

Entrepreneur and Venture Support Programs in Da Nang

Appendix 2

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Report Structure

We have created this document as one of three appendices to the main report, provided separately. In this report we present our in-depth assessment of the venture support programs in Da Nang including the detailed analyses and diagrams, as well as recommendations based on the findings therein.

The Mekong Business Initiative (MBI)

The Evidence Network would like to thank the Australian Government's Mekong Business Initiative for supporting the preparation of this report. MBI is an advisory facility that promotes private sector development in Cambodia, the Lao People's Democratic Republic (Lao PDR), Myanmar, and Vietnam. MBI fosters development of the innovation ecosystem by supporting business advocacy, alternative finance and innovation. It is supported by the Government of Australia and the Asian Development Bank.

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1. TEN's Methodology

The methodology employed by The Evidence Network Inc. (TEN) is represented in the logic model for innovation intermediaries shown below in Figure 1.1. The logic model illustrates how innovation intermediaries work to fulfill their missions, and how TEN measures their impact. The term innovation intermediary broadly encompasses business support programs that operate to further the development of business, and includes export and internationalisation support.

As shown at the top of the figure, innovation intermediaries express their objectives in terms of enhancing national competitiveness, advancing regional economic development, bolstering industry strength, or supporting viable new ventures.

TEN's logic model expresses the expectation that innovation intermediary activities create shorter-term impacts on companies' resources and capabilities, which lead to subsequent impacts on company performance, and ultimately lead to longer-term impacts in the form of socio-economic benefits, an expectation that holds across all types of innovation intermediaries. Details of how innovation intermediaries achieve their desired impacts are shown in the lower part of the figure. Knowledge-based and tangible inputs lead to a wide range of activities such as provision of knowledge, relationships, events, publications, prototypes, equipment, and facilities. The activities are expected to lead, in turn, to the shorter, medium, and longer-term impacts described above.

Statistical examinations of the relationships between the use of services offered, impact on resources and capabilities, and impacts on company performance make it possible to assess which services and impacts on resources and capabilities are significantly related to the impact of the intermediary on companies' performance in the market.

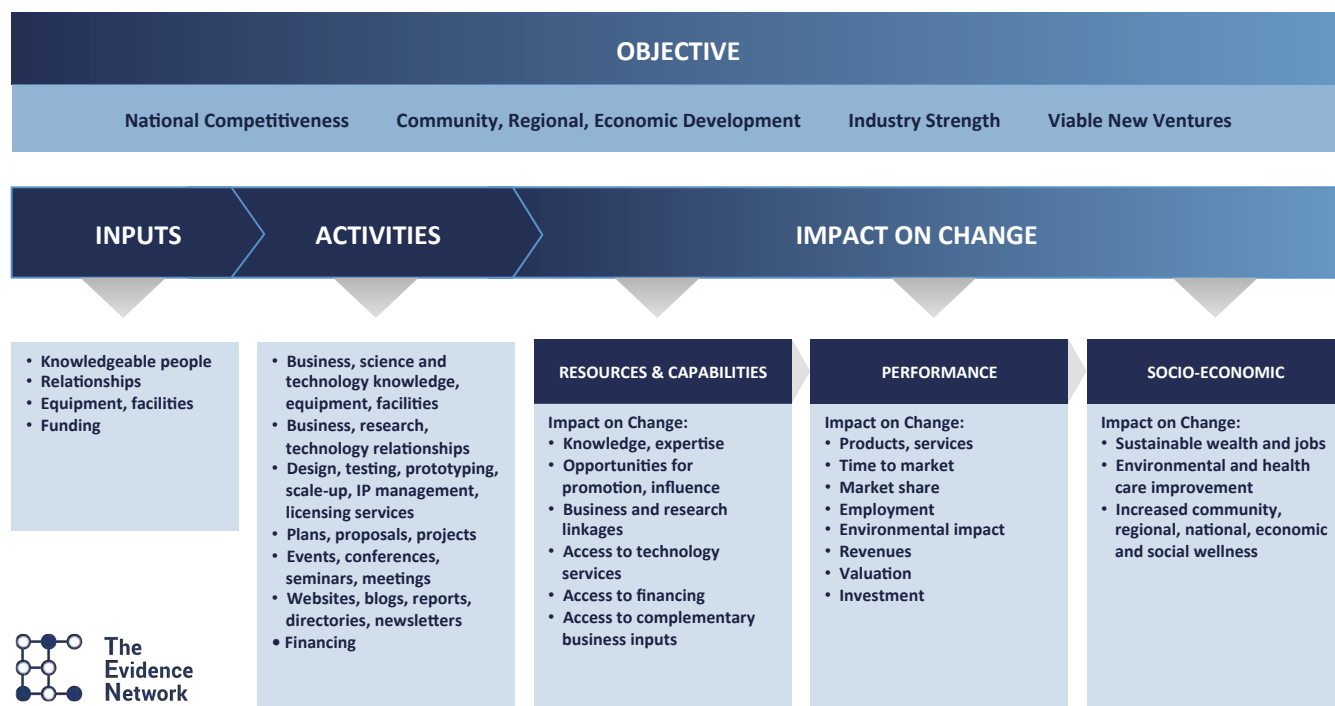


Figure 1.1 TEN's Innovation Intermediary Logic Model

2. Description of Sample

In June of 2016, 41 out of 56 companies that had participated in the venture support programs in Da Nang responded to a web-based survey, for an overall response rate of 73%. Table 2.1 provides further details on the response rate by program.

Table 2.1 Response Rate by Venture Support Program

Location	Program	Program Size	Invitations	Respondents	Response Rate
Da Nang	Da Nang Business Incubator	8	8	8	100%
	College of Information Incubator	15	15	13	87%
	Da Nang SME Association	500	33	20	61%
	Total	523	56	41	73%

We have been asked to distinguish data from companies supported by the Da Nang SME Association, and exclude these companies from the analysis sample for Da Nang. This exclusion is being done because the 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. This has been done in Appendix 1 (All Locations), and Appendix 2 (Da Nang). All analyses of impact exclude the Da Nang SME Association however, we have included the Association in our aggregate presentations of company and entrepreneur characteristics, on the premise that the Association does support 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).

3. Demographics of the Participants in the Venture Support Programs in Da Nang

This section of the report provides information on the 41 entrepreneurs, and company respondents from those companies participating in the venture support programs operating in Da Nang.

Firm Characteristics of the Venture Support Program Participants in Da Nang

The analysis of the demographics of companies in Da Nang participating in the venture support programs revealed that:

- 44% were founded in 2016
- 66% first engaged with their program in 2015 or 2016
- 38% are pre-revenue
- 49% have received financial support
- 29% have more than ten full-time, paid employees
- 49% do not have any founders or employees that are family members
- 70% report that more than 65% of the founders or employees in their company have university degrees
- 24% report that more than 65% of the founders or employees in their company have domestic displacement experience
- 94% have plans for growth
- 31% operate in the software sector

We begin by providing information about the programs with which the companies engaged, followed by companies' year founded, year of first engagement, annual revenues, financial support received, employee demographics, international and domestic displacement experience, growth plans, industrial sector, company website, and reasons for joining the program. Figures describing the surveyed companies follow, accompanied by the corresponding survey questions, number of respondents (n), and analysis findings.

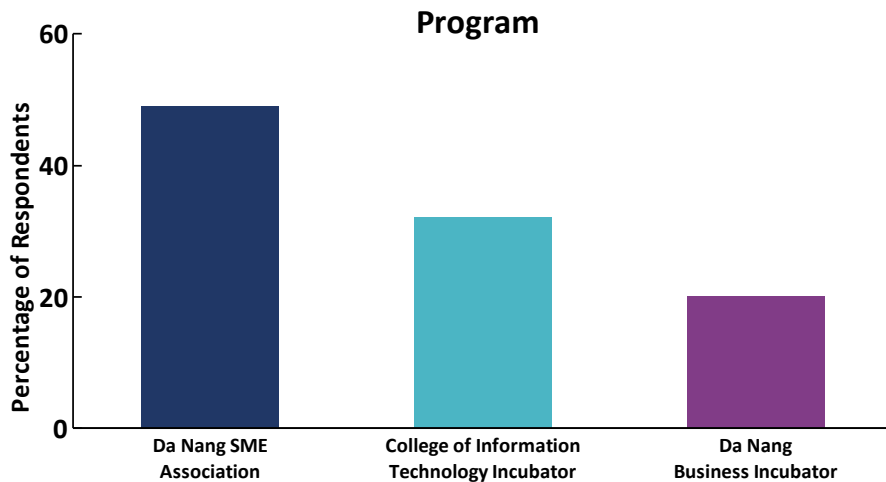


Figure 3.1
n=41

Findings:

- 49% of respondents engaged with the Da Nang SME Association.
- 32% of respondents engaged with the College of Information Incubator.
- 20% of respondents engaged with the Da Nang Business Incubator.

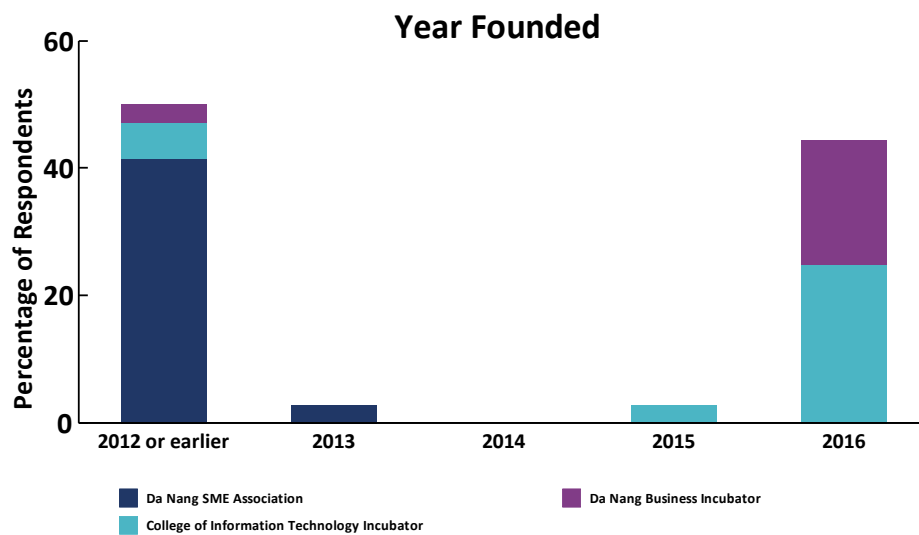


Figure 3.2
When was your company founded?
n=36

Findings:

- 50% of respondents reported that their company was founded in 2012 or earlier.
- 44% of respondents reported that their company was founded in 2016.

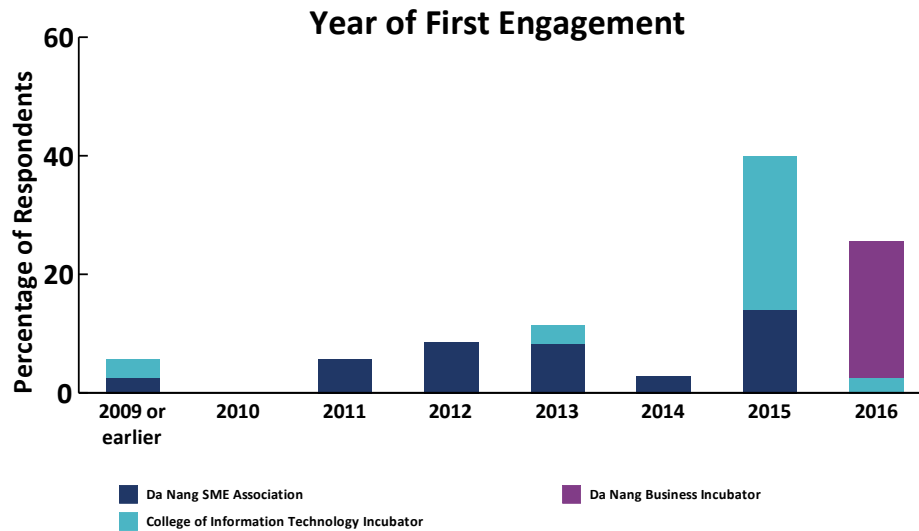


Figure 3.3
 What was the year of your company's first engagement with [Program]?

n=35

Findings:

- 40% of respondents reported that their company first engaged with their program in 2015.
- 26% of respondents reported that their company first engaged with their program in 2016.

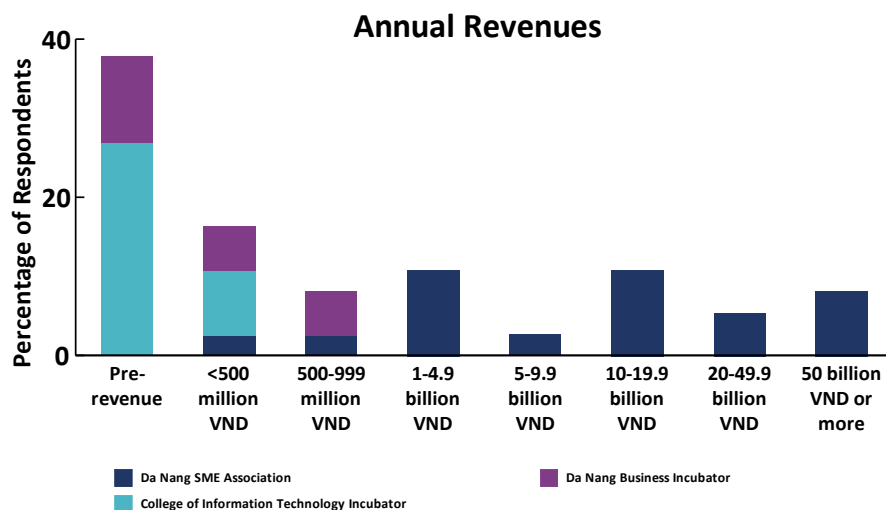


Figure 3.4
 What are your company's annual revenues?

n=37

Findings:

- 38% of respondents reported that their company is pre-revenue.
- 8% of respondents reported that their company generates \$50 billion VND or more in annual revenues.

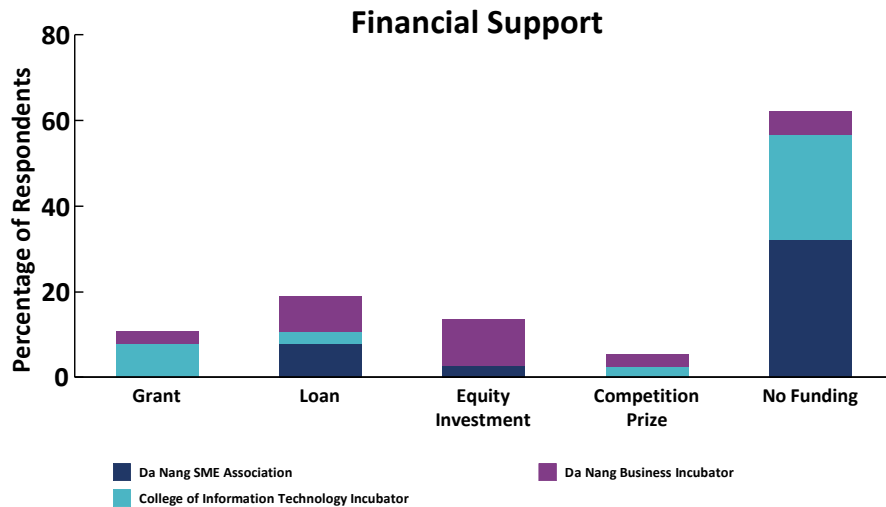


Figure 3.5

Has your company received funding?

Please select all that apply.¹

n=37

Finding:

- 49% of responses indicate receipt of one or more types of financial support.

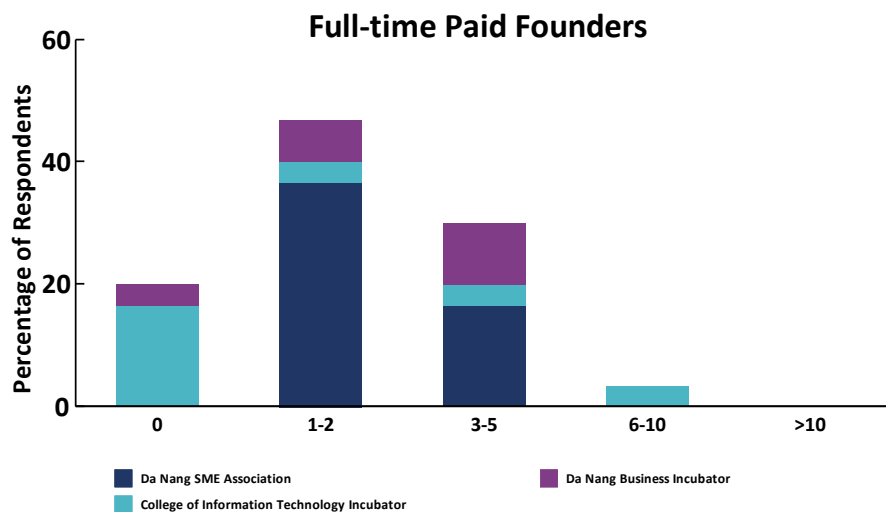


Figure 3.6

How many full-time paid founders are there in your company?

n=30

Finding:

- 46% of respondents reported that their company has one or two full-time, paid founders.

¹ Respondents were asked to select all sources of financing that applied, therefore the percentages may add up to a value greater than 100%.

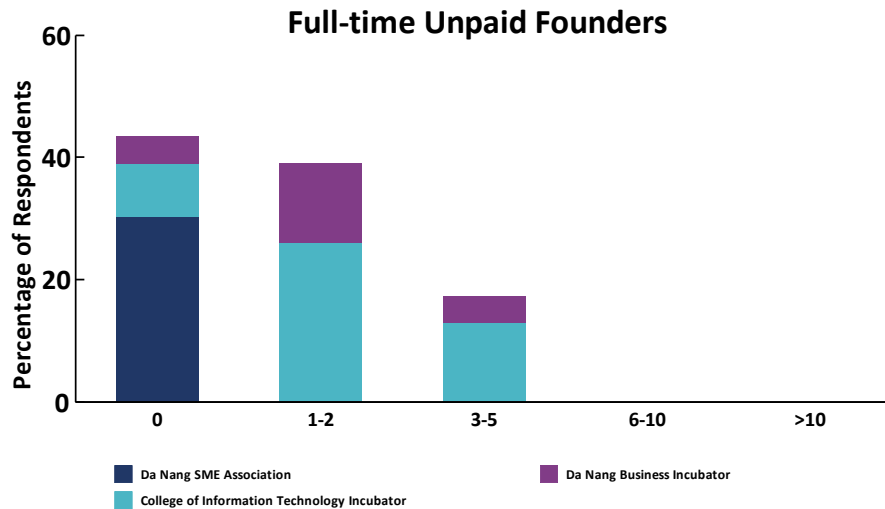


Figure 3.7

How many full-time unpaid founders are there in your company?

n=23

Findings:

- 39% of respondents reported that their company has one or two full-time, unpaid founders.
- 43% of respondents reported that their company does not have any full-time, unpaid founders.

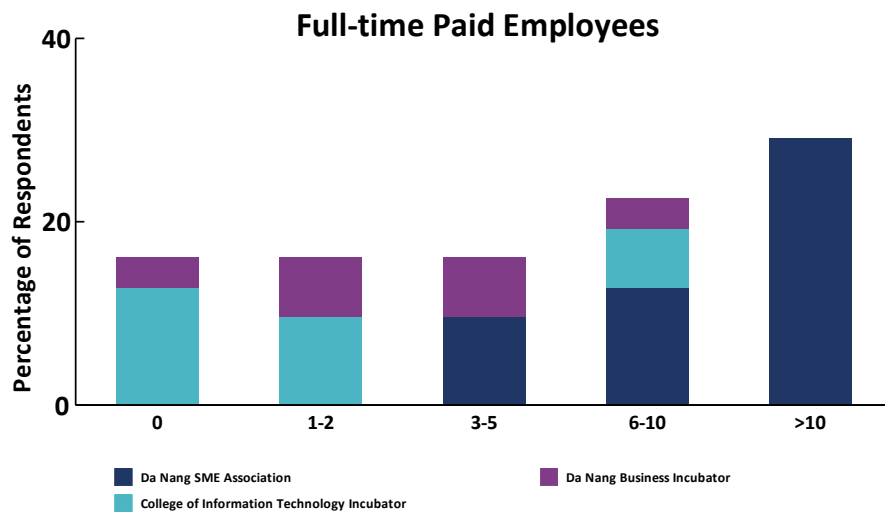


Figure 3.8

How many full-time paid employees are there in your company?

n=31

Finding:

- 29% of respondents reported that their company has more than ten full-time, paid employees.

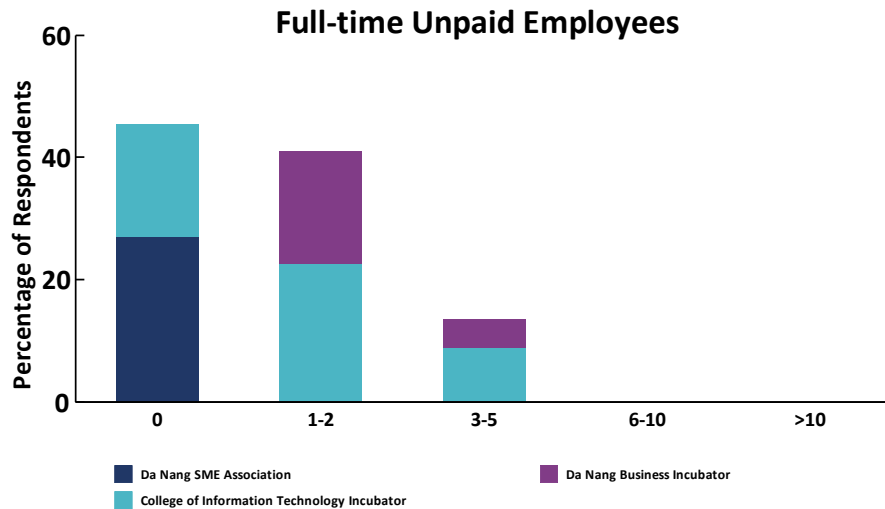


Figure 3.9

How many full-time unpaid employees are there in your company?

n=22

Findings:

- 41% of respondents reported that their company has one or two full-time, unpaid employees.
- 45% of respondents reported that their company does not have any full-time, unpaid employees.

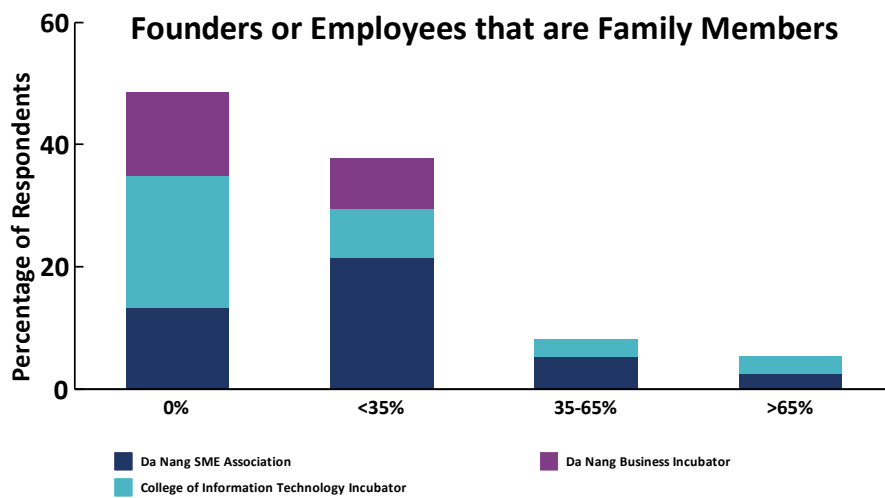


Figure 3.10

How many founders or employees in your company are family members?

n=37

Finding:

- 49% of respondents reported that none of the founders or employees in their company are family members.

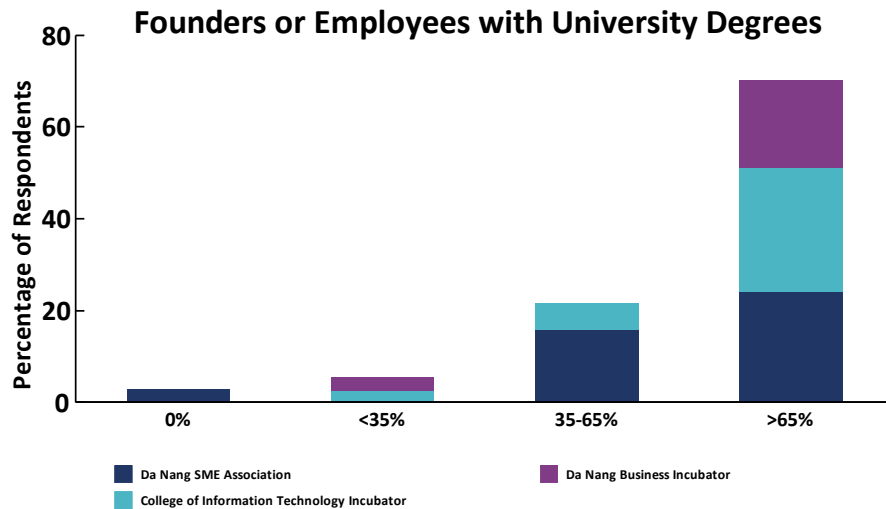


Figure 3.11

How many founders or employees with college or university degrees are there in your company?

n=37

Finding:

- 70% of respondents reported that more than 65% of the founders or employees in their company have university degrees.

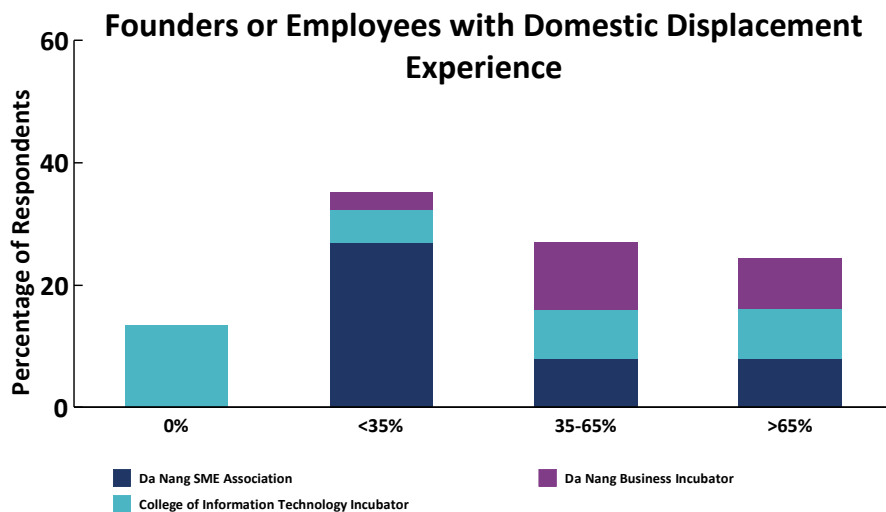


Figure 3.12

How many founders or employees in your company have worked outside the town or city where they grew up?

n=37

Findings:

- 24% of respondents reported that more than 65% of the founders or employees in their company have domestic displacement experience.
- 35% of respondents reported that less than 35% of the founders or employees in their company have domestic displacement experience.

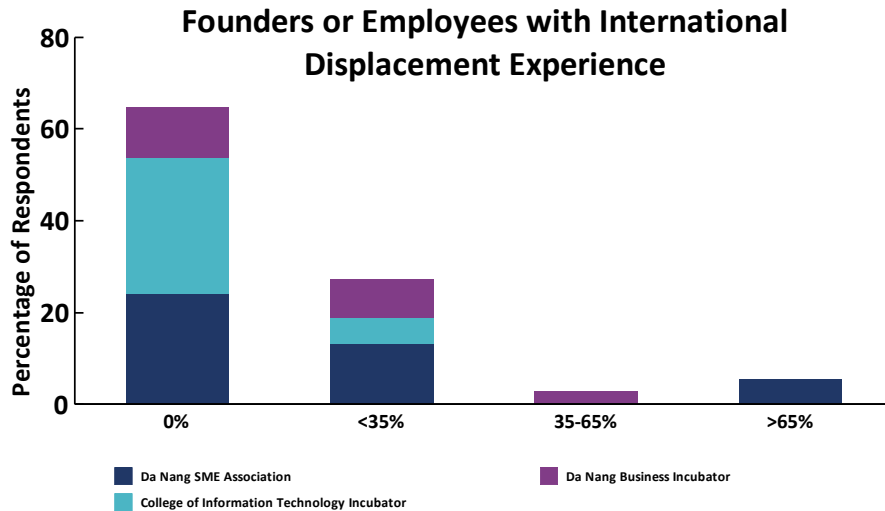


Figure 3.13

How many founders or employees in your company have studied or worked outside Vietnam?

n=37

Finding:

- 35% of respondents reported that their company has founders or employees with international displacement experience.

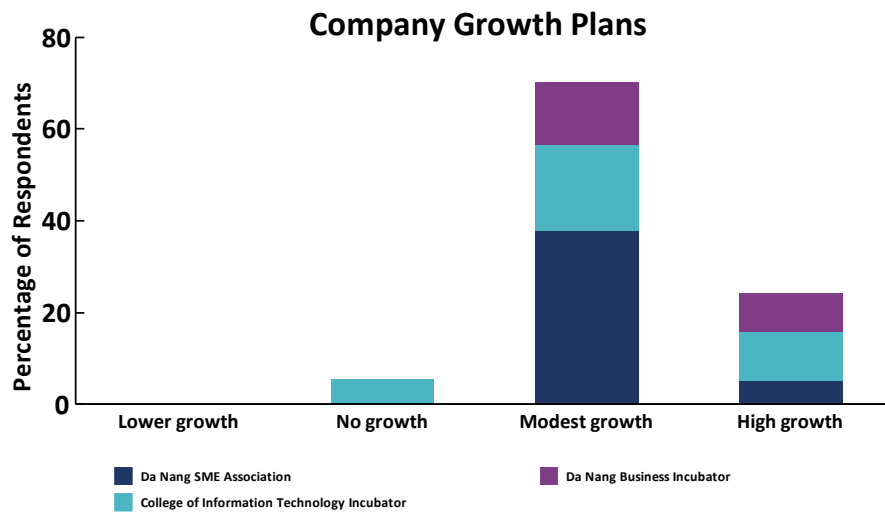


Figure 3.14

What are your company's revenue growth plans?

n=37

Findings:

- 24% of respondents reported that their company has plans for high growth.
- 70% of respondents reported that their company has plans for modest growth.

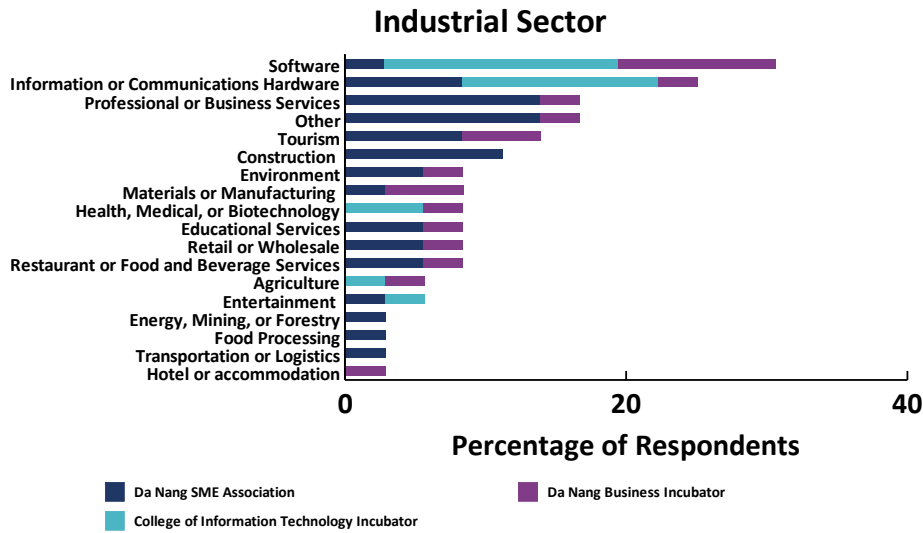


Figure 3.15

In what industrial sector does your company belong?

Please select all that apply.²

n=37

Findings:

- 31% of responses indicate companies operate in the software sector.
- 25% of responses indicate companies operate in the information or communication hardware sector.

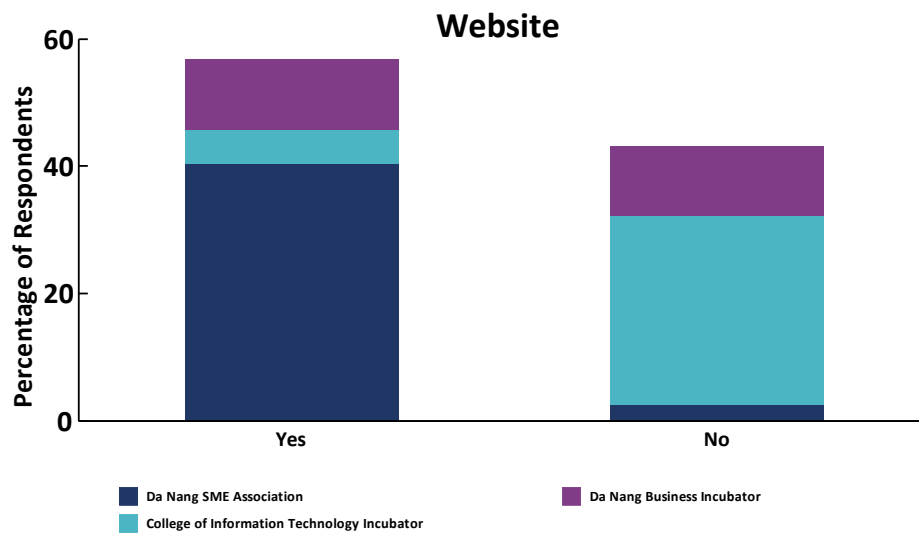


Figure 3.16

Does your company have a website?

n=37

Finding:

- 57% of respondents reported that their company has a website.

² Respondents were asked to select all applicable responses, therefore the percentages add up to a value greater than 100%.

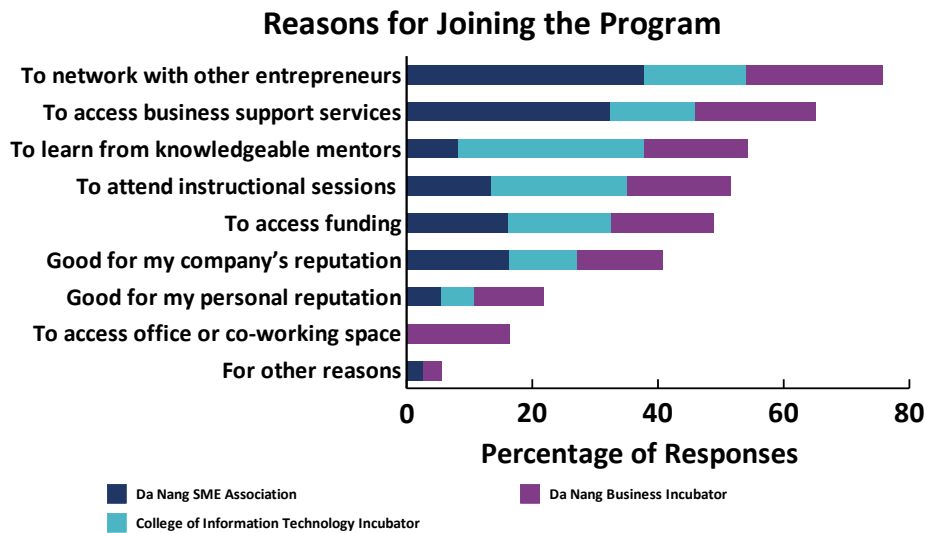


Figure 3.17

Why did you join [Program]?

Please select all that apply.³

n=37

Finding:

- 76% of responses indicate companies joined the program to network with other entrepreneurs.

Entrepreneur Characteristics of the Venture Support Program Participants in Da Nang

The analysis of the demographics of the entrepreneurs of companies in Da Nang participating in the venture support programs revealed that:

- 41% of entrepreneurs are 25 or under
- 89% are male
- 54% have a college or university certificate; 16% have a master's or PhD
- 73% have not studied or worked in a foreign country
- 44% had five or more years of work experience prior to founding their company

This section provides information about the age, gender, level of education, international experience, prior experience in family business, internship experience, prior work experience, and Facebook network of the entrepreneurs participating in the venture support programs in Da Nang. Figures describing the surveyed entrepreneurs follow, accompanied by the corresponding survey questions, number of respondents (n), and analysis findings. For each measure we first present the findings for the whole sample of the venture support program participants, followed by the charts and findings for each of the participating cities.

³ Respondents were asked to select all applicable responses, therefore the percentages add up to a value greater than 100%.

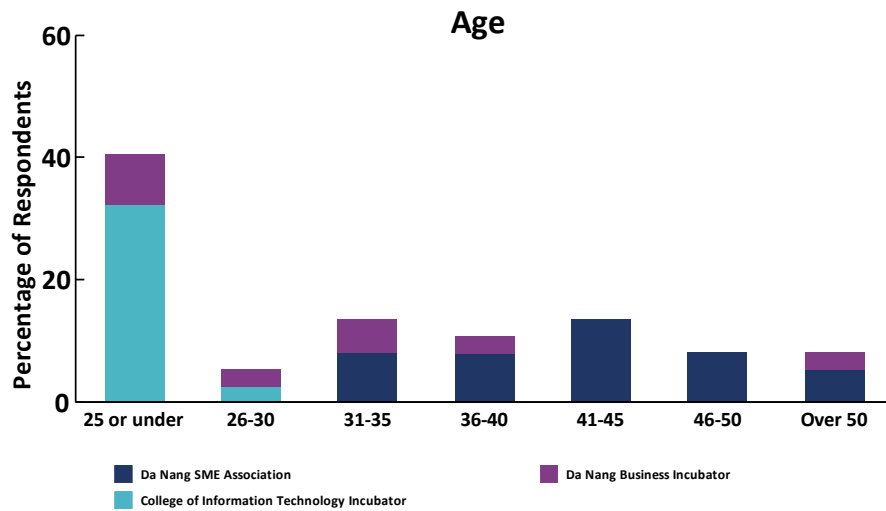


Figure 3.18
What is your age?

n=37

Finding:

- 41% of respondents reported that they are 25 years old or younger.

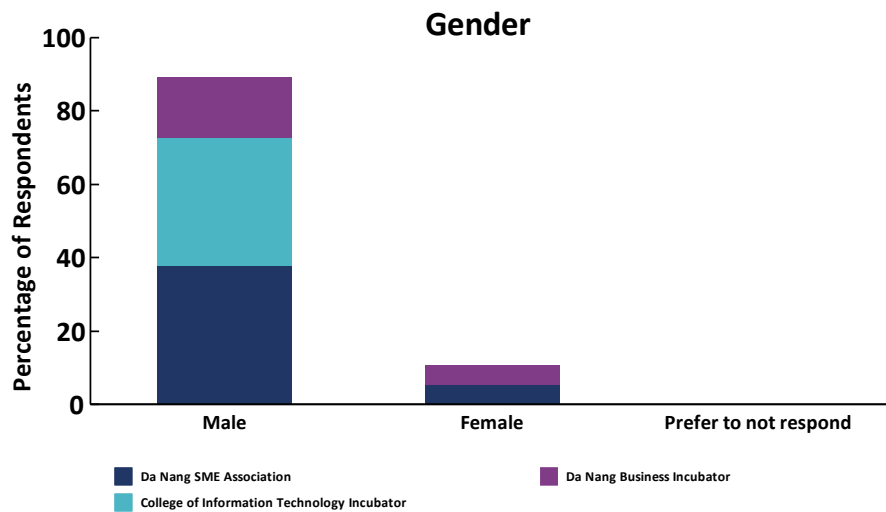


Figure 3.19
What is your gender?

n=37

Finding:

- 89% of respondents reported that they are male.

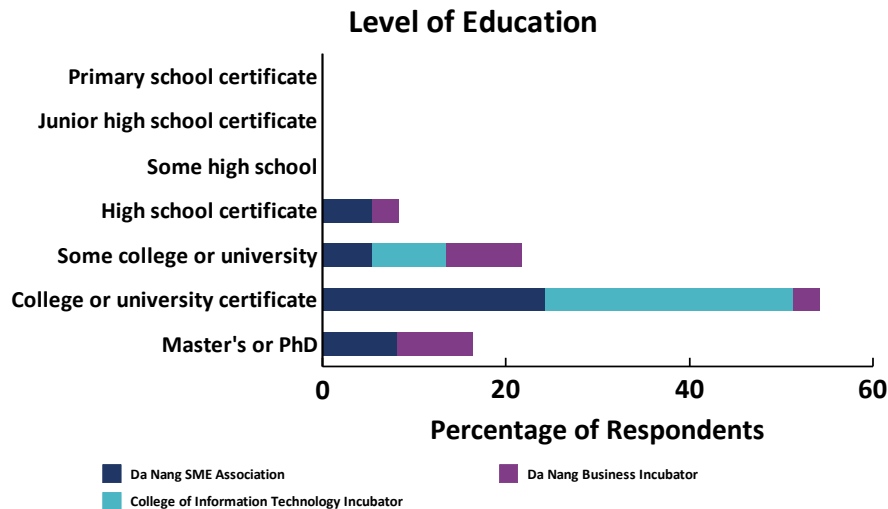


Figure 3.20
What is your highest level of education?
 n=37

Findings:

- 54% of respondents reported that they have a college or university certificate.
- 16% of respondents reported that they have a Master's or PhD.

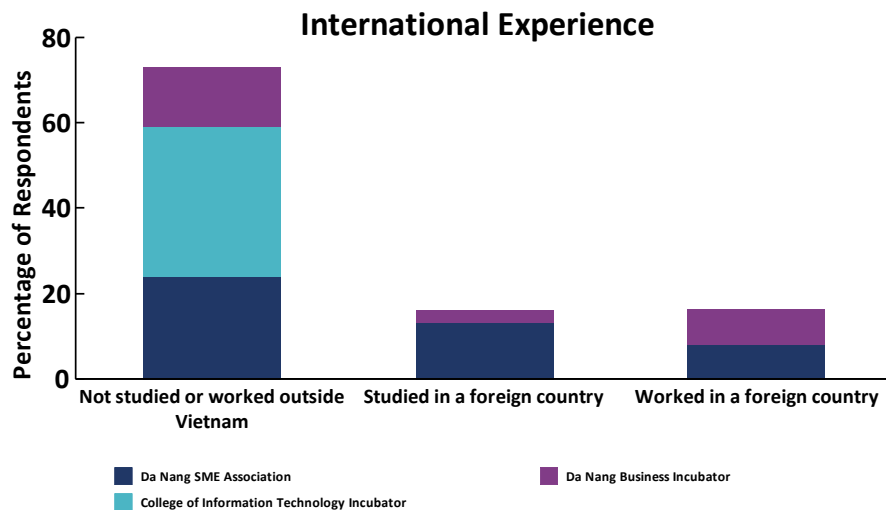


Figure 3.21
Have you studied or worked outside of Vietnam?
 Please select all that apply.⁴
 n=37

Finding:

- 73% of respondents reported that they have not studied or worked in a foreign country.

⁴ Respondents were asked to select all applicable responses, therefore the percentages add up to a value greater than 100%.

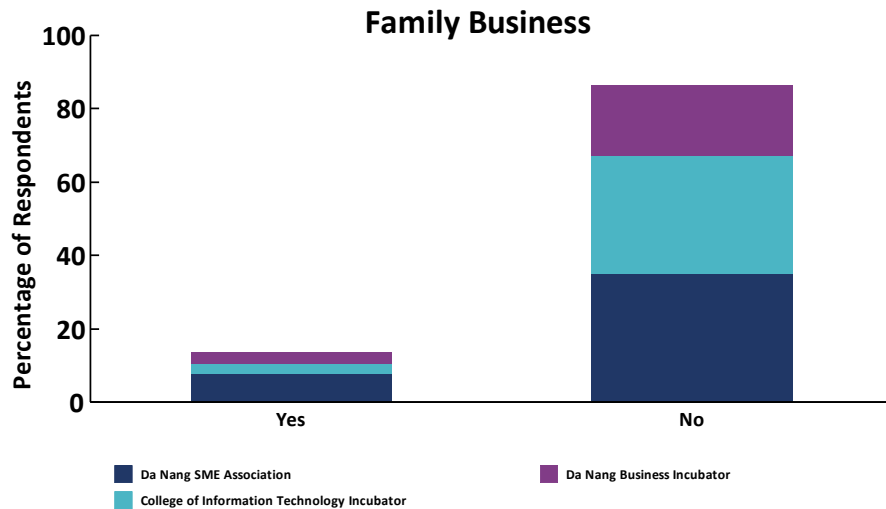


Figure 3.22

Did your parents own a business?

n=37

Finding:

- 86% of respondents reported that their parents did not own a business.

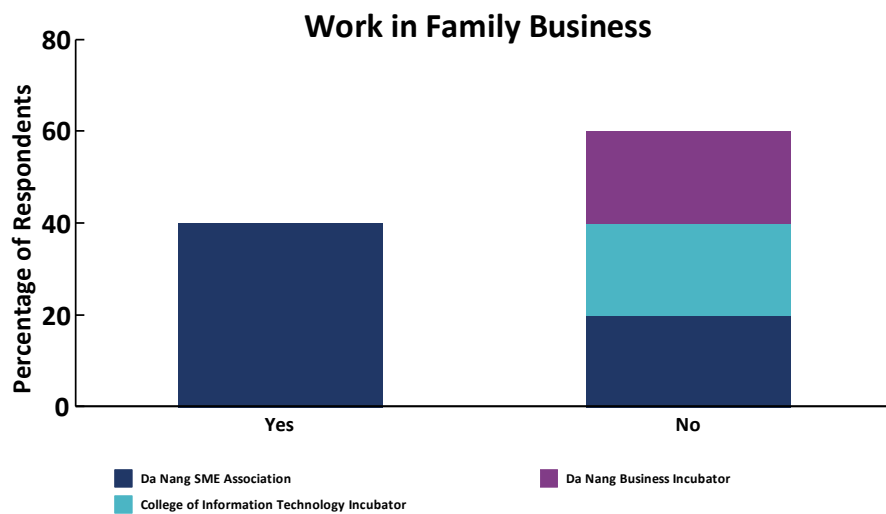


Figure 3.23

Did you work in your parents' business?

n=5

Finding:

- 60% of respondents that reported their parents own a business have not worked in that business.

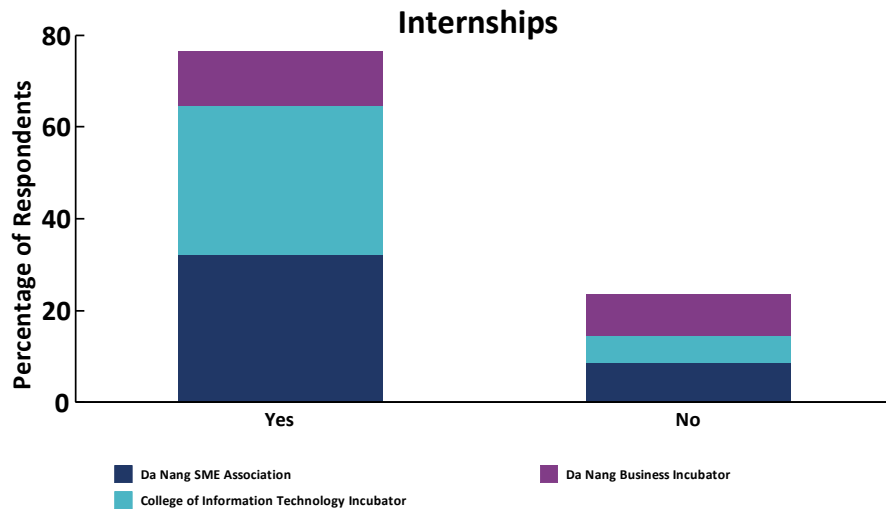


Figure 3.24
Did you have an internship as a student?

n=34

Finding:

- 76% of respondents reported that they had an internship as a student.

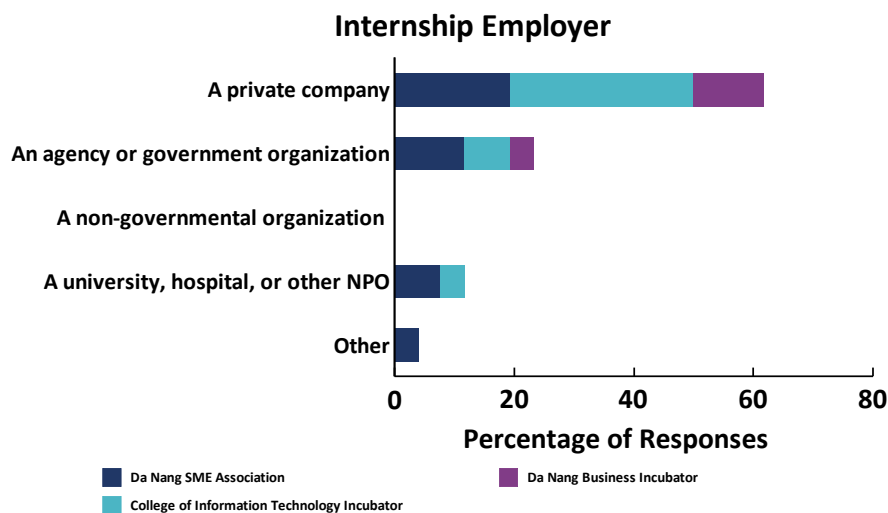


Figure 3.25
Please specify your internship employer.

n=26

Finding:

- 62% of respondents that reported they had an internship as a student specified a private company as their employer.

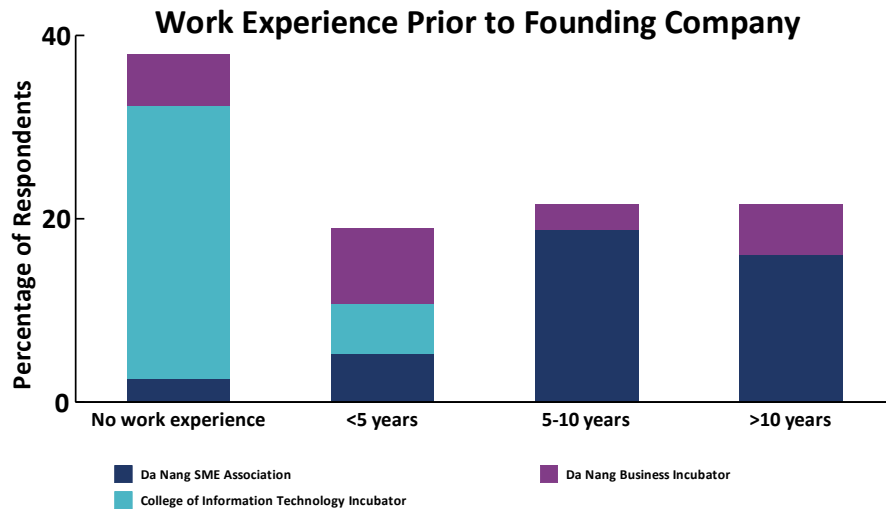


Figure 3.26

Before founding your company, how much work experience did you have?

n=37

Findings:

- 38% of respondents reported that they had no work experience prior to founding their company.
- 44% of respondents reported that they had five or more years of work experience prior to founding their company.

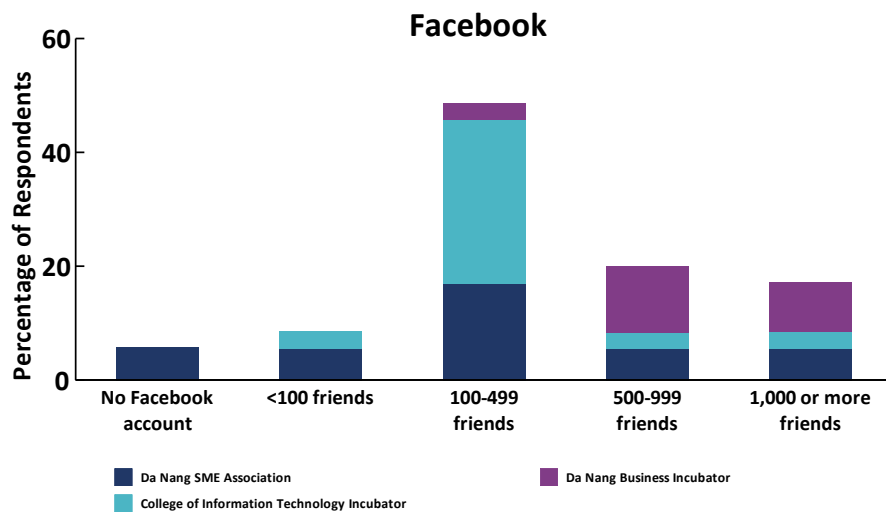


Figure 3.27

How many Facebook friends do you have?

n=35

Findings:

- 17% of respondents reported that they have 1,000 or more Facebook friends.
- 69% of respondents reported that they have 100 – 999 Facebook friends.

4. Use of Services by Venture Support Program Participants in Da Nang

78% of companies in Da Nang used the program support services (17% high intensity of use, 36% moderate intensity of use, 25% low intensity of use).

The venture support programs provide companies with a set of support services intended to enable companies to grow and succeed. These support services are described in greater detail in Table 4.1.

Table 4.1 Support Services Offered

Location	Program	Support Services Offered
Da Nang	Da Nang Business Incubator	<ul style="list-style-type: none"> - Mentorship and coaching - Facilitation of financing - Prototype development support - Networking and events
	College of Information Incubator	<ul style="list-style-type: none"> - Mentorship and coaching - Facilitation of financing - Provision of training - Networking and events
	Da Nang SME Association	<ul style="list-style-type: none"> - Regulatory guidance - Assistance with business registration, tax procedures, and contract dispute resolution - Networking and events

Respondents were asked to rate the support services of the venture support programs in terms of their intensity of use. All of the venture support programs are categorized as either full-time (that is, provision of full-time Mentoring, Networking, Instruction, Working space, Access to funding, and Business support services), or training programs. In terms of full-time programs, respondents were asked to indicate their intensity of use of services on a four-point scale from 'did not use' (coded as 1) to 'high intensity' (coded as 4). In terms of training programs, respondents were asked to indicate their degree of participation in training sessions on a four-point scale from 'did not participate' (coded as 1) to 'fully participated' (coded as 4).

For full-time programs, the combined 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 combined intensity of use of support services variable is calculated based on the degree of participation in training sessions.

Figure 4.1 shows the responses given, and the number of responses ('n') for the usage of full-time support services, and training programs.

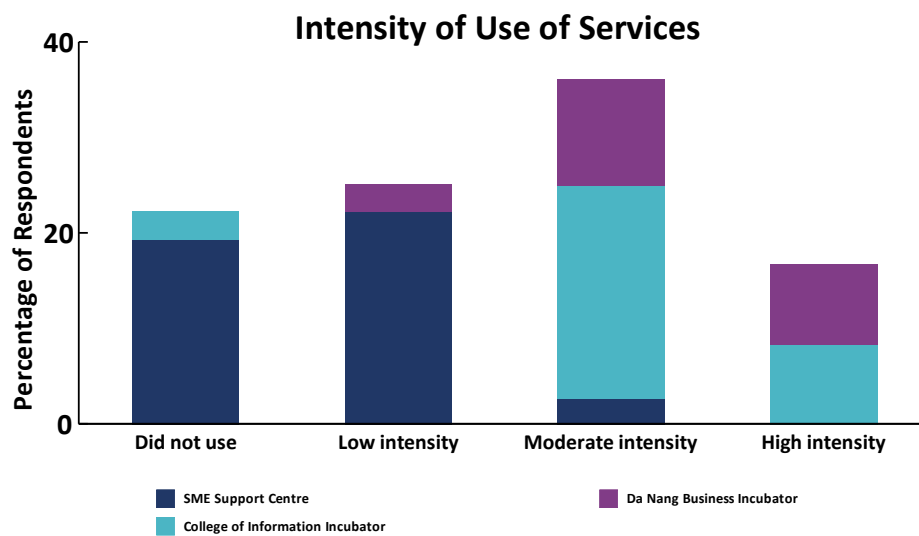


Figure 4.1

Please assess your company's intensity of use of the program support services.

n=36

Findings:

- 78% of all respondents reported that their company used the program support services (17% high intensity of use, 36% moderate intensity of use, 25% low intensity of use).
- 56% of the Da Nang SME Association program participants reported that their company used the program support services (6% moderate intensity of use, 50% low intensity of use).
- 92% of the College of Information Incubator program participants reported that their company used the program support services (25% high intensity of use, 67% moderate intensity of use).
- 100% of the Da Nang Business Incubator program participants reported that their company used the program support services (38% high intensity of use, 50% moderate intensity of use, 13% low intensity of use).

Satisfaction with Support Services

100% of companies in Da Nang were satisfied with the program support services (16% highly satisfied, 84% somewhat satisfied).

Respondents who completed the survey were asked about their degree of satisfaction with the support services provided by the venture support programs. Figure 4.2 below shows the responses given, and the number of responses ('n') for the question.

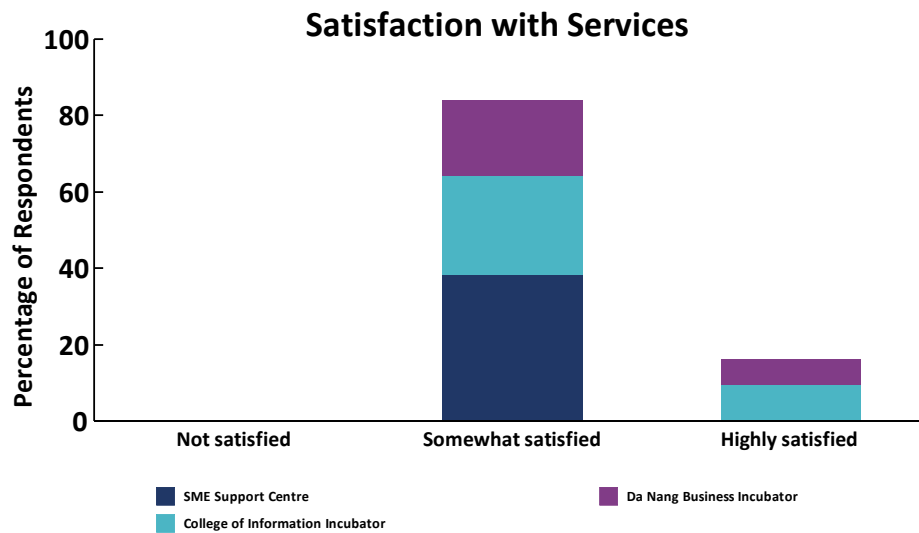


Figure 4.2

To what degree are you satisfied with the services provided?

n=31

Finding:

- 100% of respondents reported that they were satisfied with the program support services (16% highly satisfied, 84% somewhat satisfied).

5. Impact on Resources and Capabilities of Venture Support Program Participants in Da Nang

A Note About Statistical Significance

In statistics, confidence levels tell us how likely it is that a pattern in the data is due to chance. For example, in our analysis, when we present findings that are ‘significant at the 95% confidence level’, we are explaining that the pattern we see in the data (the finding we present) has a 95% likelihood of being true, and only a 5% (100% - 95%) likelihood of being due to chance. Higher confidence levels (e.g., 99%) mean the pattern in the data is more likely true, and not due to chance.

Company respondents in Da Nang attributed the greatest average impact to the venture support programs on improvements to their companies’ *Business expertise*, and *Knowledge of customer needs*, and lower impact on improvements to companies’ *Business network expansion*.

The average impact of the venture support programs on the resources and capabilities of companies in Da Nang is greater for companies that first engaged in 2015 or 2016, companies with fewer founders and employees with university degrees, and companies that generate revenues.

The average impact of the venture support programs on the resources and capabilities of companies in Da Nang is also greater for companies with entrepreneurs that are 25 years old or younger, whose parents had a family business, and that have a high school certificate, some college or university, or a college or university certificate.

Further, the average impact on companies’ resources and capabilities in Da Nang is greater for companies that used the support services with ‘moderate’ or ‘high’ intensity.

Following our logic model approach for assessment of impact, 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 venture support programs, achieved through the various support services available to companies.

Table 5.1 shows the three resources and capabilities impact measures that were selected using TEN’s methodology to assess the venture support programs’ impact on improvements to companies’ resources and capabilities.⁵ For convenience, explanatory examples may also be found in Table 5.1.

⁵ Companies that engaged with the Da Nang SME Association are excluded from the analysis sample, because the 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.

Table 5.1 Resources and Capabilities Impact Measures and Associated Examples

Impact Measure	Examples
<i>Business expertise</i>	<ul style="list-style-type: none"> • <i>Business models, or business plans, marketing and sales strategies, stakeholder relations, financing strategies, or corporate growth strategies</i> • <i>New marketing or organizational methods in business practices, workplace organization, or external relations</i> • <i>Expansion of the scale of operations, diversification into new product lines, or expansion of industrial or geographic markets</i>
<i>Business network expansion</i>	<ul style="list-style-type: none"> • <i>Access to customers, suppliers, manufacturers, business partners, service providers, channel to market partners, or other relevant businesses domestically or abroad</i> • <i>Access to, or better understanding of, industrial knowledge, new devices, products, or services</i> • <i>Access to key persons in large companies</i>
<i>Knowledge of customer needs</i>	<ul style="list-style-type: none"> • <i>Knowledge of customer needs</i> • <i>Knowledge of how to access customers, domestically, or abroad</i>

Figure 5.1 shows the average impact responses for the three resources and capabilities impact measures.⁶ Reading clockwise, we can see that the average impacts on resources and capabilities are at the lower end of the ‘a lot’ of impact range on improvements to the *Business expertise*, and *Knowledge of customer needs* measures, and at the higher end of the ‘a little’ impact range for the *Business network expansion* measure. This suggests that among the three company resources and capabilities impact measures, the venture support programs have the greatest average impact on improvements to companies’ ability to gain business expertise and learn about their customers, and lower impact on improvements to companies’ ability to expand their business networks.

⁶ For resources and capabilities, impact is measured on a scale of 0 to 10 using the following weights: ‘No impact’ 0, ‘a little’ impact 5.0, ‘a lot’ of impact 10.

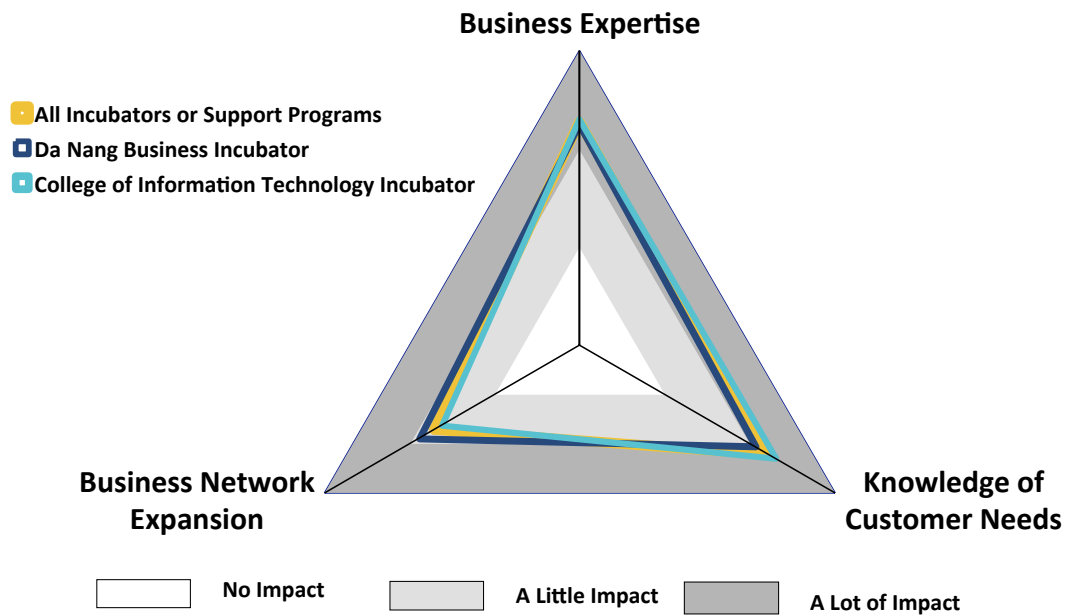


Figure 5.1 Average Impact of the Venture Support Programs on the Resources and Capabilities of Companies in Da Nang

We also seek to understand the distribution of scores around the averages reported above to validate the importance of the three resources and capabilities impact measures. We determined the percentage of respondents who reported positive impact on their company’s resources and capabilities (i.e., ‘A Lot’ of impact, or ‘A Little’ impact).

Figure 5.2 shows the percentage of companies in Da Nang that attributed positive impact for the three resources and capabilities impact measures. We see in Figure 5.2 that a greater percentage of companies attribute positive impact on their *Knowledge of customer needs* measure.

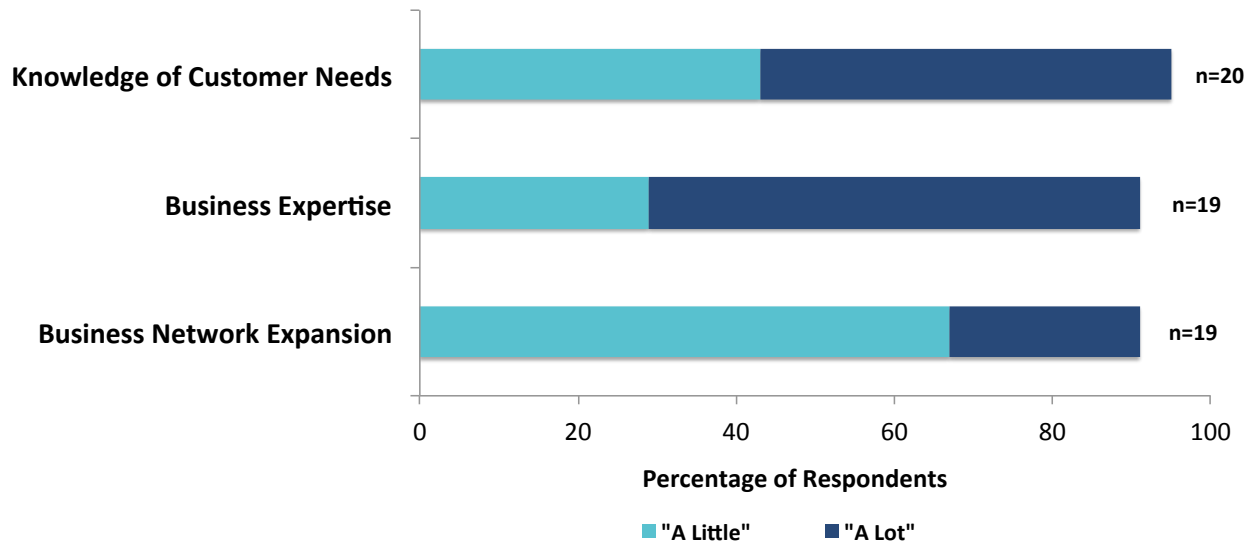


Figure 5.2 Percentage of Companies in Da Nang Attributing Positive Impact on their Resources and Capabilities

Respondents from Da Nang reported the following impacts on improvements to their companies' resources and capabilities to be 'A Lot', or 'A Little':

- *Knowledge of customer needs (95% positive impact)*
(52% 'A Lot', 43% 'A Little')
- *Business expertise (91% positive impact)*
(62% 'A Lot', 29% 'A Little')
- *Business network expansion (91% positive impact)*
(24% 'A Lot', 67% 'A Little')

The frequency distributions that follow, Figures 5.3 to 5.5 show impact responses for the three resources and capabilities impact measures, together with the corresponding survey questions, number of respondents, and average impact scores (out of 10).

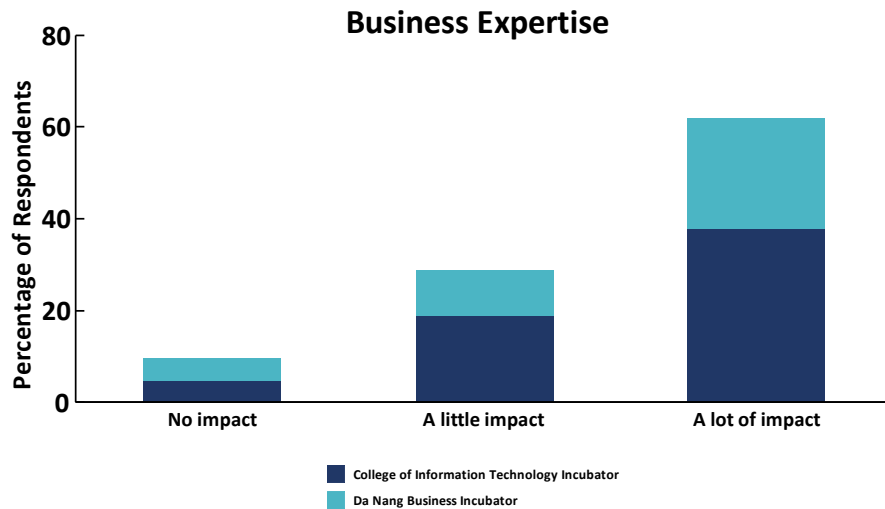


Figure 5.3

As a consequence of [Program], has your company's business expertise increased?

n=21; Average=7.6

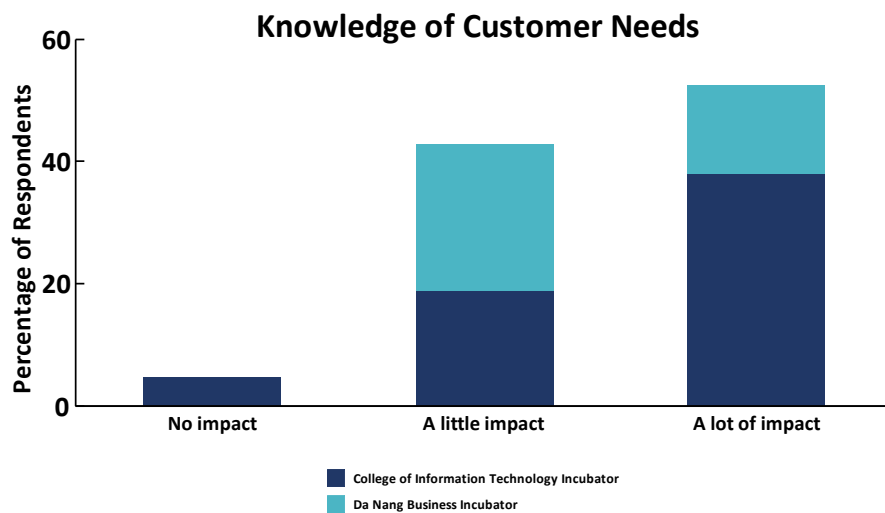


Figure 5.5

As a consequence of [Program], has your company's knowledge of customer needs increased?

n=21; Average=7.4

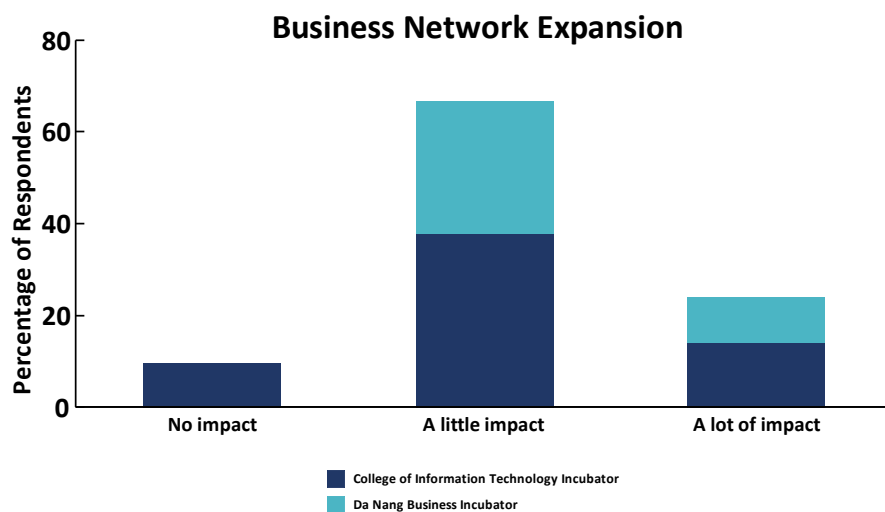


Figure 5.4

As a consequence of [Program], has your company's business network increased?

n=21; Average=5.7

Impact of the venture support programs on company resources and capabilities was further analyzed with respect to company information, entrepreneur information, and intensity of use of support services.

The Venture Support Programs' Impact: Company Attributes

From the information segmented by company attributes, for Da Nang, we find that:

- The average impact on companies' resources and capabilities is greater for those that first engaged with their respective program in 2015 or 2016, compared to those that first engaged in 2014 or earlier (significant at the 99% confidence level).
- The average impact on companies' resources and capabilities is greater for those with fewer founders or employees with university degrees (65% or less), compared to companies that have a greater number of founders or employees with university degrees (more than 65%) (significant at the 99% confidence level).
- The average impact on companies' resources and capabilities is greater for those that generate revenues, compared to those that are pre-revenue (significant at the 95% confidence level).

The Venture Support Programs' Impact: Entrepreneur Attributes

From the information segmented by entrepreneur attributes, for Da Nang, we find that:

- The average impact on companies' resources and capabilities is greater for those with entrepreneurs that are 25 or younger, compared to those that have entrepreneurs that are 26 or older (significant at the 99% confidence level).
- The average impact on companies' resources and capabilities is greater for those with entrepreneurs whose parents had a family business, compared to those with entrepreneurs with parents that do not have a family business (significant at the 99% confidence level).
- The average impact on companies' resources and capabilities is greater for those with entrepreneurs that have a high school certificate, some college or university, or a college or university certificate, compared to those with entrepreneurs that have a Master's or PhD (significant at least at the 95% confidence level).

The Venture Support Programs' Impact: Intensity of Use of Services

From the information segmented by intensity of use of the support services provided by the venture support programs, for Da Nang, we find that:

- The average impact on companies' resources and capabilities is greater for companies that used the support services with moderate or high intensity compared to companies that used the services with low intensity, or did not use the services (significant at least at the 95% confidence level).

6. Impact on Performance of the Venture Support Program Participants in Da Nang

The venture support programs in Da Nang are having a greater average impact on companies' *Change in employment*, and a lower average impact on companies' ability to increase revenues and attract funding.

The average impact of the venture support programs on improvements to company performance is higher for companies with entrepreneurs that had an internship as a student.

Following our logic model approach for assessment of innovation impacts, the venture support programs achieve long-term impacts in the form of socio-economic benefits by helping companies to improve their performance. Company performance improvements occur as a consequence of the impact that the venture support programs have on improving companies' resources and capabilities. Measuring impact on companies' performance is important because it corresponds to the venture support programs' mission and provides the hard evidence that stakeholders seek.

Table 6.1 shows the three performance impact measures that were selected to assess the venture support programs' impact on company performance.⁷

Table 6.1

Performance Measures
<ul style="list-style-type: none">• <i>Change in annual revenues</i>• <i>Change in employment</i>• <i>Funding received</i>

⁷ Companies that engaged with the Da Nang SME Association are excluded from the analysis sample, because the 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.

Figure 6.1 shows the average impact responses for the three performance impact measures.⁸ Reading clockwise, we can see that the average impacts on performance are at the lower end of the ‘a little’ impact range on improvements to the *Change in employment* measure, and at the higher end of the ‘no impact’ range on improvements to the *Change in annual revenues*, and *Funding received* measures. This suggests that among the three company performance impact measures, the venture support programs have the greatest average impact on improvements to companies’ ability to increase their number of employees.

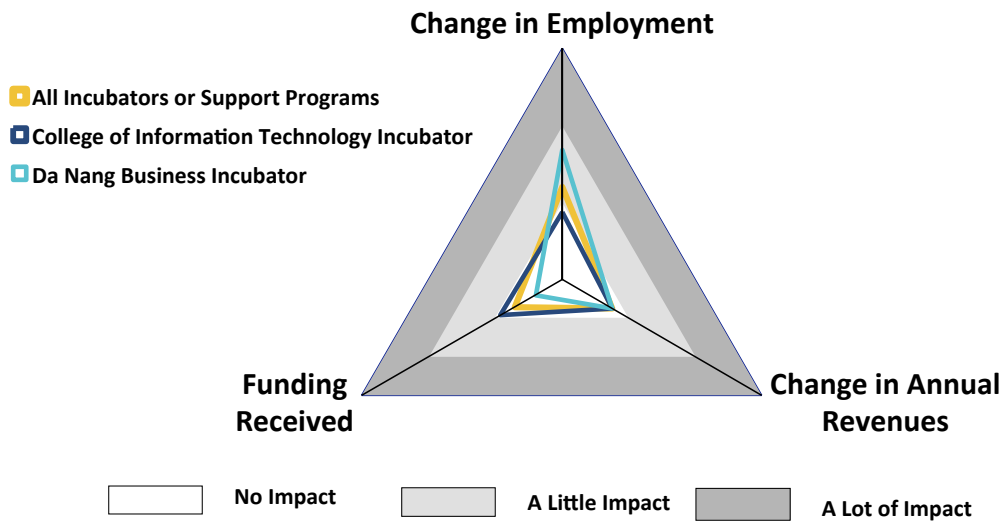


Figure 6.1 Average Impact of the Venture Support Programs on the Performance of Companies in Da Nang

We also seek to understand the distribution of scores around the averages reported above to validate the importance of the three performance impact measures. We determined the percentage of respondents who reported positive impact on their company’s performance (i.e., ‘A Lot’ of impact, or ‘A Little’ impact).

Figure 6.2 shows the percentage of companies that attributed positive impact for the three performance impact measures. We see in Figure 6.2 that a greater percentage of companies attribute positive impact on their *Change in employment* measure.

⁸ For performance, impact is measured on a scale of 0 to 10 using the following weights: ‘No impact’ 0, ‘a little’ impact 5.0, ‘a lot’ of impact 10.

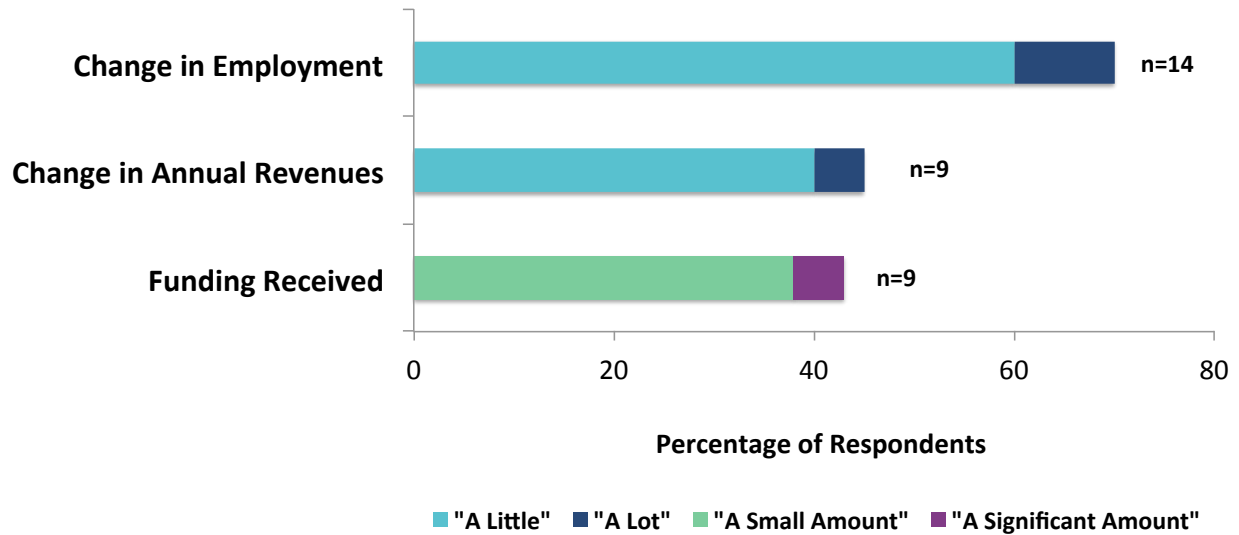


Figure 6.2 Percentage of Companies in Da Nang Attributing Positive Impact on their Performance

Respondents reported the following impacts on improvements to their companies' performance to be 'A Lot', or 'A Little', and in the case of *Funding received*, 'A significant amount', or 'A small amount':

- *Change in employment (70% positive impact)*
(10% 'A Lot', 60% 'A Little')
- *Change in annual revenues (45% positive impact)*
(5% 'A Lot', 40% 'A Little')
- *Funding received (43% positive impact)*
(5% 'A significant amount', 38% 'A small amount')

The frequency distributions that follow, Figures 6.3 to 6.5 show impact responses for the three performance impact measures, together with the corresponding survey questions, number of respondents, and average impact scores (out of 10).

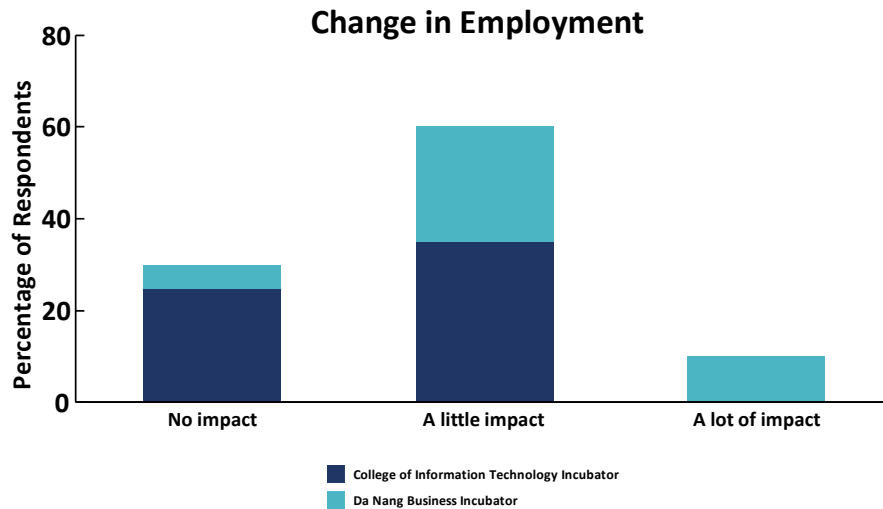


Figure 6.3

As a consequence of [Program], has your company's number of employees increased?

n=20; Average=4.0

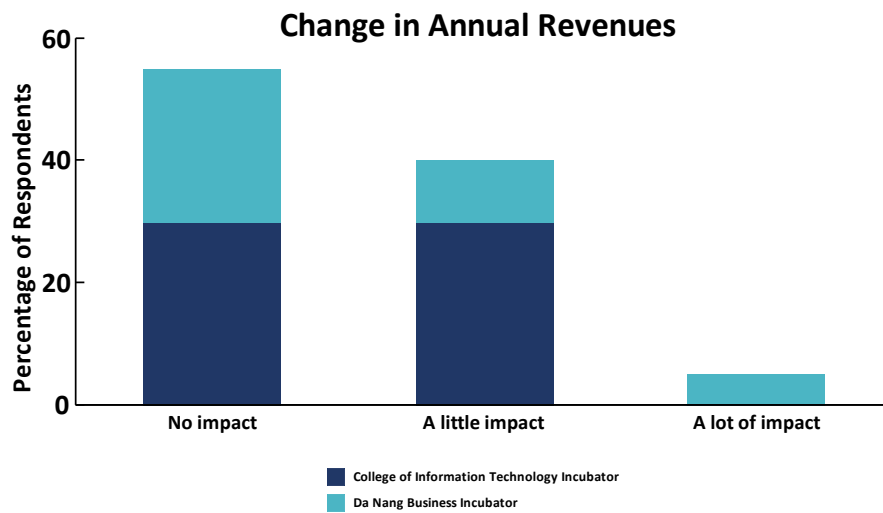


Figure 6.4

As a consequence of [Program], have your company's annual revenues increased?

n=20; Average=2.5

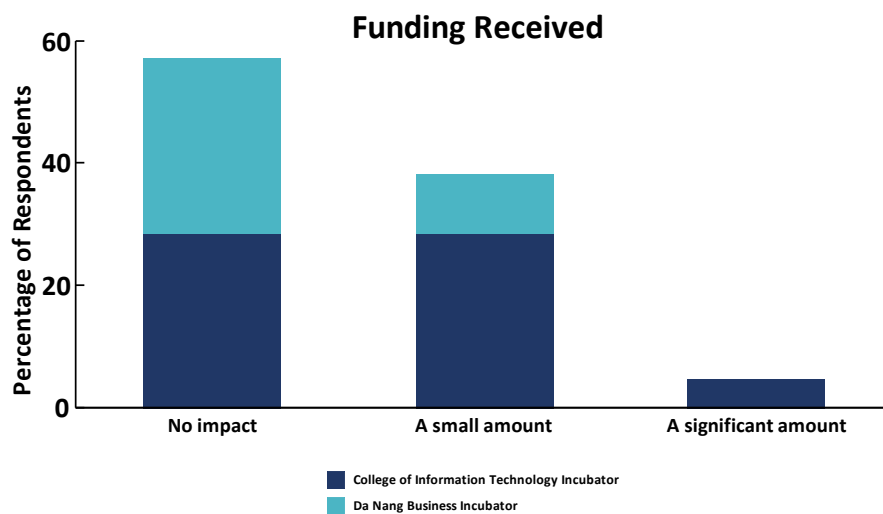


Figure 6.5

As a consequence of [Program], has your company received funding?

n=21; Average=2.4

Impact of the venture support programs on company performance was further analyzed with respect to company information, entrepreneur information, and intensity of use of support services.

The Venture Support Programs' Impact: Entrepreneur Attributes

From the information segmented by entrepreneur attributes, for Da Nang, we find that:

- The average impact on companies' performance is greater for companies with entrepreneurs that had an internship as a student, compared to those that have entrepreneurs that did not have an internship (significant at the 95% confidence level).

7. Company Attributes Correlated with Growth

With regard to venture support program participants in Da Nang, companies with an ambitious growth plan, those that received a greater amount of financial support, were founded by older entrepreneurs, have fewer employees with university degrees, and companies that were founded by entrepreneurs with a lower level of education are more likely to grow in terms of annual revenues.

Additionally, companies that have more employees with domestic or international displacement experience, and companies that have more employees that are family members are more likely to grow in terms of number of founders and employees.

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.

Models 1 and 2 shown below in Table 7.1 present the correlation results⁹ on company attributes, and entrepreneur attributes with *Annual revenues*, and *Number of founders and employees* respectively, based on the sample of Da Nang companies¹⁰.

Model 1 presents the correlation results for company and entrepreneur attributes with *Annual revenues*. In Model 1, *Growth plan*, *Funding received*, and *Entrepreneur age* are significantly correlated with *Annual revenues* (significant at the 95% confidence level, at the 99% confidence level, and at the 90% confidence level, respectively), indicating that companies with an ambitious growth plan, companies that received more financial support, and companies that were founded by older entrepreneurs are more likely to achieve growth in terms of annual revenues. In addition, *Employees that have university degrees* is significantly and negatively correlated with *Annual revenues* (significant at the 95% confidence level), indicating that companies that have fewer employees with university degrees are more likely to achieve growth in terms of annual revenues. Of the entrepreneur attributes variables, *Level of education* is significantly and negatively correlated with *Annual revenues* (significant at the 99% confidence level), indicating that companies founded by entrepreneurs with a lower level of education are more likely to achieve growth in terms of annual revenues.

Model 2 presents the correlation results for company attributes, and entrepreneur attributes with *Number of founders and employees*. In Model 2, *Displacement experience of employees*, and *Employees that are family members* are significantly correlated with *Number of founders and employees* (significant at the 99% confidence level, and at the 95% confidence level respectively), indicating that companies that have more employees with domestic or international displacement experience, and companies with more employees that are family members are more likely to achieve growth in terms of number of founders and employees.

⁹ Due to data paucity, we cannot conduct a regression analysis based on a sample of less than 20 respondents. Instead, we use correlation analysis to explore which company or entrepreneur attributes are related to companies' growth in size. Correlation analysis is used to identify the association between two variables, but not to predict the relationship among variables.

¹⁰ Companies that engaged with the Da Nang SME Association are excluded from the analysis sample, because the 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.

Table 7.1 Correlation Results for Supported Companies in Da Nang

Variable	Model 1 Annual Revenues	Model 2 Founders and 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	+ α	
E: Gender (male)		
E: Parents that own a business		
E: Level of education	_**	
E: Work experience (years)		
E: International experience		
E: Facebook friends		

$\alpha = p < .1$, * = $p < .05$, ** = $p < .01$, *** = $p < .001$

8. Predictors of Impact

Correlation Variables

We conducted correlation analyses to explain how impact on company resources and capabilities, and performance, is achieved. Due to the small sample size of supported companies in Da Nang¹¹, we could not conduct reliable regression analyses. Table 8.1 shows all the variables included in the correlations. To reduce complexity, a factor analysis was used to consolidate measures of impact. As shown in the table below, the three impact on resources and capabilities measures were reduced to one factor: *Direct impact*. The three impact on company performance measures were reduced to one factor: *Indirect impact*. All composite factors of impact measures are reliable as indicated by the Cronbach alphas.¹²

Table 8.1 Correlation Variables

Type of Measures	Measures	Correlation Variables
Intensity of Use	<ul style="list-style-type: none"> • <i>Mentoring</i> • <i>Networking</i> • <i>Instruction</i> • <i>Working space</i> • <i>Access to funding</i> • <i>Business support services</i> • <i>Degree of participation in training sessions</i> 	Use of support services ¹³
Independent impact measures	<p><i>Impact on:</i></p> <ul style="list-style-type: none"> • <i>Business expertise</i> • <i>Business network expansion</i> • <i>Knowledge of customer needs</i> 	<p>Direct impact</p> <p>(Cronbach's Alpha = .91)</p>

¹¹ Once the companies that engaged with the Da Nang SME Association were removed from the Da Nang sample of supported companies, the sample size was below the minimum number required to conduct reliable regressions.

¹² Cronbach's alpha is a measure of internal consistency.

¹³ For full-time programs, the *Use of support service* variable is calculated as the average of *Mentoring*, *Networking*, *Instruction*, *Working space*, *Access to funding*, and *Business support services*. For training programs, the *Use of support service* variable is calculated based on the *degree of participation in training sessions*.

Table 8.1 (Continued)

Type of Measures	Measures	Correlation Variables
Impact on performance measures	<i>Impact on:</i>	Indirect impact factor
	• <i>Change in annual revenues</i>	(Cronbach's Alpha = .93)
	• <i>Change in employment</i>	
	• <i>Funding received</i>	
Controls	• <i>Year founded</i>	Company age
	• <i>Annual revenues</i>	Size
	• <i>Number of employees</i>	
	• <i>Company growth plans</i>	Growth plan
	• <i>Financial support (\$)</i>	Funding received
	• <i>Proportion of founders and employees with int'l displacement experience</i>	International displacement experience of employees
	• <i>Proportion of founder and employees with domestic displacement experience</i>	Domestic displacement experience of employees
• <i>Proportion of founders and employees that are family members</i>	Employees that are family members	

Table 8.1 (Continued)

Type of Measures	Measures	Correlation Variables
Controls	• <i>Proportion of founders and employees that have university degrees</i>	Employees that have university degrees
	• <i>Website</i>	Website
	• <i>Entrepreneur age</i>	Entrepreneur age
	• <i>Gender</i>	Gender (male)
	• <i>Family business</i>	Parents that own a business
	• <i>Highest level of education</i>	Level of education
	• <i>Work experience before founding the company</i>	Work experience (years)
	• <i>Entrepreneurs have worked or studied in a foreign country</i>	International experience
	• <i>Number of Facebook friends</i>	Facebook friends

Descriptive Statistics

Table 8.2 presents a descriptive statistics and correlations table, based on the sample of the venture support programs in Da Nang¹⁴. For each variable, Table 8.2 provides: correlation with other variables, the number of observations (N), its mean, standard deviation, minimum value, and maximum value.

Here we report the pertinent correlation results:

Indirect Impact

- Companies with an ambitious growth plan are more likely to attribute the Da Nang programs with greater impact on company performance.

¹⁴ Companies that engaged with the Da Nang SME Association are excluded from the analysis sample, because the 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

Company and Entrepreneur Attributes

- Older companies are more likely to have more employees that have studied or worked in a foreign country.
- Younger companies are more likely to use support services with a higher intensity.
- Larger companies are more likely to have an ambitious growth plan.
- Companies that have received a greater amount of financial support are more likely to be founded by older entrepreneurs, to be founded by female entrepreneurs, and to be founded by entrepreneurs with more years of work experience.
- Companies that have fewer employees that have studied or worked in a foreign country are more likely to use support services with a higher intensity.
- Companies that have more employees that have studied or worked in a foreign country are more likely to be founded by entrepreneurs with international experience.
- Companies that have fewer employees that are family members are more likely to use support services with a higher intensity.
- Companies that have a website are more likely to be founded by entrepreneurs with a higher level of education.
- Female entrepreneurs are more likely to be older.
- Older entrepreneurs, and female entrepreneurs are more likely to have more years of work experience.

All correlation findings reported above are significant at least at the 95% confidence level.

Table 8.2 Descriptive Statistics and Correlations Table of Da Nang Companies¹⁵

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	
1. C: Age																				
2. C: Size																				
3. C: Growth plan		***																		
4. C: Funding received (\$)			***																	
5. C: International displacement	+	*																		
6. C: Domestic displacement																				
7. C: Family members																				
8. C: University degrees																				
9. C: Website																				
10. E: Age																				
11. E: Gender (male)																				
12. E: Parents that own a business																				
13. E: Level of education																				
14. E: Work experience (years)																				
15. E: International experience																				
16. E: Facebook friends																				
17. Support services																				
18. Direct impact factor																				
19. Indirect impact factor																				
N	20	19	21	21	21	21	21	21	21	21	21	21	21	21	21	21	20	21	19	19
Mean	1.65	9.6x10 ⁸	3.24	4.2 K	1.33	2.67	1.52	3.71	.29	1.71	.90	.10	5.76	2.38	.14	623.8	3.15	.51	.23	.23
Standard deviation	1.46	1.4x10 ⁹	.63	9.7 K	.58	1.16	.81	.64	.46	1.49	.30	.30	.77	4.57	.36	481.3	.75	.89	.83	.83
Minimum	1	0	1	0	1	1	1	1	0	1	0	0	4	0	0	0	1	-1.42	-1.02	-1.02
Maximum	5	4.0x10 ⁹	4	40.0 K	4	4	4	4	1	7	1	1	7	15	1	1500	4	1.64	2.58	2.58

* = p < .05, ** = p < .01

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

9. Barriers to Growth and Program Improvements

Barriers to Growth

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.

Program Improvements

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 six recurring themes. 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.

Improve the Quality and Coverage of Mentoring, Training, and Workshops

Respondents from all the Da Nang programs commonly expressed the need for this program improvement. This theme categorizes respondents who saw a need for a better and broader range of support services ("High-quality mentoring services", "Standard workshop programs", "Technical training

support”). Additionally, some entrepreneurs mentioned that they wanted workshops focusing on specific topics (“Focused workshops”, “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”).

Facilitate Business Linkages

Respondents from the Da Nang SME Association program expressed a need for the programs to facilitate their relationships with other companies (“Increasing connection with companies”, “Create business linkages”).

Facilitate Financial Linkages

Respondents from the College of Information program expressed a need for the programs to facilitate their access to funding or financing (“Access to funding”, “Funding for start-ups”).

Program-Specific Improvements

Table 9.1 provides a summary of the opportunities for improvement indicated by respondents, for each venture support program in Da Nang.

Table 9.1 Opportunities for Improvement for Venture Support Programs in Da Nang

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				✓	✓							

10. Recommendations

1. *Should Da Nang provide financial support for businesses in general, or should they focus on a certain industry?*

Our findings indicate that support should be provided across sectors however, the support should not be generalized. It should be informed by sector-specific knowledge of challenges and opportunities, and should be delivered in such a way as to create communities of learning, through knowledge-sharing.

2. *How can Da Nang select high potential young enterprises for support at an early stage of development? What are the predictors of growth?*

To determine which attributes best predict venture growth we need to adopt a longitudinal approach and collect additional data on the same ventures at a future point in time (two or three years later). At this point in time we are only able to compare the venture and entrepreneur attributes to current annual revenues and employment.

Our results (found in Table 2.1 of the impact assessment report) show that companies that have a website are more likely to grow in terms of annual revenues and number of employees. Older companies, and companies founded by older entrepreneurs, and entrepreneurs with a higher level of education are more likely to grow in terms of annual revenues. Additionally, companies that have received more financial support, and companies founded by entrepreneurs whose parents own a business are more likely to have greater employment. Further, our results (found in Table 7.1 of this appendix) show that Growth plan, Funding received, and Entrepreneur age are significantly correlated with Annual revenues. And we find that Displacement experience of employees, and Employees that are family members are significantly correlated with employment.

3. *Should Da Nang have more incubators? What are the challenges for their incubators?*

Da Nang should increase the amount of business incubator space when the demand for such space, as expressed by high potential ventures, exceeds the supply. Further, we recommend that the venture support programs in Da Nang focus efforts on improving access to, awareness of, and quality of the support services offered in an effort to improve impact on companies' resources and capabilities measures, specifically the *Business network expansion* measure.

4. *Can TEN provide guidance for the development of a startup hub in Da Nang?*

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. We advise that the Da Nang government consults widely and deeply to uncover the strongest ideas, and that the support for, and growth of, small entrepreneurial companies be strategically tied to the sectors where Vietnam already has strength. It is by building on existing advantages that Da Nang will be able to become a leading startup hub.

Da Nang officials raised the following questions on October 24th in an email message from Hong Diep Ngo of Mekong Biz:

1. Should Da Nang provide financial support for businesses in general or should they focus on a certain industry?
2. How can Da Nang select high potential young enterprises for support at an early stage of development? What are the predictors of growth?
3. Should Da Nang have more incubators? What are the challenges for their incubators?
4. Can TEN provide guidance for the development of a startup hub in Da Nang?

In the following we respond to these questions, in some cases referring the reader to the relevant sections of the main report and Da Nang appendix.

General Support versus Sector-Specific Support

To respond to the question of whether Da Nang should support businesses in general or focus on a specific industry, we begin by considering which sectors experience the fastest growth. We use data on the employment and revenues of the companies in the Da Nang random sample of young companies. Figures 10.1 and 10.2 examine the number of employees and revenues of the companies in the Da Nang random sample of companies less than six years old. Figure 10.1 shows the average number of founders and employees by sector, and Figure 10.2 shows the average annual revenues by sector.

Beside each bar in Figures 10.1 and 10.2 is the total number of companies in the sector (n), and the average year founded of the companies in the sector (y). We begin by noting the high variability in the number of companies per sector. Sector level results must be interpreted with caution, especially where the number of companies in the sector is low.

By considering the average founding year we can examine the degree to which variability in employment and revenues is a consequence of company age. We expect older companies to have larger workforces and to generate higher revenues, and we find that the average founding year varies little across sectors. The average year founded ranges from 2013 to 2015, with 2014 as the average year founded for 14 of 19 (74%) of sectors. This tells us that it is likely the inherent differences in the industrial sectors that explain variance in employment and revenues across sectors.

In terms of the number of founders and employees, the food-processing sector is an outlier, with the average company employing an average of more than twice as many people (38) as the next sector (materials and manufacturing, where the average company employs 17 people). In terms of revenues, the top five sectors are food processing (where the average annual revenues are \$247K), fisheries or aquaculture (\$168K), construction (\$139K), restaurant or food and beverage (\$134K), and materials and manufacturing (\$116K)¹⁶. All of these sectors are either part of the agri-food value chain (18 companies), or are in the manufacturing (16) or construction (69) industries. In the case of the agri-food sectors, companies are drawing on Vietnam's comparative advantages, its known industrial strengths, complementarities between companies in upstream and downstream industries (agriculture, fisheries or aquaculture, food processing, restaurant and food or beverage), and efficiencies attributable to working with upstream and downstream value chain partners that operate in same region. Companies in the

¹⁶ Retail or wholesale is the sixth largest sector by revenues, but there is less value-added in the retail and wholesale sectors than in other sectors, and a large proportion of retail and wholesale sector revenues are spent on inputs from other sectors.

construction sector are likely benefitting from the growth of Da Nang and particularly the growth of the tourism industry. None of the top sectors are intrinsically high-tech.

In today's world, where all industries are knowledge-based industries, building and nurturing sector specific communities of learning is useful. This is achieved via investments in sector specific knowledge-generating activities and knowledge-sharing events that may include investments in internships, conferences, seminars, and networking events. Such activities will be helpful to both established and new companies in the sector. The foregoing suggests that the short-term payoffs to such community building activities may be highest in high growth sectors such as those in the agri-food sectors.

Our findings suggest that the construction sector in Da Nang is attractive to new companies. This sector may or may not be in need of support. If Da Nang chooses to invest in high-tech sectors such as information of communications hardware or software, it must be with a view to building company capabilities that will take time to mature.

While it is useful to consider sector-specific requirements when designing business support programs, business success depends primarily on people and it is impossible to predict the domains in which the most talented individuals will be found. Favouring some sectors over others will be counterproductive if less promising companies in targeted sectors are supported at the expense of more promising companies in sectors that are not targeted. The wisest approach is likely one that balances low cost, economy-wide interventions such as changes to policies and regulations that benefit all companies, and community of learning initiatives that are targeted to specific sectors such as agri-food.

Finally we note that Question 1 from Da Nang refers specifically to financial support. Both the research literature and the results of the work of The Evidence Network Inc. point to the value of combining knowledge-based support with financial support. We understand that for both regulatory and budgetary reasons it is difficult for the Vietnamese government to provide financial support. But regardless of whether the support is knowledge-based, financial, or a combination, it is best if it is informed by an understanding of sector-specific challenges and opportunities.

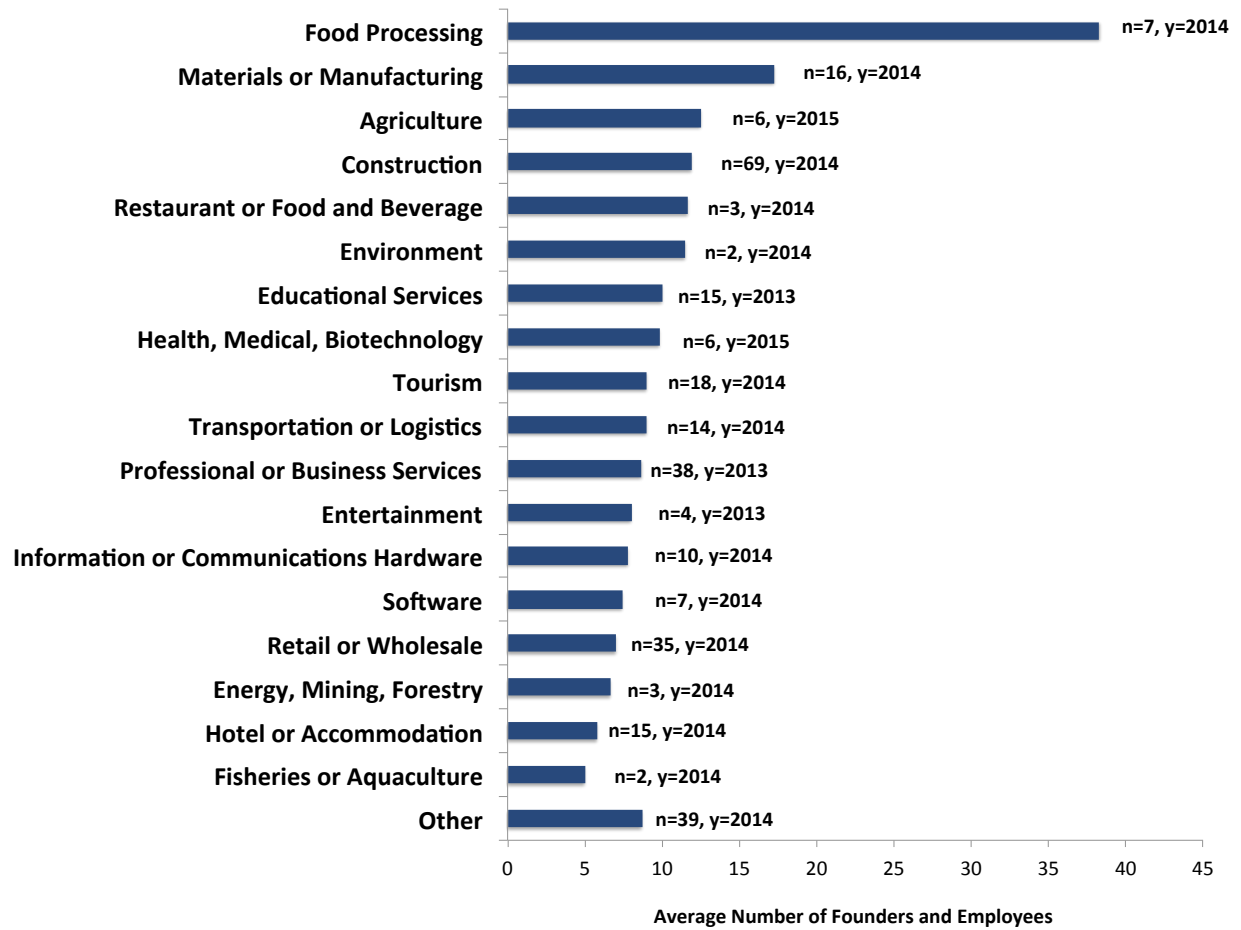


Figure 10.1 Average Number of Founders and Employees of the Random Sample of Young Companies by All Sectors

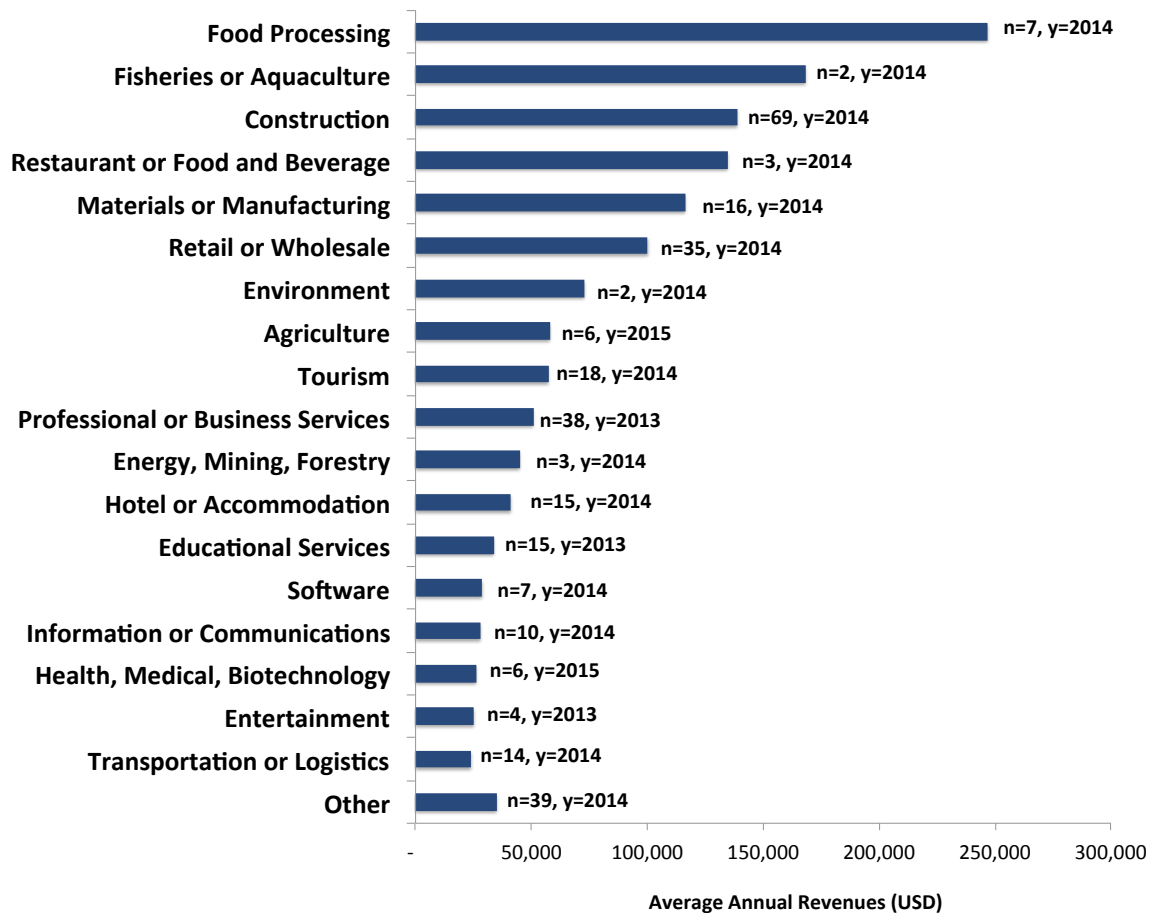


Figure 10.2 Average Annual Revenues of the Random Sample of Young Companies by All Sectors

Selection of High-Growth Ventures

The second question asks about the predictors of venture growth and how Da Nang can identify high potential ventures. Research has shown that it is possible to identify high potential ventures (Czarnitzki & Delanote, 2012; Guzman & Stern, 2015; Astebro & Elhedhli, 2006). But such research is longitudinal. High potential ventures are identified at one point in time, and some years later, when the ventures have had a chance to grow, the efficacy of the predictions is determined. In our 2016 survey of randomly-selected companies in Da Nang, we collected data on more than 14 venture and entrepreneur attributes that may be used to identify high potential ventures. To determine which attributes best predict venture growth we need to adopt a longitudinal approach and collect additional data on the same ventures at a future point in time (two or three years later).

At this point in time all we can do is to compare the venture and entrepreneur attributes to current annual revenues and employment. Given that all the ventures in the random sample are less than six years old, high revenues and high employment numbers are indicative of high growth. The results are given in Table 2.1 in the main report. They show that companies that have a website are more likely to grow in terms of annual revenues and number of employees. Older companies, and companies founded by older entrepreneurs, and entrepreneurs with a higher level of education are more likely to grow in

terms of annual revenues. Further, companies that have received more financial support, and companies founded by entrepreneurs whose parents own a business are more likely to have a greater employment.

We also consider the correlates of high annual revenues and employment for supported companies in Da Nang (Table 7.1, Da Nang appendix). We find that Growth plan, Funding received, and Entrepreneur age are significantly correlated with Annual revenues. And we find that Displacement experience of employees, and Employees that are family members are significantly correlated with employment. While informative, these results are based on a very small sample size (n=20).

The foregoing suggests that it may be possible to identify high potential ventures in Da Nang, but we will not know about the validity of our predictions for some time.

Incubator Numbers and Incubator Challenges

In response to the question of whether or not Da Nang should have more incubators, we suggest that Da Nang should increase the amount of business incubator space when the demand for such space, as expressed by high potential ventures, exceeds the supply. Officials should also bear in mind that space, by itself, is of limited value to startups. It is only when space is used to create a community of learning, that value-added is high. Space needs to be augmented with training, mentoring, networking, and fundraising activities. And many of these activities can be offered to ventures that do not benefit from space.

Our report and this appendix provide a great deal of information regarding the challenges facing Da Nang incubators. We begin by observing that incubator companies are new and have only recently engaged with the incubators. To their credit they have highly-educated workforces and plans for growth. The entrepreneurs that lead these companies are primarily young, male, and well-educated, with limited experience.

Improving impact on resources and capabilities, in particular impact on Business network expansion, should be a focus of venture support programs in Da Nang. Of the three resource and capabilities measures, the impact on Business network expansion measure was the lowest. Seventy-six (76%) percent of respondents indicate that they joined the venture support programs in Da Nang to network with other entrepreneurs, indicating a demand for this type of support.

Our results show that companies that participate in support services with higher intensity attribute greater impact in terms of improvements to their resources and capabilities. In Da Nang, only 78% of companies used the venture support program services, and of these, only 17% used the services with 'high' intensity. These numbers were higher in HCMC and in Phnom Penh. Most participants (84%) were only 'somewhat satisfied' with support services. Improving both the level of participation in support services, and the level of satisfaction with support services are important goals, because doing so will likely result in greater impact.

These observations tie to earlier work of The Evidence Network Inc. when we analyzed the performance of incubators and accelerators according to their specific attributes. In that analysis we found, for example, that more recently founded, and smaller, incubators and accelerators achieved greater impact than older, larger ones. This finding points to the importance of 'depth of engagement' as a key factor for incubator or accelerator performance. The idea is that smaller more focussed incubators and accelerators, which are not so old as to become complacent, are able to engage more deeply in the interests of entrepreneur and company needs, increasing the level of satisfaction and intensity of use – known variables linked to incubator or accelerator performance. We would suggest more focussed

incubators and accelerators than large ones where companies cannot get the detailed attention they need.

Startup Hub Development

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 of the US, notwithstanding established strengths on the east coast. Similarly Dubai's advantage has been traced to 19th century decisions to build a port, notwithstanding existing ports in neighbouring cities. In both cases the initial decisions have been reinforced by multiple subsequent investments. A Canadian example is the emergence over the past 30 years of an advanced ICT and high tech sector in the province of Alberta. This was driven by the information requirements of the oil and gas industry, ultimately leading to sales opportunities for ICT companies in international markets. Closer to Vietnam, the advantages of China and 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. 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.

Broadly, our analysis has found that the supported companies are not much different from the random sample of young companies, except in terms of their industrial sector participation. However, there are marked differences in terms of the entrepreneur characteristics and their motivations, as described in the assessment report. In fact, there is a strong likelihood that the younger, more highly educated, internationally experienced entrepreneurs are more readily associated with the ICT industry than traditional construction and manufacturing.

The data indicates that the pathway to company development without support is through traditional industries such as construction and manufacturing, tourism and accommodation, professional services, and retail and wholesale. In contrast, incubators and the support they provide are being used to strategically advance the ICT sector (mostly).

While advancing the ICT or the 'high technology' sector has merit and should be pursued, it is unclear that this approach builds upon the inherent strengths of Vietnam. Indeed, strategic approaches to advance the ICT sector will require extreme long-term commitment and support to catch up and compete with other jurisdictions that are much more advanced in these areas.

One recommendation to deal with this conundrum is to not to think in terms of 'incubator-supported companies', and 'support to others', but to strategically tie the support for and growth of small entrepreneurial companies to the sectors where Vietnam already has strength. Joint initiatives between

emerging and traditional companies may be fostered by government through information initiatives, regulations, financing, and selection of companies that become supported by incubators and other business support programs.

It is by building on existing advantages that Da Nang will be able to become a leading startup hub. Incubators and business support programs should be designed strategically so as to draw from and contribute to the whole of the Vietnam economy.

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11. Glossary of Terms

Term	Description
Confidence level	Used to describe the reliability of a calculation or estimate. A higher confidence level indicates a more reliable estimate.
Impact on resources and capabilities	Improvements, within a short timeframe, to resources and capabilities. TEN examines improvements to resources and capabilities as outcomes of service offerings from innovation intermediaries, such as improved business linkages.
Distribution	The arrangement of the frequency of occurrence around a particular value.
Frequency distribution	A graphical representation of the occurrence of each value within a range of values. TEN often uses this tool to represent the frequency of different answers in response to a particular survey question.
Impact on performance	A change in performance resulting from changes in resources and capabilities. TEN investigates changes in company performance metrics attributable to services provided by innovation intermediaries that increase companies' capacity to perform. For example, change in employment.
Innovation intermediary	A member of a class of organizations with common goals including the support of innovation. TEN works with innovation intermediaries, ranging from small economic development organizations to large and sophisticated research institutes, who seek to make their clients more innovative, in the interests of facilitating increases in their viability, profitability, international presence, or other manifestations of their success.
Logic model	A representation of the relationships between the inputs, outputs and outcomes of a program. TEN's innovation intermediary logic model illustrates how innovation intermediaries work to fulfill their missions, and how TEN measures their impact.
Primary data	Data collected directly from a source by the person or organization conducting the research. TEN collects primary data from innovation intermediaries and their client companies through an established survey methodology.
Private financing	Financing from an individual or a private institution such as loans or angel investment.
R & D	Research and development. Companies may invest in research and development activities with the goal of improving or developing products or procedures.

Resources and capabilities	Factors describing a company’s capacity to perform, for example, strategic and operational knowledge.
Significance	The likelihood that a result or relationship is caused by something other than mere random chance. The statistical significance represents the probability that random chance could explain the result. In general, a 5% or lower p-value is considered to be statistically significant.
SME	Small and medium sized enterprises, as defined by the Canadian Trade Commissioner Service, are categorized by size. Small enterprises have less than \$10 million in annual sales and less than 50 employees in the service sector or less than 100 employees in the manufacturing sector. Medium-sized enterprises have less than \$50 million in annual sales and 101 to 500 employees.
TEN	The Evidence Network Inc. is an independent third party company that specializes in impact assessment for organizations that support innovation.
Time to market	The elapsed time between the initial concept stage of product development and when the product is available for sale.
