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Jan Hauke Holste

# Local Firm Upgrading in Global Value Chains

A Business Model Perspective



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## A Business Model Perspective

With a foreword by Prof. Dr. Stefan Zeranski

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Frankfurt, Germany

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## Preface

There is a moment in the history of each company where it takes off. For Southeast Asia and Taiwan, examples would be Asus, Giant or Foxcon. The motivation for this research is the drive to explore new explanations, to be there as a researcher – *ex ante* – before the moment of global recognition, to look into the process without the glamour of past success and its *ex post* explanations. How can a company innovate and change its business model to the degree that it can climb up the value chain? What happens on the local level that distinguishes winners from losers?

This research is looking at SMEs in Taiwan in the semiconductor and garment industry using and adaption of the Business Model Canvas by Osterwalder to capture the business model innovation taking place to climb the value chain.

A bigger project, such as an academic study, can be compared to a *Formula 1* race. One person is the driver, but without the support of his team, investors and a fan base, success is impossible. I therefore want to express my gratitude and thankfulness to “my team”:

First of all, to my supervisor Dr. Rudolf Sinkovics, who supported me in numerous ways. His guidance, comments and feedback were essential to my research.

To my professors and colleagues at the National Taiwan University, who allowed me to make use of their network to gain access to companies.

To the managers of various companies who spent their precious time to allow me to conduct interviews.

To my “investors”: The German Academic Exchange Service (DAAD) that granted me a scholarship as well as the Daniela und Jürgen Westphal-Stiftung, which helped me cover additional expenses of studying and conducting research in Taiwan.

Finally, I want to thank my “fan base”: my family and friends, who were always there for me, even when separated by immense distances in time and space during my stay in Taiwan. Their unconditional support, visits and phone calls cheered me up and helped me pursuing my goals further.

Jan Hauke Holste

## **Abstract**

Technological catch-up and development as innovation increasingly gained in importance as determinates for success of developing countries and firms. Joining a global value chain, therefore shift from a catch-up and cost-driven towards a technology- and innovation-driven value creating phase is one way to do so. What factors influence how a firm can upgrade within such a value chain? The governance of global value chains is one important factor. The impact on local firm upgrading has been extensively studied in the last decades. However, the role of the local firm has not been researched extensively.

This study tries to open the black box of the local firm and investigate what actions or decisions enable a company to climb up the value chain. The global value chain literature is combined with the business model literature to create a new framework of how local firm level upgrading takes places. A multiple case study is conducted by interviewing Taiwanese SMEs and then coded by using semi-grounded theory.

The findings indicate that the local firm is more than just a link in a global value chain. It is the central actor in a unique constellation of different stakeholders. Local firm upgrading is more than just a response to exogenous stimuli; the endogenous factors, what is happening inside the firm seems to be more important for upgrading. Each firm has a choice and inter-firm differences indicate that there is a strong firm level factor. One of the key drivers of local firm upgrading is the company founder. He/she is possibly the most important element inside the black box. However, the findings of this study cannot be generalized across all countries or industries; this is a first step to explore the dynamics of local firm upgrading within global value chains.

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## **List of Acronyms**

B2B	Business to business
B2B2C	Business to business to customer
B2C	Business to Customer
CH	Channels
CR	Customer Relationships
CRM	Customer Relationship Management
CS	Cost Structure
CS	Customer Segments
GVC	Global Value Chain
GPN	Global Production Network
KA	Key Activities
KP	Key Partnerships
KR	Key Resources
OBM	Original Brand Manufacturing
ODM	Own Design Manufacturer
OEA	Original Equipment Assembling
OEM	Original Equipment Manufacturing
RS	Revenue Streams
R&D	Research and Development
SMC	Small and Medium Size Company
SME	Small and medium Size Enterprise
VP	Value Propositions

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## 1. Introduction

Over the past few years, the value chain concept has increasingly gained attention both from the world of business and the world of academia (Humphrey, 2004; Gualani et al. 2005; Schmitz, 2006; Gereffi, 2009; Gereffi and Lee, 2012). Research has focused on the governance structure of global value chains (GVC) and its implication for firms to learn, innovate and upgrade their relative position in the value chain. As revealed by export-oriented growth and development strategies that were successfully pursued by Asian countries, this is not merely of academic interest. The so-called Asian Tigers (Hong Kong, Singapore, South Korea and Taiwan) show that a country can achieve growth and prosperity even if it starts out at the wrong end of the international labour division, or in other words, on the lowest point in the value chain. The Taiwanese IT industry is an example of an industry that successfully joined and upgraded in GVCs. It developed from being a cheap producer of IT components to being a global player (HTC, Acer) in the IT industry (Wang, 2007). Some small and medium sized Taiwanese enterprises (SME) have successfully managed to upgrade their position in the GVC, by learning and being innovative. Other developing countries have been eager to apply “lessons learned” from this path of technological catch-up (Wang, 2007). The concepts of learning, innovation and upgrading have increasingly gained attention in development studies (Leung, 2007), as scholars are now again beginning to look at the Asian Tigers – in search for a second lesson. How can an economy shift from technological catch-up to an innovation-based economy (Wang, 2007; Leung, 2007)? One way to do this is through learning, innovation and “functional upgrading” – on the level of a firm as well as on a national level. Through the interdependence between an export- oriented strategy of country development and GVCs and value chain upgrading on the firm level, all topics are linked. The majority of scholars in the GVC literature are focusing on the lead firm or the governance of the value chain (Gereffi et al. 2005; Gualani et al. 2005) and the implications for local upgrading and innovation. Recently, scholars have begun to shift their focus to look for other factors that influence firm upgrading (Morrison, 2008; Pietrobelli and Rabellotti, 2011). However, the local firm has not been the object of focus yet: “It is still neglected” and treated “as a black box” (Coe et al. 2008; p. 277). By focussing on the local firm, inter-firm differences could be explained, as not every firm acts in the same manner, even though both are situated in the same GVC.

From a company and business perspective it is presumably more interesting to have the knowledge to move up in the value chain, how to innovate and upgrade rather than specifying where a company is located in the governance model or how governance is influencing its upgrading process/prospects. What constitutes upgrading and how does it take place at the firm level? What are the managerial decisions or key drivers for local firm upgrading and innovation? By opening the black box of the firm, new insights for local firm upgrading in developing countries can be gained.

## 1.1 Aim and Motivation

This research seeks to open the black box of the firm and closing the existing gap in the literature. In addition, it hopes to add a new perspective to the discussion of upgrading and innovation in GVCs, by using both the perspective of the local firm as well as the business model literature as a tool to do so. While innovation and upgrading are necessary for survival in the accelerating, change-driven world of the 21st century, they are not sufficient. Only if a firm is capable of capturing the value added generated by upgrading and innovation through a change in its business model, is a real gain made at the local level. Uniting those two streams of literature, the GVC and the business model literature, it is explored what goes on inside the “black box”.

The motivation for this study is the drive to explore and seek out new explanations, to be there as a researcher before the moment of global recognition, and to look into the process without the glamour of past success. Is it what happens on the local level that distinguishes winners from losers?

## 1.2 Research Question and Objectives

The firm level dynamics as well as its drivers require special attention, one which it has not had in the past (Morrison, 2008; Coe, 2008, Pietrobelli and Rabellotti 2011). In Coe’s (2008; p. 277) words: “The [...] gap in the GPN/GVC literature concerns the treatment of the firm. Although the firm is clearly—and explicitly—the central actor in all analyses it is, invariably, treated as a black box.” To open this box is one objective of this research. Another is to contribute to the current GVC literature by using a new approach to learning, innovation and upgrading at the local firm level. A third is to make a contribution, not only from an academic, but also from a practical point of view, by finding and revealing best practices, which may help other businesses to climb the value chain.

### 1.2.1 Research Question

The research question is therefore based on the assumption that the local firm and managerial decisions taken by that firm matter for upgrading and innovation, even if the firm is subject to the governance of a GVC. The research scope is shifted towards the firm as the level of analysis by using the business model literature. Therefore, the research question is:

“What are the key drivers, managerial actions or critical incidents, which enable small and medium sized enterprises to change their relative position through upgrading and innovation in GVCs?”

Based on this main research question, there is a set of sub-questions:

“What internal and external factors or decisions allow them to move up the value chain and shake the established governance structure? How do innovation and upgrading happen at the firm level and in what ways does that influence the business model? What makes some firms successful, where others fail? What is the role of the entrepreneur/company founder?”

#### *1.2.2 Research Objectives*

This research seeks to contribute to the existing research and literature on GVCs by adding a new perspective; to explore whether the business model canvas (presented in 2.2) is an appropriate tool for this kind of research; to generate results, which may help SMEs to enhance their business performance; and finally, to invoke interest for further research on the formerly neglected local firm level.

### **1.3. Brief Description of the Methodological Design**

The empirical research consists of a small scale, multiple case study. It will be based on primary data from eight Taiwanese companies. Semi-structured interviews, with a small sample of SMEs in Taiwan will be conducted using the business model canvas concept (Osterwalder, 2010) as a theoretical background for the questionnaire.

### **1.4 Structure**

This paper will be structured as follows:

Chapter two – Literature review: The aim of this chapter is to give a comprehensive overview of the current literature and theories regarding GVCs. Additionally, the business model literature and the business model canvas are introduced as a tentative model for this research.

Chapter three – Methodology: In this chapter, the philosophy behind and approach towards research are presented and justified in relation to the research question.

Chapter four – Data and data analysis: The methods of data analysis and the data itself are presented.

Chapter five – Results: The findings are presented, analysed and summarized with an adaptation of the business model canvas.

Chapter six – Conclusion, discussion and limitations: The findings are presented and discussed in light of the literature and theories introduced in chapter two. Furthermore, the feasibility of the approach is considered. Contributions as well as limitations of the study are presented. Additionally, suggestions for further research are made.

## 2. Literature Review

This chapter will review two sets of literature; the GVC literature and the business model (innovation) literature. The main arguments are discussed in light of the research question and used as a theoretical framework on which the empirical part is build. By reviewing the recent literature, this chapter situates this research in the context of those two streams of literature, in the hope of finding and generating synergies.

Firstly, the GVC literature is reviewed in order to present the existing typologies of governance and upgrading. Furthermore, the links between those typologies of governance and the empirical data is examined. Secondly, recent findings on the periphery of the GVC literature, dealing with innovative systems as technological capabilities, are reviewed, as they provide the link to the business model literature. Key contributions from the literature on GVC theory, functional upgrading and business model innovation are then discussed with reference to this study. Then Osterwalder's (2010) business model canvas as a concept of how to generate and discuss a business model is introduced, for it will serve as a tentative model for this research.

### 2.1 Global Value Chain Literature

The concept of a (global) value chain was developed by international business scholars, focussing on the buyer or lead firm and on the national level. One of the earliest descriptions of such a value added chain is: "The process by which technology is combined with material and labour inputs, and then processed inputs are assembled, marketed, and distributed. A single firm may consist of only one link in this process, or it may be extensively vertically integrated" (Kogut 1985; p.15). He builds on the idea of Porter (1985), who argues that value creation is performed at different, but connected, stages (the value chain). The critical issue dealt with in is which activities are kept within the firm and which can be outsourced to other firms (Gereffi et al. 2005). For Kaplinsky (2000), a value chain describes all those activities that deliver a product or service from development up to disposal after use. The value chain concept takes the focus from manufacturing as merely an activity performed by a single firm to all activities performed by several actors in order to supply a good or service to the market (Kaplinsky, 2000).

However, different sections in the value chain offer different opportunities to add value. Hence, Stan Shih, the founder of Acer, used the model of a curve to illustrate where value is added. The horizontal axis consists of component production (upstream), assembly (middle) and distribution (downstream). The vertical axis shows the value added (high, low and high) for the various stages. The curve bends like a smile, and was therefore labeled the "Smiling Curve" (Shih, 2005). This idea was further developed by Mudambi (2008), who argued that more value is added upstream through research and development (R&D) and design as well as

downstream by way of effective marketing, branding and (sales) services. Lower value adding activities are located in the middle part of the curve. Mudambi (2008) takes Shih's model one step further. Whereas Shih places production or manufacturing in the middle (low value adding) part of the value chain, Mudambi adds standardized services as a low value added activity, which helps expand the model beyond its roots in the PC industry.

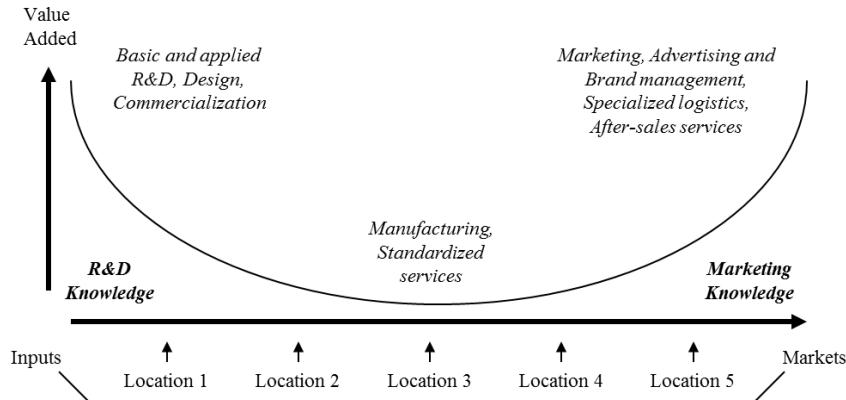


Figure 1: The smile curve, Source: Remodeling of Mudambi 2008

Mudambi (2008) develops the model further to illustrate the incentives of firms located in emerging markets to move up in the value chain. He concludes that "firms controlling activities in the middle of the value chain have strong incentives to acquire the resources and competencies that will enable them to control higher value added activities" (Mudambi, 2008; p. 708), therefore moving up the value chain or "catch-up". This happens as they shift their activities from tangibles and manufacturing to intangibles.

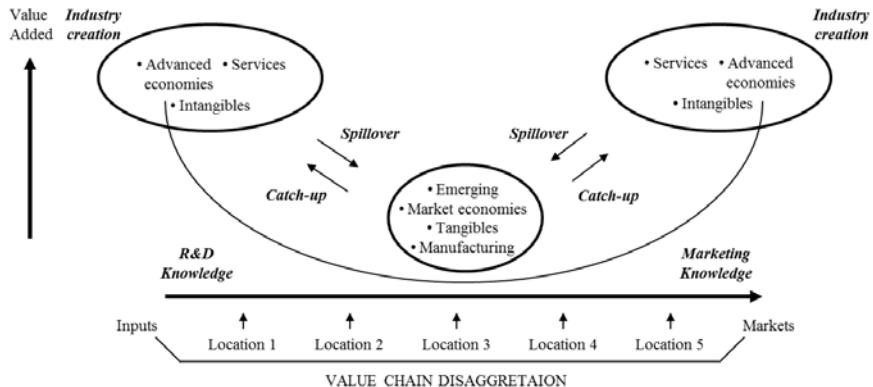


Figure 2: Dynamics within the smile curve, Source: Remodeling of Mudambi 2008

The smile curve is not static. At both ends “industry creation” takes place, in the form of Schumpeters model of creative destruction (Schumpeter, 1934) or in other words by way of innovation and R&D. Nevertheless, the model itself has its roots in the PC industry and is not applicable to all industries (the production of BMW cars is manufacturing, even though it is high in value added). Shih (2005) also acknowledges this problem and concludes that the shape of the curve and the location where the highest value is added changes over time and depends on the type of industry.

The global value chain (GVC) approach has been introduced by Gereffi (1994), who coined the term “global commodity chains”. He expanded the value chain concept to include a global perspective. The GVC concept quickly attracted attention and was developed further by several scholars. More recently, Gereffi (1999) and others (Gereffi and Kaplinsky 2001; Kaplinsky, 2001; Kaplinsky and Morris, 2001; Humphrey and Schmitz 2002a; Rabellotti, 2005) have built a conceptual framework, which combines the value (added) chain with the globalization of industries, while focusing on developing countries. Rabellotti (2008) emphasizes the importance of global buyers and producers as major drivers in the formation of the globally dispersed and fragmented value chain. For Kaplinsky and Morris (2001; p. 4), a value chain is “the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use.”

The concept of governance is central for the GVC approach. The nature of the relationships between all participants in the value chain and the implications for development (of firms or nations) is the focus of GVC research (Humphrey and Schmitz 2002b). Some degree of governance is required at each step of the chain; decisions have to be made regarding what

product or service is to be produced in which manner, defining also time, quantity and price (Rabellotti, 2008). Gereffi's early research (1999) highlights two types of governance: "Buyer-driven commodity chains" in which the coordination (governance) is conducted by global buyers, and "producer-driven commodity chains" in which producers are the decisive actors. Other scholars such as Humphrey and Schmitz (2000) have distinguished between three types of governance: a) network (firm cooperation), b) quasi-hierarchy (top down, but legally independent), c) hierarchy (direct ownership). Taken from there, Gereffi, Humphrey and Sturgeon (Gereffi et al. 2005), developed an extended model of governance in GVCs:

1. Markets: Market linkages do not have to be completely transitory, as is typical of spot markets; instead, they can persist over time, with repeating transactions (low switching cost).
2. Modular value chains: Typically, suppliers in modular value chains tailor products to a customer's specifications, sometimes in more sometimes in less detail (up to turn key products/services).
3. Relational value chains: In these networks, we see complex interactions between buyers and sellers, often creating mutual dependences and high levels of asset specificity (managed through reputation, relationships or family ties).
4. Captive value chains: In these networks, small suppliers are transactionally dependent on much larger buyers (high switching cost for suppliers, high degree of monitoring/control by the lead firms).
5. Hierarchy: This governance form is characterized by vertical integration (top down managerial control)

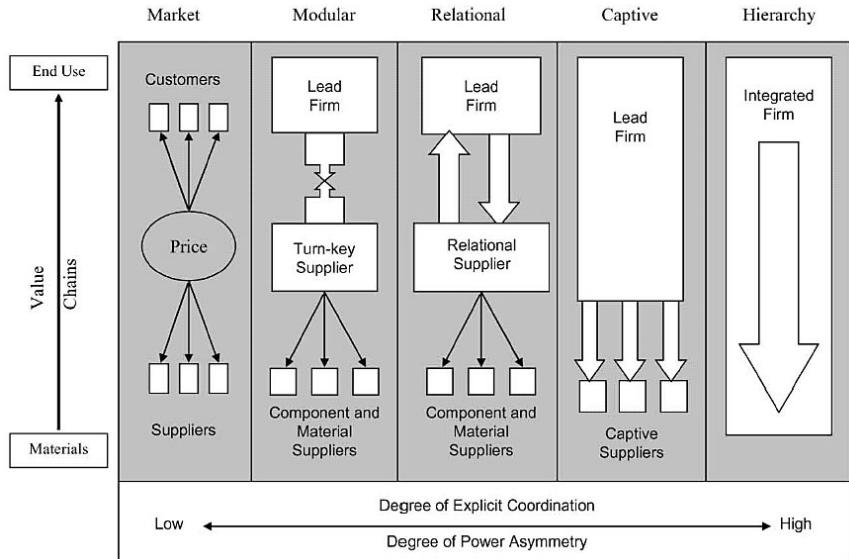


Figure 3: Governance structures in global value chains, Source: Gereffi et al. 2005

In the real world one usually finds a mixture of these different forms of governance. This typology offers a more dynamic view on governance structures. The form of governance can change as an industry matures; even within an industry, it can vary from one stage of the chain to another (Gereffi, 2011). Gereffi's et al. (2005) model of GVC governance is successful in demonstrating the dynamics of the different governance structures; notably concurring that they should not be viewed as static. In addition, Gereffi et al. (2005) discuss conditions under which different governance structures evolve and change over time. According to Gereffi et al. (2005), three factors influence the choice of governance by the lead firm: the complexity of information and knowledge required for transactions, the extent to which it is possible to codify the information, and the capabilities of potential suppliers in the value chain. Therefore, a supplier in a captive value chain could improve its capability and may move up to a reach a better position in the value chain.

The choice of governance and its implications for the prospects of upgrading of firms from developing countries are an important part of the GVC research. The idea of upgrading or producing higher quality products or services, by improving efficiency in production or changing the scope to alternative and more skilled types of activities, can be found in studying the competitiveness of nations (Porter, 1990). GVC scholars view this kind of industrial upgrading from a holistic perspective. The focus is not only on one firm, rather a group of firms that are linked together in a value chain. Porter's three aspects – a better product (or

service), a more efficient process and the functional reframing of activities in the value chain – are linked to and influenced by the governance structure in place (Kaplinsky and Morris, 2001). Gualani et al. (2005) follow this approach and view upgrading as innovation, defining it as innovation to increase the value added. Innovation is not only defined as a breakthrough production innovation (product upgrading) such as a completely disruptive and new type of product. It can be a small step or incremental process, which is new to the firm (process upgrading), but may involve a shift to different activities (functional upgrading) (Gualani et al. 2005). Building on former research, Gualani, Pietrobelli and Rabellotti (2005) constructed a comprehensive model delineating four different types of upgrading:

- Process upgrading is the more efficient transformation of inputs into outputs through the reorganization of the production system or the introduction of superior technology.
- Product upgrading is moving into more sophisticated product lines in terms of increased unit values.
- Functional upgrading is acquiring new, superior functions in the chain, such as design or marketing, or abandoning existing low-value added functions in order to focus on higher value added activities.
- Intersectoral upgrading is applying the competences acquired in a particular function to move into a new sector.

The authors summarize that upgrading within a value chain implies improving ones position on the value ladder, which can be linked to Shih's (2005) smile curve or its later adaptation by Mudambi (2008). However, it has to be kept in mind that the aim of upgrading is to move away from activities with low value added and low barriers to entry. This does not entail a departure from production as indicated in the initial smile model. Some companies in developing countries are still focusing on production and capture a high value added by doing so.

Upgrading itself seems to be necessary, as an increasing number of producers is competing on the low end of the global market (Humphrey 2004). In an ever-changing environment, firms based in developing countries have to “change” or “upgrade” in order to maintain or retain their relative advantageous position. Without upgrading, a firm would lose its position in the market and be replaced by a competitor from a country where production costs are lower. This requires local firms to respond actively and timely to development on market and in the value chain. For Cattaneo, Gereffi, and Staritz (2010), the best response is to upgrade either by upgrading products or processes or by upgrading functionally. Kaplinsky (2000), Humphrey (2004) and Gualani et al. (2005) strongly support this view and the latter conclude that functional upgrading is the best way to reduce fragility and vulnerability. Gualani et al. (2005) note that functional upgrading could have the longest lasting effects on competitiveness, as it raises the entry barriers for competitors. Functional upgrading is

sometimes described as a sequence or hierarchy of steps. Humphrey (2004) and Gereffi (1999) consider the transformation of firms based in developing countries, moving from original equipment assembling (OEA) to original equipment-manufacturing (OEM), to own design manufacturer (ODM) and, finally, to own brand manufacturing (OBM). These stages should not, however, be viewed as being strictly consecutive. HTC, is an example of a large telecom operator that appears to have jumped from the OEA to the ODM stage (Hsu et al. 2008), indicating that a firm may grow in any number of ways, though it is important to note that the step, the higher the leap the larger the risks involved. Therefore, upgrading does not necessarily have to be consecutive or incremental.

Another aim of the GVC literature is to identify which type of chain offers local producers better prospect of upgrading (Humphrey and Schmitz, 2004). Based on empirical studies of other scholars, they further conclude that power asymmetries will determine whether or not a lead buyer (value chain leader) supports such an upgrading process. Humphrey and Schmitz (2000) indicate that lead buyers tend to hinder the upgrading process, as it would transform former suppliers into future competitors. Schmitz and Knorringa's empirical study (2000) highlights that a buyer is likely to block upgrading attempts, (in a captive buyer supplier relationship) because the lead firm will seek to protect its own core competences, such as its marketing and design capabilities. Bazan and Navas-Aleman's (2004) studies underpin this behavioral trend by showing that buyers have a tendency to defend their knowledge on higher value adding activates (design, branding, marketing...). Giuliani et al. (2005) confirmed this observation and state that there are incentives for buyers to not disclose their core competencies, which are high in adding value and keep their suppliers dependent in a more captive value chain. Quasi-hierarchical and captive chains seem to provide good upgrading opportunities, both in terms of the process as well as the product, but hamper functional upgrading (Humphrey and Schmitz, 2000). A lead firm has an interest in helping its supplier to produce cheaper and better products for them. Other scholars are emphasizing the interdependence between governance and upgrading opportunities (Gereffi, 1999; Schmitz, 2006). The Industrial Development Report (UNIDO, 2002) states that participation in a GVC has an intrinsic value, as it can foster upgrades to new technological standards and processes. Nevertheless, the focus of a lead firm in quasi-hierarchical chains and captive chains rests mainly on product and process upgrading at the local level. If a company joins a GVC, supplier buyer relationship may foster a learning process, which in turn might promote upgrading (Humphrey, 2004). Firms will not only do this for endogenous reasons (profit), but also for exogenous reasons (pressure from buyers) in order to stay in the value chain. Most of the exogenous reasons to upgrade focus on process and product upgrading, as a key buyer or value chain leader is not always interested in upgrading its supplier due to altruistic reasons. Upgrading pressure relates to quality (control) and certifications. In captive value chains, functional upgrading can be hampered by the buying power of the chain leader and the substantial investment for the local firm involved in functional upgrading (Schmitz, 2006). If

a local firm has only one major buyer and limited resources, is it difficult to upgrade functionally, because the sole source of income would be lost. He further concludes that in market based chains, firms tend to be neither supported nor hampered in their upgrading attempts. Morrison et al. (2008) concur that upgrading in a GVC depends on the relationships (governance and power asymmetries) between the various actors within the chain.

The finding from Schmitz (2006) opens up a new and interesting field of research on the approach to GVC. Why are some firms in a market-based value chains able to upgrade and others are not? Is there an explanation for inter-firm differences in the same value chain? Morrison, Pietrobelli and Rabellotti (2008) as Pietrobelli and Rabellotti (2011) try to add a new perspective on upgrading within the GVC literature with their terms “technological capabilities” and “innovation systems”. They hope to shift the focus to the level of the firm as a unit of analysis (Morrison et al. 2008) and look at functional upgrading through the lens of innovation. Coe et al. (2008; p. 277) strongly support this approach, as the local firm is “the central actor in all analyses”, yet continues to be treated as a “black box”. Furthermore, he criticises the simplistic dichotomy of lead firms and suppliers and the single focus of the research on those lead firms. By viewing the GVC literature from a critical perspective and with the local firm as the unit of analysis, a new approach to learning, innovation and upgrading in less developed countries can be developed.

For Morrison et al. (2008) learning and innovation are the two cardinal cornerstone for growth and development of firms and nations. In contrast to the normal research agenda of the GVC literature (the governance of value chains), the authors concentrate on firm specific characteristics and attitudes. The GVC approach has demonstrated, how global linkages can play an important role in learning, innovation and upgrading. On the other hand, Morrison et al. (2008) criticise the “fuzziness” of the concept of upgrading in the GVC literature and that it is only considered as something exogenous, that happens at the firm level as a result of external pressures (value chain governance). As Coe et al. (2008), they attempt to establish an increasingly firm level-based view, built around the concept of learning, innovation and upgrading and introduced the term “technical capabilities”, something that firms possess and that differ from firm to firm. In their categorisation of technical capabilities they follow Lall (1992), who defines technical capabilities as investment, production and linkage capabilities. Upgrading is seen as something, which is the result of purposeful activities in the local firm rather than being exogenous or automatic (Morrison et al. 2008; Coe et al. 2008). In terms of GVC governance, upgrading can be seen as a two way process, the upgrading attempts of the local firm are likely to influence the lead firm. Therefore, it can take place not only in a top down but also in a bottom up process In contrast to the governance focused GVC literature (Gereffi and Kaplinsky with a macro and Humphrey and Schmitz with micro/cluster perspective), the focal point is the firm as a unit of analysis, which allows to formulate

explanations as to why nations and firms, which are embedded in similar GVCs develop and upgrade differently (Morrison et al. 2008; Coe et al. 2008).

This allows a new perspective on upgrading, as global buyers are not always fond of upgrading of local firms under their governance (Schmitz, 2004). From the firm level one can consider upgrading as an innovative and holistic progress, which is endogenous and more complex rather than being the result of a certain governance structure. The firm level analysis, learning and innovation in SMEs is seen as being as important, but are hence not further researched (Morrison et al. 2008; Coe et al. 2008).

Empirically, the majority of the GVC literature has not yet considered the local firm as a unit of analyses. Even though, empirical researchers such as Pietrobelli (1997; p. 4) have noted that noted that “technological change is the result of purposeful, well-directed effort conducted inside the firm”. Schmitz (2004; p. 356) also underlines that upgrading “requires continuous investment by the local firms themselves in people, organisation and equipment”. This research gap in there literature is pointed out by Coe et al. (2008) and others (Tokatli and Kizilgun, 2004; Morrison et al. 2008)

The GVC research has not yet fully clarified in which way GVCs foster innovation and learning in developing nations and firms (Morrison et al 2008). The idea that joining a GVC is a direct automatic route to upgrading is not correct either. This view is slightly simplistic, as the mere participation in a GVC does not change a firm, rather energy and efforts have to be invested at the local firm level. Instead, research has focused on how governance structures influence upgrades. The firm as a unit of analysis has been neglected so far (Morrison et al. 2008; Coe et al. 2008). Nevertheless, it can enrich the GVC approach with the perspective of the local firm, such that it is not only considered from the perspective of the global buyer. By looking at the local firm, new insights can help to foster progress in developing countries (Coe et al. 2008). To take the firm as a unit of analysis is further supported by Pietrobelli and Rabellotti (2011). Although they mostly discuss the type of governance in a GVC and how it influences learning and innovation at the firm level, they admit that “it is the different capabilities of firms to make the required investments in design, product development, and marketing that may explain why some firms succeed and others do not” (Pietrobelli and Rabellotti 2011; p. 1263). Furthermore, the authors see the need for further research on the impact of value chains on local firms (as Coe et al. (2008), something also emphasized by Morrison et al. (2008) who postulate that “firm-level surveys and questionnaires should be employed to explore the impact of GVCs on local firms’ competitiveness and upgrading”.

The existing GVC literature does indeed provide a good insight into upgrading from the perspective of value chain governance and the role of a lead firm. However, the level of the firm has not been considered at any length. While being an attempt, the concept of “technological capabilities” by Morrison, Pietrobelli and Rabellotti (2008) and the later

concept of “innovative systems” by Pietrobelli and Rabellotti (2011) do not appear to suitable, as they fail to offer a conclusive answer as to how upgrading takes place in a local firm. Furthermore, only the concept of learning and innovation are used to describe (functional) upgrading with does not help to reduce the “fuzziness” (Morrison et al. 2008) of the concept of upgrading.

As described above, upgrading is widely defined “as innovating to increase value” (Gualani et al. 2005). The belief that innovation alone, or in Morrisons et al. (2008) words “technological capabilities” are the distinguishing factors for a firm to upgrade and prosper is indeed questionable. In a study “Who Profits from Innovation in Global Value Chains?” Dedrick et al. (2008) conclude that innovation and upgrading alone will not help, if the firm is unable to capture the value added.

Hence, it seems more suitable to introduce a new concept to capture the vague concept of (functional) upgrading and innovation. Gereffi (2012), also notes that future research has to develop a new concept and indicators for upgrading. The Business model literature offers such a concept.

## 2.2 The Business Model Literature

What actually defines a “business model”? This question is still debated in the business model literature (Morris et al. 2005), even though the newer literature is grittier to find a definition. According to Teece (2010) a business model can be defined as “how the enterprise creates and delivers value to customers, and then converts payments received to profits” (Teece, 2010; p.173). Another narrative was created by Osterwalder et al. (2010; p. 14) who defines it as “the rationale of how an organization creates, delivers, and captures value”. The aim of this research is not to descend into the depths of business model definitions; therefore the latter is used as it is combined with a powerful and easy to use concept which will be presented in this chapter.

The business model perspective offers various merits for the question of firm level upgrading in GVCs. Firstly, it is not limited to upgrading, innovation or technical advancement. Merely, innovation or upgrading does not help to build a sustainable competitive advantage (Teece, 2010). As indicated through the study mentioned above (Dedrick et al. 2008) if innovation or upgrading is not combined with a suitable business model to capture the value the merits will be earned by somebody else. There are numerous stories of innovators, who were not able to construct a suitable business model around their innovation, such as Andreas Pavel (the inventor of the Walkmann) and Sony. Innovation itself is not a guarantee for business success, a new product or services has to be embedded in a suitable business model to capture the value created. Technological innovation does not guarantee business success, new product development efforts should be coupled with a business model by defining “go to market” and

“capturing value” strategies (Teece, 2010). Zott and Amit (2009; p. 218) have taken a holistic perspective by looking at a business model as something “geared toward total value creation for all parties the greater the total, the greater the focal firm’s bargaining power, and the greater the amount of value it can appropriate” which traces back to the governance discussion in the GVC literature and Gereffi’s et al. (2005) power asymmetry concept.

In summary, a business model can be described as the boundary spanning element for the borders of the firm, but also includes key partners, suppliers and customers. The firm can rely on resources and capabilities of third parties (in the value chain) and capture innovation, new ideas and technology through an open, adaptive and learning business model. The argument that technology or upgrading or innovation itself has no intrinsic value cannot be underplayed (Chesbrough, 2007). The value can only be commercialized through a suitable business model which is constantly adapting to recent changes (Chesbrough, 2010).

Therefore, the focus of the research on the firm level should not only lie on upgrading, innovation and technology advancement in GVCs, it should furthermore include the business model perspective. As this can be the pathway to functional upgrading or climbing up in the value chain ladder. The business model perspective furthermore offers another contribution to the GVC discussion about upgrading and governance: The concept of an on-going dynamic of a once achieved competitive advantage. If a company “upgrades” the whole value chain will react and change accordingly. The business model concept includes the notion of the contemporaneous nature a competitive advantage, achieved through upgrading or development (McGrath, 2010). To achieve and hold a competitive advantage forever seems unrealistic in a time where product development cycles are shortened constantly. It seems to be more realistic to achieve a temporary competitive advantage as the holy grail of a sustainable competitive advantage does not seem to exist (McGrath, 2010). Even though, not every small improvement on the process or product side (process or product upgrading) require a complete business model innovation, if a process get more efficient the resulting value can be captured through a higher margin or a greater market share (Teece, 2010). Functional upgrading or innovation on a large scale on the other hand, may need a change or update of the existing business model, therefore a business model (re-)innovation. The business model literature has a holistic viewpoint on the firm and is not only obsessed with an inward focus. Instead, scholars are also looking at the value chain approach and see the positioning in the value chain as part of the business model generation process (Teece 2010; Osterwalder 2010). Teece, (2010; p. 190) notes that “the industry must perform various activities in the value chain e but which one(s) the firm chooses to undertake is very much a business model choice.” Hence, (functional) upgrading and innovation as part of the initial as on-going business model generation. The environment of a firm cannot be left out in the generation of a business model, it is part of the deliberate process and a variable of choice itself. The selection process is two sided, a firm can choose its business environment, but can

also be chosen, consequently a firm may also shape the environment (Mitchell and Coles, 2003). This is not only the case for lead firms, also a local SMEs can choose to shape its environment by upgrading.

The business model concept seems therefore a valuable addition to look at the individual firm level on how learning, innovation and upgrading takes place – to finally climb the value chain and escape the u-shaped value curve.

How to generate initially and constantly adapt a business model is a complicated and almost artistic and a never ending progress (Treece, 2010). In 2010 Osterwalder et al. developed a very graphical and practitioner orientated model for business model generation, which is based on his former work (Osterwalder, 2004). The model itself is widely accepted in the business world (Serrat, 2012) and it is also getting increasingly attention in the academic world (Storemark and Hoffmann, 2012; Hoffmann and Coste-Manière, 2013; Zolnowski et al. 2013).

The cornerstone of the business model generation concept by Osterwalder is the “business model canvas”. It can be used as conceptual framework, to generate, evaluate or discuss a business model. The business model canvas contains nine building blocks (Osterwalder, 2010; p. 21-22).

1. Customer Segments (CS): *An organization serves one or several customer segments.*
2. Value Propositions (VP): *It seeks to solve customer problems and satisfy customer needs with value propositions.*
3. Channels (CH): *Value propositions are delivered to customers through communication, distribution, and sales channels.*
4. Customer Relationships (CR): *Customer relationships are established and maintained with each customer segment.*
5. Revenue Streams (RS): *Revenue streams result from value propositions successfully tailored to customers.*
6. Key Resources (KR): *Key resources are the assets required to offer and deliver the previously described elements.*
7. Key Activities (KA): *Key activities are activities which have to be performed to deliver the VP.*
8. Key Partnerships (KP): *Some activities are outsourced and some resources are acquired outside the enterprise.*
9. Cost Structure (CS): *The business model elements result in the cost structure.*

These blocks constitute the business model canvas (Figure 4).

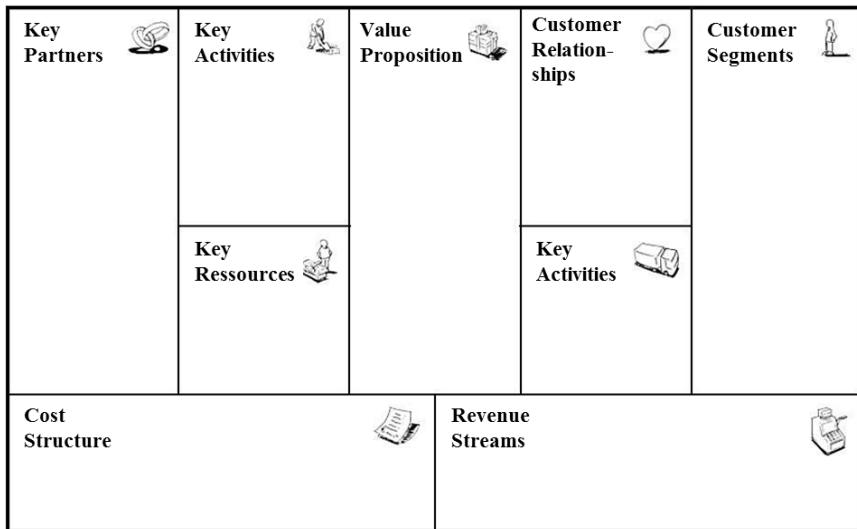


Figure 4: The business model canvas, Source: Osterwalder et al. 2010

The first block (CS) focuses on customer segments. A group of customers is a “customer segment“ if the following conditions are met: Their needs are justifying a special offer and all customers in this segment can be reached via the same channel (more details in the building block “channels”). A company has the same relationship to each customer in each of the specific customer segment. Selling a service/product to the same segment will yield comparable profitability. Customers in one segment are paying for the same aspects of the companies offer and are attracted by the same value proposition. Having sound knowledge of each customer segment and the ability to clearly distinguish between them is argued to be of utmost importance.

The VP block discusses what kind of value is delivered to the customer. What kind of problem the customer has and what can the company offer as a solution. What kind of need is satisfied by the value proposition? Each of those questions should be answered separately for each customer segment. A good value proposition offers a solution to the customer problem and creates a real value for the customer. A customer is choosing one company (service/product) over another as a result of their respective value propositions. This proposition should solve a customer’s problem or satisfy a particular need.

Building block CH describes how a company communicates with its customers and how the value proposition is delivered. A channel can be described as the point of interaction with the customer. It is the vessel of the customer relationship. Choosing the right channel for a value proposition and a customer segment is crucial. The channel itself can serve as statement and

influence the customer's decision to buy. Even more so, the channel is used for distribution and support. Channels can be differentiated in a twofold manner: They can be run by the company (sales force, own shop floor, website) or in collaboration with a partner (partner shops, wholesale, agents). Another way to distinguish is between direct and indirect interaction.

The CR block deals with the question of how to acquire, reach and retain customers and how to increase sales. Important factors to consider are the cost of the customer relationship and whether the customer wants this particular kind of relationship for the product/service (for example, no one like to be trapped in a call tree instead of speaking to a service person).

The RS building block is concerned with different cash flows. For which value proposition is a customer likely to pay what amount? The authors distinguish between two basic types of revenue streams: Single transactions and recurring transactions.

The KR allow a business to fulfil its value proposition for different customer segments by using different channels, establishing customer relationships and finally generate revenue. KR can be physical, intellectual, human and financial resources and can either be owned or rented/leased from a partner.

KA are defined as the activities a company has to perform to solve problems of a specific customer segment. Key activities are closely connected to key resources and are determined by the overall business model. The authors divide key activities into three main categories: *Production, problem solving and platform/network*. Without upgrading, most local firms are most likely to have production as their KA (OEA or OEM).

KP are a vital building block of a business model. They can be suppliers, who produce for a company or a supply chain network, which distributes the products of a company. KR can be acquired and KA can be outsourced to a KP. In general, there are four different forms of collaboration: *Strategic alliance, Coopetition, Join ventures, Buyer supplier relationships*. The last form of collaboration is mostly found in the GVC theory, as local firms are embedded in a GVC.

Lastly, the CS of a business model can determine how profitable it is. Generating value for customers, managing customer relationships and generating profit causes costs. Osterwalder et al. (2010) define two different cost structures: those that are cost-driven and those that are value-driven. Cost-driven business models focus on cost minimization. The value proposition is more likely to stem from the left side of the canvas (stretching the vertical line between cost structure and revenue streams) by a higher focus on efficiency. Most local firms (suppliers), who start out in a GVC, are likely to pursue a cost-driven rather a value-driven business model. They are chosen for OEA or OEM based on their price. Value-based business models

are described as less concerned about cost. Instead, their focus lies on the right sight of the canvas, that is, to deliver a unique value proposition to customers.

In summary, Osterwalder et al. (2010) present a useful and comprehensive framework for business model generation. The business model perspective and the outlined business model canvas may be a suitable approach for GVC scholars (Morrison et al. 2008; Coe et al. 2008 and Gereffi, 2012). Notably, the business model canvas acknowledges that the process of creating and remodelling a business (model) is an on-going one – after all, all business models are outdated at some point. The best approach to not only survive but also to strive as a company, would be an on-going re-design of the business model; like an organism, constantly rebuilding and adapting to its environmental stimuli. Therefore, it seems fruitful to consider the dynamics and interdependence of upgrading, innovation and learning from the perspective of the local firm in a GVC. The business model canvas may not be able capture every aspect of local firm upgrading. Therefore, probable categories may be added to the model to cover upgrading in a holistic manner.

### 3. Methodology

“Sound empirical research begins with strong grounding in related literature, identifies a research gap, and proposes research questions that address the gap” (Eisenhardt and Graebner; p. 26). The idea is thus to open the „black box“ (Coe et al. 2008) of the local firm in the GVC with the tools provided by the business model canvas as introduced by Osterwalder et al. (2010). To add the perspective of the local firm and the business model canvas to the GVC literature, rigorous empirical research has to be conducted. To answer the research question, primary data has to be collected at the local firm level. The best way to gain an in-depth understanding of individual cases of local firms is the collection of semi-structured, qualitative analysed interviews. In light of the complexity of the questions and the confidentiality of the information, the interview is conducted face-to-face and only recorded if the interviewee has given his consent. As a result, the sample size is relatively small and has to be carefully chosen.

#### 3.1 Research Philosophy

The local firm and its upgrading behaviour is not sufficiently dealt with by the current literature. Hence, there is no road map, no standardized way to conduct this kind of research. In order to develop a tool kit for the analysis of the specific settings of a local firm, a phenomenological research philosophy is needed. The alternative, a positivist approach, was discarded as it aims for a high degree of generalization, comparable to those of natural scientist (Saunders et al. 2009). Statistical analyses and quantifiable data would be favoured. The chosen phenomenological research philosophy acknowledges that business settings are complex in nature and contain a multi-causal relationship, depending on the particular environment and stimuli. Furthermore, it is believed that the past is not always a sufficient to make reliable predictions for the future, which inhibits the possibility of generalization. In addition, a firm must be studied as a unique entity (Saunders et al. 2009). Even so, the study can be replicated and its results be used for comparisons.

By using a small sample of eight SMEs in Taiwan in a specific setting, this study explores the gap in the current literature; in other words, an inductive approach will be taken. Hence, the aim is to gain an in-depth understanding of the nature of the problem. Furthermore, existing theories may be improved or enriched by the data collected and a tentative theory be developed (Ghauri and Gronhaug, 2010). Yet, there is no need for a strict division of the two approaches; to answer a research question one may make use of both (Saunders et al. 2009). The study is anchored in two different theoretical approaches and could therefore also been perceived as deductive. The originality of the concept, the explorative nature of this research and the fact that no coherent theory, which unites the GVC as the business model literature exists, shows that the research has a strong inductive part as well. Therefore, the research

could be described as theory development/refinement (abduction) as it is focusing neither entirely on theory generation nor on testing (Sinkovics and Alfoldi, 2012).

The aim of this research is thus to develop an in-depth understanding of the local firm, formulate answers to the research questions and possibly make a contribution to the existing theories. What happens at the firm level, what kind of managerial techniques or actions enable small and medium sized companies to upgrade/innovate? Is this resembled in their business model? To answer these questions qualitative methods promise to me most fruitful. Nuttall et al. (2011; p. 153) highlight the strengths of qualitative methods: „Regardless of the methods being used, qualitative research strives for a deep, often contextual, emotional understanding of people’s motivations and desires”. They emphasise the evidence of non-quantifiable data to really discover what motivates and drives humans as social institutions (firms). This does however compromise the results generalizability (Lamnek, 1995). Especially, in the case of a small sample size, the sample assortment is important, as errors will lower the generalizability (Hooper, 2011). Quantitative methods, per contra, do not allow deep insights and individual answers. Rather, they check an item on a questionnaire, but fail to account for the situation of the subject of study (Lamnek, 1995).

### **3.2 Research Strategy and Design**

The research strategy is the roadmap of how to answer the chosen research question. The objectives guide the research design as well as the methods of data collection. Furthermore, constraints (such as time, location, access to data or ethical issues) have to be considered (Saunders et al. 2009). The research strategy resembles the overall strategy of the research, whereas the research design is concerned with the details of data collection and analysis (Saunders et al. 2009).

#### *3.2.1 Research Purpose: Exploratory*

Exploratory studies aim to shed light on a problem and explore its nature. Robson (1993) describes this approach as method to find out “what is happening; to seek new insights; to ask questions and to assess phenomena in a new light”. As discussed before, the current GVC literature focuses less on the firm level (Coe et al. 2008) than on the governance structure of a value chain (Gereffi et al. 2005, 2012). Furthermore, the combination of the business model literature with the GVC literature is also unprecedented. This study explores “what is happening” at the firm level and considered upgrading/business model innovation in a new light.

#### *3.2.2 Research Time Horizon: Cross-Sectional versus Longitudinal Studies*

Due to time and resource constraints, a cross sectional study will be carried out. A longitudinal study would also be feasible and could show developments at the firm level over

time. However, the purpose of this study is to explore and develop a new perspective on two formerly separate streams of literature.

### *3.2.3 Research Design: Multiple Case Studies*

At this exploratory stage in the research cycle, case study research will be conducted. In Robson (1993) words, the case study approach is suitable to uncover the “why, what and how” of a questions. Case studies are sometimes challenged on the grounds of allegedly being unscientific, but if the study is conducted well, it can be used to challenge the status quo in the research and literature field and provide new insights to construct new theories (Cooper and Schindler, 2006). As one of the main questions for this research seeks to explore “what kind of decisions or actions allow firms upgrade” in the GVC and “how they change” (their business model), the multiple case study approach is the most suitable. In addition, by conducting multiple instead of single case study research, the results are more grounded and generalizable (Eisenhardt and Graebner (2007).

## **3.3 Data Collection**

The data collection methods used for case studies are interviews and questionnaires (Saunder et al. 2010).

### *3.3.1 Primary Data Collection by Interviews*

With regard to the research question and strategy, the semi-structured interview method was chosen. Semi-structured interviews are often used to collect qualitative data and conduct exploratory research. They offer the opportunity to not only ask about and understand the “what”, but also explore the underlying “why” and “how” (Saunders et al. 2009) of a phenomenon. As it is the aim of this research to answer precisely those kinds of questions, semi-structured interviews seem to be the most suitable approach for they combine the best of two worlds. While they are more structured, they also allow to the interviewer to ask follow-up questions, let the interviewer explain and allow a greater degree of deviation. Due to the unique interaction between interviewer and interviewee interaction as well as the nature of the information given, interviews can vary greatly. Additionally, participants are more open to take part in an interview than to answer a fixed questionnaire. Furthermore, as the interviews are conducted in person and a corporate setting in Taipei, Taiwan (the sample will be explained in chapter 4.4), this method allows a degree of adjustment. This is particularly important, the linguistic abilities of the interviewees varies greatly.

### *3.3.2 Interview Guideline*

The interview guideline (Appendix) was carefully designed, tested and adjusted. After a pilot trial of the first questionnaire some adaptations were made. The questions of the first version

were very close to the business model canvas (presented in 2.2). An argument for the canvas is that it is highly visual and if the other person knows the basic concept, a shared language would render the results more detailed. Since many interviewees are not familiar with those concepts, the guidelines were changed. The second version focused on the nine building blocks in a more indirect manner. All questions include the notion of change over time (did this change over time?).

1. *“Who are your main customers and how do you sustain relationships? How do you distinguish yourself from competition?”; “- Did those relationships/value propositions change over time? (Blocks one, two three four and (seven)).*
2. *“How has your environment (key partners, supplies, customers) influenced your upgrading process? And the following sub questions: “Was there an internal motivation/drive? - What were the key (internal/external) obstacles in the upgrading process in the past? Are focusing on the blocks four, eight, (one and two).*
3. *“What key resources (physical, intellectual, human, financial) and key activities (production, service) do you need to fulfill your customer needs?”; “Now and in the future?” (Blocks six, seven, (one and two)).*
4. *“What are the cost drivers (key resources, activities) for your company and how did the upgrading change this?” (Blocks nine, six and seven).*
5. *“How do you generate revenue and which sales channels are you using?”; “In the past due to the upgrading process?” (Blocks five and three).*

The last question has a more summarizing character: *“Did you made significant changes to your business model in this process?”*

After the first trials and piloting of the interview guideline, including feedback from local academics, additional questions were added (in line with the semi-grounded theory approach). They evolved inductively from the pilot interview and have proved useful in the following interviews. Those categories are aiming to capture additional content not directly included in the five questions derived from the business model canvas but were highlighted as important by the interviewees and considered as useful to answer the research question.

*“Do you think your current size, (starting as a small company) is an advantage or disadvantage?”*

The influence of size for upgrading should be taken into account by this question.

*“How do you define competition (domestically and/or internationally) in the past and how do you deal with competition now?”*

Some scholars (Schmitz and Knorringa, 2000; Giualani et al. 2005) suggest that companies may compete with their former customers when they upgrade into the same field. Therefore, discover the ways in which competition is defined by the company and how it changed due to the upgrading, is important to look if upgrading leads to competition with former customers.

*“Does the government and its policies support or hamper your upgrading process and business success?”*

The institutional setting is considered as being important and by some scholars even as the most important factor (Rabellotti et al. 2008) for upgrading, next to the governance of the value chain.

Prior to the interview, the subject of inquiry was briefly introduced (Appendix).

### *3.3.3 Credibility, Dependability and Transferability*

As every method of data collection, qualitative semi-structured interviews have to be reliable, valid and generalizable. Some scholars (Sinkovics et al. 2008; Lincoln and Guba, 1984; Denzin, 1994) have argued that those terms are tailored more towards quantitative research and propose alternative terms, such as “credibility (validity), transferability (generalizability), dependability (reliability) and conformability (objectivity)”. Those terms will be used for the purpose of this study, as they are more fitted towards a qualitative approach and can therefore enhance the “trustworthiness” of the study (Sinkovics et al. 2008).

Non-standardized research, such as semi-structured interviews, is based on a different philosophy than highly structured and replicable methods. It reflects the situation at the moment of collection. Given the assumption that the holistic nature of the situation and the complexity of the problem call for a non-standardised approach, which offers a high degree of flexibility to explore and deepen the understanding for the situation (Saunders et al. 2009), the corollary limitations are accepted. The idea that such an approach could be repeated in the exact same way would neglect the strengths of this approach.

However, dependability (reliability) can be assured by reducing errors and biases (Yin, 2009) and by documenting the whole process of the research project, from philosophical approach to data collection and analysis (Marshall and Rossman, 2010). Hence, each step of this study is discussed and justified in this chapter.

For semi-structured interviews, dependability (reliability) is high since another interviewer could find similar data. Furthermore, interview dependability (reliability) is closely linked to possible interview biases, which can be either interviewee or interviewer biases, as they may influence the interview process (Saunders et al. 2009). The data collection was conducted by closely following the guidelines formulated before in order to minimize possible interview

biases, biases. To prevent interviewer biases in the form of verbal or non-verbal behaviour, all questions were asked in the same way. By using the first minutes of each interview to introduce the interviewer's background, the aim of the research and the organizations involved (National Taiwan University and Manchester Business School), trust can be enhanced and the likelihood of biased responses can be reduced (Kelle, 2008). Trust was furthermore established by assuring confidentiality, that is, all information used will be treated strictly anonymous. This will also help ensure that the data gathered is not questionable in its credibility (validity) and dependability (reliability). Interviewee biases, such as non- or only part-disclosure of information about the organization or phenomena analysed, are sought to be reduced by explaining the aim and background of the research.

Credibility (validity) in semi-structured interviews concerns the researcher's ability to understand the information provided by the interviewee (Saunders et al. 2009) and whether the study and the instrument (here the interview guideline) is able to target answers useful for the analysis of the research question. A high level of credibility (validity) can only be achieved if the interview guidelines for the interview are carefully constructed and the interview itself is carried out well by the interviewer. Saunders et al. (2009) furthermore note that "the main reason for potential superiority of qualitative approaches for obtaining information is that the flexible and responsive interaction which is possible between interviewer and respondents allows meanings to be probed, topics to be covered from a variety of angles and questions made clear to respondents". A high degree of interaction allows the achievement of a high degree of credibility (validity), not despite but because of the freedom to interact within the boundaries of the interview guideline. Although a small sample qualitative case study is not directly generalizable to the overall population, the underlying concepts and ideas may help create a new theory or extend existing ones (Yin, 2009).

With a small number of cases; transferability (generalizability), as it is understood in quantitative research, is not aimed at here. Nevertheless, the findings can explore the feasibility of a new concept and enrich the existing literature. By relating the results of the data analysis back to existing theories the broader significance of the findings will be demonstrated (Marschall and Rossman, 2010). Yin (2009) argues that transferability (generalizability) can be established if the case study is qualitative, as the transferability (generalizability) relies on the researcher's ability to analytically generalize the findings. If the findings can be linked to the existing literature and be generalized beyond the multiple case study, transferability (generalizability) can be established. The findings indicate a strong link to the two streams of literature discussed and can therefore make a contribution and be generalizable. Nevertheless, further testing in different settings would be suitable for further research.

### **3.4 Sampling**

In qualitative research, transferability (generalizability) is not achieved through statistical measures; therefore a non-probabilistic sampling technique can be used (Saunders, 2009). In light of the research question and design, a purposive sample technique was chosen. According to this method, the researcher chooses the sample based on his/her understanding of who may best represent the group/phenomena studied (Saunders, 2009). Additionally, time and access to firms were another reason for the chosen sample size and technique. If qualitative data is obtained, the credibility (validity) is influenced more by the data collection method and analytic ability of the researcher than the sample size. It is the logic of how a sample is chosen that is important for the findings (Saunders, 2009). Access to firms was gained through the network of the partnering university (National Taiwan University), personal academic networks and MBA students, who were currently working in a prospective organization. All cases were SMEs in Taiwan that were, to the best knowledge of the researcher, either successful in upgrading or innovating their respective position in the value chain or about to reach this stage. As such they proved to be promising subjects of analysis and interesting partners for an interview in order to analyse and compare the drivers of their success. Subjects in the organizations were top or mid-level managers, who could oversee the past development as the firm in general to a high degree to give valuable and reliable information.

### **3.5 Industry Background of the Sample**

The sample consists of eight SMEs in Taiwan. The industry background of the companies is either in textiles, apparel and yarn production or in the field of IT/PC hardware, semiconductor or microchips. Those two industries resemble the cornerstone of Taiwan's export-oriented growth model (Wang, 2007). Both industries are highly integrated in GVCs and have been the focus of the GVC literature (Guerrieri, Iammarino, Pietrobelli 2001; Humphrey and Schmitz 2002a; Schmitz 2006, Gereffi 1999 and others). Nevertheless, only through the lenses of the GVC literature on governance and not on a local firm level.

#### *3.5.1 The IT/PC Industry*

In the last decade Taiwan's ICT industry evolved from OEA and OEM to a global player in the ICT market; ASUS, ACER and HCT being but a few examples.

Starting in the 1970s, the calculator industry set the stage for the ICT industry. From the mid-1980s onwards, Taiwan manufactured PCs, parts for global brands like IBM and managed to gain strong competitiveness through economies of scale in production (Wang, 1999). To become the largest notebook manufacturing base in the 1990s. After 2000, semiconductors and LCD panels as well as the advantage of scale gave Taiwan a new edge. Taiwan was able

to facilitate cluster effects and provide a whole electronics manufacturing services supply chain, promoting Taiwan as the industry leader worldwide. Despite also being hit by economic crisis, Taiwan managed to enhance its manufacturing and IT capabilities by an increase in foreign investment, technology, innovation and supply chain upgrading (MOEA, 2011). The landscape of the information industry in the 21<sup>st</sup> century is still unknown, but fierce competition from South Korea, Singapore and mainland China are expected (MOEA, 2011). The ICT industry must face those new challenges in the future and redefine its position time and again.

Local SMEs and their networks form the backbone of this development, with there being only a few global MNEs (mentioned above). How SMEs face the new competition from low cost developing countries (e.g. China) will greatly affect the future of the Taiwanese ICT industry. Those companies were able to catch up and adapt their business model accordingly, but are they also able to upgrade and innovate?

### *3.5.2 The Textile Industry*

The textile industry was one of the first to export in Taiwan and as a corollary was considered to be one of the most important industries in Taiwan. After World War II, receiving US aid in the form of cotton and equipment as well as governmental involvement, Taiwan's textile industry grew quickly (Ying, 1961). From the 1960s onwards, a surplus of cotton was produced and exported. In the 1970s, clothing production took over the place of cotton, yarn and gauze as main export goods (Chiu, 2009). Starting in the 1990s, synthetic fabrics and functional clothing/gear took over and replaced normal cheaply produced clothes (which were now produced in China). Rising labour costs and a growing environmental awareness in Taiwan were major reasons for relocations to mainland China, especially after 1993 as the restrictions on mainland investments decreased. Areas of investment were synthetic fibers and functional gear, where Taiwan had a competitive advantage (Yao, 2006). Although the industry was partly relocated to China, it keeps strong ties to its Taiwanese mother companies. In 2005, investment quotas for Taiwanese garment companies that want to invest in China were abolished, which lead to an increase in re-locations of production related business activities. Some garment companies try to find a new future in higher value added activities (Chiu, 2009). The focus in Taiwan shifted to the formation of strategic alliances in design and R&D. Chen and Sun (2010) have looked at the opportunities for collaborative design and R&D as the entire industry has to change to sustain and face low cost competition.

Its history makes the textile companies a very interesting part of the sample. The textile industry started out as a low tech, extended workbench. Nowadays, they try to evolve into a high-tech, R&D-driven business. This requires substantial changes in their business model, as it will change their current position in the value chain, if it is not changed already.

#### 4. Data and Data Analysis

The quality and transferability (generalizability) of the results depends on the analytical skills of the researcher. This is one of the greatest strength of qualitative research, but also a major weakness. Therefore, it is crucial that the process of how the raw data is analysed is clearly documented (Eisenhardt and Graebner, 2007). Only a full disclose of the process allows other researchers to evaluate the quality of the analyses and reproduce the findings.

The method used to analyse the data is semi-grounded theory. Grounded theory is mainly used for qualitative research. It is understood as a clean plate approach, where research does not have any grounding in a theory or pre-research literature review (Glaser, 2001). It is a method of analysis, which accepts other types of qualitative and even quantitative data (Glaser, 1978). Furthermore, Yin (2009) argues that an idea of a theory prior to the collection of case study data is essential, which is in stark contrast to the “clean plate” idea of grounded theory. Following this idea, a semi-grounded theory approach is used in this study for several reasons. Firstly, the concept of a researcher who just forgets everything he/she knows (clean plate) and is completely grounded in the data is naive. Secondly, case studies can be combined with grounded theory if the methodology which is driving the research is clearly presented, allowing other researchers to understand the thought process prior to the research. The case is made by Eisenhardt (1989) who advocates in her paper “Building theory from case studies research” the combination of (multiple) case studies and grounded theory. She argues that this approach of combining an inductive and deductive method, a “cycling between theory and data” (p. 549) is applicable if “little is known about the phenomenon, current perspective seem inadequate because they have little empirical substantiation”. This is exactly the case in the GVC literature and the local firm which is treated as black box as thematised above.

In summary, the semi-grounded theory approach seems suitable to utilize the proposed study and find answers to the research questions. Sinkovics et al. (2008), Sinkovics and Alfoldi, (2012) as Eisenhardt (1989) developed a stage model for qualitative research which starts with the literature and the intent to build on or extend proven research and later on utilizes a semi-grounded theory approach to analyses the data. This approach will be followed as it can enhance the trustworthiness (Sinkovics and Alfoldi, 2012) of the obtained data. The data analysis is leaned towards a process of “building theory from case study research” by Eisenhart (1989; p. 533) and an approach of procedures of data analysis and interpretation advocated by Sinkovics et al. (2005). As the interviewees did not allow the interviews to be recorded, written notes were made during the interview and then coded manually.

## 4.1 Raw Data

The data was gathered during the interview process, as the researcher was allowed to make notes. Those notes (around 2000 words per interview), were then edited and sent back to the interviewees for confirmation. All interviewees confirmed without requesting changes. The notes will not be part of this document, as all interviewees asked for non-disclosure. Therefore all information is anonymised.

## 4.2 Data Analyses

The coding of the interview data is one of the most important steps in the data analyses. Two different strategies were used: Firstly, categories were derived from the data by using open, axial and selective coding (posteriori categorisation) (Strauss and Corbin, 1998). Secondly, the business model canvas and its nine building blocks were utilized as a model for core categories (a priori categorization) (Sinkovics et al. 2005). Following, Eisenhardt's (1989) approach the interview data was first analyzed and coded within the case itself. These allowed to code and build categories acknowledging the uniqueness of the case and enabled the researcher to familiarize with each case on its own. This familiarity with each dataset can improve cross-case comparison (Eisenhart, 1989). After the within-case analysis and coding, a cross-case comparison and search for patterns is conducted. Cross-case comparisons enable the researcher to look at the case material in different ways, therefore limiting premature conclusions and information processing biases (Eisenhardt, 1989). For the cross-case comparison the two research strategies (a priori and a posteriori) were used jointly. As described by Eisenhardt (1989), categories were inductively formed from the material through coding. These are then compared with the a priori model (the business model canvas) as core categories for selective coding. This mix of inductive and deductive coding is in line with the underlying research philosophy and the aim to apply a new concept to the existing research. An additional benefit of the use of a mix of case coding and codes derived from the literature in the cross-case searching is that it forces the investigator to move beyond initial impressions by looking at the data through a structured and diverse lens. First, categories are derived from the data coding process. Afterwards, the selective coding process using the business model canvas as core categories was applied to the data. Then, the two different coding approaches are compared and matched accordingly. Categories which were not present in the canvas were added (more in section 5.3).

## 5. Results

Following the description of how the data was analysed the results will be presented, interpreted and evaluated in this chapter. Firstly, the interviewees and their companies will be discussed (anonymised) in terms of function/job title in the company and company size. Then each core category from the business model canvas will be presented. Additionally, code schemes, which were not covered by the core categories, but grounded in the data are presented. This is followed by a presentation of the findings. Finally, an adaption of the business model canvas will be presented as a tentative model to answer the research question.

### 5.1 Interviewee and Company Information

Job title	Company size <sup>1</sup>	Industry
Account Product Manager	Small	IT/Semiconductor
Product Manager	Medium	Apparel/Garment
Production Engineer Director	Small	IT/Semiconductor
Category Manager	Medium	Apparel/Garment
Technical Manager	Medium	IT/Telecommunication
Branding & Yarn Department Manager	Medium	Apparel/Garment
Chief Quality Officer	Medium	IT/Hardware

Figure 5: Interviewee and company information

Figure 5 reveals that most of the interviewees are either working on the product itself or in the sales department. Only two of the interviewees had broader functions (branding, quality). Nevertheless, most of them had sufficient knowledge about the overall function of the company. Interviewees in technical positions answered in a slightly different manner than interviewees in sales-oriented functions: the former where focused more on the product and technical details and the latter more on customer needs. This finding is important for the

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<sup>1</sup> Small = 1-50 Employees; medium = 50+ (European Commission, 2003)

second stage of analysis (cross-case comparison), as the source of information has to be considered when comparing two cases. If comments or additions are made to facilitate understanding in quotations they are put in [...].

## 5.2 The Core Categories

After going through the steps outlined in the data analysis, the business model canvas with its nine “building blocks” is used to provide the core categories for the selective coding of the material. The interviews will be presented in the order of the blocks, followed by additional categories.

### 5.2.1 Customer Segments (CS)

Most of the companies serve a few key customers. The customer segment could be described as a niche market. Those customers are mainly large businesses to business (B2B) customers from the US and the EU such as Wal-Mart, Philips, Osram, Nike, and Adidas.

“In the US they have their own market, if it is a good product you can just sell it domestically. But if you are in Taiwan, you do not have such good starting conditions. You have to fly away from Taiwan and establish trust in other markets.”

Even though, some companies were also engaged in OBM and were serving the end customer market (B2C), or used their brand for a business to business to consumer (B2B2C) targeting (like Intel inside). All companies started out serving a few buyers, but then gradually shifted to a broader and more diverse customer base. If an own brand was established, initial customers where sometimes abandoned.

“We only have some key customers, we do not take everybody. We have a flexible and streamlined business model; our margin is high enough to say no to customers (as Wal-Mart) if they do not fit our principles. Some customers are not at your level. External customers can be an obstacle [to upgrading], like Wal-Mart. It was our customer 10 years ago, but if we would have stayed with them, we might not have survived, as they only look for the cheapest price.”

Customers were sometimes described as a hindering factor, but also as a supporting factor for upgrading:

“The customers are the key; they are teachers for us. We see ourselves as an open system and we take stimuli from our key customers, but also help them. We are very open and we are very eager to learn and trying to improve ourselves.”

“First our customers are our sustainability partners. If you work with customers like Nike and The North Face their principles are good requirements to upgrade ourselves. Those companies have a good influence”

### 5.2.2 Value Propositions (VP)

The initial value proposition of most of the companies was described by the interviewees as “getting the job done” for a low price and timely delivery (OEA or OEM). Price and service have been the factors to compete in the marketplace and attract buyers to place an order with the company or keep them as their supplier.

“Service is very important when you start out, you are trying to fight for orders from customers; you have to be the cheapest”

Starting out with this value proposition, most companies faced increased competition (from China or other emerging markets) in terms of price. Their value proposition was severely challenged and they had to change.

“We were founded by a couple that sold very cheap products to Wal-Mart and JCPenny. In the beginning of the textile boom, it was very easy to make a fortune, but then after ten years of consolidation an increase in competition from China was faced. The competition from China was a cut throat competition focusing on price and very cheap products. Fifteen years ago the company founder started to look for a more sustainable way of doing business. The founder used coating, raincoats to improve their products. From there waterproof technology and multifunctional fabric was sold. Coating was used to increase the margin. The EU was the first market, which requested a more sustainable and greener product. Ten years ago our R&D lab was founded. Five years ago we establish our own bio factory. Five years ago the sustainable trend took off; we are one of the first companies in Taiwan which followed the blue sign certification [sustainability certification].”

Due to this increase in competition, most companies changed their value proposition from offering a cheap product or manufacturing service (OEA or OEM) towards a new value proposition based on customizability, flexibility, innovation, R&D and design (ODM and OBM). Pricing is still an important factor, but not the most crucial part of the new value proposition. Most interviewees emphasized the ability of their companies to be flexible and customize according to the wish of the customer. This is an important ability in a B2B supplier-buyer relationships and part of the value proposition of a supplier, but here it is meant differently from just being and extended workbench for OEA/OEM. Despite the trend to (functionally) upgrade, OEM, ODM and OBM offers exist parallel.

“We are in a transition from OEM to ODM and OBM in the upgrading process, but we still deliver both. If a customer just wants a OEM service we deliver this, if a customer wants better service, R&D or our own brand we deliver this.”

After raising the question whether this is just a transitional stage or whether the co-existence of those three different business models will remain, different answers were given. The upgrading process was not described as a sequential step from OEA/OEM to ODM/OBM. Some interviewees describe upgrading as a transition, but others want to continue to serve OEM, ODM and OBM customers simultaneously.

“Spin offs were a demand from our customers (HP, Dell). The spin off was vital for the manufacturing part of the business, a very clear separation so other brand owners can place orders even though we have our own brand.”

Spin-offs were used to separate the business entities in terms of activities performed (one spin-off would focus on production; one on R&D). This helps to diminish the conflict of interests due to direct competition with a customer. As the company upgraded itself and is now also doing former core business activities of a customer, a customer is more likely to outsource to a spin-off than a company as a whole entity.

An interesting finding was the strong emphasis on global trends for greener and more sustainable products, which were increasingly part of the value proposition. This shows that the companies are looking for ways to distinguish themselves from the low cost competition from China, they want to create a new niche. The new goal was to attain a better position on the innovative frontline and create a value for society. Examples from the interviews are biodegradable yarn made out of coffee beans, or a new kind of LED, which consumes less energy, or a cradle to cradle concept for PC parts.

“In Taiwan the government does not care about sustainability. Medium-sized companies are caring about sustainability, because their customers are asking for this.” or an IT manager: “Green high tech is the new digital era and we want to be part of it”.

The government/institutional setting will be discussed in the additional code section.

### *5.2.3 Channels (CH)*

Most interviewees described a transition of ownership in sales channels: In the beginning indirect sales channels, such as agents, agencies or domestic importers were used. This was changed to a more direct way of selling and customer interaction without intermediates for several reasons.

“In the past ten years over 90% goes through an agency, but right now we are engaging more and more in direct selling.” Another manager: “As a small company we still need agents to share the risk of payment. We could upgrade to a direct sales model if we had more cash flow flexibility (due to IPO). This would increase the margin.”

As indicated by the interviewees, most companies shifted toward direct or owned sales channels to reach the customer and sell their products. This step helped to sustain the new business model and value proposition and was a crucial step for upgrading. The margin could be increased when compared to the use of agents. Agents were seen as another intermediary, which lowers the overall margin by cutting out their own profit and more importantly were not able to fully deliver the story of the product.

“First we have a principle; we do not use any agents. [...] agents cannot understand what the product is about (the story of the product). If we are not telling our story, the price is 40% lower. By doing business directly, we can protect our margin and tell our story”

Furthermore, if the upgrading process includes the establishment of an own brand, a greater variety of channels was used.

“Upgrading influenced the sales channels used. Like own stores and direct retail.”

The garment as well as the IT industry started out in Taiwan by using agents to communicate with international buyers. Companies who move beyond the OEA/OEM and low cost production phase, tried to cut out the intermediaries and establish their own sales channels. This reaped several benefits: a higher overall margin, a better opportunity for interaction with the customer and a better bargaining position. Own sales channels were described as a very important step for upgrading and innovation. They are the direct connection to the customer. Instead of receiving orders from an agent, all synergies of direct customer interaction can be reaped by owning the channel. An obstacle to owning the sales channels was the lack of financial resources or overall company size, which are in most cases interrelated.

#### *5.2.4 Customer Relationships (CR)*

The importance of good customer relationships was emphasized by each interviewee. As most of the companies only deal with a few B2B key customers, the relationship to one customer is more important when compared to the B2C market. The way companies initiate their customer relationship also changed in the upgrading process. Now, the first step in the customer relationship consists of direct interaction with the customer through sales, word of mouth/reputation or sales fairs/exhibitions, instead depending on an agent.

“If you have one customer, you may get another customer if the first customer is happy with you. A lot of customers and brands are regionally clustered. Another way [to find customer] is through fairs and trade shows, but you have to establish your reputation first to be successful at a faire.”

Key customers build one’s reputation and are used to enhance credibility, a technique employed by firms worldwide.

“It is more like a snowball effect, once you have won a critical mass of key customers, you can make our own reputation. It is going, and having key customers in our portfolio is what helps us to grow.”

Most of the interviewed companies focus on building and sustaining long-term customer relationships. As described in the CS category, customers are sometimes viewed as partners who can help the company to grow and upgrade/innovate. To sustain such a relationship, frequent visits and local presence through branch offices are important.

“We have a US branch office and Holland brand office. We meet up to ten times with a customer.” Sometimes even short-term sacrifices are made to acquire or hold a key customer. “Customer relationships are sustained through strategic CRM [customer relationship management]. Ongoing business relationships are more important than short-term gains. It is a new customer; we want to win the customer with a lower down payment and a dedicated team. We allocate a lot of human resources and have an intensive sales and aftersales service for new customers, making frequent visit to show them our latest technology and what we do.”

The shift from the use of agents to direct channels indicated above is also important for the customer relationship, as it enables companies to interact with the customer directly, laying the ground for a solid customer relationship. Furthermore, it offers an opportunity to cooperate and anticipate customer needs.

“We use our sales people as pioneers, to interact with the customer. [...] Innovation must start at your desk; we have to talk to the customer directly to stand up to their standards.”

As indicated in the CS category, the frequent interaction with customers is vital to anticipate future customer needs and offer solutions in the form of innovation. The interviewed companies move beyond the phase of no or order driven R&D and design, to an agile and proactive way of serving their customers. They offer new solutions to customer problems without a specific customer request, therefore enhancing their value proposition and strengthened the customer relationship.

“Our sales staff often visits customers for design or R&D request and special requirements, either face-to-face, via email or on the phone. [...] The innovation process includes the customer, talking to the customer is the first step in the innovation process. Sometimes we approach the customer with new product and functions or we ask them whether they need a special feature (cost saving/energy saving)”

The innovative capability of a firm is described as a USP and is more important for the customer relationship than service.

“Nevertheless, R&D is the reason a customer chooses us over our competitors, service is more of a baseline requirement.” Another manager put it more directly “Innovation is a tool to sustain the customer relationship.”

In addition to R&D and innovation, flexibility and customization are increasingly important. Instead of offering a cheap and generic product, or just following the orders of the customer, a tailor-made solution is offered.

“Another strength of our company is that our internal map of the company structure can be linked to customer’s needs. If a customer has five steps, we tailor our process and documentation to their needs” This is a differential and USP to our competition, [...] everything is highly customizable, even packaging and delivery is customizable.”

Sustaining key customer relationships is described as vital for all firms. However, if the company had a stronger value proposition and were more active in choosing their customers

instead of just trying to engage in cut throat competition the customer relationship was on a higher level. If the upgrading and innovation process is successful, the relationship might even take on a new more mutually beneficial form.

“We only have some key customers, we do not take everybody. [...] Some former customers are not at your level (Wal-Mart), but we have to help and teach them.” And “The customer retention rate is high, they are used to your organization map, the switching cost is high on both ends.”

If the upgrading was successful, customer relationships are described to be more cooperative and mutually dependent. The supplier changes from being an inactive, dependent and disposable servant or “extended workbench” (for OEA/OEM production) to a more equal and interdependent partner.

#### *5.2.5 Revenue Streams (RS)*

Most of the company’s revenue streams are based on asset sales to their customers, using fixed or dynamic pricing models. Most of the transactions are recurring transactions as the focus lies on long-term customer relationships.

“Our long-term relationships with key customers create the base for generating revenue. We have a strategy planned for each customer for the next three years.“

Another surprising answer to the question as to how revenue streams are generated was:

“In the smile curve, the middle part is labor intensive, at one end is R&D and design and on the other end is marketing and sales. The ends are value intensive and we shifted our resources from manufacturing and labor intensive to value intensive activities to generate more revenue.”

On the other hand, most companies did not leave behind their OEA or OEM part of their business. Is it still considered as a source of revenue, but its importance is decreased. Revenue is increasingly generated through higher value adding activities, such as design, R&D and marketing.

#### *5.2.6 Key Resources (KR)*

The question about key resources was overwhelmingly answered as “human resources” being the critical enabler to go through the transition phase of upgrading and to reach and sustain a competitive advantage.

“I think upgrading is a comprehensive process, so each aspect should be better than before, but the main resource is human, if we don’t have proper people, it will be hard to know how to provide better solutions to customers, everything comes from people’s ideas.”

While shifting towards R&D and marketing, the human factor became increasingly important. Furthermore, intangible assets such as intellectual capital and patents are also seen as a new

key resource. Before, key resources were more tangible, e.g. equipment, production facilities and raw materials.

“Human resources (R&D and designer), are a key resources, we do not have our own factory we only produce design and innovation and sub-contracted the production. Therefore, the brainpower of the people is the value proposition. Patents in USA, Taiwan and China are another important resource.”

For some of the IT/PC companies’ financial resources, especially cash flow was important. Size and liquidity appeared to be a problem in terms of long payment periods.

“Cash flow is important to run a bigger business. In the electronic business you have to wait up to six months and if you don’t have a good cash flow management you will be out of business. Sometimes orders have to be sold [at a discount] for cash flow management reasons to a bank to get a loan.”

An initial public offering was perceived as a way to increase liquidity, increase financial resources and foster growth. For most of the companies, it was a crucial step in their upgrading process. Therefore, the ownership structure is changed (which will be discussed in Chapter 5.3.3) to enable the company to grow and upgrade. An IPO was necessary to obtain enough financial resources to shift to higher value adding activities.

“As a small company we cannot do too much at once. We have to priorities our financial resources and cannot make big jumps, but we plan to do an IPO”

Furthermore, an IPO can make a company more visible - for potential investors, customers and employees.

“A lack of resources (HR) is an issue; an IPO would make the company more publicly visible and allow us to attract more and better people. Cash flow issues are also a problem which would be fixed by the IPO.”

On the other hand, an IPO was also viewed critically in terms of ownership structures and company values. Some companies found creative ways to do the IPO but still secured ownership and control through the company founder.

“We try to keep the company at a reasonable size and do not go to the stock market, not to scarify our values. But we did the IPO because we need more resources. So right now over 70% of the stock shares are owned by our founder. The rest is sold to the government and key partners.”

### *5.2.7 Key Activities (KA)*

The key activities were generally described as design, marketing, sales and R&D. During, their upgrading process, companies have undergone a shift in their key activities, from production and services, where services were more concerned with delivery time and meeting customer specifications (OEM), to higher level services such as design, R&D and marketing

activities. Production still takes place, but is not the most important activity, which has to be performed to create the value proposition.

“In the past, production and timely deliver as raw material were more important.”

Service is still important, but its nature and relative importance have shifted.

“Key activity and an important factor is R&D. R&D is the reason a customer chooses us over our competitors, service is more of a baseline requirement.”

R&D and the development of products, services or technology is seen as a method to add more value. It is also a necessity to “fill the gap” of missing (OEA/OEM) instructions from former buyers in a GVC. Instead of producing for somebody and following instructions, one’s own products have to be developed and later on sold to (end-)customers. The key activities were transformed from producing a certain product by meeting customer specifications (OEM), which could be described as a “pull” dynamic: to developing and designing something by request (ODM); to start without any instruction or request and then sell it to potential customers, which is more of a push dynamic (OBM). This change should not be underestimated, it requires brave managerial decisions to change the business model and leave the safety net of production, following instructions from somebody to producing based on ones’s own R&D and market research. This shift can also be found in the Osterwalder model, as the authors describe key activities as production or problem-solving, whereas the companies shifted from the former to the latter.

“Moving from OEM/ODM to OBM R&D is more important, as we do not get specifications from the telecom companies. Also marketing is more and more important for the switch to B2C. “

Human resources, as discussed above, were the principal resource to fulfill those new key activities.

“All the R&D, the customer services and marketing [new key activities after the upgrading] of our whole new textile business stems from human resources; that is good employees”

When a manager proposed the smile curve/value chain, it was also indicated that there was a shift in key activities from manufacturing and low-end services (the middle part, where low value is added) to the value adding activities such as R&D and marketing. This is in line with Mudambi’s (2008) adaption of the “smile curve”, where firms try to upgrade or “catch-up” by changing their activities from middle to upstream and downstream ends of the curve. How the smile curve model actually applies and its limitations will be discussed in the next chapter.

#### 5.2.8 Key Partnerships (KP)

The garment as well as the IT industry were and are highly network-based. Therefore, links between and integration of the companies are manifold. On the other hand, there is still fierce competition between domestic companies when they operate in the same field.

“Here in Taiwan, we have a strong supply network; it is the best place to do those kinds of garments. We also love to share [the company’s knowledge], we do the marketing. We want to establish Taiwan as the island of textile. People begin to know Taiwan for its semi-conductor. But actually, the first industry, which took off was the textile industry.”

Two trends concerning the decision of vertical integration versus outsourcing were described. Vertical integration was used to ease and secure their supply chain and parts/raw material flow.

“In the past, we had to buy our yarn from other companies. Supply chain procurement was getting more and more complicated and we developed our own yarns, which are more sustainable; now our whole supply chain and production is 100% sustainable”

“Supply chain problems: We are not the producer of the key components, it is hard to integrate three key resources into one product. Suddenly, the supplier does not have the capacity. A lack of capital and R&D resources hamper vertical upgrading for supply chain security.”

On the other hand, companies increasingly focus on other activities such as manufacturing and production, therefore outsourcing more.

“Physically, the material (the garment itself) is supplied by our key material suppliers. It is an important part for fulfilling our customer’s needs. We are focusing more on the product and [fashion] design.”  
After a shift to design and R&D, “We do not have our own factory any more, we only produce the design and R&D, with production being sub-contracted.”

As companies located in developed countries, the interviewed managers face the same decision of whether to produce in-house or to outsource it. The decisions were often made in regard to the value proposition. If it also included green or sustainability aspects, the companies exhibited a higher degree of vertical integration. To answer the question as to why the company started to produce its own raw material (and integrate vertically), the manager answered:

“We do sustainable business. We start from the principle and then we do the business following our principles.”

Other partners mentioned by the interviewees were the government and universities, mostly for the purpose of a strategic R&D partnership. The increasing number of patents from Taiwan - in the last five years always in the top ten in US patent filing - is a sign of a fruitful R&D partnership.

“To establish our R&D department, we worked with the government and universities. We started with the colleges and professors (four textiles universities). Professors carry out projects and we try to co-operate with them. The R&D manager does not have to be managed, we try to give them a free hand; R&D can sometimes research in topics that are not directly related to the business.”

### 5.2.9 Cost Structure (CS)

As concerns the question about the cost structure, answers resembled those on key activities and key resources, since those are the major cost drivers. Therefore, human resources, marketing and R&D were named as cost drivers after the upgrading.

“In the past, production and raw materials were more important cost drivers. But now, we spend around 3-5% on R&D per year, we do not have a clear target in terms of spending, R&D can sometimes look for development that is not directly related to the business [discovery research]. Human resources are a big chunk of the cost. We focus on marketing and R&D. We invest in the brand value, not into [product] marketing directly.”

Through the upgrading process, the companies shifted their cost structure towards higher investment in (new) key resources, such as human resources and intellectual capital (patents) and key activities such as marketing and R&D. With an R&D budget of 3-5%, this company would rank very high on the “Global Innovation 1000” (Booz, 2012) report, indicating that the shift towards R&D is not only mere lip service.

[To change] “From OEM to ODM or ODM to OBM, the main cost is human resource. Upgrading means different thinking, and when we started to do ODM, we founded an R&D and a marketing team. We need to attract a new kind of people [...] so the human is the main cost in our industry.”

Overall, the cost structure of all businesses changed - from a purely cost driven to a more value driven business model. A change occurred when dealing with the question of how to minimize cost towards value creation.

“In the past, every time we had a meeting, we had to think about how to cut costs and drive down the price. Now we are thinking about how to reach a higher level of perfection in design and R&D to satisfy the customer.”

## 5.3 Additional Codes

As described in the chapter on this study’s underlying research philosophy and analysis, the direction of research is exploratory and semi-grounded. Therefore, the scope is not limited to the core categories from the canvas when other important issues evolve from the data.

### *5.3.1 Competition*

Competition emerged as a topic of interest. The interviewees distinguished between domestic and international competition, where international competition implying that either with “US and EU” or “the Koreans”.

“A domestic competitor is ECLAT [a textile company], and the international competitor is a Korean company. [...] The main advantage of the Koreans is that they are very aggressive, so they have price competitiveness, and their supply chains are highly integrated, so they can offer lower prices to customers.”

This quote resembles what various cross-sectional studies of Korea and Taiwan reveal, a higher level of vertical integration in Korea than in Taiwan (for example Levy, 1990). Korea, one of the four Asian miracles, was one of the most frequently referenced competitors in the textile sector, whereas the IT companies were more concerned about global competition.

“Global business, global competition - our product must be competitive and support technology.”

For some companies, former customers became competitors, therefore trying to hamper the upgrading process and afterwards competing with their former supplier.

“The telecompanies were a pull force [hampering upgrading], they want end users to know their brand and not ours, they want brand loyalty to the phone company and not to the phone producer.”

In this case, the change from ODM to OBM, lead to direct competition between former customer and the company in question. Upgrading was possible despite the resistance of the customer, as it was not the only customer and therefore not as important for the survival of the company. Other companies with only one or two customers face greater problems when former customers turn into competitors. Such a step requires a change in the current business model and to find new customers and revenue streams. The dependence on one or two key customers, who do not like their suppliers to upgrade, require them to either upgrade only parts of their business (through spin offs) and establish parallel revenue streams or to find a new market/customer first.

### *5.3.2 Government*

Most of the companies described the government as a neutral factor, one that neither fosters nor hampers their upgrading pursuits.

“Many people would say that the government is not supportive, but we get support from the government. The government helps if you are willing to share. They [other companies] just want money from the government, but if we take the money from the government we let other companies participate.”

One company pointed out that there is support from the government, if the company engaged in knowledge sharing. The government tries to foster cluster development and unite Taiwanese companies to some degree. Historically, competition was fierce between Taiwanese companies and the idea of strategic alliances for research and development is quite new to most Taiwanese companies.

“We also love to share [the company’s knowledge], we do the marketing. We want to establish Taiwan as the island of textile.”

This company has already shifted their view from pure competition to seeing domestic competitors as partners to compete in the global market. Collaboration and knowledge sharing (with or without government support) will be a key to (future) upgrading, but it requires a long-term perspective and leaving behind old feuds. From a national perspective, this factor will be crucial for development and is already discussed in the notion of cluster development in the GVC literature (Humphrey and Schmitz 2000, 2002).

Another active role requested for by the companies is free trade, as free trade and investment regulations are currently hampering investments in mainland China.

“Free trade would be very important for the future.” And “The government used to stop investing heavily in China, because of the political issues between Taiwan and China. Only a certain percentage of the company’s capital can be invested in China. So one of the largest and future markets cannot be tapped in because of political issues”

Interestingly, the GVC literature emphasises the institutional setting (e.g. the government) as a variable of upgrading, innovation and development (Rabellotti et al. 2008). It is not in the scope of this study to explore the role of the government in detail, but according to most interviewees, the government is a rather passive or negative factor. Only one company (quoted above) gave the government credit for the initiation of R&D alliances. It is either described as not so helpful and supportive, as the Korean government for example, which indicates a call for a stronger and more interventionist type of government, or interferes with business matters in its political issues with mainland China, which is a call for more of a laissez-faire type of government.

### *5.3.3 Ownership, the Role of the Company Founder/IPO*

A lack of financial resources was frequently mentioned as an inhibiting factor to upgrading. Therefore, as described above in the KR part, an IPO was seen as some kind of a milestone in the upgrading process. On the other hand, the role of the company founder was emphasized as a driving force for upgrading. SMEs work in a different way than big MNEs, who have to report quarterly and constantly have to worry about profitability. As described in the CR category, most companies have a long-term perspective, not only as regards their customer relationships, but concerning the overall strategy of the company. Values, principles and

strategy are frequently described and linked to the ownership structure and the company founder as an embodiment of those attributes.

“We start from the principle and then we do the business following our principles. We try to keep the company sized reasonable and not go to the stock market, not to scarify our values.”

The IPO is described as a necessary, hesitantly taken step. It is regarded as being crucial to obtain the resources needed, while the ownership structure and management as well as the overall company size should not be affected. The above describe solution of spin-offs and keeping a majority of shares in the hand of the company founder, is a way to deal with those problems in the short run. In the long run, dispersion of ownership may happen if the company founder retires or dies. Company succession could become an issue, as it is for a lot of SMEs in other developed countries (Barry and Jacobs, 2006). How the companies find answers to questions regarding ownership, management and company succession will greatly influence their success on their chosen path.

All interviewees emphasized the important role, the company founder plays for upgrading. The drive to upgrade was described as an internal drive, embodied in the figure of the company founder.

“Our company founder is always trying to improve our company. [...] We want to drive our company to be more global, we want to think big, but everything has to obey the sustainability principle.”

Even though, the drive was described as internal, the stimulus of increased competition for the non-upgraded business activities was mentioned as a trigger for the company founder to act.

“[...] After 10 years consolidation, an increase in competition from China was faced. The competition from China was cut throat competition, focusing on price and very cheap produced. 15 years ago the founder started to look for a more sustainable way of doing business” Or “The competition forced us into upgrading”.

The company founder’s role was described as being twofold. First, as one of the major drivers for upgrading; setting the strategic roadmap and deciding on the long-term strategy.

“Upgrading, or the drive for upgrading, is more internally and driven by the overall corporate strategy coming from our founder and management.”

Furthermore, he was described as the cohesive element and change agent to promote and push upgrading internally.

“Some obstacles [to upgrading] are internal, because someone wonders why we need to do ODM service or even OBM, but we [the management] will communicate, and the CEO and founder is very important. He coordinates and makes change happen internally. The CEO decides to do something, so we will enforce it.”

None of the sampled companies were at the point where the company founder retires, therefore data about strategies for succession is not obtained from the interviews. Nevertheless, for all sample companies the company founder and his/her role is the most critical element in the upgrading process. He/she is the driving force behind all efforts to climb up the value ladder and change/innovate the current business model. Without his/her motivation, the business would stay in the same position within the value chain. This was the most cohesive finding in the cross comparisons of all interviews and cannot be emphasized enough. That the GVC literature treats the local firm as a black box has already been pointed out, hence the company founder is maybe the most neglected but crucial element inside that box.

#### *5.3.4 Company Size/Market Size*

One of the questions asked about the effects on the company size during/on the upgrading process. Some interviewees saw a small company size as being an obstacle to upgrading, as a small company does not have the sufficient size, thus resources to upgrade.

“Taiwanese companies are quite small and not backed by the government, a lack of resources and a small scale inhibits upgrading for Taiwanese companies.” Another manager concludes: “As a small company, we have to prioritize our resources very carefully. But, our company has a very flat structure and if I have a good idea, I can talk to him directly.”

This trade-off is also described by other managers. Small size allows flat hierarchies and therefore a fast and efficient flow of new ideas and information. It is a reason for the agility, and adaptability of Taiwanese SMEs.

A manager from a medium sized company concludes: “The size of the company is more good than bad. [...] Our size creates trust and a better image and global reputation. With a global warehouse and service and repair center, we can fix products locally, which is a big selling point due to size. Internally, the size leads to a lot of hierarchies and slow approval process. Overall, it is a trade-off, but size leads to a global footprint (owned office buildings in key countries e.g. US Office) and support as selling point.”

Yet, size also leads to visibility and can enhance trust in the ability to perform a certain task. All companies in the sample were on a path of steady growth, therefore facing the decisions to increase company size or to use spin-offs.

“If we are growing in size, we will try to separate in smaller business parts. We will spin off, instead of growing too big.”

Spin-offs were used to combine the best of both worlds. On the one hand, the positive benefits of size (resources, visibility and a global footprint) can be reaped by acting as group of affiliated companies. On the other hand, agility, a presence on the market and flat hierarchies can be preserved. Furthermore, seems that this structure is suited to allow the parallelism of OEM, ODM and OBM.

The Taiwanese market size was another issue for the companies. As one quote in CS indicates, staying on the domestic market is not an option. Furthermore, companies can increase their reach by tapping into the resources (cheap labor) of mainland China.

“The market size is too small in Taiwan; companies are mostly starting out in other markets. In general, Taiwanese companies have found a solution, such as leveraging Chinas resources. But the wage for Chinese workers is higher and so the benefit diminishes, also European and US companies can compete against Taiwanese companies in China.”

The future is unknown and can be painted in different colors. Politically, the relationship between Taiwan and China may change, allowing Taiwanese companies to tap into the biggest (consumer) markets of the future.

#### 5.4 Summary of the Results

What does it take to upgrade as a local Taiwanese SME in a GVC? The findings from the interviewees indicate that successful upgrading requires the following (the building blocks from the business model canvas are in **bold**):

**Costumers (segments)**, which are globally operating reputable brands, with whom the company can work on an equal footing, the less dependable the company is the better. Reputable customers are used to enhance global visibility and credibility. Finally, having an element of choice which customer can be a partner, who is helpful or which customer is a hindering factor for future upgrading, is useful. Additionally, the B2C market can be also a possibility, but it does not seem to be a necessary step for successful upgrading. A **value proposition**, which is more than “just” pure OEA or OEM, shifting from price and service to customizability, flexibility, innovation, R&D and design. Additionally, offering greener and more sustainable product/service. Yet, offering the value proposition at a reasonable price in combination with good service. A co-existence or a transition from OEA or OEM, to ODM or finally OBM with an emphasis on the latter as the new value proposition. **Channels**, which are owned by the company and serve as the focal point for customer interaction by using sales people to anticipate customer needs to offer tailored solutions to customer problems. Investing in long-term **customer relationships**, with a dedicated customer service. Additionally, making the innovative capability of the firm the basis of an strong and durable relationship. **Revenue streams** from different (key) activities (OEM, ODM and OBM) and customer segments, generated by higher value adding activities such as design, R&D and marketing. A strong emphasis on human resources as a **key resource** for sustainable success. Furthermore sufficient financial resources, (obtained through an IPO) which allow the company to own its sales channels and to say no to customers, which are not operating on eye level and help the company to upgrade. Also enough capital to invest in new key resources and activities is needed. A focus on new **key activities** such as design, marketing, sales/service and R&D. Using innovation and R&D to fill the gap, which was created through

the upgrading process, by shifting from producing for somebody to solving a problem for somebody by developing an own product/service. By having various and reliable **partners** and suppliers, or engaging in vertical integration, depending on the value proposition offered and the degree of control needed to ensure it (such as sustainable supply chain procurement). A shift in the **cost structure**, from a cost-driven to a value-driven business model by investing more in HR and R&D. The determination to overcome former **customers** as obstacles in the upgrading process and collaborate with local competitors in R&D. A **company founder**, who is the internal driver for upgrading. Embodying the values and long term plans and remain in control over the majority of shares. A reasonable **company size**, established through growth and spin-offs, leveraging the positive aspects of a global footprint, while keeping unit size and hierarchies flat.

Summarizing the results of the study calls for an adaption or at least an addition to the business model canvas (Figure 6). The columns contain a summary of the interview findings and resemble what a local firm could do to upgrade in a GVC.

 <p><b>Company founder</b></p> <p><b>Internal drive and long term vision</b></p> <p><b>Securing unity of ownership and management</b></p>	 <p><b>Local collaboration</b></p> <p><b>Growing company size and global market presence</b></p> <p><b>Spin-offs vs. Size</b></p>	 <p><b>Competition</b></p> <p><b>Company &amp; Market Size</b></p>	 <p><b>Customer Relationships</b></p> <p><b>Dedicated customer service,</b></p>	 <p><b>Customer Segments</b></p> <p><b>Diverse customer pool:</b></p> <p><b>Reputable VINES</b></p>	 <p><b>Government!</b></p> <p><b>Supportive:</b></p> <p><b>Lowering trade barriers (China, Global Trade)</b></p> <p><b>Supporting R&amp;D alliances and foundational research</b></p>
	 <p><b>Key Activities</b></p> <p><b>R&amp;D, Design, Marketing,</b></p> <p><b>Customer Service/Sales,</b></p> <p><b>Production at a higher level</b></p>	 <p><b>Value Proposition</b></p> <p><b>Customized OEM, ODM &amp; OBM</b></p> <p><b>solutions,</b></p> <p><b>rather innovative than repetitive</b></p>	 <p><b>Long-term partnership on eye level (high switching cost)</b></p>	 <p><b>Key customers as strategic partners (mutual dependency)</b></p>	
 <p><b>R&amp;D Alliances with:</b></p> <p><b>Universities or other Companies</b></p>	 <p><b>Vertical Integration</b></p>	 <p><b>Dedicated customer service, long term partnership on eye level</b></p>	 <p><b>Channels</b></p> <p><b>Owned (direct) sales channels</b></p>	 <p><b>Revenue Streams</b></p> <p><b>Shifting towards higher value added product/asset/services sales</b></p>	 <p><b>More than one revenue stream: OEM, ODM and OBM parallel</b></p>
	 <p><b>Pathway towards vs.</b></p> <p><b>Outsourcing to Key Partners</b></p>	 <p><b>Key Resources</b></p> <p><b>Increased Focus on Intangibles:</b></p> <p><b>HR, Patents,</b></p> <p><b>Financial Resources to fuel the new business model (IPO)</b></p>			

Figure 6: Summary of the findings and adaptation of the business model canvas. Source: Adaptation of Osterwalder et al. 2010

## 6. Conclusion, Discussion and Limitations

Empirical research is conducted to find answers, but to put it in the words of Jonny Nash “There are more questions than answers. And the more I find out the less I know”. This statement is especially true in the case of this study, as it was exploratory and conducted to open the black box of the local firm in the light of GVCs, with a tool provided by the business model literature. The results and findings will be discussed in this chapter, and limitations and questions for further research will be presented. Finally, a conclusion from an academically as well as practical point of view will be presented.

### 6.1 Discussion

The firm, as an element of analyses, was chosen to be central to this study. From the findings, it can be derived that a local firm is more than just a link in a GVC. It is the central actor in a unique constellation of different stakeholders. Upgrading in a GVC is certainly influenced by the governance structure (Gereffi et al. 2005; Gereffi, 2011). It is also influenced by the institutional setting (Rabellotti et al. 2008). There are even more exogenous factors, which may influence local firm upgrading, as no firm operates in a vacuum.

However, local firm upgrading should be ascribed more importance than just to describe it as “the role played by leaders (i.e. supporters or obstacles to technology transfer and learning), technology and knowledge transmission – and their effectiveness” and “the leaders strategy (i.e. GVC governance) or by other forces like for example clusters external economies and collective efficiency” (Morrison et al. 2008; p. 15). Local firm upgrading is more than just the sum of exogenous stimuli on a passive object. The object, the black box of the firm, can be seen as the key actor. It has an element of choice and inter-firm differences indicate that there is a strong firm level factor (Pietrobelli and Rabellotti, 2011). To explore this factor and open the black box was a major aim of this study. The findings illustrate that the current view on GVC upgrading is simplistic and paternalistic. Local firms are treated like submissively obeying objects to certain exogenous stimuli (e.g. governance). In the on-going discussion about nature (endogenous) versus nurture (exogenous) in the field of bringing up and raising children, the focus would only rely on the parents, how do they “govern” the relationship, what aims do they have for their children. Everyone who is a father or a mother, or remembers his/her childhood knows it does not work in that way. Endogenous factors play an important role as well. The findings indicate that the company founder is the key internal driver for the pursuit of local firm level upgrading. An interesting point of the discussion and the paternalistic or Western aspect of it is the underlying attribution of success. While success in Western companies (key buyers or flagship firms (Gereffi, 1999) such as Apple are attributed as the effort of a successful entrepreneur and leader (Steve Jobs), local firm upgrading is seen as a mix of external stimuli. In defences of the GVC literature, it has to be

said that it is mostly concerned with the governance of GVC (Humphrey and Schmitz 2002b). Nonetheless, as discussed above, some GVC scholars have started to change their focus. The business model literature has a different viewpoint; here the entrepreneur is the focal figure.

The findings of this study have to be compared to and be discussed in the light of the current GVC literature. In his earlier work Gereffi (1991) distinguished between “buyer-driven commodity chains” and “producer-driven commodity chains”, upgrading shifted the firms on this continuum towards a more producer-driven commodity chain. Looking at the later model (Figure 3) of Gereffi et al. (2005), firms shift from captive and relational to modular or market-based value chains. The degree of power asymmetry is thereby decreased and the products and services shifted towards the end use. This shift was mostly achieved through functional upgrading, described as a shift to different (and more value adding) activities (Gualani et al. 2005). The urge to upgrade is described as an increase in competition at the low end (Humphrey, 2004), something also emphasised by the interviewees (5.2.2). Upgrading in general (product and process), and functional upgrading in particular, was the path companies choose to tackle the problem of increased competition in their current field, which is also emphasized as a strategy to increase firm competitiveness by Cattaneo et al. (2010), Humphrey (2004) and Gualani et al. (2005). As indicated by Hsu et al. (2008), upgrading is not a sequential progress from OEM to OBM (Gereffi, 1999). Most companies were simultaneously engaged in OEM, ODM and OBM.

The discoveries of Humphrey and Schmitz (2000 and 2004) and Schmitz and Knorringa (2000), that lead buyers sometimes block upgrading attempts, were also confirmed by the findings. Giuliani et al. (2005)’s notion that global buyers do not want to share their core competencies (R&D, design and marketing), was also pointed out by the interviewees. Furthermore, the finding that some customers are helpful (e.g. The North Face) but some an obstacle (e.g. Wal-Mart), is strongly supported by former research (Humphrey, 2000; Schmitz, 2006, Morrison et al. 2008). Schmitz’ (2006) findings about captive value chains and dependence on a single buyer with consequently a huge buying and bargaining power were one major obstacle, which has to be overcome by companies. In addition, the vast amounts of resources involved in upgrading were another obstacle. The findings in the customer segment category are pointing in the same direction - the less dependent the company is on a single buyer, the more market-based the relationship is (in reference to Gualani’s et al. 2005 model), and therefore the easier upgrading tends to be. Schmitz (2006) and Gualani’s et al. (2005) findings about market-based chains can also be confirmed, as the companies, who were in more market-based chains were neither supported nor hampered by their customers.

Finally, the findings are in line with Schmitz (2004; p. 356), who accents that upgrading “requires continuous investment by the local firms themselves in people, organisation and

equipment”, as the change in performing new key activities and investing in new resources (first and foremost HR) were present in all firms. Pietrobelli (1997; p. 4) quotes that “technological change is the result of purposeful, well-directed effort conducted inside the firm” can be seen in the light of the findings about the company founder as the key driver behind this “purposeful, well-directed effort”.

Despite the critique of the GVC approach, it has to be acknowledged that scholars in the GVC literature have already pointed out that the actual treatment of the local firm is misleading (Morrison et al. 2008; Coe et al. 2008 and others). This study followed this line of thought and opened the black box of the local firm to “explore the impact of GVCs on local firms’ competitiveness and upgrading” (Morrison et al. 2008; p. 52).

Pietrobelli and Rabellotti (2011) and Morrison et al. (2008) have already explored firm level upgrading by looking at “innovative systems” and “technological capabilities”. Here the business model literature can offer a different perspective to capture the holistic nature of upgrading, as it requires a change in the business model to capture the value added through (technical) innovation and upgrading. It furthermore highlights the role of the entrepreneur, which is neglected in the current GVC approaches. This may be due to the fact that international business scholars and the GVC literature were focusing on global buyers, who tend to be multinational corporations, where the former founder does not play such an important role any more. However, in the case of SMEs, the company founder is a crucial aspect for upgrading and is the internal driver. Returning to the earlier discussion, he/she may be the defining element “living inside the box”, as all interviewees reported overwhelmingly his/her crucial role. By acknowledging the importance of the company founder as a driving force and entrepreneur, a whole new chapter of research can be opened. In developed countries, the government and other stakeholders invest heavily to foster entrepreneurship and start-ups. If the company founder is such an important factor, a developing country could also focus on policies and programs, which foster entrepreneurship. One example of this development is Singapore, which tries to be an „entrepreneurial nation“ (BBC, 2012).

Another model, which could be reviewed in the light of the findings, is Shih’s (2005) “smile-curve” and its later version by Mudambi (2008). As discussed above, upgrading is not a strictly sequential process (OEA to OBM). Therefore firms do not just move up the value chain step by step. Only two companies of the sample changed their key activities to purely R&D and design and stopped manufacturing entirely (outsourced it). All other companies hold on to their production base and provide OEM, ODM and OBM services simultaneously. Furthermore, instead of giving up their production base, they try to become more integrated. By including marketing, R&D and design into their key activities, they enriched their activity portfolio and become more than an extended workbench, as they increase their level of value chain integration. In other words, they reintegrate activities into their own company value

chain structure, which were formerly disintegrated or in the hands of the lead firm in the GVC. By doing so, they move up- and downstream (functional upgrading), but without abandoning the middle part of the value chain. Through product and process upgrading (Figure 7: Upgrading in the value chain, step 1.) in combination with functional upgrading (2.), they reach a higher overall level of value chain integration and therefore a new position in the value chain (3.). By becoming more holistic and owning a whole value chain, also the middle part is elevated to constitute in value added, automakers in developed countries are a good example for that. The companies are able to conduct their own research and design, which improves the value added for the manufacturing part of the business as well. Furthermore, upstream activities such as marketing and branding can add additional value to the manufactured goods. By upgrading, the companies sometimes moved so far to the left and right that former customers became competitors. Nevertheless, if the upgrading process was successful, they reached a new level of value chain integration (3.) and are better off than before.

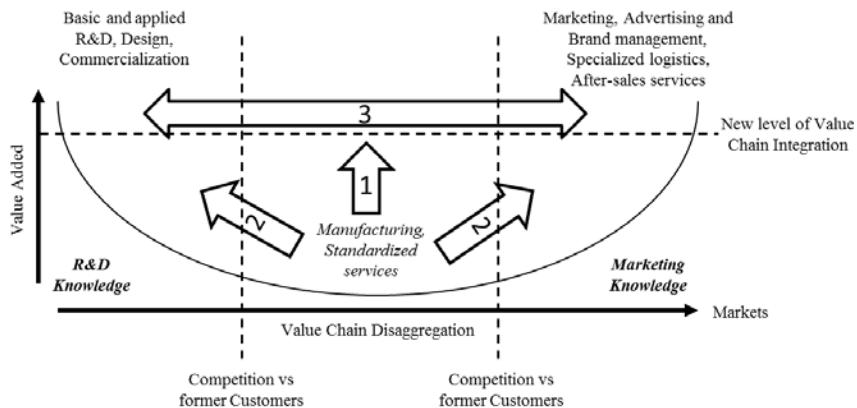


Figure 7: Upgrading in the value chain, Source: Adaptation of Mudambi 2008

Mudambi (2008) indicated that up- and downstream activities create higher returns (value added) than manufacturing. This theory does not apply to the sample companies directly, as they reached a higher level of value chain integration and embedded production and manufacturing in their new up- and downstream activities. This is an important adaptation of the model, as the findings indicate that production and manufacturing, even for an upgraded company, are still value adding activities. By the logic of sequential upgrading (OEA to OBM) or smile-curve upgrading, a shift to towards both ends by leaving the middle part behind would be logical. The findings clearly indicate that the middle is still part of the business model, but on a higher (value added) level. As the companies shift from a cost-driven to a value creation business model, the nature of production shifts accordingly. Spin-

offs were used to make the management of different value chain activities easier for the company and more approachable for potential customers.

## 6.2 Limitations and Outlook

The findings of this study have to be seen and interpret in the light of its limitations. Firstly, firm level upgrading examined by using a qualitative approach. Future studies could include different streams of data, such as more “objective” data: patents, total spending on R&D and marketing. A more diversified sample, which is not limited to the IT/PC and textile industry could further enhance transferability (generalizability). Secondly, by asking the companies themselves and excluding other stakeholders, important elements may have been overlooked. With more time and resources, the phenomena of the local firm could be studied from a more holistic perspective, which may capture the interdependent nature of its interaction with its environment. The business model canvas was used to design the interview guideline and provided the selective codes for the data analysis. By using different concepts and research strategies, the phenomenon could be researched from a different perspective and afterwards compared to the results of this study. Both the coding scheme and data analysis rely greatly on the ability of the researcher, by conducting a similar study with more researchers and over a longer time period (longitudinal study), the drivers for upgrading and innovation could be studied in greater depth. Additionally, this would allow one to research the dynamics over time.

The business model canvas and the business model literature were useful for this exploratory study. Nevertheless, clearer research tools, classifications and terms for local firm level upgrading have to be researched. The model (Figure 6) can be a starting point for future studies and has to be compared with other industries and countries. A cross-comparison with other countries and industries would be important to make general assumptions about the local firm in GVCs and its role in upgrading.

The study identified the entrepreneur or company founder as a crucial element. This could be a single research topic. By researching his/her role and confirming his/her importance, developing countries could initiate new programs to help SMEs and entrepreneurs. This may be of particular importance for developing countries, which are shifting from a “catch-up” to an innovation-based economy (Wang, 2007) like Taiwan.

In summary, the conducted research is only the first step, it opened the lid of the “black box” and took a glance. Hopefully, future research will fully open the black box of the local firm.

## 6.3 Conclusion

This study tried to take a look into the black box of the local company in a GVC. It is a first step on a long road to gain insights about the phenomena on the local level. SMEs are major

job and innovation creators for many economies. Globally, they face increased competition and for developing countries, it is important to escape the bottom of the value chain. Upgrading and innovation seem to be a way to accomplish those goals. By using the business model literature to explore how and with which actions and decisions upgrading can be pursued, a new approach was used to investigate the local firm level, a previously insufficiently studied, but crucial part of GVCs. The local firm seems to be more than just a link. Inter-firm differences within the same value chains indicate that there is more to it than exogenous stimuli (environment, institutions or value chain governance). The firm itself is the key actor of this study and within the firm, the founder seems to be the driver for upgrading. This is partly the answer to the research question “What are the key drivers, managerial actions or critical incidents which enable small and medium sized enterprises to change their relative position through upgrading and innovation in GVCs?“. Further answers are summarized in the business model canvas (Figure 6), as there were coherent patterns in the data regarding how local companies pursued upgrading. Those steps could be seen as best practices for SMEs on how to upgrade their current position in a GVC. The business model canvas could be used as a tool to assess the company and compare it with the findings from this study and other companies. Some findings, such as the shift from production to problem solving, from a cost-driven to a value-creating business model can be seen as guidelines on how to change. Owned sales channels as a focal point of customer interaction and a focus on human resources as key resources are other practices the firms used to upgrade its position. From an academic point of view, this study may contribute to the current GVC literature by including the local firm into the big picture. Overall, the study found some answers, but it merely lifted the lid off the black box and took a quick glance. Future research, from international business and from the GVC side, may be in a good position to jointly develop a model of upgrading, which includes the exogenous as well as the endogenous drivers of upgrading. The westernized view on extended workbenches is outdated and needs to be replaced with new models and theories for innovation and upgrading. Like companies in the West, SMEs in developing countries that are beyond the catch-up phase, face similar difficulties to survive in the global market. A new mind-set for firms in those countries may help to sustain competition from rising economic superpowers, such as China. The first steps for such a collaborative effort were present in the sample, such as national R&D collaboration und partnerships. Nevertheless, globalization and change will not stop and therefore constant innovation and upgrading is important to stay ahead and make the smile curve smile.

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## Appendix

### Interview preparation

1. Interviewer Introduction:
  - Educational and personal background
2. Introduction: Firm level upgrading
  - Background of the study/topic
  - Underlying reasons and importance of the study
  - Examples of successfully firms (HTC, Asus)
3. Personal information about the interviewees
  - Ensuring confidentiality about given information
  - Name and organizational position

### Interview Guideline

1. What are your main customers and how to sustain the relationships? How do you distinguish yourself from competitors?

- Did those relationships/value propositions change over time?
- How do you define competition (domestically and/or internationally) in the past and how do you deal with competition now?

Blocks: 1, 2, 4, 3, (7)

2. How has your environment (key partners, suppliers, customers) influenced your upgrading process?

- Was there an internal motivation/drive?
- What were the key (internal/external) obstacles in the upgrading process in the past?
- Does the government and its policies support or hamper your upgrading process and business success?

Blocks: 4, 8 (1, 2)

3. What key resources (physical, intellectual, human, financial) and key activities (production, service) do you need to fulfill your customer needs?

- Now and in the future?

Blocks: 6, 7 (1, 2)

4. What are the cost drivers (key resources, activities) for your company and how did the upgrading change this?

Blocks: 9, 6, 7

5. How do you generate revenue and which sales channels are you using?

- In the past due to the upgrading process?

Blocks: 5, 3

6. Did you made significant changes to your business model in this process?

- Do you think your current size, (starting as a small company) is an advantage or disadvantage?