Vietnam: Qualitative Study on Innovation in Manufacturing Small and Medium Sized Enterprises (SMEs)

Voeten, Jaap; Th t, Trn; Thanh Tùng, ào

Qualitative Study on Innovation in Manufacturing Small and Medium-Sized enterprises (SMEs) in Vietnam

Exploration of Policy and Research Issues

Jaap Voeten (Tilburg University / j.voeten@tilburguniversity.edu)

Trần Thọ Đạt (National Economics University / tranthodat@neu.edu.vn)

Đào Thanh Tùng (National Economics University / tungdt@neu.edu.vn)

September 2016

Conducted within the framework of Tilburg University's research project '*Enabling Innovation and Productivity Growth in Low Income Countries' (EIP-LIC/PO 5639),* funded by the UK's Department for International Development (DFID)

Acknowledgments

This report entitled ‘Qualitative Exploration of Policy and Research Issues in Vietnam’ is written within the framework of the DFID-funded research project ‘Enabling Innovation and Productivity Growth in Low Income Countries’ (EIP-LIC) implemented by Tilburg University in collaboration with Dutch, Asian and African academic partners. The core content of the report is based on data collected during a working visit to Vietnam from 13 to 23 January 2016, which comprised 15 in-depth interviews with owners and managers of small and medium-sized enterprises (SMEs) in Hanoi and around.

I would like to thank the enterprise owners and managers who gave up their time and were willing to talk and share their perceptions of daily realities, their stories and views with us. I also thank our research partners of the National Economics University (NEU) in Hanoi, in particular Prof. Dr. Trần Thọ Đạt and Dr. Đào Thanh Tùng and their colleagues Dr. Phan Thị Thục Anh and Dr. Lê Thị Mỹ Linh for organising and participating in the interviews, and sharing their valuable observations and thoughts. Also special thanks to PhD candidate Phùng Minh Thu Thủy (MBA) who did most of the interpretation, certainly not the easiest job in the data collection venture. The participation in the field work of our Dutch colleagues Prof. Patrick Vermeulen and Prof. Joris Knoben of Radboud University Nijmegen was equally constructive during as well as after the interviewing.

Jaap Voeten (Tilburg University/Radboud University Nijmegen)

Contents

Introduction

The promotion of innovation in Low Income Countries (LICs) has recently appeared on the agenda of policy-makers and international development agencies. Many agree that innovation is crucial in these countries, because it is fundamental for growth in order to catch up with middle and high income economies (Chaminade et al., 2010). Current research, theory development and policy formulation to promote innovation, however, have mainly focused on innovation in the more advanced economies, whilst investigation of these issues in low income countries to date has been limited.

The 5-year research project *'Enabling Productivity and Innovation in Low Income Countries (EIP-LIC),*' funded by the British Department for International Development (DFID) and commissioned to Tilburg University, aims to fill research gaps on innovation in LICs from an economic perspective. EIP-LIC aims to deliver robust high quality evidence from Africa and Asia on how to increase innovation and raise productivity in manufacturing SMEs, through a coordinated set of thematic and country case studies providing internationally comparable data. The countries of study include Kenya, Tanzania, South Africa, Ghana, Ethiopia, Uganda, Vietnam, Indonesia, India and Bangladesh.

EIP-LIC focuses on manufacturing Small and Medium-sized Enterprises (SMEs) in LICs. Promoting innovation in these enterprises has a particularly positive impact on development (Szirmai et al., 2011): SMEs are usually operating on the boundary of the formal and informal sector and have low levels of productivity and competitiveness. Compared to the agriculture and services sectors, manufacturing in LICs is typically characterised by a limited share of the total GDP. Innovation within SMEs in manufacturing enables these enterprises to raise productivity and grow, resulting in a better-balanced economic structure while generating employment opportunities for poorer groups and contributing to poverty reduction. Moreover, promoting innovation in domestic manufacturing is a way towards import substitution and increases the competitive (export) position of firms on the world market.

One part of the project focuses on a quantitative analysis of the internal and external factors of the innovation process within firms in all countries of study. Another part provides a complementary qualitative exploration of the policy and research issues in each country. This involves the development of a series of case studies of manufacturing SMEs. The research output of the qualitative reports, working papers and policy briefs are available at the EIP-LIC's website: http://www.tilburguniversity.edu/ dfid-innovation-and-growth/)

This report presents the findings of the qualitative exploration in Vietnam. It is targeted at the DFID project researchers as well as the broader academic community with similar research interests in providing ideas or supporting them to identify and/or validate research questions and hypotheses. The report may also serve as reference material for reflecting on and interpreting the outcomes of quantitative research in this area. In addition, it may provide useful bottom-up insights to policy makers within governmental agencies, firms and NGOs on innovation from the entrepreneurs' perspective. It is also targeted at SME owners and SME branch organisations, who will hopefully see their business and socio-economic and institutional context reality accurately reflected in the report.

The structure of the qualitative exploration reports is the same for all countries in EIP-LIC, enabling cross-country comparison of the research and policy issues. Thus chapter 1 is standard for every report, outlining the DFID project research challenges, approach and methodology. Chapter 2, by contrast, focuses on the country of study only and briefly summarises the latest trends in the manufacturing sector from secondary sources. Chapter 3 constitutes the main part of the report and provides the original primary qualitative data (cases) and analysis with regard to innovation in manufacturing SMEs in Vietnam. Chapter 4 of the report concludes with analysis of the data and the identification of policy and research issues with special reference to the 'Innovation Systems' and 'Finance for Productivity Growth' research themes of the project.

1. DFID research project challenges

1.1 Approach: complementing quantitative with qualitative research

EIP-LIC aims to deliver robust high quality evidence from Africa and Asia on how to increase innovation in manufacturing SMEs so as to raise productivity, through a coordinated set of thematic and country case studies providing internationally comparable data. The project takes an econometric approach within two thematic areas: 'Innovation Systems' and 'Finance for Productivity Growth'. The research teams address internal capabilities and external institutional factors, institutions and policies that support or hinder the diffusion and adoption of innovation and finance raising productivity at SME firm level. Specifically, the project takes an 'economics' perspective on innovation, and involves econometric analysis of a set of variables concerning barriers at firm, regional and national levels and their causalities with the *innovative behaviour/capability of entrepreneurs* and subsequently innovation and productivity. This constitutes a reductionist and deductive approach in defining variables for analysis in which the impact of individual factors on innovation is assessed by applying quantitative econometric methods. The research methods include firm-level surveys in all countries of study (in cooperation with The World Bank), experiments and Randomised Control Trials (RCTs). The quantitative analysis will serve as a basis for identifying relationships between internal capabilities, external institutional factors and finance on the one hand and innovativeness and productivity growth on the other.

Applying quantitative methods in development research brings some limitations and challenges. In EIP-LIC, conceptual issues emerged, in terms of the definition and measurement of innovation and productivity in LICs. These may seem straightforward variables at first glance, but their measurement can be more complicated in the LIC context. Innovation may be manifested differently, not via high profile technological and radical breakthroughs, usually measured by R&D expenditures or patents (OECD, 2005), but by more incremental adoption and adaptation or new combinations of existing technologies (Szirmai et al., 2011). These forms of innovation are equally important for raising the productivity and competitiveness of SMEs in LICs.

Moreover, innovation research and theory development in recent decades have typically involved empirical material from advanced economies, such as the innovation systems literature of Lundvall (1992) and Freeman (1987), where innovation takes place within a relatively stable institutional and Science, Technology and Innovation (STI) policy context, 'controlled' and supported by established innovation system actors and innovation policies. In LICs, however, the contemporary institutional realities and formal/informal dual economic contexts are different and may involve other less visible or less commonly known factors and policies around SMEs affecting their innovativeness and how innovation manifests itself.

Therefore, the theory and associated policies of how innovation evolves within an innovation system in the institutional contexts in LICs may be different, which is increasingly acknowledged in recent innovation systems literature (Lundvall, 2009; World Bank, 2010). For instance, entrepreneurs are innovating by Doing, Using and Interacting (DUI) in fast-changing contexts, enabled by informal institutions and informal (social) learning. Applying the research variables on innovation and productivity in LICs from existing literature and theory (deduction) based on advanced economies, therefore, might not take all relevant variables into account. A more precise identification of variables might be obtained by complementing the selection with a broader understanding of contemporary realities and context on the ground in LICs.

Another research challenge in EIP-LIC concerns the interpretation of the quantitative survey research outcomes of the project, involving cross sectional analyses, amongst others, where attribution and explanatory issues among independent and dependent variables arise. Although control variables are typically verified, the correlations cannot be easily translated into causalities in complex and dynamic

contexts. This is particularly important for the interpretation of research outcomes at the policy level in the realities of the country concerned. A broader insight into how innovation processes and actor interaction mechanisms evolve might help to open the black box and analyse and interpret the quantitative outcomes.

In an effort to manage these challenges, EIP-LIC includes complementary qualitative research, involving an exploration and description of contemporary realities of innovation in manufacturing SMEs in the LICs. This aims at inductively identifying actual and relevant *research and policy issues* as input for the EIP-LIC research themes as well as for additional explanatory evidence supporting research output.

In operational terms, Tilburg University and partners conducted a series of case studies of manufacturing SMEs in each of the 10 target countries of study in the project. The holistic case study approach and method involves interviews capturing original insights, views and perceptions of SME owners and managers. Similar report format and comparable data will be used for all countries of study in EIP-LIC, enabling cross-country comparison to identify overall trends and patterns in innovation and productivity policy and research issues in manufacturing SMEs in LICs.

1.2 Case study methodology

The objective of the qualitative study of EIP-LIC is to identify relevant policy and research issues concerning innovation in manufacturing SMEs within contemporary realities in Vietnam. Applying a case study approach is particularly useful in this respect, since this method is an approach for inductively exploring and identifying concepts, noticeable similarities, trends and patterns of socio-economic phenomena (Yin, 2003).

The case study research involves a series of 15 interviews with managers and/or owners of manufacturing SMEs. This may seem a limited number to justify research validity. However, the approach usually involves in-depth rich and detailed descriptions and a multidimensional analysis of the complexities and linkages of a few cases to gain an understanding of the (socio-economic) mechanisms and processes of the case subject. In the case descriptions, innovation as an economic phenomenon is the case 'subject', whereas the unit of analysis is a manufacturing SME. The case description holistically explores the type and basic features of innovation within the SME, and reviews the impact on productivity and competitiveness over the past 2 to 5 years.

The data for the case descriptions are obtained via 'semi-structured' interviews with SME owners and managers. 'Structured' refers to the systematic review and discussion of innovation(s) in the firms, the *innovation process*, *internal capabilities*, and innovation system actors around the firm, including *formal institutions*, the *business system* and *informal institutions* (attached as Annex 1). These actors and institutions encompass formal and informal, private, public, and quasi-public institutions or organisations around the SME. 'Semi' refers to the interviewing approach of encouraging owners or managers to tell their story, and express their concerns and perceptions freely, without being confined to the 'questionnaire framing'. Of particular interest is what innovation means in the manufacturing SMEs in their context, and the less known favourable and unfavourable institutional conditions and barriers enabling or preventing it.

All interviews are recorded and transcribed. The data generated are entered and stored using qualitative data analysis software. The writing of the case is a step-by-step process of unravelling, ordering and organising the transcriptions into compact SME case descriptions of 3 pages following a similar format. The series of case descriptions are compared and analysed for patterns, differences and similarities in internal capabilities and socio-economic and institutional contexts. The findings are summarised as policy and research issues that could serve as input for the quantitative research of the 'Innovation Systems' and the 'Finance for Productivity Growth' themes under EIP-LIC.

1.3 Selection of SMEs and fieldwork

The selection criteria for the cases included:

- The company is a formally registered SME. In the DFID project context, an SME is understood as a company with 10-100 employees[1], whereas turnover, assets and capital formation are not considered.
- The company is involved in manufacturing. The project follows the International Standard Industrial Classification of all Economic Activities (ISIC). In this standard, manufacturing is defined as the physical or chemical transformation of materials of components into new products, whether the work is performed by power-driven machines or by hand, whether it is done in a factory or in the worker's home, and whether the products are sold wholesale or retail. Included are assembly of component parts of manufactured products and recycling of waste materials. Moreover, given the pace and importance of the new technologies, the project considers software and mobile app development as a form of manufacturing to be included in the selection of cases.
- The company is a 100% Vietnamese owned/indigenous firm. Foreign or joint ventures are excluded.
- The company introduced some form of innovation, preferably process or product, which resulted in increased productivity and competitiveness in terms of export promotion or import substitution. Other types of innovation may also be considered: management, business concept/practice, inputs, or functional innovation.
- Value creation within the company, as a result of the innovation, is essential. This may concern a significant productivity increase by reduced costs (pushing the productivity frontier - saving on labour, capital and input) or more sales and income due to the launch of premium products and competitiveness.
- Innovation process - idea, test, implementation and commercialisation - takes place in the firm and is initiated and owned by the entrepreneur. The SME owner appropriates the additional innovation value.

These selection criteria are defined in such a way that the selected cases represent the EIP-LIC target group: manufacturing SMEs. Moreover, the criteria assure a certain homogeneity within the selected cases, which will enable comparison of cases while supporting a certain validity of the identified trends or patterns. At the same time, allowing some heterogeneity, by including deviant cases, provides more contrast, and thus enables the research team to better construct and highlight divisions in the innovation process, linkages, system or mechanisms.

An essential element of the selection is the notion that types of SME innovation in LICs are not confined to technological (radical) inventions resulting from particular R&D investments and efforts. Innovation in manufacturing SMEs in LICs more often encompasses incremental adoption and adaptation or new combinations of existing technologies, products, marketing, management or business practices. Moreover, innovation often does not concern one type only. More often, an initial innovation enables and/or triggers other types of innovation within a firm; a new technology allows the introduction of new products, for instance.

[1] It is important to note that one interviewed company, the mattresses and bedding sheets production company, does not meet the 10 < 100 employees selection criterion. This company currently employs 200 workers. It was decided to include this contrasting case because of the interesting features during the growth of the company. It started as a micro family business with 15 workers. The expansion process of becoming an SME and subsequently a larger enterprise provides relevant insights for our research, in particular concerning the enabling internal and external factors. In qualitative research, such deviant cases are accepted and quite common in its methodology and provide additional richness, in contrast with quantitative research, where sample criteria should be observed strictly.

1.4 Fieldwork

The qualitative data collection through interviews in Vietnam took place in Hanoi from 13-23 January 2016. The Vietnamese research partners identified SMEs in Hanoi and around, by tapping into informal and personal networks and drawing information from formal business associations. In total, 15 owners/managers were interviewed (see list attached as Annex 2). An average of 2-3 interviews per day were completed. The interviews typically took 1.5 hours.

The research team respected a set of ethical codes in conducting the fieldwork. These involved a transparent explanation of the project and the purpose of collecting the data to the interviewed owners and managers. The research team provided assurance that the firms' data were kept confidential, with SMEs and interviewees anonymised in the descriptions. Before publication, a draft version of the report was first sent to the SME owner/manager to check whether there were any issues mentioned that he or she did not agree with, or felt uncomfortable with.

During the interviews, the SME owners and managers expressed interest in learning more about the project and about innovation in other SMEs. The team sent a copy of the final report to all interviewees, expressing their intention to maintain contact, and to 'give something back' in terms of participation in future policy debates, policy dissemination, contacts or networks. The final reports are to be accessible to the public and downloadable via the project website.

The original recording of the interviews and transcriptions are available for the project researchers - eventually open access - for further analysis and development of scientific papers and journal articles.

2. Introducing manufacturing SMEs in Vietnam

After the American war and the unification of North and South Vietnam in 1975, the country became a socialist republic under the influence of the Soviet Union. In the late '80s, in the slipstream of the fall of the Berlin Wall and the collapse of the Soviet Union, the Vietnamese government introduced economic and political reforms under Đổi Mới in 1986. These reforms towards a market and open economy have resulted in rapid economic growth and development and transformed Vietnam from one of the world's poorest to a lower middle-income country in the three decades since 1986. Since 1990, Vietnam's GDP per capita growth has been high, averaging some 6.5 percent a year in the 2000s.

This period has also seen an important reduction in poverty. Per capita income in Vietnam increased from $100 in the 1980s to about $2,100 in 2015. Meanwhile, the number of people living in extreme poverty has dropped from about 50 percent in the early 1990s to three percent in 2012. The Vietnamese population is better educated and today has a higher life expectancy than most countries with similar per capita income. The maternal mortality ratio has dropped, while the under-five mortality rate has been reduced by 50 percent. Access to basic infrastructure has also improved substantially: electricity is available to almost all households, up from less than half in 1993, and access to clean water and modern sanitation has risen from less than 50 percent of all households to more than 75 percent.

Notwithstanding past achievements, the poverty agenda still needs attention. Poverty gains are fragile, as noted by the World Bank (2015), as a significant share of the population is still living close to the poverty line. While representing only 15 percent of the population, half of the nation's poor belong to ethnic minorities. Furthermore, these groups are highly vulnerable to shocks from climate change, natural disasters, as well as economic and health shocks.

Alongside the positive economic development, however, the country is increasingly seen as corrupt, ranking 112th out of 177 countries by the Transparency International Corruption Perceptions Index in 2015. Furthermore, the legal environment remains complex, with a slow and bureaucratic government, restrictive labour policies, and land use limitations. Nevertheless, Vietnam continues to restructure its decision-making process and to introduce more laws favourable to FDI.

2.1 The manufacturing sector

Policy makers and economic observers see Vietnam's comparative advantage in labour-intensive, light manufacturing. This advantage has been crucial to the extraordinary successes of numerous East Asian economies that comprise the 'East Asian Miracle'. Household firms, which account for the bulk of Vietnam's private sector, are generally too small to compete in foreign markets. State enterprises are generally too inflexible and inefficient to keep pace with dynamic global demands. Experience has shown that it is private SMEs - large enough to be efficient, small enough to be flexible - that are as the key to rapid export-oriented industrialisation.

Today, while Vietnam's agriculture and services sectors have largely been privatised, the contribution of private manufacturing companies to manufacturing output and to employment remains under pressure by that of state-owned enterprises. Several observers note that with slowing economic growth and rising labour costs encroaching on the profitability of traditional Chinese manufacturing operations, Vietnam has emerged as an attractive destination for FDI, offering low costs, receptive governance, and increasing integration with key trading partners.

2.2 Small and Medium-sized Enterprises (SMEs) in Vietnam

In the past few years, Vietnam has experienced a solid growth of SMEs, which account for 97% of the total number of enterprises in the country (Uyen et al., 2015) and have created more than half a million new jobs. In Vietnam, this sector employs more than 51% of the labour force and contributes 40% of GDP. Tax and other fees' payment from SMEs to the State increased 18.4 times in only 10 years.

According to various sources, Vietnamese SMEs still have to face and struggle with many obstacles. In the period 2011-2015, statistics indicate that the total number of newly established enterprises declined continuously and deeply, from 83,600 to 77,500 and 69,800, in 2010, 2011 and 2012. There was a positive sign in 2013 when the number bounced back to 76,900 enterprises, but it still stayed below those in 2009 and 2010 (ibid).

The majority of these newly established firms were SMEs. Besides difficulties in capital financing and technology, SMEs both in general and in Vietnam particularly are facing barriers and problems at management level in quality of resources, including human resources. In the labour force, up to 75% of workers in SMEs lack technical training. Due to a lack of fulfilment of social and health insurance policies for employees, working quality in SMEs has gradually depreciated; as a result, SMEs have fallen back into a disadvantaged position in the current economy (World Bank, 2015).

The business environment for SMEs has worsened since 2007, as the number of firms facing significant constraints has increased. Access to credit remains the most serious problem, although improvements are observable in this area. Falls in product demand are, for the first time, cited as a serious business constraint. This might be a result of the general economic slowdown. Over time, there has been a decrease in the labour force share of regular workers, and a corresponding rise in the proportion of casual workers, especially in small and urban firms. Women comprise a growing proportion of the workforce, and the share of unpaid workers has fallen slightly over time. Since contracts are important in terms of ensuring the provision of social benefits, the generally low incidence of formally established work relations is a potential cause for concern and should be addressed through appropriate policies.

The main obstacle to innovation is lack of capital. Furthermore, the observed fall in new technology usage seems to be caused by the decline in innovation rates. Capital utilisation rates are on average relatively high and smaller enterprises are close to full capacity utilisation.

Almost 40 percent of the enterprises can be considered credit constrained. This number increased only slightly over the 2007-09 period. More credit-constrained firms are located in rural areas and household enterprises located in these areas are more likely to be credit-constrained. On average, joint stock companies were the most credit-constrained ownership type in 2009. Between 2007 and 2009, three out of every four enterprises borrowed from informal credit sources.

2.3 Policy environment

Innovation policy has long been on the agenda of the Vietnamese government and its various ministries (Science and Technology, Industrialisation, Education and Training). A joint undertaking between the Vietnamese government, the OECD and the World Bank on innovation policy resulted in a review (2014) entitled 'Science, Technology and Innovation in Vietnam' (OECD/The World Bank, 2014). The report includes the following SWOT analysis:

SWOT analysis of Vietnam's Science, Technology and Innovation (STI) policy system

Strengths:	**Weaknesses:**
– Strong economic performance and diminishing poverty levels. – Geographical location in one of the world's most dynamic regions. – Sizeable labour force and favourable demographics. – Substantial national education effort and good secondary education performance. – Attractiveness for investment by multinational enterprises. – Export strengths in a range of sectors. – Good reputation in science and technology (S&T) fields such as mathematics, and specialisation in agricultural research and biology. – Progress in creating and sustaining a set of organisations and institutions to support innovation. – Regional initiatives of national benefit.	– Low levels of productivity and income. – Inadequate framework conditions and disincentives for innovation. – Limited access to finance for enterprises. – Inefficiencies in state-owned enterprises. – Infrastructure deficiencies. – Weak performance of the teaching and learning system. – Low level of sophistication of production and exports. – Little innovation and even less research and development capacity in the business sector. – Weak performance of public sector research. – Weaknesses in the S&T infrastructure as regards laboratories and research equipment. – Seriously underdeveloped information base for innovation policy making. – Inadequate STI governance arrangements and policy implementation.
Opportunities:	**Threats:**
– Further developing the human capital and skills base involving the sizeable Vietnamese diaspora. – Nurturing a dynamic business sector and its innovation capabilities. – Diversifying and upgrading the economy. – Developing a healthy attitude to risk-taking. – Improving the effectiveness of the innovation system in terms of economic and social impact. – Strengthening inclusive growth.	– Unfavourable macroeconomic developments and a slowdown in growth. – Failure to improve the institutional and business environment by tackling banking system reform and corruption. – Increasing brain drain. – Failure to prepare for increased international competition. – A looming middle-income trap.

The review provides an extensive set of policy recommendations aiming at improving the framework conditions for innovation. Suggested measures refer to sound macroeconomic conditions and stability and suggest improving the business environment with regard to the current administrative burden, irregular payments and bribes, and lack of transparency. The review signals the dominance of state-owned enterprises and the resulting distortion of incentives for innovative entrepreneurial activity. It is also suggests that the 'innovation system' in Vietnam has been beset by a number of shortcomings which can be related to a lack of effective commitment, poor coordination and ineffective implementation of government policies.

The review further suggests that Vietnam needs to improve the quantity and quality of its human resources, particularly at the tertiary and secondary vocational levels. This includes in-house innovation capabilities of a broad range of Vietnamese firms, with significantly improved skills to engage in design, engineering, marketing, information technology and R&D. Available information suggests that there is little collaboration on innovation either between firms (both among the Vietnamese and foreign-Vietnamese) or between firms and public research institutions and universities.

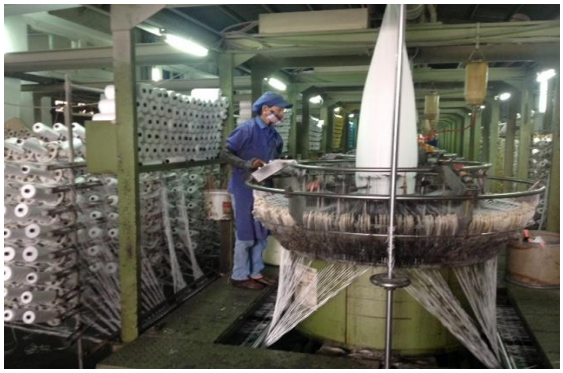
3. Empirical data: Cases of manufacturing SMEs in Vietnam

This chapter presents eight cases of SMEs whose owners were interviewed in Hanoi in the period 13 – 23 January 2016. The selection of eight out of the fifteen interviews was completed with a view to providing homogeneity in terms of the SMEs in manufacturing as well as to present a broad overview of the issues from the various SME owners' perspectives. The write-up format is similar for each case: a description of the innovation, the internal capability and external environment (formal institutions, business systems and informal institutions). Notable issues outside this framework, which were stressed by the owner and/or manager of the SMEs, are also included.

3.1 Rubber and plastic products – animal feed bag production (60 employees)

This agricultural products packaging company was established 20 years ago as a state-owned company. The company is located on the outskirts of western Hanoi. In 1997, the company started to produce polypropylene animal feedbags, which was a new product at that time. In 2004, it became a privatised company, with the process of equitisation accomplished through sales of enterprise shares to employees on preferential terms, and to domestic private investors. Today, the firm is a joint-stock company managed by a board of directors, with day to day management in the hands of the managing director, who was interviewed.

The production process of the animal feedbags starts with small pieces of solid plastic, which are mechanically stretched into thin threads. The plastic threads are then woven into fabrics/tissue, and further cut and sewn manually into feedbags. Finally the bags are printed with the name and logo of the client, as well as the nutrient contents, a government requirement. For every step in the process, the company has a machine. Around 70% of the plastic raw material is imported from abroad, the remainder from Vietnam. The animal feed producers order the bags in large volumes.



Most of the customers are foreign-owned companies in Vietnam, also referred to as foreign direct investment (FDI), that sell on the local market – *"FDI companies from France, Malaysia and China are very successful because the local companies cannot compete with them."* It is not that the managing director does not sell to Vietnamese customers, but *"the animal food industry in Vietnam has been taken over by foreign investors."* Moreover, it is attractive to sell to FDI companies because they have a network of production units all over Vietnam.

The company currently employs 60 people, but employed nearly 200 in the past. In 2011, referred to by the managing director as the 'crisis year', productivity was very low and more competitors emerged. The company had to reorganise and lay off nearly three quarters of its workers, but it still maintains a production level of more than 50% of the pre-crisis level.

Innovation

During the crisis in 2011, the board of directors and the managing director concluded that there were *"just too many workers"* for the company to survive. They agreed to profoundly reorganise the workforce – "*because of the crisis and competitors, we had to increase productivity, which implied downsizing the workforce."*

The management also took steps to encourage the staff to work harder. Amongst other initiatives, they set standards of how many products a worker was expected to produce per day. *"The standard of productivity, per hour or per machine, is that of a skilled employee."* Another way to set this standard came from the instruction manual of the machines themselves, in which productivity per hour per person is usually indicated. Moreover, a new salary system was introduced, abandoning the old fixed salary scheme in favour of one based on individual production level.

The employees with low productivity noticed that their salary dropped within a few months – *"when the employees got a low salary because of low production, and they compared this to other firms, they quit. The company did not force them out."* The new production standards and salary system allowed the management team to get rid of the less productive and less experienced employees.

The company announced the new salary policy and practices openly and clearly to all employees. The policies are written down in formal procedures – *"everyone knows and there are no complaints about the clarity of the policies."* Today, the managing director feels that he pays his experienced workers a fair salary. Contrary to the working culture in the past, when the company was a state-owned enterprise, the managing director now sees that *"production depends on the skills but also on the motivation of people."* He values long-term commitment of staff to the company – *"they have great experience and good skills, so I cannot pay a low salary."*

The company provides in-house training in basic production skills, since there are no schools or vocational training centres offering the necessary courses. There is a company policy that encourages skilled workers to train new staff. This happens on-the-job in each step of production and takes three months. After successful completion, the skilled worker gets a reward of 1 million dong and a promotion – *"if the skilled worker does the training fast, then he gets the reward fast."* The manager identifies another positive outcome of the new staff policy, which is a much lower staff turnover – *"since the crisis in 2011, staff turnover has become less. In fact, for the past two years, no-one has quit."*

Investing in new machinery to improve productivity is not a way forward, according to the managing director, because the available technology on the market has changed little in the past decade. Previously, the company used Japanese machines, but recently bought a couple of machines from India with similar technology. Other technological changes and innovations in the production process concerned the printing of logos and nutrient contents on the bag. In the past, the print ink used to fade, but now the new print technology is very clear and clean. "*Customers demanded a better quality of print at the same time as the competition was increasing. So we had to invest in a new printing machine, ink and technology."* In the past, the bags were printed with just two or three colours, but now this has increased to five colours, which is much more complicated to produce, but *"that is what the market demands from animal feedbag producers."*

Government regulations specify what should be on the outside of the bag in terms of contents and nutrients. Accordingly, the feedbag print design changes often, to comply with the changing regulations. The animal feed producers have to officially register these changes, *"involving a time-consuming process with many problems and costs."*

In order to meet both government requirements and customer demand, the company also had to buy new printing machines. The company does not have a design department – "*we don't have money to pay a salary for a full-time designer, so we just outsource it."* Normally, the customers have an initial design, which is often fine-tuned through several print versions during the production process.

Regarding the daily running of the company, the managing director feels under pressure. One of the internal challenges is slow decision-making by the board of directors. Since it used to be a state-owned company, the culture of slow decision-making within the management still persists. The managing director needs the board's approval for most management decisions – *"even in the event the company does well and makes a profit, it is very difficult to get quick permission from all members of the board."* The managing director is working hard for the benefit of the whole firm. He has to be in charge of everything, *"and the others just get the benefit."* The company issued shares on the stock market, so he is also under pressure to generate yearly revenue to pay interest to the shareholders.

External business and institutional environment

The managing director finds the business environment very challenging and the competition is getting fiercer by the day – *"the result of the competition is a price war."* He notes that one of the reasons is that today the entry barriers to this industrial subsector are much lower than before. *"In the past, to invest in a factory like this, it required like 1 million USD, but now, for just a third of that, you can open a company."* Apart from cheaper overall operating costs, new companies reduce costs by using recycled plastic and input materials. The managing director still considers his company to be one of the leading companies in Vietnam. The customers are somewhat opportunistic. Even though he has a good long standing network of customers, "*some very big ones,"* customers often say that other animal feedbag producers offer lower prices, *"and they walk away."*

At the same time, he is aware that the customers cannot afford to be too opportunistic. It is not easy to create a new design without his company's knowledge and experience "*to make the bag very nice and beautiful.*" So when the customers change to another company, new problems of design and printing arise, which may be costly. The managing director predicts that he will have more export opportunities in the future once Vietnam signs the TPP[2], which will bring more customers from outside of Vietnam. However, the production requirements for quality will be tougher, *"so we have to invest a lot in quality, efficiency and quality control."*

The managing director is aware of government innovation promotion policies, but the company has not received any support through such policies or programmes. "*In the northern part of Vietnam, there is no association for animal feedbag products of this kind. The company itself has to fight for customers, for everything."* There is also little support from the local district administration. For instance, the managing director hoped to recruit new workers from a state training centre. However, *"they cannot support us in*

[2] Trans-Pacific Partnership (TPP) agreement that will enhance trade and investment among the TPP partner countries, promote innovation, economic growth and development, and support the creation and retention of jobs. The partners are Australia, Brunei Darussalam, Chile, Malaysia, New Zealand, Peru, Singapore, Vietnam, and the United States.

recruiting new workers. This is a simple example of how the government and company do not support each other."

Regarding government taxes and permits, the managing director feels that the procedures are improving, such as the convenience of paying taxes through e-banking. However, the customs fee to import the plastic input *"is still a headache."* It is very complicated, for example, "*when you complete the application online, you have only one day to pay the money and collect your imported items."* On occasion, he has paid the required amount, received confirmation from his bank, but the money failed to arrive in the account of the customs office, so they did not allow him to take the materials. Furthermore, the importing company had to pay an additional storage and transportation fee – *"and many other things, so it is very complicated."* His complaint received no response.

The managing director aims to expand the company in the near future, but the present available land in Hanoi is too small. He hopes to find sufficient financial means to move the company to another location outside Hanoi, which would be better because labour costs outside Hanoi are lower. However, *"banks in Vietnam do not give loans for purchasing land, which is the most expensive part."* The company can only get credit from the bank for machinery. When the firm was privatised, the board of directors and shareholders provided investment funds for the land and fixed assets, whereas for the other assets, they secured credit from the bank.

3.2 Metal processing – precision spare parts (36 employees)

The company produces metal precision parts and spare parts as a supplier for the machinery industry in Vietnam. It is located on a highway some 20 km south of Hanoi and has 36 employees, occasionally increasing this number to fulfil large orders. The interview was carried out with the sales manager, a technical engineer by education and a member of the company's board of directors.

The company started in 2012 with 10 employees. Before that time, the sales manager ran a trading company in metal processing and production machines, representing the Japanese company Hitachi in Vietnam. When Hitachi opened its own production plant and selling point/showroom in Hanoi, serving the Vietnamese market directly, his trading company lost an important market share – *"sales were not as reliable as before."*

Coincidently, more Japanese automotive and machinery companies started to invest in local plants in Vietnam. The manager quickly found out that these companies need suppliers for metal precision and mechanical parts. He saw the market opportunity to manufacture the spares himself – *"the market looked very promising."* His previous knowledge and experience in importing the machines and his engineering background helped significantly in developing the idea. He organised and motivated a group of friends and former colleagues to invest in the company and become members of the board of directors – *"an important consideration in setting up our own manufacturing of parts was that it is more stable and much more under our control than trading."*

The newly established company had to recruit skilled staff, acquire the technical knowledge of design and production, and invest in new machines. "We realised that the actual manufacturing of parts was a completely different thing than being a trading company of complete machines." Moreover, finance was required to invest in machinery, a production workshop and staff training. The previous trading income had provided the managers and former colleagues with savings. Another 40% of the investment was borrowed through informal channels and from other board members. In 2012, "borrowing from the bank was impossible because the interest rate of 25% per year was too high."

Over the years, the company gradually purchased more technologically advanced machines, using earnings from customer orders. In particular, the Computer Numerical Control (CNC) milling machines and the wire cutting machines, bought from Japan, were both technologically advanced and expensive. Drawing on his previous trading experience, the manager made this purchase *"based on my knowledge and available information from the internet, and I went to similar workshops and technical companies to select the best ones."*

The key customers are the Japanese companies Yamaha, Honda, Samsung, Canon and Toyota. 80% of the products are sold to the branches of these companies located in Vietnam and another 20% is exported to Japan. The manager is happy with the growth of the company – *"in 2012 the revenues were 1 billion VND, in 2014 these were 3 billion VND and in 2015, 10 billion VND."*

The manager expects that the company will grow further. He believes that this year *"we can achieve 17 billion VND."* One of the recent changes allowing the company to grow further has been the set-up of two product lines. One line is targeted at producing tailor-made products and specific spare parts to order, while the other is for mass production – *"the mass products are easy to sell."* For the tailor-made products, most customers come with detailed and production-ready designs but *"other customers only give ideas. 50% give a detailed drawing and 50% give only the idea and we have to develop the detailed design."*

The sales manager sees that the requirements and demands of the customers change, in particular in terms of increased quality. The company can deliver better product quality standards with the available technology and machines. Moreover, apart from the material and the exactness of the size, quality also concerns matters such as – *"how it looks, how it is packed, time to delivery and on time delivery."*

Still, new machines are essential for raising productivity and quality in the future. The recently purchased machines produce twice the amount of the company's initial machines. Every year, the manager therefore invests in new machines *"but the machines became very expensive. One machine today can cost as much as the whole factory."*

The challenge is to strike a balance between the higher quality requirements and working as long as possible with the same machines. The current machines cost about 200 million VND, whereas for new technology to deliver better quality, the newly advanced CNC machines cost 4 billion VND. "*Thus we should not invest since the expected product quality is not too much different."* If he can get a big order for a long-term partnership, he will buy the new CNC machine. *"Unfortunately, short-term contracts are the usual practice in this type of supporting industry business in Vietnam."*

Internal capabilities

The company has several departments, with the production department the largest. Eight staff work in the R&D and design department. The normal procedure is that customers ordering parts provide detailed drawings and technical specifications. The department analyses the drawings and specifications and develops the subsequent production process steps and production organisation – *"they have to analyse how many steps the production takes, how many activities workers have to do to produce the parts."*

In the short term, the manager feels the only way to achieve better quality is managing the production process inside the factory. The company has registered and obtained an ISO certification. This is not a requirement that the customers ask for – *"it is just good for the company itself."* The process involves a consulting company that guides the applicant through the procedures. All production and sales processes and procedures have to be written down in handbooks. An independent auditor checks if everything is covered and in order and then the company concerned is granted a certificate – *"we are transparent because we want to have ISO for ourselves. This company is really transparent."*

Regarding the technical knowledge of the workforce, the sales manager and many of the board members are technical engineers themselves. However, they have experienced difficulties in recruiting skilled workers since the beginning. They do hire graduates of the technical universities and colleges, but *"what they learnt from universities is just 30%. We have to train the other 70% of the required skill set."* The company trains the workers in-house. The turnover rate of staff is very low. The sales manager believes that the salary is quite good in comparison with his competitors. He is very confident about the working environment *"and the salary bonus is good."*

The employees provide advice for the design ideas and they get a cash reward if the design is good and useful. The amount depends on the idea and how much it contributes to the company, and is determined by the board and R&D department.

External business and institutional environment

The business environment is difficult, as there are various competitors producing metal components and parts nearby in the area. Most competitors have similar kinds of technical capabilities and technology, although some are different. A few times per year, the company co-operates with other competitors to fulfil a big order with tight deadlines. In order to keep their position in the market, the sales managers focus on high quality mechanical production, relying on their skilled workers to ensure product quality.

In the event of a technical problem or a design issue, where the company needs external assistance, the sales manager draws upon his large network of informal contacts. These include friends, former colleagues and teachers who work in the official government institutes, amongst others the National Research Institute of Mechanical Engineering (NARIME) in Hanoi. He does not pay, as this is not formal advice – *"we are friends."*

The government does not support the company. Sometimes the Ministry of Science and Technology sends an invitation to attend match-making fairs or seminars involving Japanese and Korean investors and potential contractors –*"but it is not effective."* There is no government support for companies – *"state-owned companies have some support, but we are private company."* The manager knows that the Japanese International Cooperation Agency (JICA) supports technology dissemination among local businesses – *"but it is more like trade promotion."*

Government agencies complain that local industries cannot produce small precision metal items as the FDI companies do. Instead, several small parts required by Vietnamese state-owned enterprises are imported from China, Indonesia and Thailand. The sales manager picked up comments by government officials wondering why small businesses do not invest in newer machines. *"However, for us that is very risky because if we invest in expensive advanced machinery, how can we be sure that we can sell these products in the long run?"* The manager shares his opinion that the government should ensure protection for small businesses by warranties for industry support. *"The government did not do anything to protect or encourage our line of business, only saying that we cannot deliver high quality products."*

Another problem, according to the sales manager, is that the policy framework has evolved in recent years in such a way that it is no longer attractive for foreign companies to invest in Vietnam. He supports his argument with the example of Honda, which has a large factory in Vietnam but plans to move production to Indonesia. *"I think because in Vietnam they get no more benefits, so they move."* He regrets this because Honda is an important customer for the company.

Aware that FDI companies look for other countries to invest in, the government has recently introduced new favourable regulations, such as low tax, flexibility on the timeliness of rent payments and other special FDI benefits. However, these favourable measures complicate business operations for local small businesses – *"we still have to pay the rent on time and pay all taxes. The result is that FDI companies can produce at a lower price and compete with us in a way that is unfair."*

3.3 Agri processing – bee and honey products (25 employees)

The company, established in 2005, produces several bee and honey products: honey, bee milk, beeswax and flower powder. The company has 25 employees, of which 15 are full-time and 10 part-time. The couple who own the business previously worked for the Bee Research Centre of the Ministry of Agriculture and Rural Development (MARD) in Hanoi. The woman resigned and started the business, while her husband continued at the institute. She was quite confident that it would be a success; she expected at least a better salary. It was an advantage that her husband kept his job in apiculture research, in terms of gaining regular input on advanced technical insights. The interview was held with the woman owner in one of their honey and bee product shops in Hanoi.

For the supply of the honey, the company has established a network of farmers in the northern, mountainous provinces of Hoa Binh, Ha Dong, Khuong Trung and Ha Giang. *"We had a collaboration with an American NGO too. They provided a small amount of money to mountain villagers and some ethnic groups and guided them on how to raise bees."* Within the provinces, the company has established 'bee points'.

These are small establishments where some staff and a technician/engineer are based, who assist the farmers in collecting the honey, and checking its quality for sweetness, viscosity, chemical residue etc. The collection requires specialist expertise: for instance, the honey has to be collected at the right time, in order to ensure the right viscosity.

At the bee points, the honey is stored, processed and bottled. Along with the bottled honey, the bee point staff send the analysis data to the head office in Hanoi. In Hanoi, they randomly check the honey again – *"if anything happens with the quality, then we can trace back and find the problem."*

Initially, the couple had one outlet shop in Hanoi. Soon after opening the business, sales became profitable, as a growing customer base heard of the good quality of the honey. They received some support and ideas from close friends and expanded the number of shops. Today, the company has four shops and two storage facilities in Hanoi. They also distribute to other retailers and agents in other provinces.

Innovation

The company has introduced a special honey processing technique, which involves reducing the water content in the honey – *"this technique substantially improves the quality of the honey."* It also enables the company to maintain constant quality in terms of taste and viscosity, which gives them an advantage over their competitors. Only one or two other companies in Hanoi have similar machines, and theirs is the only one in Vietnam that has the newest version. The husband developed the machine within a technical project at the bee research institute, constructing it with support from international experts from a Dutch NGO. *"My husband knew that in order to have high quality, they have to use that technology."* Each bee point has one machine, which costs 100 million dong (4,500 USD).

Regarding the workforce, the company employs both skilled well-educated and low-educated workers. The engineers monitor the quality of the honey, other well-educated workers handle sales, while the low-skilled do the packaging, transport etc. The company does not face any particular issues in managing or motivating their employees – *"we provide free lunches and overtime bonuses for the employees at the storage."* For salesmen both in Hanoi and the rest of the shops, the couple provides bonuses based on sales – *"everybody understands that if you work more, then you get more."*

Over the years, the couple have learned that product quality is important, but appearance and presentation equally so. The woman owner contacted a 5-star hotel in Hanoi and asked the chef to taste the honey. *"The honey was considered excellent, but its appearance was poor."* She attended a fair in China where she saw many attractive products and was ashamed at how *"ugly"* her products looked. After that trip, the couple ordered a totally new product packaging design. It took some two months to complete this, because they had to ask permission of the Health Department.

The woman owner is expecting stronger competition in the near future from honey producers who have the same machines. The couple is trying to improve the production process, which involves training the farmers and other staff in monitoring the nutrients in the bees' feed, for instance, and other aspects of bee keeping. Her husband and two other engineers go into the field every month to do these training sessions. They also organise monthly workshops for shop employees, covering sales and marketing and updated product information. They hope to compete in this way. Many of their competitors just collect as much honey as possible *"and dump it on the market without considering the quality or continuity."*

She has a plan to develop a new product in the near future, a tablet of queen's bee milk. This will require them to buy new advanced machines and a complete packaging process, which is expensive. She hopes to develop this new product next year.

Business and institutional environment

So far, the business environment has been quite good, according to the woman owner – *"because of the machines, I get feedback from customers that the quality of honey here is better than others*." Even though acquiring machines costs money and reduces profit, in the long run it provides a solid basis for stable sales.

Regarding finance for investments and business operations, the couple did not borrow money from the bank – *"bank loans make us feel under pressure and this business is not very profitable."* They did not need much finance upfront to start their business. They saved money from profits and gradually expanded the firm. They sometimes borrow money from friends and family, because it is less pressured.

The woman owner is a member of several small business associations in Hanoi and the Business Network International (BNI, http://bni.vn/). She attends regular meetings organised by these associations, at which the members help each other with particular business ideas or issues. "*One example is changing the image of the company. There are members with particular skills and expertise who will support me."*

The couple registered a trademark for all current products, to protect their brand name from copying by others. However, the system is not yet 'waterproof'. The woman owner recounts that there was a farmer and acquaintance who asked for advice for bottling and labelling. She was very happy to guide him. *"Then suddenly this person opened a company using the exact same brand name and put two additional words at the end."* She did not undertake any action against them – *"what could I do?"* In fact, she is not concerned, as this firm represents no threat because of the poorer quality of their honey.

In the view of the woman owner, there is little export potential for honey, because of the limited supply in particular in northern Vietnam. The price of the honey is high and the way the bees are raised requires special technical skills – *"it involves manual work and is very labour intensive."* She knows that in southern Vietnam, farmers export unprocessed honey in small quantities to India. Last time she visited China, some companies asked her to export raw honey to China. However, she did not follow this up because they set the price very low. *"Moreover, honey in China has a high level of antibiotics, so I do not want to be associated with that; it can harm our reputation."*

She feels that the formal institutional environment has been improving over the years. However, her advice to the government would be to improve procedures for new product approvals and obtaining health certificates for the workers. *"When we produce or introduce a new product, we have to go through a long process, go through many places to ask for improvement and permission."* According to her, honey products are natural products so it should not be necessary to go through the entire process. She suggests that the government could help by shortening the process.

As a woman entrepreneur, she feels quite fortunate to have enjoyed support from government and related associations, like training events and attending trade fairs in different provinces in China and in Hanoi, where she introduced their products. The government paid half or a small contribution to the cost of these fairs. At the same time, she is aware that they cannot rely entirely on the government – *"we need to stand by ourselves, improve quality and develop in the future."*

The owner mentions that women entrepreneurs have more difficulties than male entrepreneurs in Vietnam, *"but it depends on the kind of business. Women entrepreneurs have many additional things to take care of such as raising the children and keeping the household. Women are not as strong as men."* The woman owner is quite content with the honey business, although she sometimes feels tired of the frequent travelling to bee points in the provinces. The husband provides a great deal of support with the technical side and running their business, and is involved at every step. "*My husband is the chairman of the board. Although I am the CEO, I do not have real power."* Being a woman entrepreneur also has some advantages, such as support from female enterprise associations. There are several associations and NGOs that have enterprise promotion support specifically for women.

3.4 Creative industry – gemstone paintings (30 employees)

The company produces gemstone paintings and is located in a suburb of Hanoi. Gemstones are pieces of mineral crystal which, in cut and polished form, are used to make jewellery and three-dimensional art paintings. The manual production process is time consuming and precise and involves sketching the design on canvas then gluing the pieces of stone on one by one. The company currently has 20 employees. Recently the company also opened a showroom at the popular tourist destination 'Nha Trang' in southern Vietnam – *"so I can introduce my products to international tourists and open the market to countries outside Vietnam."* The interview was carried out with the owner, a woman entrepreneur who was educated in arts and crafts.

The company is established in the area where the owner was born – *"my mother and all my friends and family live in the village nearby."* When she started her business in 2009, she started small with some of her own savings. After the first sales successes, she was encouraged to think about hiring workers, leasing land and constructing a workshop. Step by step, she invested in the construction of a workshop. At present, she has a relatively spacious workshop built on land on long-term lease at a fixed rent. The company workers live in the nearby area. The local district level government were helpful and supportive in preparing the paperwork, applying for the business licence and renting the land.

She found the administrative procedures not too difficult. She believes it was easy because this is the place where she born and they know her – *"but regarding my finance, I had to do it on my own, taking care of the money for the investments."* She reckons that having relatives in the government can be helpful – *"you can benefit from some different kinds of policies.*"

The average production cost of a gemstone painting, including materials and labour, is 500 USD. It takes one week to complete it. The paintings are sold for up to double the production price – *"wholesale, it is just 600 USD but for retail in my Nha Trang showroom it can come to 1000 USD."* She does not see much possibility to set higher prices, as there is just too much competition.

Initially, she focused on retail selling to individual customers who came to her workshop. A few years ago, she started to sell wholesale as well. At present, she is mostly selling to her network of shops all over Vietnam. She has a catalogue, which she sends to these shops and customers. Occasionally, customers have a special request or a special order for a product. Recently, she stared to invest in online sales – *"up to now, that has worked quite well and I got some wholesale contracts through the website."*

Internal capabilities

The owner stresses that gemstone painting is a very new handicraft in Vietnam. It not a traditional Vietnamese craft, having its origins in India. The owner picked up the idea while studying and learned the technique. Most of the current successful products were developed many years ago. Over time, they learned the customers' taste and now know which paintings sell best, so in fact there are few new designs required – *"we produce the same designs for years and years."* The owner develops and selects most designs herself, mostly traditional themes. She is quite successful in understanding her customers' taste – *"customers from Hanoi often want something from Hanoi culture."*

For the individual Vietnamese and foreign customers, she send customers an e-mail with the proposed design. She does not make the design public because she fears that competitors will copy it. Apart from the traditional designs, she has also tried to introduce some more modern art like Picasso and more abstract figurative art. However, she has found these designs very difficult to sell in Vietnam – *"still, sometimes when we have time, I ask my workers to do a few modern products and keep them because I like it."*

She tries to engage technically skilled workers. Most workers have a university degree in fine art or other creative training – *"they understand working with the stone."* She trains her staff in the artistic skills. As the owner was educated in handicraft and fine arts, she quickly found out that running a business requires different knowledge and skills. She has learned from friends – "*I didn't have any expertise in the field of management."* Today, she prepares all the training documents for the management and HR team.

External business and institutional environment

The owner feels that surviving in the current business environment in Vietnam is difficult, in particular in the handicraft sector. More and more people in Vietnam are starting to sell the same kind of product, and there are several workshops like hers, both smaller and bigger. She observes that their technical and artistic skills vary considerably, but there are a few competitors that are able to produce good quality, *"so we have a lot of competition but the quality is different. Many competitors do not go for quality."* Some competing workshops take workers without training, which results in very poor quality – "*sometimes these workshops copy, because they cannot draw. They cannot take an idea from customers in a painting."* The owner mentions that competitors just take the photo as a basis for the design and glue the stones on top of it with a low quality glue. However, gluing stones is precise and time-consuming work. Unfortunately, 40% of the customers do not see the difference, so they buy low quality and cheaper products – *"even the retail shops, who just entered the market, do not see the difference."*

The result of this is that customers do not have a clear idea about quality and are not aware of the hard and precise work behind it. Sometimes she refuses an order because the price offered is too low. *"As the producer, I cannot make it, so I have to tell them to go to another workshop."* On other occasions, she accepted an order without any profit – *"I still have to do it because I want to keep the customer to stay with us."* The owner believes that the sales problems are the result of the absence of a quality and pricing standard set by the government.

The government has no policy and no guidance in this line of business – *"there is nothing to help us or the customers distinguish what is good quality, what is not good."* She still maintains high quality products –

"we don't lie to the customers, but we don't have a government policy to support us and protect our customers."

There is a gemstone research institute in Hanoi, but it provides neither formal support nor advice to small businesses. The owner has a friend within the institute who issues a gemstone certificate to prove that the painting contains original gemstones from Vietnam. The customers get a copy of this certificate. She also knows a professor at the Gold and Jewellery Institute in Hanoi. This institute gives a stamp and a signature to confirm that the gemstones are natural. The owner regrets that these certificates and stamps do not refer to the artistic craftsmanship – *"it is more about the raw materials, not about the technique or the art."* In her field, she has never seen any certification for artistic creative value.

She has joined several business associations and *"I learned a lot from attending the meetings."* One such association is the Business Network International (BNI). The Hanoi chapter of the BNI organises a weekly meeting with 40 female owners of enterprises from different subsectors of Vietnam. The meetings cover short management courses and business skills training. In addition, the members share experiences, *"but the most important thing is they can create a network where we can conclude business deals."* In the past, she gained some contracts as a result. Some members introduced her to their friends and business contacts in other provinces. The contracts ranged between a few million VND and a hundred million VND (4,500 USD). She is also a member of the Women Small and Medium Entrepreneurs Association.

The domestic market for gemstone paintings is growing but eventually she wants to export a large share of her products. She is a bit frustrated about local sales – *"I am fed up with the Vietnamese market because no one here respects the true value of our work."* Last year, she established contacts with the Vietnamese embassy in Laos, which has a showroom for Vietnamese export products. Several of her products are on display now. The embassy organises events to introduce Vietnamese goods and handicraft products to the Laotian public. She got several contracts – *"they like my gemstone painting because it is new in the Laotian market."* A bus company takes care of the transportation to Laos. She agrees on a price with the bus driver, who handles the paperwork and pays the import duties at the Laotian border – "*this arrangement is very easy*." She was also considering exporting to Russia (Moscow), but the paperwork is very complicated and unclear and the import duties seem high. She cannot find out how much she actually has to pay – *"so it is very unpredictable."*

Regarding government policies and regulations, she mentioned that policies and regulations are difficult. *"For the local government, it is okay because I have the relationships."* However, she has difficulties with policies and regulations at the national level, especially tax and social security.

The government tax department causes a lot of trouble, she finds, because she has to hire one extra employee to sort out the paperwork to go to the department to pay the tax – *"it is unacceptable because we give money to the government but we have to do their work."* The attitude of the civil servants is arrogant and procedures are very complicated – "*they only say what is wrong. They don't explain why and how to fix it. So we have to go back and go again many times."* Moreover, tax officers visit the company periodically and check the books. They always find something that is wrong, she mentions. Sometimes the fine is up to 100 million VND (5000 USD) – *"this is very unacceptable and I am tired of the tax policies and procedures."* Many small business owners are so fed up with the government's policies that they close down the firm, according to the owner, then just continue to work informally. Sorting out the procedures and paperwork for the

workers' social security is also very complicated and changes all the time. *"So I need two extra people, one for insurance and one for tax. Every month there is a problem taking a lot of my time."*

As a female entrepreneur, she feels she has an extra burden. There is a good deal of pressure on her because besides work, she also has children and other family commitments – *"finding the balance between work and personal life is difficult."* Moreover, as a businesswoman, she has to go out often, attend many meetings and do networking. Her husband is asked questions about why she goes out a lot – *"there is sometimes jealousy because I see so many men. If I was a man then I could develop the company much more."*

Despite all the difficulties, she cannot discontinue her business. She feels that she has a responsibility to run and develop the company. She is also very fond of what she does – *"the reason that I can survive in this business is my love for this job. I will try my best to create jobs and to bring good things for me and my colleagues."*

3.5 IT development – software and mobile app development (60 employees)

The company was established 7 years ago and develops software and mobile apps. Its international customers are mostly from the US, Europe (UK, Denmark), Australia, Japan and Singapore. In 2014 and 2015, the company was selected as one of the 30 leading IT companies in Vietnam. The interview was held with the founder and CEO of the company and the marketing manager.

The founder/CEO studied computer science at Sydney University. After returning to Vietnam, she worked for a governmental computer science institute for a while. However, her Australian experience gave her *"an open mind and the courage to seize opportunities."* One challenge she saw was to develop international quality standard software and apps. Her Australian fellow students strengthened her confidence – *"when I studied in Australia, a lot of my Australian friends got a good job even at the 2nd year at university. My friends in Vietnam were not so confident and many of them could not find a suitable engineering job."*

In 2007, via a personal contact, she secured a short contract from a German company to develop an app. The German manager assumed that Vietnamese software engineers could do the job well and work at a reasonable price. This first assignment marked the beginning of her company. From her personal savings, she invested in officially establishing a company. *"I had just enough to pay the four initial workers a few months' salary, and enough to buy some facilities like a computer, table and rent for a few months."* Registering the business was an easy process, according to her.

New assignments from US-based companies came in shortly after. The fact that the owner's husband studied computer science in the US helped to initiate networking and secure orders. She also sought contracts via social networks, and attended some conferences in the US, to meet potential customers.

Although she has a lot of business contacts all over the world, about 70% of the work is from the US – *"some customers have provided us with assignments since the beginning, which was more than six years ago."* In the initial years, the company developed games. "*Later, we realised that we wanted to do something that supports our community, so we decided not to do games any more. I feel too much entertainment for our young people is not good."*

Recently the company developed its 'flagship' app for an American customer. This app connects doctors and patients. Using their phone or smartwatch, patients can monitor their health data, such as heartbeat, glucose or blood pressure, and receive X-ray results. Patients can also contact their doctor using Facetime, while doctors can record and send voice messages. The app is a success and is currently used in four large hospitals in the US.

Internal capabilities

In the early years, there was only a small team, with no support staff. Over the years, the company gradually expanded into a formal structure of technical staff, software engineers, project managers, administative and accounting staff. At present, the company has 60 employees. *"Most of our employees are quite young, the leadership and the team are all around 29 years old."*

According to the owner/CEO, human capital is the most important asset of the company.*"Most of the costs for software development are the labour costs. Actually, it's quite challenging because most of the software developers have fixed contracts. I have to make use of them efficiently and generate sufficient work through new orders."* Typically a team of different staff positions works on a project; a UX designer, a software developer, a systems architect, a software tester and an overall project manager. The company has standard working procedures within the software development process that the team have to follow. The owner/CEO demands the highest international standards of quality and does not accept errors in the products.

The owner/CEO believes that her leadership and management style is productive. Her philosophy is to provide high quality software in an open and friendly atmosphere, "*which results in a good competitive culture and working attitude."* This was set from the beginning and the owner/CEO still considers it critical for success. There are numerous difficulties in developing internationally competitive products, which the owner/CEO addresses thoroughly. The owner persuaded the employees to do the same – *"if we think that we have to work too hard and want to take it easy, then we had better close this company and move to a safer job at another corporation."*

The company has personal development and training plans for every individual staff member to help them attain their career goals. Twice a year, the human resources manager conducts a staff performance review to discuss achievements, difficulties and future plans. The owner/CEO believes that her staff development practice works well for her company – *"we have a large number of loyal staff and less than 10% staff turnover per year."*

Regarding staff planning and organisation, the human resources manager and the owner/CEO estimate how many people are needed at the beginning of each year. She can predict the upcoming amount of work quite well – *"we are very close to our customers, and we ask them about potential orders for the coming year. They are very open to share with us."*

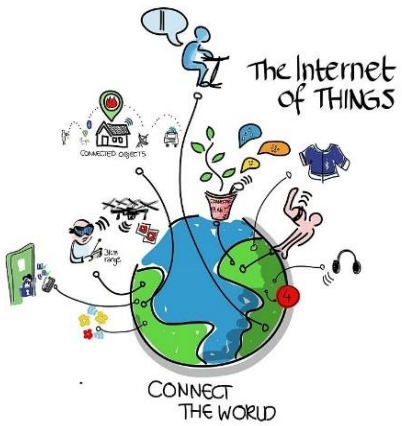
Most of the company employees have a university degree in computer engineering, but university graduates cannot do the job without additional skills training. *"Normally, we have new staff as intern students first. After we have trained them for six months, they do some internal projects. Later we see if they are good enough to stay and do customer projects."*

The company was ISO certified in 2013. The owner/CEO sees a lot of advantages in this because the reporting procedures are helpful to review and assess whether outcomes are in accordinace with expectations. She also believes the productivity of the team increased. The customers are not always interested in the ISO certification – *"the US customers do not care about it, but the the Japanese customers do."*

Innovation and technology

The company operates in a world of fast changing software technology. Therefore, the management team selects at the beginning of the year what software technology will be used – *"we don't plan too far, we just plan for two years, train our staff in the new technology accordingly and invest in development software."* In addition, the company organises internal workshops every month where each person in a department presents a new technology that he or she has come across – *"everyone gets to learn new things, not only the things that the management team tells them."*

The company also organises a yearly idea marathon competition, in which the staff write down what they want to develop, the target market and other technical and commercial details. If the management team sees an opportunity, then the product will be developed. The owner/CEO hopes that each department will introduce at least one innovative idea every year.



The owner believes that innovation is the only way to keep the company moving. She believes that the 'Internet of Things (IoT)' will be the new leading technology in the coming year. IoT involves the connection of several technical devices in the home, office, hospital, business etc. through the Internet. The company has already taken some steps in this direction with their current healthcare app.

External and business environment

The company has many competitors, but at the same time the market is very large and there is strong demand – *"we are still in a very good position."* She does not fear competition from state enterprises or universities. The company sometimes cooperates with universities by sharing knowledge about the technology – *"our software engineers teach at several universities."* Students also come to the company to see real-world practice and to learn, for instance, how to work with US customers, or the process of software development. The owner/CEO observes that her staff perform much better than new university graduates. *"I think it is not knowledge that they lack, but the practical skills to apply the knowledge and sell the product."* Technical problems are usually solved through contacting friends and partners from other companies – *"we do not ask the university, they cannot solve our technical problems."*

The Vietnamese government identified the ICT industry as one of the priority industries in Vietnam. Recently, a governmental software and service association was established, supporting ICT companies through match-making events. This association also organised conferences outside Vietnam. Regarding innovations in ICT, the owner/CEO believes that only SMEs can generate innovation in Vietnamese society – *"the government does not have the motor for innovation."* According to her, government institutions are too large and technology takes a long time to change.

The firm's relationship with the government in terms of taxes and administration is good. There are no unclear issues or 'under the table' deals. The government really supports ICT companies, *"even in the procedures to fulfil the tax obligations. As a company we take our responsibility seriously and we don't shirk any issues."*

At present, 90% of the company's market is outside Vietnam. The owner/CEO believes that there will be many opportunities within Vietnam in the near future, but selling high quality software and apps today is difficult because *"a lot of companies in Vietnam don't think that IT is important. They don't want to pay for quality."* In the next five years, she envisages increasing the number of employees, *"but not too many."* She does not want to grow too much because she fears *"a lot of headaches in overhead management."*

She plans to develop useful products and support activities for the community – *"social responsibility is important in our yearly plans."* Every year, the staff are involved in community work such as helping poor children in the pediatric hospital in Vietnam. This year, the company disbursed some pharmacy scholarships to provide a good education for poor children.

Being a woman entrepreneur in Vietnam, she feel that there are a lot of difficulties, but that it has advantages as well. One key challenge is to combine work with family responsibilities. She has two daughters and *"whatever work I do, a hard or easy job, I still have to take care of my children."* Her husband supports her but, according to her, he cannot take the main responsibility. On the other hand, the owner/CEO sees that not many women work in the IT industry. She mentions that women have some characteristics than men lack, like 'dẻo dai' – *"women can work for a long time without getting bored and tired. Women are more patient and persistent to reach their goals than men."* After nearly 10 years of running the company, she has no regrets as a woman entrepreneur – *"I feel very confident and I believe in the way I have been choosen and would never give up."*

3.6 Textiles – mattresses and bed sheets (200 employees)

Located on the east side of Hanoi, bordering the highway to Hai Phong, the company started in 1993 producing mattresses, sheets and pillows. The company grew gradually from a small family business to its current size of 200 workers, mostly female. The products are sold on the Vietnamese market – "*all of our products are high quality products at affordable prices for Vietnamese customers."*

The interview was carried out with the vice-director of the company. She is a well-educated and active young woman, who studied overseas and obtained a master's degree in finance. After returning to Vietnam, she first set up a security company in Hanoi, and then lectured in finance at a college. Three years ago, she joined her parents in their family business. Today, she is de facto managing the business, although her father is the official director. Her younger sister works in the company's administration and her mother is involved in the design work.

The company has a network of 100 wholesalers all over Vietnam – *"we also have our own showrooms in bigger cities like Hanoi, Ho Chi Minh, Hai Phong and Da Nang."* The wholesalers sell to distributors, like smaller shops, who then sell to customers. As well as catering to the Vietnamese market, the company started exporting small quantities two years ago – *"we now have agents in Myanmar and Thailand. We hope to go into Europe."* In Myanmar, they are already quite successful, with positive customer feedback on the product design and quality.

The parents of the vice-director set up the business in 1993 – *"before setting up the company, my father worked for the government and my mother was a tailor."* In the early '90s, the Socialist and Soviet oriented Vietnam opened up and introduced a market economy. At that time, mattresses and sheets were imported from China and Thailand – *"the quality was bad and the price was high."* Her mother believed that she could make these products much better. Her parents set up their first workshop with 15 workers in Hai Phong city. They bought fabrics from Vietnam, Indonesia and Thailand and produced their first line of products: spring mattresses, seat cushions and pillows.

In 2003, the company moved to Hanoi. Her parents constructed the first workshop at their current location. The investment for the first workshop was 30% from the bank and 70% from their own savings. *"Year by year and step by step we expanded the business. Now we have five workshops at our location."*

Despite ups and downs, the business has been successful over the years. The vice-director attributes that to a hard working attitude and pursuing good quality products – *"we don't do much marketing. We just want to produce good products at good prices and sell to Vietnamese customers. That's how it works."*

Internal capabilities and innovation

The vice-director does not find it easy to recruit skilled workers. Although the garment industry is large in Vietnam, not many workers have the specialist skills required for the company's production process. Even experienced workers from other garment companies have to be retrained, which usually takes place on-the-job for two months. The company suffers from high staff turnover *"because there are many Vietnamese-owned garment companies nearby. I don't know why they leave. The salary and working conditions are quite similar."*

The foreign-owned garment factories pay much higher salaries and provide better working conditions. However, these companies also force their employees to work harder, according to very strict rules and procedures. *"Here in my company we treat workers well, like in a family. That does not happen in the foreign companies."* She mentions that other garment companies suffer from the same problem of high staff turnover.

Three years ago, the company introduced a new product: padding as an interior material for blankets, jackets and shoes. The company supplies the padding as an intermediate product to companies in Vietnam, such as Nike, Jacker and Can that produce garments for the overseas market.

The padding is similar to natural cotton but is made from polyester, an artificial material. The polyester input materials come from Korea and the import requires some paperwork, which is sometimes challenging.

The development of new designs for the mattresses, sheets and pillows is an on-going process. The vice-director is a creative person as well – *"when I was small, I won many prizes for painting."* She and her mother do most of the design. *"My finance background is my right hand and the creative painting is my left hand. Now I work mostly with my left hand."* Normally, she and her mother draw the design and other staff enter and further process the ideas on the computer. They make some initial samples with the embroidery machine, develop the design further and *"change, change and change until we feel it is okay."* The whole process takes a very long time. *"We always start from January and prepare a new collection for September. It takes three to four months to do that."*

Every year, she and her mother develop around 30-40 designs for sheets and blankets. Normally, they follow colours and patterns in fashion at that time. The success of the new designs is based not only on the design itself: price and product marketing are other important factors. Sometimes they believe the design is very good but the price is too high. *"About 70-90% of our designs are successful. I'm confident to say that we are one of the best designers in Vietnam."*

The machine technology, the embroidery machines for instance, is not an important success factor in a new design. The most important element is the design itself. Indeed, the embroidery machine technology has changed little over the years. "*We also have new machines, but not because of the technology, we just enlarged our production capacity."* Some embroidery machines are 10 years old – *"we just bought several new ones last year but the technology stays the same."* She bought the new embroidery machines from Iran, Sri Lanka and some from China, which is sometimes troublesome if there are technical problems. In the past, she had to involve a technician from overseas to solve the problems – *"that costs a lot of money."*

The company has an ISO 2008 certification. The certification is not necessary for dealing with their customers *"ISO is just for how you organise your company, customers don't need it."* It allows the management to follow the production process in a transparent way. The customers do need good fabric, and they have an OEKO-TEX certificate, which provides a guarantee of fabric quality.

For five years, the vice-director has used ISO, but actually she feels it is of little use. Next year, she plans to change to Kaizen, another internal management control system, which she learned about during her master's degree. At present, she feels the production site is poorly organised – *"we have to change to make the processes clearer, more effective and efficient, not only with Kaizen, but I want to do many things to improve."* She wants to raise the productivity of her company by introducing this new management style.

She is now preparing and reflecting on the new production and management processes and the necessary organisational changes. *"We will do a pilot and small tests and experiments at the beginning of this year. After evaluation, we will implement the new system in the second or third quarter of this year."* Two staff are assisting her in the introduction of the new management approach, one from the marketing department and one from sales.

External business and institutional environment

There are very few competing mattress and blanket producers in Vietnam. Competitors in Vietnam have tried to copy her designs, but this does not concern the vice-director, since they change the designs every year. The new products are sold from September to March. When competitors copy, produce and bring a product to market, it is already December, more or less in the middle of the season and too late for commercial success.

She has many friends that provide her with advice, working in other garment companies – "*I just come by to talk and we share experiences."* She also talks informally with advisors from Thailand. Last year, she contracted a French and a Vietnamese stylist for additional advice. Regarding technical design advice, she does not work with Vietnamese universities – *"they just know the theory but not how to work or what the practice is."*

She chose the location near the highway to Hai Phong because the land was available for rent from the government. She leased the land, invested and built the large production workshops. Initially, the rent was 300 VND/m2, but last year it increased to 30,000 VND/m2. Many companies in her neighbourhood had the same problem and are protesting by not paying the rent.

For Vietnamese companies, especially SMEs, she feels it is very hard to cope with the institutional environment – *"not only the tax but because of many things."* The customs duties and procedures for export and import are difficult and that hurts the company a great deal because 95% of input materials are imported.

One incident happened some three years ago. The government set up the Dinh Vu fibre factory with co-investment from Korea, producing fibre from petrol, as a substitute for fibre imports from India and China. The state-owned factory envisaged selling the fibre to local garment companies, but this was not a success because it was not the same kind of fibre that local companies use, so the factory was unable to sell their products. The government tried to help by raising the import tax for fibre – *"that was very funny, because they cannot sell and the government helped them by setting an import tax. The government doesn't know what kind of fibre we use in my factory. They just force us to buy fibre from that company that I can't use."* As a result of the increased tax on the input products, she had to increase the price of her final products.

Another problem is that the government changes policies frequently without informing the companies concerned. The paperwork and administration itself is not such a problem. Moreover, the implementation of a given policy in Hanoi is different from the implementation of the same policy in Ho Chi Minh City.

Regarding her plans for the future, *"I will still invest, but have to tread very carefully. Vietnamese politics is not stable, so we are just planning for five years, which is very short. After five years we will change again, and make another plan."*

3.7 Wood processing – furniture making (50 employees)

The company was established in 1998 as a family business producing furniture in a small workshop in Hanoi with just a few employees. In 2011, the company opened a larger factory 30 km outside Hanoi. At present, the company employs 50 people – *"although the business is extended, it is still a family business."* The company sells the products directly to customers in northern Vietnam. It does not export.

The business is run by a couple. The husband is officially the owner of the company, who signs all the contracts and meets with local administration and government officials. His wife runs the business, responsible for design and production as well as the commercial and sales work. The interview was carried out with the woman.

When the initial workshop in Hanoi became too small to meet the increasing demand, she felt confident to expand and open a larger factory in 2011 because *"my company is famous in Vietnam and we have a large network of customers with long-term relationships."* The couple borrowed a small amount of money from the bank to invest in the new factory, and the remainder was obtained through informal channels. The idea was to sell the old workshop to pay off these debts shortly after. However, due to the economic crisis hitting Vietnam in 2011, they did not manage to sell the old workshop. *"Moreover, all the housing construction stopped and the real estate market collapsed."* This lower demand for furniture forced her to reduce the number of employees to only 15 in order to stay afloat – *"it was a difficult time."*

She also closed two of their three showrooms in Hanoi and changed the marketing strategy by launching a website with many features – *"today the customers check their products and buy online. A showroom is not effective anymore."*

Moreover, they have been in the market for more than 20 years and the customers apparently know how to find them. She saved a lot of money by closing the showrooms. *"Luckily, after 2013 things got better."* Economic development took off again in Vietnam and the owners and managers of many housing construction and apartment projects are now purchasing and installing furniture.

Internal capabilities

The company offers a full service by customising and installing furniture. The company's technical staff visits the home of a customer and advises on designs and furniture allocation. The company mostly works with medium and high-end customers. Nonetheless, she believes her prices are reasonable – *"expensive furniture is very difficult to sell in Vietnam. Even the rich want something affordable."* With a view to securing larger contracts, the company's sales staff visits large housing projects and construction sites and talks to the building firms directly to promote their furniture services (beds, tables, chairs, couches, closets, kitchens). On several occasions, this resulted in concluding contracts of up to one billion VND (50,000 USD). At present, the owner is confident about her company and the market opportunities. She attributes the success of recent years to a focus on tailor-made and high quality furniture rather than mass production.

The staff comprises 40 production workers and 10 administrative and sales staff. The owner's key concern is maintaining the human resources base of skilled labourers. During the 2011 economic crisis, she had to reduce the number of employees. These mostly skilled workers moved to other companies. Now the demand for furniture has increased, and she is having trouble recruiting skilled workers. She posted an open recruiting announcement for skilled workers, and contacted former skilled employees, offering them higher salaries.

At present, she contracts inexperienced workers *"and pays them a salary just to learn."* There are no schools or universities that teach the carpentry skills she needs. She would like to have some connection with a college or vocational training centre. Moreover, she signals that workers in Vietnam are not creative – *"they sit, wait and just follow what I tell them to do."* She finds it rather ironic that her former workers view her company as a vocational training centre. Another issue is that many of her skilled workers are reluctant to pass on their skills to new young workers, when she asked them to do so. A skilled worker thinks that their skills are special and rare, *"so I keep it to myself."* Moreover, she perceives that young people do not want to work in carpentry anymore, which she understands, *"because it is hard work in a dusty working environment."*

The owner has optimised the organisation of the workforce. Each person covers several carpentry production tasks, such as carpentry, sanding, painting or logistics, so *"even an experienced carpenter has to do the transport of the products once in a while."* The owner has also explored possibilities to improve the factory working environment. She visited several international fairs to search for new and cleaner technology. In Germany, she came across a much cleaner high tech machine, which also delivered high productivity, *"but it costs 2 million US dollars.*" Apart from the fact that the cleaner machines are very expensive, the productivity is too high; she would not be able to use its full capacity in her current relatively modest tailor-made production set-up.

Another challenge in her staff management is, as she puts it, *"that people in Vietnam want to be the boss."* Staff with basic skills are quick to leave the company and open their own small business, copying the same products. Even within a family business in Vietnam, it happens – *"when a young person thinks he or she knows or can do something, they immediately open their own business. It is very common. It is a kind of a habit in Vietnam."*

The woman owner is the only designer in the company, visiting international fairs in China and Germany to source design ideas. She is reluctant to train other staff in the design work, because she knows what will happen if another worker can design too – *"then they will go out and start their own business."* She has no formal education in design or in management. She studied design by herself and learned by doing. Knowing the production techniques as well helps her to create the design details. She is very confident about her own creative design skills. She does not use a computer, but draws the design by hand – *"much nicer than designers who use the computer."*

Regarding the future, the owners foresee a problem with the succession of the business in the short run. Their son is still studying aboard (design and architecture). After five years he will come back and work for the company – *"I feel safe because he is my son and he cannot leave."*

External business and institutional environment

Competition is very tough these days in Vietnam. She also sees a problem that foreign design is strongly preferred in Vietnam – *"local design is considered very bad."* Sometimes competitors come and pretend to be customers, and "spy" around for designs to copy – *"but they never have the same quality of product."* She believes that having skilled workers in the company makes the difference. However, some rival companies hired some of her staff – *"so they can also make good quality for certain steps, but not the overall production process."*

Customer taste is changing every day, which the company caters for with tailor-made and customised products. The company does not have a trademark for their design and products – "*if we register a design, then the next day we will have renewed the design and it continues to change."*

Regarding suppliers, the furniture requires leather, cloth, wood and some other supporting inputs. Most of the input is bought in Vietnam, but some she buys from China, which has a much more developed supporting industry. She has a long-term partnership with her suppliers and there is commitment from both sides to good quality to assure their reputation.

Doing business in Vietnam is more often difficult than easy. She is somewhat disappointed that the government does not provide support, even more because her company is rated 'type A' (a company that pays its taxes on time and has transparent and well-managed administration). The government and the tax department caused trouble initially, but nowadays, she knows how to deal with civil servants and changing procedures.

The land where her factory is built is on a 50-year lease from the government. She invested in a small house, the factory buildings and machines. The owner is not happy with the lease arrangement because the rent increases every year – *"first it was 7,000 VND/m2 per year, then soon the government changed it to 50,000 VND/m2."* This was too expensive for her, in particular during the financial crisis in 2011. *"My company survived but I complained a lot to the government and finally they reduced the rent to 29,000 VND/m2."* She does not know how it will change in the future. The problem is that every year the government decides a new rental amount without consultation or prior notification.

The owner wants to expand the factory but she is aware that this is not easy – *"if we buy a bigger factory, we have to sell the old one,"* which will take between three and five years. She plans to invest in new machinery next year, but getting credit from the bank is not an option. Although the interest rate is 10-11% per year, which is reasonable in her view, the banks only use land or houses for collateral, not machines.

The owner's strategy is to produce high-quality products. It would help her a lot, she suggests, if the government could prevent the production by competitors of lower quality products. However, sometimes she has to be flexible and compromise with the business context. On one occasion, a real estate group ordered 500 sofas for a big housing project. They asked her to reduce the price to the minimum and *"we did not want to refuse such a big order."* She accepted the offer and lowered the quality of the cloth and wood, but she was not very happy with the final product. Her practice is to discuss quality details openly with the customer – *"if the customer wants to pay a lower price, then he gets lower quality. We never tell a lie."*

3.8 Paper products – pupil school notebooks (60 employees)

The company produces bound paper products such as notebooks and copybooks for pupils at primary and secondary schools. The products are sold to high-end consumers. The company is located in the northeastern part of greater Hanoi, an area of industrial parks which has seen a large amount of economic activity over the past decade. The number of employees fluctuates, depending on orders, but averages around 60 workers.

The company was established in 2007 by a group of friends and former colleagues, who had previously gained experience in running private and public (state-owned) paper production companies.

The group agreed to invest a few hundred thousand dollars and became shareholders in the joint-stock company. The company is managed by a board of six directors. The interview was held with one of the board members, who is the deputy director and principally in charge of running the business – *"I am the one who manages everything here."*

There has been an increasing demand in the domestic market for bound paper products since the establishment of the company. A small proportion has been exported to surrounding countries, but *"it is hard to tell how much we export because it depends on the orders. Just occasionally we export to the US too, but it is not much."* Soon it became apparent that the production capacity of the company was too limited, so the group decided to open a second company located in a northern province. Around 50 people work in this other company.

Recently, the first company was moved to its present location in greater Hanoi. The land at its previous location was rented on a short-term basis, but *"this was risky as they could claim back their land at any time."* The land at the current location is leased from the local government for 50 years, which is much safer. In fact, the company paid the full amount of the rent for 50 years at once – *"it's like we bought the land, but only for 50 years."*

The deputy director has not considered merging the two companies into one large company – *I don't want to put all my eggs in one basket."* He feels that he lacks management skills – *"if it's too big I cannot control it, so things are separated."* Moreover, finding sufficient land for a larger company is a serious problem in

northern Vietnam. *"The present location here is 10,000 m2, but that is too small to combine the two enterprises."*

The company has 25 office staff for management administration, marketing/sales and design. The deputy director finds these employees loyal, because they have stayed with the company for many years. The remaining 35 staff work in production. There is a high turnover of production staff, around 50% per year – *"the problem is that many workers do not come back after the holidays. In that period of the year, we have to recruit most of our new workers."* It takes only one month to train production workers. Every six months, the management team organises a meeting for all employees about matters including the working environment, staff ideas and requests.

The manager recognises that high staff turnover is a problem common to every company in the nearby industrial parks. Employees from far away find new jobs near their family homes in the provinces or they secure a higher salary elsewhere. The Vietnamese economy is growing fast, explains the deputy director. A lot of new industrial zones have opened and provide employment opportunities for unskilled workers – *"in Vietnam, it is very easy to get a job in an industrial park these days."*

Innovation

Regarding technology and machinery, the company has invested in several printing machines since its inception. One machine costs half a million dollars, *"so it's very expensive."* The machines deliver the required quality of printing. Although there are more advanced machines available, buying newer ones is not a priority for the company at present. A more urgent concern is the product design of the note- and copybooks. In order to stay in business, the company has to change and renew the designs of the products often. This includes new types of covers, colours, material, contents, shape and even the thickness has be taken into account.

The company's design department, responsible for this, has five employees, who *"come up with around 80% of the new ideas."* In order to get design advice, the company regularly contracts the University of Industrial Fine Arts in Hanoi for their input. There are no other relationships with art or technical institutions for design and production issues in the company. Ideas come quite often from the staff and production workers as well. In fact, there is a company policy encouraging staff to advance suggestions. If the new product idea or design can be applied and is sold, then the person who advanced it will be rewarded with a sum of money. The designers also source ideas from fairs or at primary and secondary schools – *"they bring 50 to 60 designs of products to schools and ask the children to pick what they want."*

The sales teams sometimes visit the retail shops and ask customers directly for their feedback –*"if customers give good advice or relevant opinions, we give them the notebook for free."* The wholesalers or distributors are invited once in a while to a customer meeting and join a trip sponsored by the company. They are encouraged to give feedback and ideas. Lastly, the management team reviews patterns in new product sales and uses that information for their upcoming production plans.

The new designs are not registered. The deputy explains that the company can register the design, but before doing so, it should be clear whether the new product is in demand – *"otherwise it's a waste of time. It takes a lot of effort to register."* In the past, there have been instances where the company did not register a

successful product, and others copied it. There is also a risk that the new products may not sell well, which also happened in the past. However, this is not a major concern, because *"based on our experience, we can predict the market quite well. Eight to nine products out of ten are well received in the market."*

External business and institutional environment

According to the deputy director, the domestic market is divided into products for the cities and for the countryside. *"I have a cousin who owns a notebook company. He targets the mountainous area and countryside only."* All over Vietnam, there are some 20 competing companies producing the same products. The company's target group are the high-end consumers in the city – *"it is, however, easier to sell the medium and low quality products than the high-end. In the countryside, the customers are easy."* The deputy manager refers to the competitors as a *"network of friends"* as well. There is one particular relationship – *"we dislike each other because we compete with each other but I can gain ideas and sometimes we share orders."* The other companies have not tried to upgrade their production facility for high quality products, as the investment is considered too high and the technique too difficult. Similarly, the deputy manager does not have plans to access the markets for low and medium quality products in the provinces – *"it's like the company's mission and vision: only produce high quality products."* At the same time, the deputy director is entrepreneurial and keeps his options open. Some of his workers are from the countryside and the deputy director encourages them to open their own companies. He is willing to invest personally and share the profits.

The company has international competitors too: some Japanese firms in Vietnam produce the same kind of product, but with better technology – *"although the quality is nearly the same, their productivity is much higher."* The Japanese design is less attractive for children in Vietnam, according to the deputy director, which provides some advantage for the company. He foresees that, in the future, the Japanese competitors will learn to understand the Vietnamese children's taste. *"We are thinking about what we can do in the future to compete with the Japanese companies."* The owner regrets that there is no government programme to help the companies to compete with international competitors – *"then again, we have to earn things by ourselves, so I don't blame the government."*

One way forward to overcome the Japanese competition is to raise the productivity of the company. *"However, it is hard for us to compete in productivity because the Japanese competitors have high technology and better machines."* The only other way to survive, according to the deputy director, *"is to continue to know what customers want before the Japanese competitors know."* However, the managing director acknowledges that this is only a short-term strategy because once a product is popular and successful, then it will take little time for others to copy it. As for the import-export and tax regulations and procedures, the deputy director feels that the government policies are adequate.

He has little difficulty in dealing with civil servants – *"Vietnamese people are used to giving some extra money to make things smoother and move faster."* However, he feels that private companies are disadvantaged in Vietnam. For instance, a director of a provincial tax department has the authority to close down a private company. *"The tax department is very strict. If we hand in the tax report three months late, then we will be fined. If we are six months late, then the company will be closed down."* The state-owned companies are more privileged and cannot be closed down that easily. There must be a formal decision signed by the Vice Minister of Vietnam to do so.

4. Analysis and conclusions

The aim of the qualitative study on innovation in manufacturing SMES in Vietnam is to support the quantitative research part of EIP-LIC, as well as to share insights with similar research projects by other academic institutions. This could help researchers to validate, compare and complement existing theory in literature and research design and hypothesis development with contemporary bottom-up realities on the ground in Vietnam, as perceived by manufacturing SME owners and managers. Earlier qualitative studies in the framework of EIP-LIC have been carried out in Kenya, Ghana and Tanzania, applying the same qualitative approach and report format, and enabling comparison across the countries of study in the DFID project.

This growing collection of insights of the various countries demonstrates how innovation processes and mechanisms are manifested within manufacturing SMEs, and reviews the internal capabilities and external environment, including formal institutions, the business system and the informal institutional context. The research framework is reflected in the list of semi-structured interviews (see Annex 1). In addition, the owners and managers shared their stories outside this framework and advanced issues that are relevant and interesting for current scientific work. The qualitative reports of all 10 African and Asian countries of study will be available for researchers and a wider audience, downloadable from the project website[3].

It is important to note for the analysis and conclusions below that the validity of qualitative research should not be considered in terms of sample size and representativeness of the cases for the total manufacturing SME sector in Vietnam. Qualitative research in general does not claim to collect and analyse data from a representative sample. Instead, on a case-by-case basis, qualitative analysis provides exploratory (deductive) insights into issues, processes and systems in a bottom-up way that helps to suggest theoretical concepts for the local context. It may suggest original or overlooked and policy-relevant factors (variables) and conditions to follow up in the quantitative analysis. Against this background, the selection of cases involved 'information-oriented' sampling, as opposed to ad-random sampling, aiming at developing a diverse yet comparable dataset with regard to subsector, enterprise size and innovative activities.

In the paragraphs below, several key trends and notable patterns across the Vietnamese SME cases are analysed. It is important to note that this offers a first analysis of the qualitative empirical material from Vietnam within the DFID project context, which is to be followed up in more depth with a view to developing or complementing academic articles. The chapter concludes with initial policy ideas and implications and several observations with regard to the set of forward research questions considerations within or beyond EIP-LIC.

General observations

A first overall observation during the preparation of the fieldwork in Vietnam, compared to organising the qualitative interviewing in Kenya, Ghana and Tanzania, was the relatively high number of formally registered SMEs (10-100 employees) in the manufacturing sector in Hanoi and around. Moreover, SME owners and managers were open and happy to receive the research team at their premises for an interview. The interviewed SMEs, in terms of employees, were larger in size that most of the SMEs interviewed in the three African countries so far. This supports the earlier signalled observation that the so–called missing middle of SMEs,[4] a key issues in African countries, may be a lesser problem in Vietnam (see chapter 2).

[3] www.tilburguniversity.edu/dfid-innovation-and-growth/

[4] This phrase has been used relatively loosely in economic development discussions, meaning a lack of SMEs particularly in the developing world. See: http://www.africa.com/blog/investing_in_africa_defining_themissing_middle_/

Innovation definition

Most interviewed owners and managers in the Vietnamese companies described in chapter 3, in different ways, introduced new products, processes and technology in order to improve and expand their business operations. Some would clearly qualify as innovation, while others would not, depending on how innovation is defined and assessed. In advanced economies, innovation is typically measured by R&D expenditures and number of patents of new products or processes as proposed in the Oslo Manual[5] (OECD, 2005). From a radical technology perspective, many of the 'newness' introduced in the Vietnamese cases would not qualify as innovation. Such an assessment would in any case have been impossible because the owners do not systematically record R&D expenditures and have not registered patents.

Taking a broader and economic perspective on innovation, viewing it in terms of incremental adoption and adaptation or of new combinations of existing technologies creating value (Szirmai et al., 2011), it is evident that the new elements introduced in the interviewed companies resulted in improved and expanded business operations. As described in emerging innovation theories on LICs, much innovation depends *on an aggregation of small insights and advances through 'learning by doing' rather than on major technological inventions* (Carayannis et al., 2003).

Despite increasing interest in the literature, the exact definition of innovation in LICs remains an issue in theory (Çapoğlu, 2009) and for its application by the researchers in EIP-LIC. The broadest possible definition of innovation, from an economic perspective, referred to in the qualitative research section, is everything new that the company does to raise productivity and/or to stay ahead of its competitors. Or, as Fagerberg et al. (2010) put it, *"Innovation is often seen as carried out by highly educated labour in R&D intensive companies with strong ties to leading centres of excellence in the scientific world. Seen from this angle, innovation is a typical 'first world' activity. There is, however, another way to look at innovation that goes significantly beyond this high-tech picture. In this broader perspective, innovation – the attempt to try out new or improved products, processes or ways to do things – is an aspect of most if not all economic activities. In this sense, innovation may be as relevant in the developing part of the world as elsewhere."*

Assuming the broader perspective on innovation in EIP-LIC, several definition elements are proposed in box 1 to assess innovation in an LIC context for the analysis of the cases in this report.

Box 1: Innovation newness, process and value creation

A cross analysis of definitions in innovation theory from recent decades (Voeten et al., 2011) shows that innovation is repeatedly typified by three key elements: newness, process and value creation.

Addressing the first element, Kotabe and Swan (1995) argue that innovation can be investigated in terms of both **newness** to the company and newness to the market or world.

Regarding the second element, the innovation **process,** all owners and managers themselves initiated, managed and owned the innovation process within the unit of analysis, their company. They developed the idea, sometimes inspired by others, started to run small experiments and trials and eventually implemented the new product or production technique on a commercial scale. As is often the case in incremental innovation in developing countries, this was not a planned and formalised process involving a pre-defined innovation strategy and an R&D department.

The third element, **value creation** of innovation, is evidenced either through lower input costs or higher sales revenues (Porter, 1985). Higher profit through new premium products of better quality, or appealing to a certain fashion, increases competitiveness.

[5] https://www.oecd.org/sti/inno/2367580.pdf

Kaplinsky and Morris (2001) identify five types of innovation: (i) process innovation, aiming at improving the efficiency of transforming inputs into outputs; (ii) product innovation, leading to better quality, lower price and/or more differentiated products; (iii) business practice innovation, implying new ways to organise the business and attract new clients; (iv) functional innovation, assuming responsibility for new activities in the value chain, such as design, marketing and logistics; and (v) inter-chain innovation, moving to new and profitable chains. These types of innovation are taken into account in the analysis in this report.

In many innovation definition and measurement documents, such as the OECD Oslo Manual (OECD, 2005), an explicit distinction between product, process and other types of innovation is made. However, distinguishing the types of innovation in the manufacturing SME cases interviewed so far in Kenya, Ghana, Tanzania and Vietnam was not such a clear and simple matter. It is more common to see an integrated combination of several types of innovation, where one type of innovation triggers or enables another, such as the introduction of a new process (technology) that results in the launch of new products, requiring the reorganisation of the workshop and staffing. Analysing the Vietnamese cases for newness, process and value creation, as suggested in box 1, is one possible way to assess whether the observed new phenomena within the companies qualify as innovation or not.

1. The animal feedbag case did not innovate in terms of new products of process technology. However, the company introduced a new human resources policy in order to reduce the number of workers and increase productivity. This could be qualified as a management innovation, which would classify in Kaplinsky as business practice innovation.

2. The owners of the metal precision spare parts company changed from previously trading machines into manufacturing parts by themselves, which would qualify as functional innovation. This resulted in the production of new products, which enabled the business to survive and to grow. Innovative activities in terms of new technology and new products within the company are limited at present. The company uses standard technology available in the market. Although there is a design department, the company does not undertake R&D in terms of supply-driven innovations.

3. The bee and honey products firm is the smallest company in the cases series in chapter 3. The introduction of the machine that reduces the water content of the honey could be qualified as process innovation. The technology enables the company to increase production while still ensuring high quality, giving them a competitive advantage. The technology is only new to the firm and not to the world, although no other companies in Hanoi possess such machines.

4. Gemstone painting is a new craft in Vietnam, originally from India. In that sense it could be qualified as a product innovation. However, the company is not the only one engaged in this kind of craft in Vietnam. There were no other innovations signalled during the interview.

5. The software company has developed several new apps which would qualify as product innovation. The app developer applies state-of-the-art technology. It is the only case of a company in this report that is on the global technological frontier. The ideas for the new apps were partly from themselves and partly suggested by the clients.

6. The mattress company did not develop or introduce new technology or radical new products. It updates its designs annually, but more important for raising productivity was the introduction of a new management system, which would qualify as a business practice innovation. The company is conducting some initial experiments with this new system in some departments, but has yet to implement it fully.

7. The furniture workshop has built a strong customer base from a commitment to quality, good designs and original marketing techniques – through its own website and approaching construction firms directly. It has recently ordered a new machine to introduce a new product, which could be considered both as a process and product innovation in the future once it is commercially viable.

8. The paper note- and copybook producing company is competing by regularly introducing new designs. The question arises as to whether this could be labelled an innovation, or just a product 'improvement'. Their strategy to beat the Japanese competitors is to have a better knowledge of Vietnamese school pupils' taste, but the company has been doing this for years and is afraid of losing ground. There are no other breakthrough product or process innovations to enable them to keep a step ahead of the competition.

4.1 Trends and patterns in the cases

The Global Competitiveness Report 2014-2015 of the World Economic Forum suggests that Vietnam is becoming more industrialised and competitive on the global market. Firms have become larger and are starting to exploit economies of scale. There are quite a number of formally established SMEs. Input factors are used more efficiently, raising the rate of return and increasing product quality. Productivity has to increase because wages rise with advancing development. Against this background, the set of cases explored fits best in the Porter et al. (2002) economic stage classification of an *efficiency-driven* economy. The companies interviewed in Vietnam are competing less on factor endowments, unskilled labour and natural resources, as Kenya, Ghana and Tanzania do. The cases in the latter countries are more involved in trade (export) and processing of basic products based on their factor endowments. These activities are labour intensive, requiring unskilled low-cost labour and low productivity.

Compared to the earlier qualitative explorations in Kenya, Tanzania and Ghana in the framework of EIP-LIC, the owners of the companies in Vietnam seem much more aware of the importance of introducing new products and technology to raise productivity and efficiency to maintain their level of competitiveness. At the same time, most of the interviewed SMEs have introduced management and organisation innovations, whereas product and process innovations are less important. The new products and processes in the innovative companies are not radical and not 'new to the world'. Ideas for new products are mainly acquired from the market: customers come with requests and suggestions, or the owners talk with clients. It is therefore mostly demand-driven innovation.

Internal capabilities

In all cases, it is the owner who initiates, coordinates and manages the new ideas, including preparations for the innovation, technical details, and the product launch. Few companies have a design or R&D department or a specialist employee with this function.

The workforce in the companies are mostly unskilled and skilled labourers in the production workshop on the one hand, and well-educated staff in management and marketing on the other. Several owners face the difficulties of a high turnover rate of unskilled production workers. In fact, there are plenty of employment opportunities in northern Vietnam for lower educated workers, as reported by several of the managers and owners. All companies have some form of a rewards and bonuses system. The skilled production workers seemed more loyal to the company and the well-educated staff are the most loyal. The recruitment of workers is therefore an ongoing concern for the owners and managers. An additional issue is that the younger generation of Vietnamese workers are not interested in craftsmanship or manual work. Some companies move out of Hanoi and establish themselves in the provinces because of the improved availability and low cost of unskilled labour in these areas.

The Vietnamese education system does not deliver workers trained in the skills required for production work in the firms interviewed. Graduates from colleges and universities do have theoretical knowledge but lack practical skills, so most companies have to provide additional in-house training. Although in some cases the employees provide innovative ideas, most owners signal the limited creativity of their workers and refer to a passive attitude.

Typically, the companies possess technology and machinery that they have owned for a long time. The technology is still able to deliver a certain minimum product quality. Occasionally, new machinery is bought from profits and savings. The interviewed owners and managers are well-informed about technological possibilities though the internet or informal contacts. They actually have ideas and plans for upgrading and expanding their companies. However, new (technological frontier) machines are too expensive and advanced compared to the expected returns on investment in the short run. With regard to the long run, the macro-economic and institutional context does not provide sufficient confidence to commit to such extensive investments with bank credit. They are only confident about the stability of the short- and medium-term. The 'glass ceiling' situation seems to be the case among most interviewed SMEs.

The cases also show the active involvement of women in the management of enterprises. However, in all cases, the husband is ultimately in charge. Regarding family obligations and duties, the female managers all consider women ultimately responsible for raising children and running the household. Recent reports[6] confirm that the labour force participation rate of women stands high in Vietnam. About 72 per cent of women are in the labour force, which means far more Vietnamese women have a job than in most other countries around the globe. However, Vietnam is among the few countries in the world where the gender pay gap has been widening, while the gap has declined in most nations in the period 2008-2011 (ILO, 2013).

The gap concerns the remuneration package, including benefits, bonuses or allowances. Female workers and managers have lower monthly incomes than their male colleagues in all economic sectors – state, non-state and foreign-invested. Women usually hold lower positions, whereas most management posts belong to men. Lastly, female workers often have fewer training opportunities before and during their work career compared to their male colleagues and women with families face even more difficulties in Vietnam (ibid).

External business environment and formal and informal institutions

All interviewed SME owners and managers indicate that the business environment is challenging in Vietnam. Several of them hold a negative perception of ever-changing government policies and regulations. There is no clarity about the changes, which SME owners have to navigate themselves, a very time-consuming process. Many ministries and governmental agencies have different and unpredictable regulations. The interviewees provided some examples of companies closing down because of government regulations; these companies have continued to work 'under the radar'.

No interviewed company received government support, which the owners and managers regret. They feel that they have to survive on their own. While most of them think that is reasonable, some form of credit or technical support would have been welcome, all the more because several owners and managers feel that FDI and state-owned enterprises receive preferential treatment with regard to tax obligations.

The banking system is not an attractive source of finance for SMEs. High interest rates and complex paperwork are critical issues. Moreover, banks only accept land as collateral, while many SME owners do not own land. Instead, most SME entrepreneurs find investment money from savings and via informal loans from family members. They usually invest incrementally just before or after receiving large orders.

Branch associations are an important source of information and business contacts and contracts for the owners and managers of the cases. Most of them are members of an association. Interaction with formal technology

[6] http://www.ilo.org/hanoi/Informationresources/Publicinformation/Pressreleases/WCMS_206104/lang--en/index.htm

institutions, as suggested in the innovation systems literature (Lundvall, 1997), does not happen. Many SME owners and managers indicate that they would like to cooperate with universities to undertake research at their premises, sharing research insights, for instance. There is very little spill-over of technology as a result of cooperation between firms, subcontracting or other forms of collaboration within value chains, business clusters or networks.

4.2 Policy issues – insights for policy makers to consider

Despite the SWOT analysis and associated policy recommendations, which are in line with the findings in the cases in chapter 3 of this report, it remains uncertain to what extent the government will be able to reach SMEs. Various ministries within the Vietnamese government have defined and implemented innovation policies, but these seem not to reach the SME owners interviewed, although some are aware of R&D centres and their programmes aiming at technology development for SMEs. A possible barrier may be a technocratic top-down view of technology in such programmes. The target companies are seldom consulted, and in fact they prefer to stay at a distance from the formal institutions, with the result that, in the interviewed cases, SME owners do not benefit from any innovation policies. An alternative bottom-up approach is one idea to address this problem.

The interviewees are aware of state of the art technology but cannot afford the high costs of such machines. Moreover, those that do have the money available are reluctant to invest it, because of uncertainty in both micro and macroeconomic terms. In addition, the government does not ensure an ongoing stable regulatory environment. Most SMEs do not expand beyond their basic business activity because of these challenging business conditions.

Another issue is whether the overall policy approach, directing Vietnam towards an innovation-driven economy, is the most effective and appropriate means to develop the manufacturing SME sector. This relates to the relatively low levels of product and process innovation in the cases. Policy makers may wish to consider supporting SMEs in other forms of innovation, such as business practice (management and organisation), functional innovation, etc. As argued in the introduction to this report, it is desirable to develop innovation within manufacturing SMEs. Some believe that technological innovation is critical for SME development and catch-up in LICs. Technological innovation has, however, been traditionally concentrated in developed countries, given the costs and risks involved in stimulating technological innovation. Foreign sources of technology account for a large part of productivity growth in most countries, also witnessed in the Vietnamese cases. Therefore, the development process in LICs could be supported by tapping existing technical and product knowledge.

Moreover, the stories and experiences of the owners and managers raise the issue of whether an innovation-driven and new-to-the-world innovation approach should be the way forward. Most of the required technology is already available, but elsewhere in the world. In fact, all owners in the cases are well informed about the technological possibilities of their business. Without too much difficulty, the owners and managers find the technology themselves by drawing on various sources of information (the internet, informal business contacts and trade fairs). Moreover, the companies themselves refine and adapt the existing technology once acquired. So, although setting up technology development projects and programmes may help SMEs, the availability of technology is not perceived as a barrier to innovation by the owners and managers.

It seems that the notion of growth as ‘manna from heaven’ as reflected in convergence theory, see the earlier rejected exogenous growth model of Solow and Swan (Fagerberg et al., 2010), might work after all because of the free and widespread access to knowledge and technologies via the internet. The knowledge itself is available to local companies in Vietnam. The institutional context, providing trust, predictability, stability and access to finance is more of a problem in preventing investment in technology and innovation and thus

hindering 'convergence'. However, the 'manna from heaven' of technology developed elsewhere may not address the local needs or issues in Vietnam.

Innovation climate

How then can the innovative capacity of SMEs in developing countries be increased? According to the World Bank (2010), an efficient government innovation policy should address the overall innovation climate, which goes beyond traditional science and technology policy. At the same time, government action can usefully focus on a few generic functions to help SMEs to grow. In particular, it can facilitate the articulation and implementation of innovative initiatives, since innovators need basic technical, financial and other support.

The government can also reduce obstacles to innovation in competition and in regulatory and legal frameworks. Government-sponsored research and development structures can respond to the needs and demands of surrounding communities. Finally, the education system can help form a receptive and creative population. Regarding actual innovation policy development, there has been a considerable amount of work in developing countries, such as the World Bank (2010) report 'Innovation Policy: A Guide for Developing Countries'.

The lack of relevant education is a problem for the companies interviewed, who feel there are insufficient skilled workers and operators to work with modern machines. SME owners and managers complain that university and college graduates lack the required technical and craftsman's skills, exposure to modern technologies, and an entrepreneurial and creative attitude.

As mentioned earlier, several ministries and agencies are engaged in efforts to develop and promote innovation policy, usually labelled as Science, Technology and Innovation (STI) policy. Despite considerable effort in developing strategies and plans, actual implementation is challenging, due to the limited availability of public budgets and knowledgeable staff.

Nearly all SME owners and managers suggest that creating a stable and predictable institutional context would be an efficient and effective way to promote innovation in Vietnam. Whatever innovation policies and programmes are developed, the results of such policies will be undermined by the weak and unreliable wider formal institutional context.

Another policy idea emerging from the DFID project is that several owners and managers suggest focusing not on governmental policy makers only, but on direct advice to SMEs on how to improve their business. One idea is to develop non-governmental business information exchange networks and platforms, establishing contact between entrepreneurs in Vietnam and beyond, to facilitate discussion and deals within the various sectors. SME owners suggest that the DFID project could establish a network of all SME owners and managers contacted during the implementation of EIP-LIC and create a website for them to stay in touch with each other.

Research issues - insights to address the research questions

The qualitative analysis of Vietnam, and also the earlier studies on Kenya, Ghana and Tanzania, show the many internal and external factors supporting or hindering innovative behaviour of owners and managers of manufacturing SMEs. The econometric analyses and the mathematical models approach within EIP-LIC implicitly seek correlations and causal relationships between independent variables such as internal capabilities, a favourable policy context, the availability of finance and technology, and the occurrence of innovation and innovativeness as dependent variables. The associated economic theories explain and predict economic outcomes as a basis for further policy development.

However, a limitation is that the claims of econometric analyses are true only ceteris paribus — that is, they are true only if there are no interferences or inhibiting factors. Critics say that the most important

methodological issue is the simplification, idealisation, and abstraction that characterises econometric research. However, the qualitative research element of this project shows the reality of numerous inhibiting factors. This is problematic once research outcomes are translated into policy, from which true impact is expected, and constitutes an emerging methodological challenge in terms of developing meaningful and effective policy recommendations in the EIP-LIC research project.

Theme 1 'Innovation Systems'

In reviewing the innovations in the cases against innovation systems theory, one would expect the SMEs to be surrounded by a network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies (Freeman, 1987). However, it appears that the SME innovations in Vietnam are mostly in-house activities. The same phenomenon has been observed in Kenya, Ghana and Tanzania. In these mostly factor-driven economies in Africa, innovation is observed in advanced techniques that process primary products into competitive ones on the world market. However, Vietnam is a more efficiency-driven economy, in which companies seek state-of-the-art technology to save on labour costs and raise productivity. In the Vietnamese SMEs, one would expect formal technology institutions to facilitate this process. However, although government S&T institutions do exist, it seems that their developed technologies are not required by SMEs, whereas no similar institutions exist for the less-developed technology they actually require.

The cases suggest several firm-level factors playing a critical role in the engagement of incremental innovative activities, rather than supporting institutions. The innovation process is initiated, managed and owned by the company without any external involvement or support from other businesses. Informal contacts, even within formal institutions, play a key role in some cases. It is the owners who develop ideas for innovation, with employees playing only a limited part by suggesting improvements at the operational level.

The motivation, contacts and international exposure of the owner are key factors in engagement in innovative activities. Moreover, the availability of funds as a result of profits is essential. Regarding the risk-taking of their innovation projects, most owners and managers are confident about the market opportunities in Vietnam, the region and beyond.

There are no cases of collaborative innovative activities. Although the companies are open to sharing information about their needs, most of the owners/managers avoid cooperation with other companies.

Regarding external networks, none of the cases has been involved in collaborative innovative activities or joint technology acquisition with other businesses or with technology institutions. There are no spill-overs as a result of subcontracts or clustering of firms. Likewise, no company enjoys the spill-over of technology from larger, foreign or other technologically more advanced firms. There are no examples of large foreign enterprises subcontracting and making technology available to SMEs or exchanging information. The companies in Hanoi are widely scattered and seem to have no relationship with each other.

There are virtually no links between the interviewed SMEs and public sector actors, such as universities, governments, or NGOs, as presented in the 'Innovation Systems' analytical model. The so-called innovation system, as a co-evolutionary network of actors, does not exist. Instead, the business system actors and informal institutions play a key role in providing information, technology, credit and overall stability and predictability. The role of these actors could be further explored in EIP-LIC research, with particular regard to the doing, using and interacting (DUI) approach in learning and innovation processes, as suggested by Lundvall et al. (2009).

The outcomes of the qualitative inquiry suggest that technology and underlying knowledge may not be the problem. Regarding the diffusion of technology, most of the entrepreneurs are well-informed about

technological possibilities and are able to import the technology by themselves with little difficulty, provided funds are available. For most of the technical problems faced by the SMEs, a technical solution has already been developed somewhere in the world, so there is little need to develop local 'new to the world' technologies. There is therefore little need for intermediaries to bring producers and users of innovation/knowledge together. There are few 'breakthrough' technologies that could be disseminated on a wider scale, and the owners and managers seek to meet their specific needs with available technology. They can identify where to source the technology and have suppliers. In some cases, a local technician can make a copy of the machine. There is little local innovation for local problems.

Theme 2 'Finance for Productivity Growth'

Finance is considered a critical constraint by most interviewed companies in Vietnam. In all companies, the owners aim to introduce new products and raise productivity because they see business opportunities in doing so. Learning and acquiring the technology is not such a problem, but the finance is, in particular for expensive state-of-the-art technology to be able to face international competition. The SME owners develop their businesses through small, incremental investment. They do not take a leap and make a large scale investment. Although there are well developed ideas for innovation and confidence in the market, investments cannot be made because of the uncertainty of the long term economic and political outlook. Instead, SME owners invest by using the profit of larger orders they have, or by using the contract upfront to secure supplier credit.

The Vietnam cases provide some insights into the formal and informal financial institutions. One key issue is that banks charge high interest rates for loans to manufacturing SMEs, which prevents several companies from investing in technology that could enable them to increase their speed of production and broaden their range of products. Although they are 'proven' entrepreneurs of registered businesses, able to assess risk and handle a difficult business environment, they are not considered creditworthy. Most of the interviewed companies were given informal loans and gifts by family and friends.

With regard to managerial practices and innovation decisions, many entrepreneurs do little in terms of in-depth calculations and forecasts. Most owners are self-made entrepreneurs, due to a combination of their limited knowledge of financial management and the uncertain and fast-changing economic and institutional context. It is very difficult to make a financial forecast in the Vietnam context and with an eye on possible exports, as the regulations are unclear and change continually.

Unlike M-Pesa in Kenya, SMEs in Vietnam do not use mobile banking for business transactions, although most company owners do benefit from the recently introduced internet-based banking services.

References

Çapoğlu, C. 2009. The Meaning of Innovation and Entrepreneurship in Developing Countries. *International Studies In Entrepreneurship* 21: 85-91

Carayannis, E. G., E. Gonzalez and J. Wetter. 2003. 'The Nature and Dynamics of Discontinuous and Disruptive Innovations from a Learning and Knowledge Management Perspective'. In Shavinia, L. (ed.) *The International Handbook on Innovation*, London: Elsevier Science Ltd

Chaminade, C., B.-Å. Lundvall, J. Vang and K. J. Joseph. 2010. 'Designing Innovation Policies for Development: Towards a Systemic Experimentation Based Approach'. In: Lundvall, B. Å., K. J. Joseph, C. Chaminade and J. Vang (eds.) *Handbook of Innovation Systems and Developing Countries*, Cheltenham: Edward Elgar, pp. 360-379

Fagerberg, J., M. Srholec and B. Verspragen. (2010). The Role of Innovation in Development. *Review of Economics and Institutions* 1 (2): Article 2

Freeman, Ch. 1987. *Technology Policy and Economic Performance: Lessons from Japan*. London and New York, NY: Pinter Publishers

Kaplinsky, R., and M. Morris. 2001. *A Handbook for Value Chain Research*. Brighton: Institute of Development Studies (IDS), University of Sussex.

Kotabe, M. and K. S. Swan. 1995. The Role of Strategic Alliances in High Technology New Product Development. *Strategic Management Journal* 16(8): 621-36

Lundvall, B.-Å. 1992. *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*. London: Pinter Publishers

Lundvall, B.-Å., K. Joseph, C. Chaminade and J. Vang. 2009. *Handbook of Innovation Systems and Developing Countries - Building Domestic Capabilities in a Global Setting*. Cheltenham: Edward Elgar Publishing

OECD. 2005. *The Measurement of Scientific and Technological Activities: Proposed Guidelines for Collecting and Interpreting Technological Innovation Data – Oslo Manual*. Paris: Organization for Economic Co-operation and Development (OECD), Eurostat

OECD/The World Bank. 2014. *Science, Technology and Innovation in Viet Nam,* OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/9789264213500-en

Porter, M. 1985. *The Competitive Advantage: Creating and Sustaining Superior Performance*. New York, NY: Free Press

Porter, M., J. Sachs and J. McArthur. 2002. 'Executive Summary: Competitiveness and Stages of Economic Development' In Porter, M., J. Sachs, P. Cornelius, J. McArthur and K. Schwab (eds.) *The Global Competitiveness Report 2001*, New York: Oxford University Press, p.16-26

Szirmai A., W. Naudé and M. Goedhuys. 2011. 'Entrepreneurship, Innovation, and Economic Development: An Overview', In Szirmai, A., W. Naudé and M. Goedhuys (eds.) *Entrepreneurship, Innovation, and Economic Development*. Oxford: Oxford University Press, pp. 3-32

Uyen, H. P. Phan, Phuong V. Nguyen, Kien T. Mai, and Thao P. Le. 2015. Key Determinants of SMEs in Vietnam. Combining Quantitative and Qualitative Studies. *Review of European Studies* 7(11): 359-375

Voeten, J., J. de Haan and G. de Groot. 2011. 'Is that Innovation? Assessing Examples of Revitalized Economic Dynamics Among Clusters of Small Producers in Northern Vietnam'. In A. Szirmai, W. Naudé and M. Goedhuys (eds.) *Entrepreneurship, Innovation, and Economic Development*. Oxford: Oxford University Press, pp. 96-121

World Bank. 2015. Vietnam Mainland Poverty Assessment. World Bank. http://www.worldbank.org/content/dam/Worldbank/document/Africa/Vietnam/Report/Vietnam-poverty-assessment-05.2015.pdf

World Bank. 2010. *Innovation Policy: A Guide for Developing Countries*. World Bank. https://openknowledge.worldbank.org/handle/10986/2460

World Economic Forum. 2015. *The Global Competitiveness Report 2015 - 2015*. Geneva: World Economic Forum

Yin, R. 2003. *Case Study Research: Design and Methods*. Thousand Oaks, CA: Sage Publications

Annexes

Annex 1: List of questions for semi-structured interviews

A. BASIC INFORMATION

1. Name of business and owner, location, legal status, years of operation, types of products, manufacturing subsector, productive activities, number of employees, management structure, some indication of turnover and profit and average investment size.

2. Short history and background of business model. How is the company generating value? Position in a value chain if applicable, suppliers, major clients/markets.

3. Did the company grow/expand in recent years? To what extent (why) does the owner consider his/her company as an innovative company as compared to other manufacturing SMEs in Vietnam?

4. Did the company itself introduce a new product, process or technology to raise productivity or to face competition? Provide examples of product/process/technology innovations that enabled survival/growth/ expansion in the past 3 years.

B. INNOVATION

<u>New</u>

1. Description of the type of innovation (process, product, incremental, radical). What is new? Did some innovations enable/trigger other types of innovation within the company? Management innovation in terms of goal setting?
2. Is the innovation 'new to the world' involving inventions by internal R&D, or is it a copy, adaptation or adoption of an existing product or technology?
3. How do the owner, employees, clients and others actors perceive the newness? (just a small improvement or as a 'breakthrough')?

<u>Process</u>

4. Idea: Where did the idea and motivation for the innovation come from? What were the first steps in the idea formulation and who initiated these? What was difficult and what was easy?
5. Testing: What were the subsequent steps in testing? At what point in time did it become clear that the new product or process would become a success? On what basis did the owners decide to further implement/commercialise it? Did the owner try new things that failed?
6. Commercialisation: what were the steps towards the implementation? What confidence/trust provided back-up? What was difficult and what was helpful?

<u>Value</u>

7. How do product/process/technology innovations create value for the company?
8. Did the innovation increase productivity, if so how? (lowering production costs per unit, labour/capital input)?
9. Did the competitive position change as a result of the innovation, if so how? (via premium products, better, newer fashionable products or new export markets)?

C. INTERNAL CAPABILITIES (FIRM LEVEL CONDITIONS)

What are the internal strengths and weaknesses with regard to the innovativeness of the company?

Dynamic capabilities

Sensing and shaping opportunities for product/process/technology innovations

1. To what extent do you (and the employees) see the need/urgency to be innovative?
2. How do you or your employees identify new business/innovation opportunities?
3. Who is actively involved in identifying these opportunities?
4. How is raising productivity and competitiveness linked to identifying opportunities for innovation?
5. How do you target a new market segment? How do you consider the competitiveness of your company?
6. How is your company adjusting to customer needs?
7. How does the company select the ideas that it is willing to invest/innovate in?
8. Who is involved in this process?

Reconfiguration of the company

9. How do you adjust by being innovative to the surrounding business environment?
10. How do you share knowledge within your company?
11. How are employees informed about new developments?
12. How does your company train employees to adjust to new developments?

Goal setting

13. Do you have an implicit or explicit goal setting system to improve performance?
14. How do you pay employees for performance? (more salary, rewards)
15. How do you increase motivation? Is there intrinsic motivation (ambition, ownership) and external (money) motivation?

Slack time

16. Do you give employees time to develop or try out a new approach or develop new ideas about products or services, or business processes?

    If yes:

    - What exactly was expected from employees during this time? What kind of activities should employees undertake during this time?
    - Did all the employees get some time or was it restricted to a specific group; and if so, which group?
    - Why did this establishment give employees this time? What was the goal/idea behind it?

    If no:

    Have you ever considered giving employees some time to develop new ideas? If yes, what was the reason for implementing it? If not, why not?

D. FORMAL INSTITUTIONS

How does the owner perceive the opportunities and threats for product/process/technology innovations of the surrounding business, policy and regulatory context in Vietnam?

1. Is the owner aware of governmental policies/programmes in Vietnam that specifically aim to stimulate product/process/technology innovations in manufacturing SMEs? What is the owner's idea and perception of these governmental policies (programmes/projects)?

2. Does the company actively participate in, or benefit from, such governmental policies/programmes/regulations? (specify in what ways these stimulate the company's innovativeness)

3. What role do intellectual property rights and patent laws play in your innovation activities? Does the owner aim to patent innovations? If so, which patent office is used? Does the owner find intellectual property rights and patent laws helpful for innovation activities? Does the owner respect the intellectual property rights of others when innovating? If not, why not?

4. Are other generic governmental policies/programmes (not explicitly aimed at promoting innovation, stimulating education or providing access to finance) supporting the company's innovativeness in an effective way?

5. Do certain governmental policies or regulations prevent the owner from introducing and investing in innovation? What threats in terms of policy and government regulations emerged in the innovation process?

6. Does the company participate in, or benefit from, programmes or projects stimulating innovativeness run by NGOs and/or international development agencies? (kind of programmes/projects and impact)

7. How does the owner acquire knowledge and technology for product/process/technology innovations? When conducting innovative activities, does the company collaborate with formal bodies, such as universities, R&D centres, research institutes and so on? Why (not)? Which kind of organisation? Does the owner encounter any difficulties in collaborating with such organisations? If so, of what kind? Are these collaborations ultimately beneficial for innovativeness? If not, why not?

E. BUSINESS SYSTEM, SPILL-OVERS, EXPORTS

To what extent (and how) are contacts and interactions with other businesses - local, national and international - important for stimulating product/process/technology innovations within the company? Examples?

Business systems interaction

1. Has the company ever introduced a new product/process/technology to suit the needs of a local client/buyer? If yes, did the client/buyer help in any way to make these changes?

2. Has the company ever followed the advice of a supplier in introducing a new product/process/technology?

3. Does the company have active business cooperation (subcontracts)? What is the nature of the cooperation and what is the benefit? Did that involve a new product/process/technology?

4. Does the company buy from or sell to any multinational firms located in Vietnam? If yes, has the company ever benefitted in any way from cooperation with these firms to develop a product or improve production techniques?

5. Where does the company typically recruit employees? Has the company ever recruited employees from a client, supplier or competitor? Were these employees particularly helpful in improving products or production techniques? Has the company recruited employees with the explicit aim of improving products or production techniques? Where did they work before?

Location

6. How long has the company been located at the present address? Did the company move to this address or was it created at this address? What were the main reasons why the company was moved to/founded at the present address?

7. How does the presence in the location/region affect the company's performance, innovation, growth? What is the owners' perception of the dynamics of the present location/region with regard to the businesses around (micro, SMEs, large, multinational)? What is the size of the region to which the owner refers?

8. Are the other businesses in the region similar or different in terms of size, production, sector and type? To what extent do firms produce comparable goods in the region?

9. Alternatively, to what extent are these other business hindering and competing? Does the owner see them mostly as competitors? Does that imply a need for innovation?

10. Does the company buy inputs (what, quantity) from firms located in the region? What is the quality of local inputs? Did the owners ever ask a local supplier to change a product to suit certain needs? If yes, did the company help the supplier make these changes in any way?

Export

11. Has the company ever exported some of its products to foreign countries? If yes, when was the first export? Has the company exported some of its output abroad in the last year? To which countries?

12. What was the main driver of the company's decision to export? Did the company actively look for foreign clients? Did foreign clients or a wholesaler contact the company (if yes, how: website, fair, etc.)? How did the company hear about export opportunities or has the company ever been recommended to foreign clients? If the company was contacted or recommended, why was this the case?

13. Has the company ever improved an existing product or created a new product with the explicit aim of exporting it? If yes, was it at the direct request of foreign clients or to find new foreign clients? Did the company make improvements to comply with standards and regulations?

F. INFORMAL INSTITUTIONS

1. Family and friends (overseas)
2. Cultural perception of innovation. Is innovation something good? Or should we strive for stability and harmony in society?
3. Informal think tanks, informal knowledge through contacts with university experts
4. Rent seeking individuals, corruption
5. Hindering culture, traditions or customs
6. Social learning, collective learning
7. Community solidarity, craft traditions

Annex 2: List of companies interviewed

Manufacturing SMEs interviewed in Hanoi in chronological order (13 – 23 January 2016)

	Subsector	Products	# of employees
1	Construction materials	Metal doors and windows	15
2	Plastic manufacturing	Animal feed bags	60
3	Design and manufacturing plastic items	Office presentation and display materials	10
4	Ceramics	Traditional ceramic household products (tableware, cups, trays, plates. flowerpots, lamps)	30
5	Construction	Electronic doors and windows	56
6	Metal products	Metal window and inox home products	70
7	Food processing	Honey products	15
8	Ceramics	Modern design and fine art home accessories: vases, mirrors, photo frames, trays, plates	400
9	Food processing	Candy, moon cakes, *tet muc*, confectionery	220
10	Furniture	Home furniture	50
11	Handicraft creative decoration	Paintings	30
12	Textiles	Mattresses, blankets, bed sheets	200
13	Manufacture of machinery and equipment	Metal precision (spare) parts	36
14	Paper and paper products	Notebook and copy books	60
15	Food products	Hibiscus products	40

Annex 3: DFID research questions

The DFID research project takes an 'economics' perspective on innovation, and involves econometric analysis of a set of variables concerning barriers at firm, regional and national levels and their causalities in terms of *innovative behaviour/capability of entrepreneurs* and subsequently innovation and productivity. This constitutes a reductionist and deductive approach in defining variables for analysis in which the impact of individual factors on innovation is assessed by applying quantitative econometric methods (ceteris paribus). The DFID project key research questions are grouped under two themes:

Theme 1 'Innovation Systems':

- What firm-level and regional-level factors hinder or foster the engagement of firms in innovative activities?
- What is the impact of in-house innovation activities versus collaborative innovative activities or technology acquisition activities on the innovative performance of firms in developing countries?
- What is the role of economic spill-overs within clusters of firms in fostering economic growth and innovation?
- What are the most critical barriers to the process of innovation and the diffusion of technology in low income country settings?
- What types of links between the public/private sectors, universities, governments, NGOs and the private sector are more conducive to innovation activity?
- What is the role of intermediaries to bring producers and users of innovation/knowledge together?

Theme 2 'Finance for Productivity Growth':

- How does the design of formal and informal financial institutions affect firm productivity dispersion across SMEs?
- What are the firm level margins that make finance matter for productivity?
- What role do observable managerial decisions (e.g. managerial practices, innovation, product market competition, product quality, technology adoption, location of the plant and the trade status) and managerial characteristics (e.g. gender, age, education, behavioural aspects) play in explaining the nexus between financial development and firm productivity?
- How does firms' productivity respond to exogenous developments in the financial environment?
- What are the macroeconomic implications of such development experiences?