarity on the expectations of performance of the incubators, and the timeframes over with this would be expected to occur.

3.7 How the Impact of the Venture Support Programs is Achieved

To better understand how the venture support programs have achieved their impact on the performance of client companies, we conducted a linear regression analysis.[17] For the purposes of these statistical examinations, we selected four measures of impact on company performance as dependent variables:

- Impact on Annual revenues
- Impact on Employment
- Impact on Funding received
- Indirect impact factor[18]

We considered three types of predictors of impact on the dependent variables:

- Company attributes and entrepreneur attributes that we included as control variables
- The intensity of use of support services offered by the venture support programs[19]
- Direct impact factor[20]: the nature and degree of impact on companies' resources and capabilities

From this analysis we find that the impact on companies' resources and capabilities is most strongly associated with impact on company performance.

Additionally, older companies, companies with plans for ambitious growth, and companies that have more employees with international displacement experience are more likely to attribute the venture support programs with impact on company performance.

We find that companies founded by entrepreneurs with a higher level of education, and companies founded by entrepreneurs whose parents did not own

[17] Companies from the SME Association were excluded from the sample for this regression analysis.
[18] The indirect impact factor variable was calculated using a factor analysis based on impact on annual revenues, impact on employment, and impact on funding received.
[19] For full-time programs, the *intensity of use of support services* variable is calculated as the average of Mentoring, Networking, Instruction, Working space, Access to funding, and Business support services. For training programs, the *intensity of use of support service* variable is calculated based on the degree of participation in training sessions.
[20] The direct impact factor variable was calculated using a factor analysis based on impact on business expertise, impact on business network expansion, and impact on knowledge of customer needs.

a business are more likely to attribute the venture support programs with impact on company performance.

We also find that companies that used support services with a higher intensity are more likely to attribute the venture support programs with impact on their resources and capabilities.

As indicated in Table 3.4 below, Model 1 regresses control variables, and intensity of use of support services against direct impact on companies' resources and capabilities. Model 2 regresses control variables, intensity of use of support services, and the independent impact factor against indirect impact on company performance.

Model 1, which includes control variables and intensity of use of support services, explains 37% of the variance in the dependent variable, *Direct impact factor*. Model 1 shows that *Use of services* is significantly associated with *Direct impact factor* (significant at the 99.9% confidence level), indicating that companies that used support services with a higher intensity are more likely to attribute the venture support programs with impact on resources and capabilities.

Of the company attributes, *Domestic displacement experience of employees*, and *Employees that have university degrees* are significantly associated with the *Direct impact factor* (significant at the 95% confidence level, and at the 90% confidence level respectively), indicating that companies that have more employees that have domestic displacement experience, and companies that have more employees that have university degrees are more likely to attribute the venture support programs with impact on resources and capabilities.

Of the entrepreneur attributes, *Entrepreneur age* is significantly and negatively associated with the *Direct impact factor* (significant at the 99% confidence level), indicating that companies that were founded by younger entrepreneurs are more likely to attribute the venture support programs with impact on resources and capabilities. In addition, *Level of education* is significantly and negatively associated with the *Direct impact factor* (significant at the 99% confidence level), indicating that companies that were founded by entrepreneurs with a lower level of education are more likely to attribute the venture support programs with impact on resources and capabilities. Moreover, *Work experience* is significantly associated with the *Direct impact factor* (significant at the 95% confidence level), indicating that companies werefounded by entrepreneurs with more years of work experience are more likely to attribute the venture support programs with impact on resources and capabilities.

Model 2, which includes control variables, intensity of use of support services, and direct impact factor variable, explains 27% of the variance in the dependent variable, *Indirect impact factor*. Model 2 shows that the *Direct impact factor* is significantly associated with the *Indirect impact factor* (significant at the 99.9%

confidence level), indicating that companies reported higher impact on resources and capabilities are more likely to attribute the venture support programs with impact on company performance.

Of the company attributes variables, *Company age, Growth plan*, and *International displacement experience of employees* are significantly associated with the *Indirect impact factor* (significant at the 95% confidence level, at the 99% confidence level, and at the 95% confidence level, respectively), indicating that older companies, companies with an ambitious growth plan, and companies that have more employees that have international displacement experience are more likely to attribute the venture support programs with impact on company performance.

Of the entrepreneur attributes*, Parents that own a business* is significantly and negatively associated with the *Indirect impact factor* (significant at the 99% confidence level), indicating that companies that founded by entrepreneurs whose parents do not own a business are more likely to attribute the venture support programs with impact on company performance. In addition, *Level of education* is significantly associated with the *Indirect impact factor* (significant at the 90% confidence level), indicating that companies founded by entrepreneurs with a higher level of education are more likely to attribute the venture support programs with impact on company performance.

Table 3.4: Predictors of Impact for Venture Support Programs

Variable	Model 1 Direct impact factor	Model 2 Indirect impact factor
C: Age		+*
C: Size		
C: Growth plan		+**
C: Funding received ($)		
C: International displacement of employees		+*
C: Domestic displacement of employees	+*	
C: Employees that are family members		
C: Employees that have university degrees	+ $^{\alpha}$	
C: Website		
E: Age	-**	
E: Gender (male)		
E: Parents that own a business		-**
E: Level of education	-**	+ $^{\alpha}$
E: Work experience (years)	+*	
E: International experience		
E: Facebook friends		
Use of Services	+***	
Direct Impact Factor		+***
Model Characteristics		
Total N	147	149
Adjusted R^2	.37	.27
F (dof)	*** (17)	*** (18)

dof = Degrees of freedom α = p < .1, * = p < .05, ** = p < .01, *** = p < .001

Recommendation

For Incubator Managers and Policy Considerations

The text and table above show the best route to impact. Intensity of use of services is the leading predictor of impact on companies' resources and capabilities, and impact on companies' resources and capabilities is the best predictor of impact on company performance. This important finding is consistent with what TEN finds for other incubators and business support programs in other countries. It validates continued investment in incubators to improve entrepreneur and company capabilities (especially with intensive use of services), leading to impact on improving company performance.

There is, however, additional information that will be useful to incubator managers, and policy experts. Given the suite of services provided by an incubator, if the focus of the incubator is to realize improved market (revenue performance), then selection of older companies, with ambitious growth plans, having employees with international experience, and higher levels of education will be appropriate.

But with the same suite of services, if the incubator is more focused on fostering entrepreneurial learning, and improvements in company capabilities then selecting younger less educated entrepreneurs would be appropriate.

Thus, incubator mandate is a critical issue, and is especially important in terms of the services offered, for example to fledgling entrepreneurs and companies, or older companies, which will benefit from different types of services.

It is recommended that incubator managers, policy makers, and other stakeholders take these important considerations into account in terms of allocation of support to different services, and in terms of expected outcomes.

4. Venture Support Program Highlights

Throughout this assessment we have combined the client companies of the venture support programs into a single group to facilitate comparisons between companies that are receiving support and those that were selected at random. In this section we identify key attributes of each of the programs. Table 4.1 provides a full summary of the program highlights. Here we present a few key findings:

4.1 Phnom Penh Program Highlights

National Business Plan Competition – 50% or more of the client companies reported that the Competition had 'a lot' of impact on improvements to their Business expertise and their Knowledge of customers needs.

NOMI Network – 50% or more of the client companies reported that NOMI had 'a lot' of impact on their Change in annual revenues.

4.2 Ho Chi Minh City Highlights

Business Startup Support Centre - 50% or more of the client companies reported that the BSSC had 'a lot' of impact on improvements to their Business expertise, Business network expansion, Knowledge of customer needs, and their Change in annual revenues.

Business Incubation and Innovation Centre at Nguyen Tat Thanh University – 50% or more of the client companies reported that the Centre had 'a lot' of impact on improvements to their Business expertise and their Knowledge of customers needs.

Information Technology Park at Vietnam National University – 50% or more of the client companies reported that the Park had 'a lot' of impact on improvements to their Business expertise and their Change in employment.

4.3 Da Nang Highlights

Da Nang Business Incubator – 50% or more of the client companies reported that the Incubator had 'a lot' of impact on their Business expertise.

College of Information Technology Incubator – 50% or more of the client companies reported that the Incubator had 'a lot' of impact on their Business expertise.

Table 4.1 Venture Support Program Highlights

Location	Program	High Percentage (50% or more) of Respondents Indicating . . .				High Percentage (50% or more) of Respondents Indicating 'A Lot' of Impact on . . .					
		High Percentage of Respondents Indicating High Growth Plans	> 65% of Founders or Employees have University Degrees	Receipt of Funding	Entrepreneur Level of Education College or University Certificate, or Master's or PhD	**Business Expertise**	**Business Network Expansion**	**Knowledge of Customer Needs**	**Change in Annual Revenues**	**Change in Employment**	**Funding Received**
Phnom Penh	Emerging Markets	✔	✔		✔						
	Ministry of Commerce 101 program				✔						
	National Business Plan Competition		✔		✔	✔		✔			
	WECREATE				✔						
	NOMI Network				✔				✔		
Ho Chi Minh City	Agri Business Incubator		✔		✔						
	Business Incubation and Innovation Center – Nguyen Tat Thanh University	✔	✔			✔		✔			
	Nong Lam University – Center for Technology Business Incubation		✔		✔						
	Saigon Hi-Tech Park – Incubation Center	✔	✔	✔	✔						
	Information Technology Park – Vietnam National University in HCMC	✔	✔		✔	✔				✔	
	Quang Trung Software Business Incubation Center		✔		✔						
	Ho Chi Minh City University of Technology – Technological Business Incubator		✔		✔						
	Business Startup Support Centre		✔	✔	✔	✔	✔	✔	✔		
Da Nang	Da Nang Business Incubator		✔	✔	✔	✔					
	College of Information Incubator		✔		✔	✔		✔			
	Da Nang SME Association		✔		✔						

5. Best Practices and Opportunities for Improvement

5.1 Best Practices

Based on a separate evaluation of over 40 business support programs, five best practices emerge to guide the management of the Vietnamese and Cambodian venture support programs:

- **Provide funding.** Support programs designed to provide significant funding to all client companies tend to achieve greater impact. This requires that rigorous selection criteria be enforced, as funding should be based upon the company's stage of development, their potential for growth, their requirement for funding, and their capability to manage the funds.
- **Program performance is inversely related to program maturity.** We find that younger, newer programs are attributed with greater impact. This suggests that funders and program managers may wish to consider experimenting with new programs, and closing programs that are found to be ineffective. This implies measuring program effectiveness to determine which programs are high-performing and which are not.
- **Encourage intensive use of services**. We find that client companies that use the support services more intensively tend to attribute greater impact to their business support program. This implies that the services offered need to be readily available, easily accessed, and provide benefit to client companies.
- **Provide a combination of knowledge-based services and funding.** We find that high-performing programs tend to combine the provision of knowledge-based services with the facilitation or provision of funding. This suggests that the combination of services and funding together is more impactful than either alone.
- **Develop small, customized programs**. We find that smaller programs tend to have greater impact on their client companies. This suggests that a greater number of small programs may be more effective than a smaller number of programs that serve many clients. Further, small programs can be customized to service specific types of ventures: early stage, R&D intensive, high growth, industry specific, etc.

In keeping with what we find from our evaluation work with business support programs from North America and Europe we see the emergence of four best practices from the assessment of the venture support programs in Vietnam and Cambodia. It should be noted however, that while these findings are provided as 'best practices' they should be implemented only when mandate allows.

- **Ensure rigorous selection of client companies**. We find that venture support programs that have well defined parameters for acceptance into their program ultimately achieve greater impact on their client companies. By thoughtfully selecting program participants, programs can ensure that their clients are engaging with a peer group of companies similar to their own (e.g., at the same stage in their lifecycle). Additionally, a rigorous selection process enables the programs to provide a single set of appropriate support services, ensuring greater alignment between services provided and participant needs.
- **Develop specialized programs.** Broadly, we find that client companies derive greater benefit and ultimately attribute greater impact when the services provided are closely aligned to their specific needs. In addition to the careful selection of participants, programs can achieve this alignment by tailoring the service offerings to meet the needs of companies at, for example, a particular stage in their company lifecycle.
- **Limit program size**. Our analysis reveals that programs with a small number of client companies tend to have a greater impact on their participants than larger programs. In limiting the number of participants, program managers are able to more deeply engage with the client companies. Ultimately this increases engagement and improves the appropriateness and impact of the support services provided.
- **Provide funding**. We find that the programs that provide funding to their client companies garner a greater attribution of impact. Further, based on our analysis of the barriers to growth for all respondent companies, we find that an inability to access capital is one of the greatest barriers for the majority of companies. As such, the provision or facilitation of targeted funding to appropriate client companies may result in greater long-term impact.

5.2 Opportunities for Improvement for the Venture Support Programs

Although the venture support programs are, at present, having a meaningful impact on their clients, in the interest of programmatic improvement, respondents were asked an open-ended question regarding their future expectations for their respective program. For the purposes of this evaluation the responses were summarized into 12 recurring themes, presented below as well as in Table 5.1. We find that respondents suggested improvements to either the content of the programs and services offered or the program administration, inclusive of structure, staffing, etc.

Facilitate Financial Linkages
This desired program improvement was commonly expressed by respondents from all cities (cited by respondents from 11 out of 16 programs). Respondents expressed a need for the programs to facilitate their access to funding or financing by other equity investors such as financial angels, other groups providing grants, loans or tax benefits, as well as project-related funding from private or governmental sources ("Access to funding", "Access to capital", "Loan", "Access to investors").

Improve the Quality and Coverage of Mentoring, Training, and Workshops
This desired program improvement was commonly expressed by respondents from all cities (cited by respondents from 10 out of 16 programs). This theme categorizes respondents who saw a need for a better and broader range of support services ("Better consultation services", "Consulting services on legal issues", "Technical training support"). Additionally, some entrepreneurs mentioned that they wanted workshops focusing on specific topics ("Special workshops should focus on more specific topics rather than general ones", "Workshops focusing on enterprise problems").

Assistance with Company Development
Respondents from two of the Da Nang venture support programs expressed a need for the programs to help start-ups create a development strategy ("Convene enterprises having the same needs and business objectives to come up with a development strategy", "Should be orientation for SMEs to develop", "Strategic vision").

Provide and Update Information in a Timely Manner
Respondents from two of the Da Nang programs expressed this need for program improvement. Respondents noted a need for the programs to provide and update pertinent information, knowledge, and support policies in a timely fashion ("Timely give information about new state policies, sources of capital, and enterprise support programs", "Give tax information on websites", "Market update").

Improve Program Administration
Respondents of the three Da Nang programs commonly expressed the need for this program improvement. This theme categorizes respondents who indicated that they expected to work with dedicated program staff ("Professional", "Efficient", "Responsible staff", etc.), and they expected the programs to customize their working hours according to the start-up's interest ("Flexible working hours", "Convenient working time for start-ups").

Coordination and Scheduling of Training Sessions
Respondents from the three Phnom Penh programs suggested improvements specific to the training sessions ("Limit the number of participants to improve quality", "Give a chance to the Khmer Speaker to attend", "Adapt the sessions or the speakers to the type/size of business involved in the program"), and to better schedule the training sessions ("Punctual", "Stick to original schedules", "Time of training is kind of tight (Weekend is not good)").

Selection of Trainers and Mentors
Respondents from the Phnom Penh programs commonly expressed a need for improved selection criteria. This theme categorizes respondents who indicated that they wanted qualified and responsible mentors and trainers ("Should be trainers/mentors who are serious and spend enough time and genuinely want to help", "Review mentors in more detail", "Do not have proper mentors"), and they expected the programs to select mentors or trainers with real business experience ("Mentors should be have experience with real business, not just a teacher from the university but never do business", "Invite successful entrepreneurs with real business practice as mentors/trainers", "Mentors should be specified by the topic").

Evaluate Participants Fairly
Respondents from two of the Phnom Penh programs expressed a need for this program improvement. Respondents mentioned that they saw a need for fairness when it comes to the evaluation of participating companies ("Avoid corruption", "Avoid nepotism", "Fair and transparent election process", "Unbiased manner").

Create Networking Opportunities
Respondents from the Ho Chi Minh City programs, and the Phnom Penh programs commonly expressed a need for this program improvement. Respondents expressed a need for programs to create networking opportunities for their companies through networking events, workshops, conference, lectures, or other relationship-brokering activities ("Organize the project introducing meeting and connect the members", "More activities for ex-members to participate").

Enhance Product Development and Marketing Strategies
Respondents from three of the Ho Chi Minh City programs expressed a need for this program improvement. Respondents indicated that they needed advice on product development ("Support to register product", "Support the entrepreneurs to commercialize their products", "Support to develop Hi-tech products"), and they wanted support to develop market strategies ("Trade promotion", "Improve the products and business marketing").

Improve the Business Facilities and Infrastructure
Respondents from the Ho Chi Minh City programs commonly expressed this program improvement. Respondents noted a need for the programs to expand working space for companies ("Expand and improve the working space", "Housing for entrepreneurs and their co-workers", "Current address very nice but a bit small"), and provide start-ups with better business facilities and infrastructure ("Find resources to improve its facilities", "Strengthening infrastructure", "High-quality internet and electricity").

Facilitate Business Linkages
Respondents from the Ho Chi Minh City programs, and one of the Da Nang programs commonly expressed this program improvement. Respondents expressed a need for the programs to facilitate their relationships with corporate partners, customers, and suppliers ("Facilitating access to customers", "Cooperation with IT companies", "Linkages with manufacturers").

Table 5.1 Program Specific Improvements

Location	Venture Support Program	Themes											
		To lead, and create orientation for company development	To better coordinate and schedule training sessions	Selecting the right mentors/trainers	Improving the quality and coverage of mentoring, training, and workshops	Improving program administration	Improving business facilities and infrastructure	Providing and updating information timely	Facilitating business linkages	Facilitating financial linkages	Creating networking opportunities	Enhancing product development and marketing strategies	Organizing activities and evaluating participants in a fair and transparent manner
Da Nang	Da Nang Business Incubator	✔			✔	✔		✔					
	Da Nang SME Association	✔			✔	✔		✔	✔				
	College of Information Incubator				✔	✔				✔			
Ho Chi Minh City	Agri Business Incubator									✔		✔	
	Business Startup Support Centre						✔		✔	✔	✔		
	Business Incubation and Innovation Center – Nguyen Tat Thanh University								✔		✔		
	Ho Chi Minh City University of Technology – Technological Business Incubator				✔		✔		✔	✔		✔	
	Information Technology Park – Vietnam National University in HCMC				✔		✔		✔	✔	✔	✔	
	Nong Lam University – Center for Technology Business Incubation									✔	✔		
	Quang Trung Software Business Incubation Center				✔					✔	✔		
	Saigon Hi-Tech Park – Incubation Center					✔	✔		✔	✔	✔		
Phnom Penh	MOC 101 Program		✔	✔	✔	✔				✔	✔		✔
	National Business Plan Competition		✔	✔	✔						✔		✔
	Emerging Markets			✔						✔	✔		
	WeCreate		✔	✔	✔	✔				✔	✔		
	NOMI Network				✔						✔		

5.3 Recommendations for Increasing Impact

We find from the preceding analysis that the venture support programs are having a substantive impact on their client companies. However, in the interest of continuous improvement and building off of the previously outlined best practices, we have identified two keys ways in which the programs may increase their impact.

- **Provide or facilitate funding with services**. Based on the analyses of impact as it pertains to the use of services, as well as the barriers to growth identified by the client companies, access to funding is a considerable challenge for these fledgling companies. As such, facilitation or provision of funding, together with other services (such as providing workspaces or facilities) to improve companies' resources and capabilities has the greatest impact.

- **Build on strengths**. From the segmentation analyses we find that pre-revenue companies, and companies with low annual revenues attribute greater impact on their resources and capabilities than companies with greater revenues. However, we also find that older, revenue-generating companies attribute greater impact on improvements to their performance, than their younger, pre-revenue peers. This presents an important opportunity for the venture support programs to tailor their engagement strategies. Programs designed with a heavy emphasis on skill development and learning opportunities should seek very early stage participants. Conversely, programs that are designed to help their participants attract funding or grow their employee base should seek participants that are more advanced in their company lifecycle.

6. Next Steps - Recommendations

6.1 Next Steps

This section contains recommendations for next steps. It focuses on Vietnam because of the consultant's deeper engagement in Vietnam, and builds on discussions involving Vietnamese officials that travelled to Canada in September, ADB representatives, and TEN representatives. Some elements of these suggested next steps are also pertinent to Cambodia, where additional discussions were held, and incubator impact assessments occurred. Three areas are considered: incubator design and assessment, R&D capacity assessment, and broad policy recommendations. Ten recommendations are provided.

6.1.1 Incubator Design and Assessment

Recommendation 1: Conduct an annual survey of business incubator inputs and activities.

Building on the pilot assessments of selected business incubators in Ho Chi Minh City, Da Nang, and Phnom Penh, and the week-long visit of a Vietnamese delegation to Canada, it is clear that much can be done in terms of building the capacity of business incubators in the Mekong region. For example, many of the 63 provinces and municipalities in Vietnam sponsor one or more business incubators. But there is little systematic knowledge of these incubators in terms of the experience and capabilities of their personnel, the companies that apply for support, the companies that are selected for support, and the services that are offered. An annual survey of all the business incubators in the country would serve as an important data source on incubator inputs, activities, and their overall capabilities.

Recommendation 2: Commission the development of online tools to support the evaluation of Vietnamese incubators by Vietnamese experts.

The Vietnamese officials that travelled to Canada developed a solid understanding of the principles of incubator evaluation. This was facilitated by careful selection of the delegation members, some of whom had backgrounds in economics, experience in technology and business development, and in business support. Notwithstanding their understanding of evaluation, these people will have difficulty conducting evaluations, given their ongoing operational responsibilities,

and the absence of tools to facilitate the work. We recommend the development of a set of online tools that will enable local experts in program evaluation. These tools would include an online survey design tool that would allow a general incubator assessment survey to be customized for the incubator in question, and data visualization tools that will allow evaluators to preview and analyze data, and extract charts for reports.

Recommendation 3: Develop an open advanced course in incubator evaluation.

Future capacity building in incubator assessments can be facilitated through the development of an open advanced course in incubator evaluation. This would consist of instructional material, examples, and exercises that would complement the online survey design and data visualization tools mentioned above. Together the online tools and the course materials would be designed to equip suitably qualified individuals to conduct incubator evaluations.

Recommendation 4: In two or three years time, conduct a matched-sample evaluation of the effectiveness of business incubators in Ho Chi Minh City, Da Nang, and Phnom Penh using data from 2016 and subsequent surveys.

As a consequence of the survey of the random sample of 309 young companies in Da Nang, and the survey of 206 companies supported by incubators and other programs in Ho Chi Minh City, Da Nang, and Phnom Penh, data on 515 (mostly young) companies in these cities is available. These 505 companies should be surveyed for a second time in two or three years time, to compare the growth rates of supported and unsupported companies. This data will allow the conduct of a matched-sample evaluation of the effectiveness of the business support programs, taken collectively.

Recommendation 5. In two or three years time, develop a model of Vietnamese venture potential using data from 2016 and subsequent surveys.

The potential of ventures varies. Some seek to provide a steady income for the founder while others seek significant growth. Jorge Guzman and Scott Stern[21]

[21] Guzman, Jorge, and Scott Stern. "Nowcasting and placecasting: Entrepreneurial quality and performance." Measuring Entrepreneurial Businesses: Current Knowledge and Challenges. University of Chicago Press, 2016.

have profoundly advanced the study of entrepreneurship by developing an estimate of entrepreneurial potential and showing that the measure is able to predict a significant downstream growth event. Guzman and Stern consider 13 venture characteristics that are available from US business registration records. Using 26 years of panel data, they show that the best predictors of a downstream growth event (an Initial Public Offering or significant acquisition) are incorporation in Delaware (a state with business-friendly regulations) and having applied for a patent. TEN's surveys of entrepreneurs provide 16 measures of company and entrepreneur characteristics. Using this data from 2016 and outcome data from 2018 or 2019, it is possible to develop a model of venture potential specific to the Mekong region.

6.1.2 R&D Capacity Assessment

Recommendation 6: Commission a study to assess the national R&D capacity. Such a study should consider international benchmarking data, national data, and expert judgment.

The joint development of business capacity and R&D capacity is the foundation upon which a nation's innovative capacity is based. Vietnam's growing business capacity is evidenced by its accelerated growth in GDP—over the past 25 years Vietnamese GDP has grown at an average rate of 6% per year—second only to China.[22] Less is known about its R&D capacity. In this section we consider three sources of information on R&D capacity: international benchmark data, national data, and expert judgment.

International Benchmark Data. International comparisons benchmark the performance of nations against one another. Such comparisons show that Vietnam is growing quickly and that Cambodia is poised to enter the international arena. The following two charts compare the performance of Singapore, Vietnam, and Cambodia in terms of scientific and technical journal articles and in terms of patents applications by residents. They show Vietnam to be 10 to 15 years behind Singapore.

[22] The Economist. http://www.economist.com/news/finance-and-economics/21703376-having-attained-middle-income-status-vietnam-aims-higher-good-afternoon-vietnam

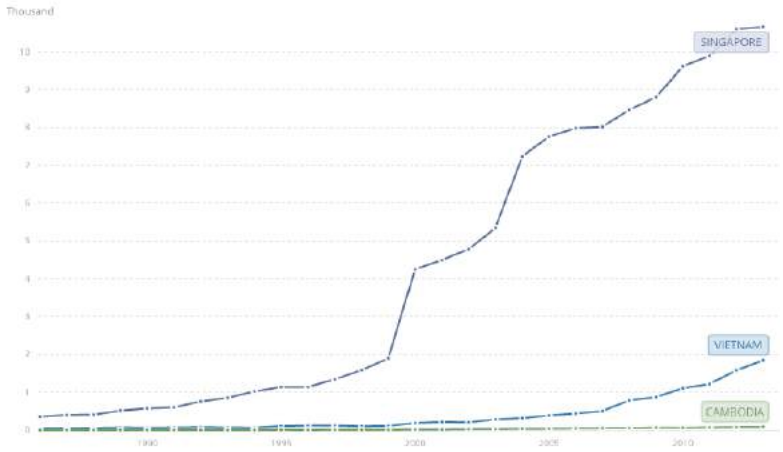

Figure 6.1 Scientific and technical journal articles (1986-2013), World Bank[23]

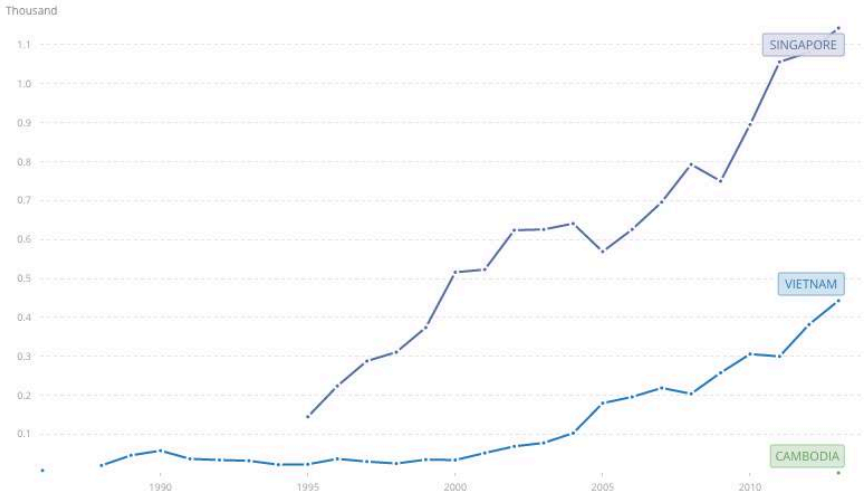

Figure 6.2 Patent applicants by residents (1986-2013), World Bank[24]

National data. Fine-grained data on the performance of researchers and research institutions is hard to come by. The data may insufficiently fine-grained or too sparse to be meaningful. For example, data from Google Scholar on publications

[23] The World Bank. http://data.worldbank.org/indicator/IP.JRN.ARTC.SC?end=2013&locations=VN-KH-SG&name_desc=false&start=1986&view=chart

[24] The World Bank. http://data.worldbank.org/indicator/IP.PAT.RESD?end=2013&locations=VN-KH-SG&name_desc=false&start=1986&view=chart

is insufficiently fine-grained. It does not report publications by country or by institution. And while the US patent office reports patents awarded by country, the data may be too sparse to be meaningful or useful. Between 1976 and the present, 162 patents were awarded to Vietnamese inventors, but in only two cases did the assignees have the word university in the title (both were patents related to hospital beds awarded to Ton Duc Thang University).

The natural course of action is to survey Vietnamese university researchers to gather data on their publishing and patenting activities. But this will be a large and expensive undertaking. An alternative may be to identify a set of international conferences and to gauge Vietnamese participation in these conferences. For example, the 2016 Academy of Management Conference included 171 participants from Singapore, two participants from Vietnam, and one participant from Cambodia. Another possibility is to use research funding (an input to university research) as a proxy to research outputs. But this is a poor way to identify emerging areas of strength.

Judgment of experts. A third source of information is the judgment of experts, either as a substitute or, preferably, as a complement to objective international and national data. In the past, Canada has polled university researchers to determine their perspectives on the country's research strengths. The Council of Canadian Academies, a virtual think-tank, has established expert panels to assess the state of Canadian industrial R&D and Canada's science culture.[25]

6.1.3 Broad Policy Recommendations

Vietnamese officials advised us that they are looking for broad policy recommendations in three areas: cooperative education programs and exchanges, nonprofit business incubators, and innovation ecosystems.

Recommendation 7: Identify one or more universities to sponsor widespread cooperative education programs.

Cooperative education programs. The interest in cooperative education programs and exchanges arose after the Vietnamese officials learned about the University of Waterloo's cooperative education program and the Chinese incubator at Invest Ottawa. The University of Waterloo operates the world's largest cooperative education program. Almost half the student body (19,000 students) and over

[25] Council of Canadian Academies reports are available, free of charge, on their website at: http://www.scienceadvice.ca/en/assessments/completed.aspx

6,300 employers from over 60 countries participate the program every year. Coop students experience between four and six four-month work terms over the course of their study, and as a consequence of the experience gained, 74% of coop students earn more that $50,000 two years after graduation. Employers also benefit from employing highly-educated and highly–motivated young people at low cost and low risk.

While many traditional universities offer cooperative education experiences, few have made it as integral to the education experience as Waterloo. Waterloo has a building and over 100 staff dedicated to managing the recruitment and post-employment evaluation processes. These overhead expenses are funded through fees paid by students that find coop placements.

A cooperative education program provides multiple benefits that are pertinent to Mekong region countries. Students gain experience in applying for jobs, and in working. They benefit financially, both through their coop earnings (University of Waterloo students collectively earn a total of $225 million per year) and through enhanced employment prospects upon graduation. Employers benefit by employing students with the latest knowledge and by having the opportunity to screen potential employees. Professors benefit too, from having students' high expectations for classroom experiences that are up to date and relevant. Cooperative education programs can be implemented at relatively low cost, but are somewhat disruptive to normal university operations.

Recommendation 8: Consider educational exchanges for Vietnamese students.

Exchanges. Vietnamese officials were also interested in providing Vietnamese students (and government officials?) with educational opportunities in Canada. One possibility is to organize a month-long session in cooperation with the Conrad Business, Entrepreneurship and Technology Centre of the University of Waterloo. The Conrad Centre has worked with or is working with universities in Abu Dhabi, Mexico, Kenya, and Scotland to develop custom curricula for their students. Such a program could cover venture design, entrepreneurial ecosystems, and national innovation systems. Catherine Bischoff, who gave a presentation to the Vietnamese group, is responsible for outreach programs of this sort.

Recommendation 9. Consider the sponsorship of non-profit business incubators.

Non-profit business incubators. Non-profit organizations are mission-based organizations found in many countries. Because they operate independently under country-specific legislation, they are not subject to the policies to which government organizations are subject, although governments that provide funding may impose requirements that are attached to the funding. Many incubators and accelerators, for example in North America and Europe are incorporated as nonprofit organizations. This gives them the freedom to address their objectives as they see fit. In Vietnam, non-profit business incubators may be better able than government business incubators to provide seed funding to startups.

Another advantage of non-profit incubators is that they are better able than government incubators to create a community of learning. Experienced business people are more likely to contribute their time and energies to a non-profit business incubator where they may be able to influence its decision-making and activities, than to a government incubator where decisions are made more centrally.

Recommendation 10. Build on the strengths of Vietnam's cities to develop unique advantages.

We were asked to identify successful models for building ecosystems. The lessons to be learned from the study of successful ecosystems are three. One, make bold investments ahead of everyone else. Two, continue to invest to build reinforcing layers of advantage. Three, be patient. This takes time, likely at least 30 years.

The advantages of the world's two most remarkable ecosystems, Silicon Valley and Dubai, can be traced to bold decisions taken many years ago. Silicon Valley's advantage has been traced to decisions taken in the 1930s to invest in new communications technologies on the west coast, notwithstanding established strengths on the east coast.[26] Similarly Dubai's advantage has been traced to 19th century decisions to build a port, notwithstanding existing ports in neighbouring cities.[27] In both cases the initial decisions have been reinforced by multiple subsequent investments. Closer to Vietnam, the advantages of China and

[26] Sturgeon, Timothy J. "How Silicon Valley came to be." *Understanding Silicon Valley: Anatomy of an Entrepreneurial Region* (2000): 15-47.

[27] Nasra, Rasha, and M. Tina Dacin. "Institutional arrangements and international entrepreneurship: the state as institutional entrepreneur."*Entrepreneurship Theory and Practice* 34.3 (2010): 583-609.

Singapore can be traced to decisions taken in the late 1970s and 1960s, respectively.

To determine where to invest, Vietnam and its cities must consider their unique advantages. These include the world's second fastest growing economy, an open economy that has attracted considerable investment in manufacturing, and strong primary and secondary education systems.[28] According to the Economist, "Like South Korea, Taiwan and China before it, Vietnam is piecing together the right mix of ingredients for rapid, sustained growth." Vietnam benefits economically from its proximity to other fast growing economies, and also benefits from a young and industrious population, a long coastline, favourable weather, and many cultural assets. A vision for where Vietnam should invest will likely arise from within Vietnam. We can only advise that the government consults widely and deeply to uncover the strongest ideas.

[28] The Economist http://www.economist.com/news/finance-and-economics/21703376-having-attained-middle-income-status-vietnam-aims-higher-good-afternoon-vietnam

7. Conclusions

The growth prospects in the Mekong region are promising. Vietnam's GDP is growing at an accelerated rate - over the past 25 years the Vietnamese GDP has grown at an average rate of 6% per year, second only to China.[29] During the same time period, Cambodia has also experienced strong economic growth and is expected to continue on this trajectory as both domestic and international demand grows for Cambodian goods and services.[30]

Key to the dynamism of these economies is the prevalence and growth of young, innovative companies. The prevalence and growth of the young, innovative companies depends on many factors including entrepreneur education, experience, and aptitude, and the provision of high quality venture support.

Two hundred and six companies from 16 programs in Vietnam and Cambodia participated in this pilot assessment of venture support programs. To provide a baseline against which the impact of the venture support programs could be compared, data was collected on a random sample of 309 young companies operating in Da Nang.

We began by exploring company and entrepreneur demographics and found that selection for support is more likely for companies with employees that have displacement experience (i.e., individuals that have worked or studied outside the town or city where they grew up, either domestically or internationally), companies with websites, and companies led by young entrepreneurs who have many Facebook friends.

We then examined predictors of company growth and found that for companies in the random sample, growth is predicted by company age and the presence of a company website. For supported companies, growth is predicted by company age, and by the age and gender of the entrepreneur (male). While companies led by young entrepreneurs are more likely to be selected for support, supported companies led by older entrepreneurs are more likely to have experienced growth.

[29] The Economist. http://www.economist.com/news/finance-and-economics/21703376-having-attained-middle-income-status-vietnam-aims-higher-good-afternoon-vietnam
[30] The World Bank. http://www.worldbank.org/en/country/cambodia/overview

When we assessed the impact of programs, we found that the best predictor of impact on the resources and capabilities of companies is the degree to which entrepreneurs avail themselves of program services. Significant, but negative predictors of impact on resources and capabilities are the age and education of entrepreneurs. Companies led by younger and less educated entrepreneurs experience greater impact. Finally, significant positive predictors are domestic displacement and education of employees, and the work experience of the lead entrepreneur.

Programs have a lesser impact on company performance in the market (revenues and employment), than on company resources and capabilities. This is because both the companies and the entrepreneurs tend to be young. Only 63% of supported companies are earning revenues. The best predictor of impact on company performance is impact on company resources and capabilities. Other significant predictors of impact on performance are company growth plans, the international displacement of employees, the fact that the lead entrepreneur's parents owned a business, and the lead entrepreneur's level of education.

There are strong arguments to be made for why young, inexperienced entrepreneurs with recently founded companies should be the recipients of support. However, the decision to support such companies has ramifications for the evaluation of venture support programs. Programs with a mandate to support young companies led by inexperienced entrepreneurs cannot be expected to graduate companies with significant revenues and employment right away. The true impacts of these programs will take time to be realised. Successes may occur in the short-term, but these will be the exception, not the rule.

In the interest of increasing the impact of the venture support programs, four best practices emerge for consideration by program managers:

- Allow program mandate to drive the design of program services
- Select participants to ensure that they a) are willing to participate fully in the program, and b) are at an appropriate stage in their company's lifecycle to benefit from the program's services
- Keep program sizes small so that participating companies have greater access to high quality mentorship, etc.
- Provide or facilitate funding to program participants, as the inability to access funding or financing is commonly cited as a barrier to growth for young companies, regardless of whether or not they participate in venture support programs.

Beyond the findings that translate into advice for participating venture support programs, this assessment has broad implications for the manner in which venture support is provided, and subsequently assessed, throughout the Mekong region. Policy should encourage the intentional selection of specific program mandates, and programs should be assessed regularly to determine alignment with, and achievement of, their stated mandate. By designing programs to ensure that the right companies receive the right services at the right stage in their company development, the Mekong region will continue to benefit from the growth and prosperity of young, innovative companies.

8. Acknowledgements

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