

Upgrading in the Global Apparel Value Chain The Case of Leader Garments¹

Raymund B. Habaradas and Jeden Tolentino²

I. INTRODUCTION

Value chain analysis is important in this era of rapid globalization because it plays a key role in understanding the need and scope for systemic competitiveness (Kaplinsky and Morris, 2003). By analyzing and identifying its core competencies, a firm is led to outsource those functions where it has no distinctive competences. By mapping the flow of inputs—goods and services—in the production chain, a firm could determine who else's behavior plays an important role in its success.

Moreover, value chain analysis provides insights to the debate on how producers—whether firms, regions or countries—should participate in the global economy. According to Loebis and Schmitz (2003), there are two ways local enterprises can compete in the global economy. Taking the *low road* means competing by paying the lowest possible wages, disregarding environmental standards and avoiding taxes. Taking the *high road* means competing by upgrading processes and products.

According to Kaplinsky and Morris (2003), value chain analysis could prove valuable in addressing this issue, particularly because it addresses the nature and determinants of competitiveness, and makes a particular contribution in raising the sights from the individual firm to the group of interconnected firms.

Focusing on all links in the chain (not just on production) and on all activities in each link also helps to identify which activities are subject to increasing returns, and which are subject to declining returns. As a result, policy makers are assisted in formulating appropriate policies and making necessary choices. These may be to protect particularly threatened links and / or facilitate upgrading of other links in order to generate greater returns.

Kaplinsky and Morris cautioned, however, that even though competitiveness may have been achieved, the mode of connectedness into the global economy may require a focus on macro policies and institutional linkages, and these require a different set of policy responses to those which deliver firm-level competitiveness. Participating in global markets, however competitive at a single point in time, may not provide for sustained income growth over time.

II. BRIEF REVIEW OF LITERATURE ON GLOBAL VALUE CHAINS

A. Value Chain Defined

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² Raymund Habaradas is a Junior Research Fellow of DLSU-AKI and is an Assistant Professor at the Business Management Department of De La Salle University-Manila. Jeden Tolentino is a part-time lecturer at the Business Management Department of DLSU-Manila. Assistance provided by Dennis Yu in undertaking the research is gratefully acknowledged.

The value chain describes the full range of activities that are required to bring a product or service from conception (i.e. product design and development), through the different phases of production (i.e. the physical transformation of raw materials to finished product outputs), delivery to final consumers (i.e. sales and distribution), and final disposal after use (i.e. consumption / recycling).

Modern value chain analysis, according to Kaplinsky and Morris (2003), subsumes earlier works done by Porter (1985), who talked about the *value system*; Womack and Jones (1996), who used the phrase *value stream*; Raikes, Jensen and Ponte (2000), who used the French term *filiere* to describe the flow of physical inputs and services in the production of a final product; and Gereffi (1994), who introduced the phrase *global commodity chains*. All these concepts are essentially similar to what is now commonly referred to as the *value chain*.

While recognizing the various terms used to refer to the value chain (i.e. value chain, commodity chain, activities chain, production network, value network, and input-output analysis), Sturgeon (2001) made a distinction between “chains” and “networks”.

According to him, a “chain” maps the vertical sequence of events leading to the delivery, consumption, and maintenance of goods and services, while a “network” highlights the nature and extent of the inter-firm relationships that binds sets of firms into larger economic groups.

Furthermore, Sturgeon (2001) proposed a set of critical value chain dimensions. These dimensions are: (1) organizational scale, (2) geographic scale, and (3) value chain productive actors.

With regard to value chain breadth, Sturgeon (2001) proposed that the term *value thread* be used to denote a particular, product-based thread of activity that, at a given moment in time, runs through a larger constellation of activities and dynamic configurations embodied in a *value chain*. With regard to value chain length, he suggested the use of the following terms: *value chain*, to denote the entire range of activities required to bring a particular set of products to market; *supply thread*, to denote the productive activities that lead to and support the end use of a particular product or service; and *supply chain*, to denote the productive activities that lead to and support the end use of a set of related products or services, less the activities of the lead firm(s).

In terms of spatial or geographic scale, Sturgeon presents a scheme that increases in scale from local, to domestic, to international, to regional, and finally to global.

A local value chain or production network is limited within a commute area, and is also known as an industrial district or as a specialized industrial cluster. A domestic value chain operates within a single country, and is also known as a supply base or as a national production system.

An international value chain involves more than one country, and is often referred to as a cross-border production network. A regional value chain or production network is confined to countries within a particular trade bloc, and is also known as regional production system or regional production network.

Lastly, a global-scale value chain involves actors that coordinate activities across at least two continents or trade blocs. This is what we refer to as a global commodity chain or as a global production network, or simply as a global value chain.

Finally, Sturgeon (2001) identified the third dimension of value chains and production networks that could benefit from a better-specified terminology: productive actors. His classification system is based on the specific bundles of activity that firms are engaged in.

Integrated firms are those that are involved in activities from product strategy, product definition, design, manufacturing, sub-assembly, component manufacturing, marketing sales and distribution.

Retailers, on the other hand, are firms that are engaged only in sales, marketing, and value-added packaging and system integration. These firms are variously referred to as marketers, distributors, or value-added resellers.

Lead firms are those that focus on the more value-adding activities such as product strategy, product definition, product design, and end-user sales and marketing. These are also known as brand-name firms, or anchor firms.

Turn-key suppliers are those that are engaged in providing complex parts and services for other firms, and in process research and development. These firms are also known as system supplier, OEM supplier, first-tier supplier, contract manufacturer, full-package supplier, and global supplier.

Finally, component suppliers are those that provide specific component parts and services for other companies. They are alternatively known as lower-tier suppliers, specialized suppliers, sub-contractors, and commodity producers.

B. Governance of Global Value Chains

Gereffi (1994), which is usually the reference point in global value chain literature, defines the governance structures of global commodity chains as the “authority and power relationships that determine how financial, material, and human resources are allocated and flow within a chain.” This definition is supported by Kaplinsky and Morris (2003), who assert that power asymmetry is central to value chain governance, i.e. there are key actors in the chain who take responsibility for the inter-firm division of labor, and for the capacities of particular participants to upgrade their activities.

According to Gereffi (1994), chains are characterized by a dominant party (or parties) that determines the overall character of the chain, and that becomes responsible for upgrading activities within individual links and coordinating interaction between the links. He makes a distinction between “producer-driven commodity chains”, where producers (usually large transnational manufacturers) play the central roles in coordinating production networks; and “buyer-driven commodity chains”, where buyers (i.e. large retailers, marketers and branded manufacturers) play pivotal roles in setting up decentralized production networks in a variety of exporting, usually developing, countries.

Producer-driven chains are typical of capital- and technology-intensive industries such as automobiles, aircraft, computers, semi-conductors and heavy machinery, while buyer-driven chains are commonly observed in labor-intensive, consumer-goods industries such as garments, footwear, toys, handicrafts and consumer electronics (Gereffi and Memedovic, 2003).

Kaplinsky and Morris (2003), however, cautioned that the distinction between different types of value chains is “still something of a research hypothesis, as is the suggestion that we are seeing a shift from producer-driven to a buyer-driven world.” They observed that:

- The key shift we are witnessing in an increasingly globalized and competitive world is a transition from rents accruing from tangible activities to those arising from intangible activities in the value chain.
- This is because intangible activities are increasingly knowledge- and skill-based and are imbedded in organizational systems; the knowledge they incorporate is thus tacit in nature, and this involves growing barriers to entry. By contrast, the capabilities in the tangible realm are increasingly widespread, particularly following the entry of China into the global economy.
- The intangibles are to be found in all links—for example, the control of logistics in the production phase, the conceptual phase in advertising. But certain links in the value chain are particularly rich in intangible activities, such as design and branding, and the coordination of the chain itself.
- The shift from producer- to buyer-driven chains is therefore illusory and arises because at this point in the competitive cycle, branding and marketing are becoming increasingly important in many chains. However, a closer examination of chains will show a pervasive shift to a wider arena of intangibles and it is because of this that a chain can simultaneously appear to be both buyer- and producer-driven.
- Similarly particular product families (for example, toys or clothing) may simultaneously have buyer-driven and producer-driven chains, depending on which intangibles the lead parties dominate.

Humphrey and Schmitz (2000) define governance as “any coordination of economic activities through non-market relationships”, and identify four types of coordination of activities, namely: (1) arm’s length market relations, (2) network, (3) quasi-hierarchy, and (4) hierarchy. Expanding on the distinctions used by transaction costs economics (Williamson, 1979), they proposed to distinguish two distinct forms of network organizations, defining “network” as relationships between more or less equal partners and “quasi-hierarchy” as a relationship between firms in which one is clearly subordinated to the other, as in the case of subcontracting networks.

Network governance, Humphrey and Schmitz (2000) argue, arises for recurrent transactions when asset specificity is too great to allow market governance but not sufficient to justify vertical integration. Network relations, however, take a quasi-hierarchical form when the buyer is exposed to considerable risk if the supplier fails to perform. The increasing importance of non-price competition based on such factors as quality, response time and reliability of delivery, together with increasing concerns about safety standards, means that buyers (both retailers and manufacturers) in developed countries have become more vulnerable to shortcomings in the performance of their suppliers.

In summary, the elements of co-ordination and risk together determine governance relations, as presented in Table 1.

Table 1: Determinants of Governance in Value Chains

Chain Governance	Determinants
None (i.e. Arm's Length Market Relations)	Buyer and supplier do not need to collaborate in product definition. Either the product is standard, or the supplier defines it without reference to particular customers. Risks to buyer are low, either because requirements are easy to meet, or because supplier has a clear capability to meet them.
Network	Co-operation between more or less 'equals'. Supplier and buyer jointly define the product, and combine complementary competences. This is more common when both buyer and supplier are innovators, close to the technology or market frontiers. The risk to the buyer is minimized by the supplier's high level of competence.
Quasi-hierarchy	High degree of control of buyer over supplier; buyer defines the product. The buyer would incur losses from the suppliers' performance failures, and there are some doubts about the competence of the supplier. Where high supplier competence is not generalized, buyers invest in specific suppliers and seek to tie them to their chains.
Hierarchy	Buyer takes direct ownership of developing country operations. The buyer carries out in product definition, which may involve proprietary technology. The risks of poor performance by independent suppliers increase if the buyer uses quality as a brand attribute. These factors favors direct control over the production process.

Source: Humphrey and Schmitz (2000)

More recent works on the electronics industry and contract manufacturing by Sturgeon (2002) and by Sturgeon and Lee (2001), as cited by Gereffi, Humphrey, and Sturgeon (2003), contrasted three types of supply relationships, based on the degree of standardization of product and process: (1) the *commodity supplier* that provides standard products through arm's length market relationships, (2) the *captive supplier* that makes non-standard products using machinery dedicated to the buyer's needs, and (3) the *turn-key supplier* that produces customized products for buyers, and uses flexible machinery to pool capacity for different customers.

Building on the various studies of global value chains, (Gereffi, et. al., 2003), proposed a typology of value-chain governance that identifies five types of value-chain governance, namely:

- (1) **Markets.** Market linkages do not have to be completely transitory, as is typical of spot markets; they can persist over time, with repeat transactions. The essential point is that the costs of switching to new partners are low for both parties.
- (2) **Modular value chains.** Typically, suppliers in modular value chains make products to a customer's specifications, which may be more or less detailed. However, when providing "turn-key services" suppliers take full responsibility for competencies surrounding process technology, use generic machinery that limits transaction-specific investments, and make capital outlays for components and materials on behalf of customers.
- (3) **Relational value chains.** In these networks we see complex interactions between buyers and sellers, which often created mutual dependence and high levels of asset specificity. This may be managed through reputation, or family and ethnic ties. Many authors have highlighted the role of spatial proximity in supporting relational value chain linkages, but trust and reputation might well function in spatially dispersed networks where relationships are built-up over time or are based on dispersed family and social groups.

- (4) **Captive value chains.** In these networks, small suppliers are transactionally dependent on much larger buyers. Suppliers face significant switching costs and are, therefore, “captive”. Such networks are frequently characterized by a high degree of monitoring and control by lead firms.
- (5) **Hierarchy.** This governance form is characterized by vertical integration. The dominant form of governance is managerial control, flowing from managers to subordinates, or from headquarters to subsidiaries and affiliates.

These five types of global value chain governance arise from ascribing different values to three key variables, namely: (1) complexity of inter-firm transactions, (2) the degree to which this complexity can be mitigated through codification, and (3) the extent to which suppliers have the necessary capabilities to meet the buyers’ requirements. Each governance type provides a different trade-off between the benefits and risks of outsourcing (Gereffi, et. al., 2003).

Gereffi, et. al. (2003), however, went beyond identifying the main types of global value chain governance and providing an explanation for why they arise. They also examined how global value chain governance structures evolved over time, and presented a theory that could help anticipate change in global value chains.

Using their typology of value chain governance as a framework and working on earlier case studies of other authors, Gereffi, et. al. (2003) were able to illustrate changes in governance types in several industries: (1) the bicycle industry (citing the work of Galvin and Morkel, 2001), which moved from hierarchy to market-based coordination; (2) the apparel industry (citing the work of Bonancich, et.al., 1994; Magretta, 1998; Gereffi, 1999; Gereffi and Memedovic, 2003), which moved from captive to relational value chains; (3) fresh vegetables (citing the work of Dolan and Humphrey, 2000), which evolved from market coordination to explicit coordination; and (4) the U.S. electronics industry (citing the work of Sturgeon, 2002), which developed from hierarchy to modular value chains.

They concluded that “value chain governance patterns are not static or strictly associated with particular industries” and that “they depend on the details of how interactions between value chain actors are managed, and how technologies are applied to design, production, and to the governance of the value chain itself.”

C. Upgrading in Value Chains

A widely accepted hypothesis is that firms must be able to innovate and upgrade to avoid being engaged in a “race to the bottom”. Empirical and anecdotal evidence indicate that firms that are able to improve their capabilities and competencies in relation to those of their competitors are able to ensure sustained income growth. Therefore, upgrading is an important issue, especially for those concerned with how firms in developing countries can maximize the benefits of inserting themselves in global value chains, and how they can avoid declining incomes as cheaper sources of labor enter global markets.

Kaplinsky and Morris (2003) make a useful distinction between ‘innovation’ and ‘upgrading’. According to them, ‘innovation’ is the ability “to ensure continuous improvement in product and process development” while ‘upgrading’ is innovation that is placed in a relative context, i.e. how fast the process is undertaken compared to competitors. Giuliani, Pietrobelli, and Rabellotti (2003), on the other hand, define upgrading as “innovating to increase value

added”, one that can be achieved “by entering higher unit value market niches, by entering new sectors, or by undertaking new productive (or service) functions.”

Other authors (Kaplinsky and Morris, 2003; Humphrey and Schmitz, 2003) have identified four trajectories that firms can adopt in pursuing the objective of upgrading.

- **Process upgrading:** increasing the efficiency of internal processes such that these are significantly better than those of rivals, both within individual links in the chain (e.g. increased inventory turns, lower scrap), and between the links in the chain (e.g. more frequent, smaller and on-time deliveries)
- **Product upgrading:** introducing new products or improving old products faster than rivals. This involves new product development processes both within individual links in the value chain and in the relationship between different chain links
- **Functional upgrading:** increasing value added by changing the mix of activities conducted within the firm (e.g. taking responsibility for, or outsourcing accounting, logistics and quality functions) or moving the locus of activities to different links in the value chain (e.g. from manufacturing to design)
- **Chain (or inter-sectoral) upgrading:** moving to a new value chain or using the knowledge acquired in particular chain functions to move into different sectors (e.g. Taiwanese firms moved from the manufacture of transistor radios to calculators, to TVs, to computer monitors, to laptops and then to WAP phones)

These categories, according to Humphrey and Schmitz (2003), while not without problems, “are finding rapid acceptance in the international debate”. Moreover, these categories provide a useful framework for classifying practices related to innovation and upgrading (Kaplinsky and Morris, 2003), and in determining whether firms can, indeed, follow a hierarchy of upgrading as suggested by certain authors (Gereffi, 1999; Lee and Chen, 2000).

The questions now are “what determines the potential for upgrading in value chains?” and “what are the circumstances within which upgrading takes place?”

Gereffi (1999c) holds the view that producers entering buyer-driven (or quasi-hierarchical) chains have good prospects for upgrading within production and subsequently into design, marketing and branding. His research on the garments chains illustrate how East Asian suppliers working for large US buyers were able to move from assembly to original equipment manufacturing (OEM), all the way to own design manufacturing (ODM) and even own brand manufacturing (OBM). Gereffi attributes this to ‘organizational succession’ or the process by which manufacturers start producing for buyers catering to the low end of the market and then move up to produce for buyers targeting more sophisticated market segments.

According to Humphrey and Schmitz (2003), local producers, especially those new to the global market, learn a great deal from global buyers about how to improve their production processes, attain consistency and high quality, and increase their speed of response to customer orders. Specifically, they cite the findings of Bazan and Navas-Aleman (2001), which confirmed rapid process and product upgrading for Brazilian shoe producers exporting to the US and Europe; and of Kishimoto (2002), which showed the contribution of foreign buyers in the early export phase of computer producers from Taiwan.

While most authors agree that local producers experience significant product and process upgrading, there is yet no agreement on the prospect for functional upgrading. Evidence indicate that producing for global buyers is a promising starting point for moving up the value chain, but several studies show that firms face two types of obstacles when trying to upgrade, namely: buyer resistance and resource requirements (Humphrey and Schmitz, 2003).

In particular, the research of Schmitz and Knorrige (2000) in the global footwear chains suggests that local producers (in China, India and Brazil) encounter barriers to developing their design and marketing competence because such upgrading encroaches on their buyers' core competence. A more recent study of Brazilian footwear manufacturers (Bazan and Navas-Aleman, 2001), confirm that even leading export manufacturers refrained for many years from making substantial investments in design and marketing, fearing that upgrading in these areas would upset their main US buyer, who accounted for 80 per cent of their output.

In their study on the buyer-driven chain, which connects the Mexican cluster of Torreon to the United States, Bair and Gereffi (2001) conclude that local manufacturers of blue jeans were "generally confined to translating the buyer's specifications into practical knowledge that is necessary for production." Moreover, no manufacturer in Torreon markets its own apparel brands in the United States, and no Torreon producer of US brand is able to sell its branded output directly in Mexico.

Functional upgrading is also difficult to undergo because the investment required is substantial and entails risks. Again, Bair and Gereffi (2001) cite the case of a company in Torreon that planned to launch its own line of apparel in the US market, but was prevented from doing so because "the amount of capital necessary to promote and market a new brand make such endeavors risky".

Humphrey and Schmitz (2003) propose that "upgrading opportunities of local enterprises are often structured by the relationships in global value chains." Using the typologies of chain governance and upgrading presented earlier, they explored whether certain types of chains are associated with particular types of upgrading. They also sought to identify the circumstances in which global buyers would seek to govern value chains, expecting that this will provide insights as to why buyers foster the upgrading of suppliers in some cases but not in other cases. As a result, they came up with several propositions on value chain governance and upgrading, and on differences between developed and developing countries.

Proposition 1: In quasi-hierarchical chains, developing country producers experience fast product and process upgrading but make little progress in functional upgrading.

The rationale given is that the risk of supplier failure leads global buyers to assist local producers in upgrading production capabilities, but upgrading beyond production might clash with the core competence of the buyers.

Proposition 2: Local producers in developed country clusters do not operate in quasi-hierarchical chains.

The reason for this is that local producers in developed countries are close to the market and generally possess high levels of competence; therefore, the risk of supplier failure is low.

Proposition 3: Network-based chains support an open-ended upgrading path but local producers in developing countries rarely find themselves in such chains.

Proposition 4: In market-based chains, producers experience neither support for, nor blockages to, upgrading (from within the chain).

According to Humphrey and Schmitz (2000) “upgrading dynamics are clearly complex” and are influenced by several factors, namely: (1) governance relationships within the chain, (2) the upgrading firm’s strategic intent and capabilities, and (3) the external contingencies that favor particular value chain configurations. They also acknowledged the role of local and national systems of innovation and human resource development that facilitate firm-level efforts to upgrade and take advantage of value chain opportunities, saying that “while these may be taken for granted in East Asia, it remains the case that they types of upgrading widely seen in East Asia are the exception rather than the rule in developing countries.”

D. Lessons from East Asian NIEs: Innovate and upgrade

Initial studies, particularly those done by Gereffi and his co-authors, used the global value chain framework to explain the transformations in production, trade and corporate strategies that altered the apparel industry over the past decades and that changed the conditions for innovation and learning in the industry.

The apparel value chain, according to Applebaum and Gereffi (1994) is composed of five networks, namely the raw material networks (i.e. those who process natural and synthetic fibers), the component networks (i.e. the textile companies), the production networks (i.e. the apparel manufacturers, including garment factories, contractors and subcontractors), the export networks (i.e. brand-named apparel companies, overseas buying offices, and trading companies), and marketing networks (i.e. retail outlets such as department stores, specialty stores, mass merchandise chains, discount chains, etc.).

Highly successful textile and apparel exporters from Hong Kong, Taiwan, and Korea (and previously Japan), successfully moved up the value chain over the years, progressing through a sequence of export roles from assembly to original equipment manufacture (OEM) to own brand manufacture (OBM).

They developed their OEM capabilities in the 1960s and 1970s by establishing close ties with retailers and marketers in the United States, and then “learning by watching”. They used these foreign partners as role models to build their export capabilities.

The performance trust built up through many successful business transactions with these U.S. buyers enabled East Asian suppliers to internationalize their OEM expertise through triangle manufacturing. The East Asian manufacturers became intermediaries between U.S. buyers and hundreds of apparel factories in Asia and other developing regions because they wanted to take advantage of lower labor costs and favorable quotas around the world. The creation of these global sourcing networks helped the East Asians sustain their international competitiveness when domestic economic conditions and quota constraints threatened their original OEM relationships.

The East Asians have since moved beyond OEM in many ways. For instance, they have shifted to higher value activities in the apparel commodity chain (e.g. by exporting textile and fabrics rather than apparel). Korea and Taiwan are major world suppliers of fabrics, benefiting

from their large man-made fiber industries. Both countries have large spinning and weaving sectors. Despite rising labor costs, they are expected to remain competitive in the relatively capital-intensive production of synthetic fibers and fabrics (USITC, 2004).

The East Asians have also moved downstream to own brand manufacture (OBM) in apparel. Hong Kong, in particular, has been successful in manufacturing and selling its own brand of clothes. Among its well-known brands are Episode, a woman's clothing chain that has stores in 26 countries; Giordano, which has hundreds of factories and retail outlets in Southeast Asia and Korea; and Hang-Ten, which is the largest foreign-clothing franchise in Taiwan.

These countries have also been aggressively investing in efforts to switch to other global product chains. Taiwanese firms have pursued OBM in computers, bicycles, sporting equipment and shoes, but not in apparel. South Korea, on the other hand, has graduated into producing its own automobiles (Hyundai), electronic products (Samsung), and household appliances (Samsung and Goldstar), which are being sold in North America, Europe, and Japan.

III. THEORETICAL FRAMEWORK AND RESEARCH DESIGN

This paper seeks to map out the global apparel value chain from the perspective of a Philippine-based firm. This case study attempts to answer the following questions:

1. In terms of the **typology of chain governance** presented by Gereffi, et. al. (2003), in which types of value chains do firms in the Philippine textile and apparel industry generally participate? Are they governed as part of markets, modular value chains, relational value chains, captive value chains, or hierarchies?
2. In terms of the **dimensions of global value chains** presented by Sturgeon (2001), at which geographic scale is the Philippine textile and apparel industry currently situated in? Is the industry positioned in the local, domestic, international, regional, or global scale? How do the firms within the industry participate in the global value chain? Do they act as integrated firms, as retailers, as lead firms, as turn-key suppliers, or as commodity suppliers?
3. While competing in the global economy, do firms in the Philippine textile and apparel industry take the "low-road" or the "high-road"? If they take the "low road," what prevents them from undertaking upgrading? On the other hand, if they take the "high-road," what **types of upgrading** – in terms of the trajectories presented by Humphrey and Schmitz (2003) – do these firms undertake? What steps do these firms take to go about product, process, functional, and/or chain upgrading?

A. Case Study Hypotheses

Humphrey and Schmitz (2003), besides presenting four types of relationships in global value chains, propose that "upgrading opportunities of local enterprises are often structured by the relationships in global value chains." In this regard, they explored whether certain types of chains are associated with particular types of upgrading, using the typology of chain governance presented by Gereffi, et al. (2003) and the trajectories of upgrading identified by Kaplinsky and Morris (2003). They also sought to identify circumstances in which global buyers would seek to govern value chains, expecting that this will provide insights as to why buyers foster the upgrading of suppliers in some cases but not in other cases.

As a result, Humphrey and Schmitz (2003) came up with four propositions on value chain governance and upgrading organized according to the type of chain. Two of the four propositions have been adapted for examination and adopted as the case study's hypotheses:

Hypothesis 1:

In quasi-hierarchical chains, developing country producers experience fast product and process upgrading but make little progress in functional upgrading.

Hypothesis 2:

Network-based chains support an open-ended upgrading path but local producers in developing countries rarely find themselves in such chains.

In an earlier study, Humphrey and Schmitz (2000) analyzed various empirical studies of value chains in an attempt to establish some general principles about the circumstances in which upgrading takes place. Some of the propositions they came up with in that study provide some bases for the hypotheses mentioned above:

- Firms confined in production tasks in quasi-hierarchical value chains upgrade processes rapidly. Radical product and functional upgrading may be restricted by the interests of the lead firm (or focal organization) in maintaining the chain structure.
- Product and process upgrading depend significantly upon intra-firm innovation resources and/or support from technical and marketing bodies. Therefore, they are more likely to be led by large firms or to take place where national and local systems of innovation are well-developed. Buyers do not drive functional upgrading. Suppliers generally have to demonstrate their competence and the advantage for the buyer of transferring functions before such functions are transferred.
- Within quasi-hierarchical value chains, the potential for functional upgrading arises in two circumstances. Firstly, the focal organization may broker the transfer of non-strategic competences within the chain, or re-define its own competences and abandon certain activities. Secondly, strategic alliances between firms other than the focal organization may lead to the creation of new chains focused on new customers.
- Where chains are coordinated through market relations, the role of large firms and / or local technical and marketing institutions are critical for establishing initial access to export markets and promoting process, product and functional upgrading. While this requires greater local effort and coordination, in the longer-term, it may provide greater potential for upgrading, because the local knowledge system has more access to external knowledge.
- Firms are frequently inserted into more than one chain—for example, producing for both domestic and export markets, which might have significantly different characteristics. Learning in one chain may facilitate upgrading in another.

- As developing country firms engage in functional upgrading based on competence acquisition, their relationships with buyers shift from quasi-hierarchy to network.

B. Case Study Design

As already mentioned, Gereffi, et. al. (2003) proposed a typology of value-chain governance that identifies five distinct types of governance. However, since Humphrey and Schmitz's (2003) **Proposition 1** (i.e., this study's **Hypothesis 1**) and **Proposition 3** (i.e., this study's **Hypothesis 2**) have been adopted, the study will only focus on **captive value chains** and **modular value chains** as defined by Gereffi, et. al. (2003).

The study seeks to support or debunk one or both propositions, supplementing the existing literature either way. This calls for a **Type 2 or two-case (holistic) design**: one case examining the captive value chain (which, by definition, can also be called a quasi-hierarchical chain), and another examining the modular value chain (which, by definition, can also be called a network-based chain). This study, however, examined only one firm, which, as will be revealed, actually possesses the characteristics of a productive player that belongs to both types of chains.

C. Unit of Analysis

The main unit of analysis for the case study is **the firm**. The discussion centered on their **relationships and transactions** with other players in their respective chains and their **internal capabilities** to pursue upgrading.

1. Relationships and Transactions

To determine whether a firm is within a captive value chain or within a modular value chain, the key determinants of global value chain governance provided by Gereffi, et. al. (2003, highlights added) will be used:

Complexity of transactions. This determinant is based on the complexity of information and knowledge transfer required to sustain a particular transaction, particularly with respect to product and process specifications (Gereffi, et. al., 2003). If we follow Assumption 3 of this case study (“[W]hile there are firms operating within networks, they generally do not attain arm’s length market relations with their suppliers and buyers.”) and relate it to Table 2 below, the issue of the complexity of transactions will have been addressed since all governance types below market relations have high complexity of transactions.

Good indicators of complexity of transactions are three of the ten factors used by Humphrey, et. al. (1998; cited in Kaplinsky and Morris, 2003) in their assessment of trust relations in value chains: (1) the degree of dependence firms within the value chain have on each other, (2) the length of the firms’ trading relationships (specifically their contracts), and (3) the nature of the ordering procedure. Taking these in turn:

Table 2: Key Determinants of Global Value Chain Governance

Governance Type	Complexity of Transactions	Ability to Codify Transactions	Capabilities in the Supply-base	Degree of Explicit Coordination and Power Asymmetry
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Market	Low	High	High	
Modular	High	High	High	
Relational	High	Low	High	
Captive	High	High	Low	
Hierarchy	High	Low	Low	

Source: Gereffi, et. al. (2003)

1. In terms of **degree of dependence**, the high complexity in transactions in modular value chains down towards hierarchies would produce a situation wherein suppliers only have few customers, while buyers will resort to single- or dual- or select-sourcing. Low-trust chains (in the context of degree of dependence, that is) like markets are usually characterized by suppliers having many customers, and buyers utilizing multiple sources.
2. In terms of **length of trading relationship**, the high complexity of transaction in modular value chains down towards hierarchies would entail a long-term relationship between firms so as to complete each complex transaction. Low-trust chains (again, in the context of this factor) like markets, with suppliers having many customers and buyer having many sources, are usually characterized by short-term relationships between firms.
3. Finally, in terms of **ordering procedure**, the high complexity of transactions in modular value chains down towards hierarchies would necessitate that situation where bidding for contracts may not take place. The high level of trust in these chains (taken in context) would mean that a likely winner is known in advance and that prices are settled after the contract is awarded. The nature of market relations would always call of open bidding for buyers, with prices being negotiated and agreed upon before orders are commissioned.

Table 3 presents a summary of the possible indicators for complexity of transactions:

Table 3: Possible Indicators for Complexity of Transactions

Governance Type	Degree of Dependence	Length of Trading Relationship	Ordering Procedure
Market	Suppliers have many customers, and buyers utilize multiple sources	Short-term trading	Open bidding for buyers, with prices being negotiated and agreed upon before orders are commissioned.
Modular Relational Captive Hierarchy	Suppliers only have few customers, while buyers resort to single- or dual- or select-sourcing	Long-term trading	Bidding for contracts may not take place. Likely winner is known in advance. Prices are settled after the contract is awarded.

Source: Adapted from Humphrey, Kaplinsky and Saraph (1998, cited in Kaplinsky and Morris, 2003)

Ability to codify transactions. This determinant is the extent to which this information and knowledge can be codified and, therefore, transmitted efficiently and without transaction-specific investment between parties to the transactions (Gereffi, et. al., 2003). The distinction established in the examination of indicators for complexity of transactions excludes market relations. The next step, therefore, is to distinguish between the governance types with high ability to codify transactions (i.e. captive and modular value

chains, which this case study aims to examine) from those with low ability to codify transactions (i.e. relational value chains and hierarchies).

To do this, a further four of the ten factors used by Humphrey, et. al. (1998; cited in Kaplinsky and Morris, 2003) in their assessment of trust relations in value chains can be utilized: (1) the determination of prices, (2) the nature of credit extended along the chain especially to exporting firms, (3) the nature of the contractual relationship, and (4) the modes of inspection used in accepting incoming materials. Taking these in turn:

1. In terms of **price determination**, the low ability of the firms within relational value chains and hierarchies to codify transactions necessitates a non-adversarial or an “open-book” policy. This is also due to the assertion that relational value chains are generally “built-up over time or are based on dispersed family and social groups,” and that hierarchies are “characterized by vertical integration” and governed by “managerial control, flowing from managers to subordinates, or from headquarters to subsidiaries and affiliates.” (Gereffi, et. al., 2003). The reverse is possibly true for modular and captive value chains wherein lead firms provide specifications to their suppliers (see also #3).
2. In terms of **credit extended** and in relation to price determination, the high level of trust in relational value chains – and even hierarchies – allow for easy access to letters of credit, longer payback period, and easier terms. All these are just as well with the low ability to codify the transactions within these chains. As for modular and captive value chains where there is less trust than in relational value chains, the high ability to codify transactions allow for the extension of (punitive) terms, if at all.
3. In terms of **contractual relationship**, the high ability of modular and captive value chains to codify transactions and the specifications the lead firms provide their suppliers mean that the supplier can only start production on receipt of the written order (which could then be codified). Relational value chains, on the other hand, allow for suppliers to be more flexible about instructions (after all, there are complex interactions between buyers and sellers within this type of chain). Thus, they can start production without a written order. No written order, no need to codify.
4. Finally, in terms of **inspection**, trust in relational value chains (also hierarchies) allow for little or no inspection on delivery of most parts, and thus, less need for codification. Conversely, customer specification in captive and modular value chains calls for inspection on delivery, and thus, the need for the ability for codification of transactions.

Table 4 shows a summary of the possible indicators for ability to codify transactions.

Capabilities in the supply-base. This determinant refers to the capabilities of actual and potential suppliers in relation to the requirements of the transactions. Only captive value chains and modular value chains have both high complexity of transactions and high ability to codify transactions. The distinction, therefore, between the two lies in the capabilities in the supply-base.

Table 4: Possible Indicators for Ability to Codify Transactions

Governance Type	Price Determination	Credit Extended	Contractual Relationship	Inspection
Modular and Captive	Adversarial, with hiding of	Punitive or no credit extended	Suppliers only start production on	Inspection on delivery

	information		receipt of written order	
Relational Hierarchy	and Non-adversarial with "open books" policy	Easy access to letters of credit, longer period, and easier terms	Suppliers are more flexible about instructions and start production without written order	Little or no inspection on delivery of most parts

Source: Adapted from Humphrey, Kaplinsky and Saraph (1998, cited in Kaplinsky and Morris, 2003)

To determine the distinction, the remaining three of the ten factors used by Humphrey, et. al. (1998; cited in Kaplinsky and Morris, 2003) in their assessment of trust relations in value chains can be utilized: (1) the types of technical assistance which flows along the chain, (2) the nature and methods of communication along the chain, and (3) the modalities of payment to outsourced informal economy producers.

1. In terms of **technical assistance**, the extensive unilateral or bilateral technology transfer over time in modular and relational (both network-based) value chains increase the overall capability in the supply base. In captive value chains, expertise is rarely pooled, and assistance is granted only when paid for.
2. In relation, in terms of **communication**, the multi-channeled system in modular and relational value chains, which includes engineers, the personnel department and top management allow for frequent and often informal exchange of technical expertise. In captive value chains, communication is infrequent and often done through formal channels. It is narrowly focused on the purchasing department.
3. Finally, in terms of **outsourcing payment terms**, the high capability in the supply base in modular and relational value chains can mean that payment is made on receipt of finished goods. Lead firms are assured of the quality of the products. On the other hand, the low capability in the supply base in captive value chains will cause long delays in paying agents and informal economy producers.

An intermediate typology of value chain governance in between captive value chain and modular value chain is **relational value chain**, described by Gereffi, et. al. (2003) as a network where "we see complex interactions between buyers and sellers, which often creates mutual dependence and high levels of asset specificity." To avoid ambiguity between a firm within the captive value chain and a firm within the modular value chain, it is important to select a "captive" firm nearer to hierarchical governance and a "modular" firm nearer to arm's length market relations.

The difference between the two situations presented in the case study propositions, and, consequently, the cases to be selected preclude replication. Again, what is sought in this case study is to support or discredit one or both propositions, to supplement the existing literature, and, hopefully, to build a strong foundation for further studies.

2. Internal Capabilities

Aside from the relationships and transactions (as described above), another point of discussion is the trajectory of upgrading undertaken (in relation to research problem #3), as identified by Kaplinsky and Morris (2003) and Humphrey and Schmitz (2003):

Process upgrading: increasing the efficiency of internal processes such that these are significantly better than those of rivals, both within the individual links in the chain, and between the links in the chain.

Product upgrading: introducing new products or improving old products faster than rivals. This involves changing new product development processes both within individual links in the value chain and in the relationship between different chain links.

Functional upgrading: increasing value added by changing the mix of activities conducted within the firm or moving the locus of activities to different links in the value chain.

Chain upgrading: moving to a new value chain or using the knowledge acquired in particular chain functions to move into different sectors.

Using this framework, Kaplinsky and Morris (2003) identified several indicators of innovation and upgrading, in terms of practices and performance. Table 5 below shows that each of the first three trajectories of upgrading can occur either within the firm or as a result of a series of linked action in the relationships between firms. Chain upgrading involves moving out of the value chain entirely, and moving into a new value chain.

Table 5. Indicators of Innovation and Upgrading: Practice and Performance

Trajectory of Upgrading	Practices	Performance
Process Upgrading (Within the chain link)	R&D; changes in logistics and quality practices; introducing new machinery	Lower costs; enhanced quality and delivery performance; shorter time-to-market; improved profitability; enhanced patenting activity
Process Upgrading (Between chain links)	R&D; supply chain management procedures; e-business capabilities; facilitating supply chain learning	Lower final product costs; enhanced final product quality and shorter time-to-market; improved profitability through value chain; enhanced patenting activity
Product Upgrading (Within the chain link)	Expansion of design and marketing departments; establishment or strengthening of new product development cross functional teams.	Percentage of sales coming from new products (e.g. products introduced in past year, past two and past three years) Percentage of sales coming from branded goods
Product Upgrading (Between chain links)	Cooperating with suppliers and customers in new product development—concurrent engineering	Number of copyrighted brands Increase in relative unit product prices without sacrificing market share
Functional Upgrading (Within the chain link)	New higher value added chain-specific functions absorbed from other links in the chain and/or low value added activities	Division of labor in the chain Key functions undertaken in individual links in the chain

Trajectory of Upgrading	Practices	Performance
	outsourced	
Functional Upgrading (Between chain links)	Moving into new links in the chain and / or vacating existing links	Higher profitability; increase in skill and salary profile
Chain Upgrading	Vacating production in a chain and moving to a new chain; adding activities in a new value chain	Higher profitability; proportion of sales coming from new and different product areas

Source: Kaplinsky and Morris (2003)

3. Context

There are two key elements in the context of the case study, both of which have an effect on the discussions about the firm. First is the geographical scale within which the value chain is located. It is assumed that the value chain is positioned in all of the scales, but so that the study will be a veritable global value chain analysis, the firm must be within a captive value chain or a modular value chain and must have foreign links. Second is the type of governance within the value chain. This has been discussed extensively above but the discussion could include its aspects, as provided by Dolan and Humphrey (2000), and power relations, as provided by Kaplinsky and Morris (2003).

D. Conceptual Framework

Figure 1, drawing from a number of sources, illustrates the typology of governance of global value chains and the general structure of each type (Gereffi, et. al., 2003), their classification (Humphrey and Schmitz, 2000), and their relationship to the different trajectories of upgrading (Kaplinsky and Morris, 2003) based on propositions by Humphrey and Schmitz (2003).

The pyramid represents the typology of governance of global value chains, from **hierarchy** (which has a high degree of explicit coordination and power asymmetry) through to **market** (which has a low degree of explicit coordination and power asymmetry). Within each type are dotted boxes, block arrows, and connectors. The dotted boxes represent productive actors like integrated firms, lead firms, turn-key suppliers, and component suppliers (Sturgeon, 2001). The block arrows represent thick flows of information and control, regulated through explicit coordination, while the connector represent exchange based on price (Gereffi, et. al., 2003). At the bottom of the pyramid is a representation of the transformation of a product along the value chain from materials to end-use. This would include design, production, marketing, and consumption (Kaplinsky and Morris, 2003).

On the left side of the pyramid are braces pointing to the equivalent classification of each type of value chain governance based on coordination of economic activities through non-market relations. By definition, captive value chains are quasi-hierarchical value chains, while relational and modular value chains are network-based value chains.

On the right side of the pyramid are blocks representing the four trajectories of upgrading presented by Kaplinsky and Morris (2003): product, process, function, and chain upgrading. The arrows pointing towards the possible trajectories of upgrading represent the relationships between value chains governance and upgrading in value chains. These are founded on the four proposition of Humphrey and Schmitz (2003), represented by the numbers inside the circles.

IV. LEADER GARMENTS AND THE GLOBAL APPAREL VALUE CHAIN

Leader Garments, part of Makalot Industrial Company in Taiwan, is a 100% Taiwanese-owned firm. Its main products include ladies' blouses, sleepwear, pants, shorts, and jogging pants. Leader's capitalization is between P100M to P160M, and it has been operating for 14 years. Currently, it has around 1200 employees, 93% of which are female. In 2003, the company's sales volume increased from a year before, and it generated a profit.

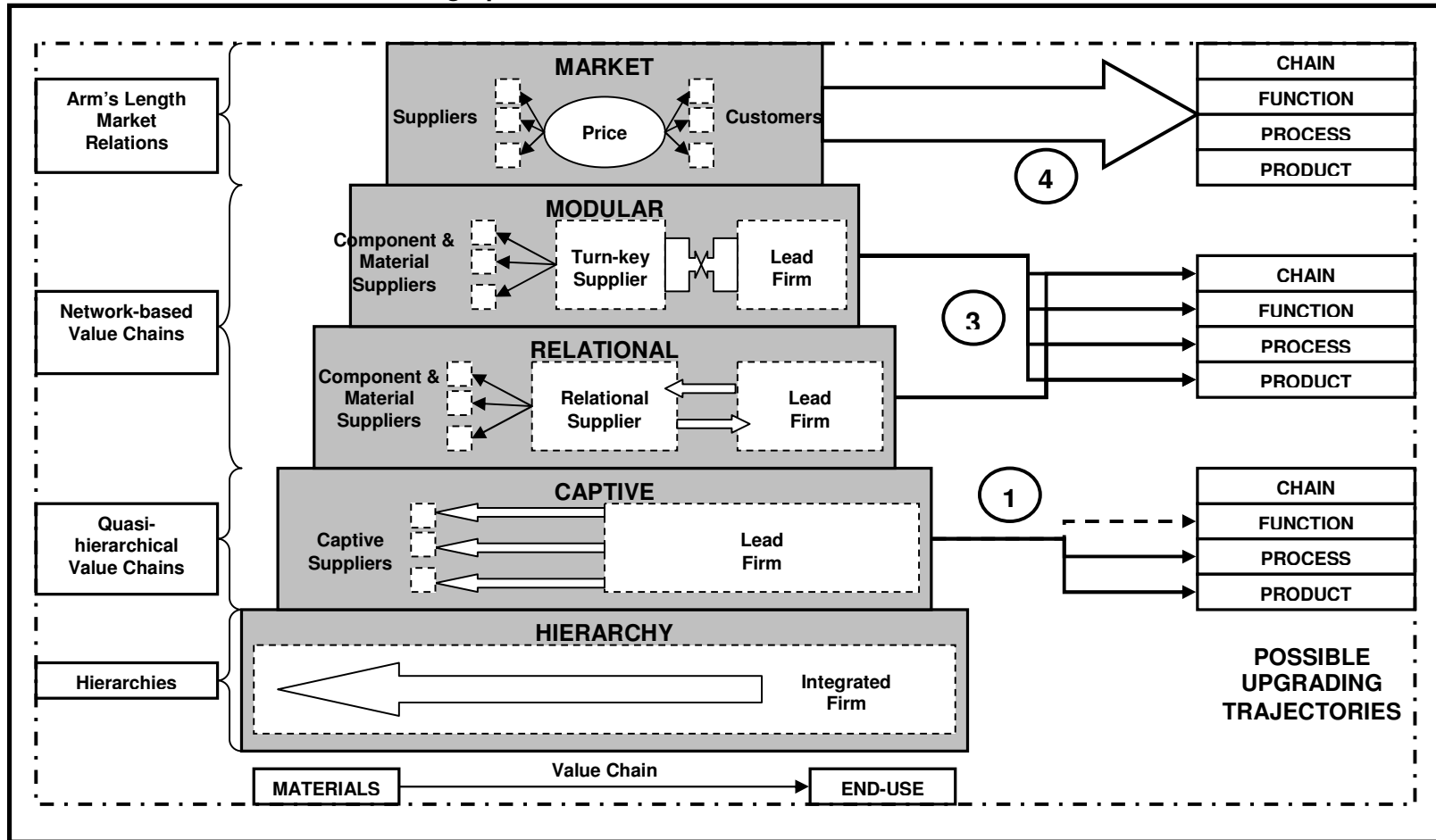
As part of the Makalot Industrial Company (Taiwan), Leader Garments Corporation has less than ten buyers, all of which are based in the United States, its main geographic export market. Currently, these buyers include Wal-Mart, J.C. Penney, Mervin's Department Store, Target Department Store, and Kohl's Department Store. Most of the orders from Leader Garments, however, are by Gap Inc. The top product exports to these buyers are ladies' blouses and sleepwear.

Leader Garments previously had trading relationships with Nike (through the buyer's trading office in Taiwan), Bernard Chau, Mister Witt, and K-Mart. These relationships have been terminated for varied reasons. Nike's office here in the Philippines closed down, coupled with Leader not being able to keep up with Nike's standards. Meanwhile, Bernard Chau closed shop due to bankruptcy, as did K-Mart. As for Mister Witt, its communication with Leader Garments was just discontinued.

Leader Garments' merchandising department in Taiwan secures orders through a variety of methods, including online bidding, notation, and negotiation with the trading offices of its buyers, also located in Taiwan. Other orders are secured through commitments inherent in existing relationships, such as in the case of Gap. Leader's buyers from the United States channel their orders to their trading or representative offices (mostly in Hong Kong) through to Makalot Industrial's offices in Taipei. These orders are then communicated to Leader here in the Philippines.

Raw materials and accessories are directly consigned to the Philippine operation from other Asian countries such as Hong Kong (mainly accessories), China, Korea, Indonesia, and Japan. Some raw materials are also sourced from the United States and Italy. Overall, 97% of Leader Garments' raw materials are imported; the remaining 3% come from the Philippines, but are limited to some accessories, some threads, non-woven interlining, and packaging materials. The concentration of the amount of raw materials being imported is due to price and lack of available sources of fabrics in the Philippines.

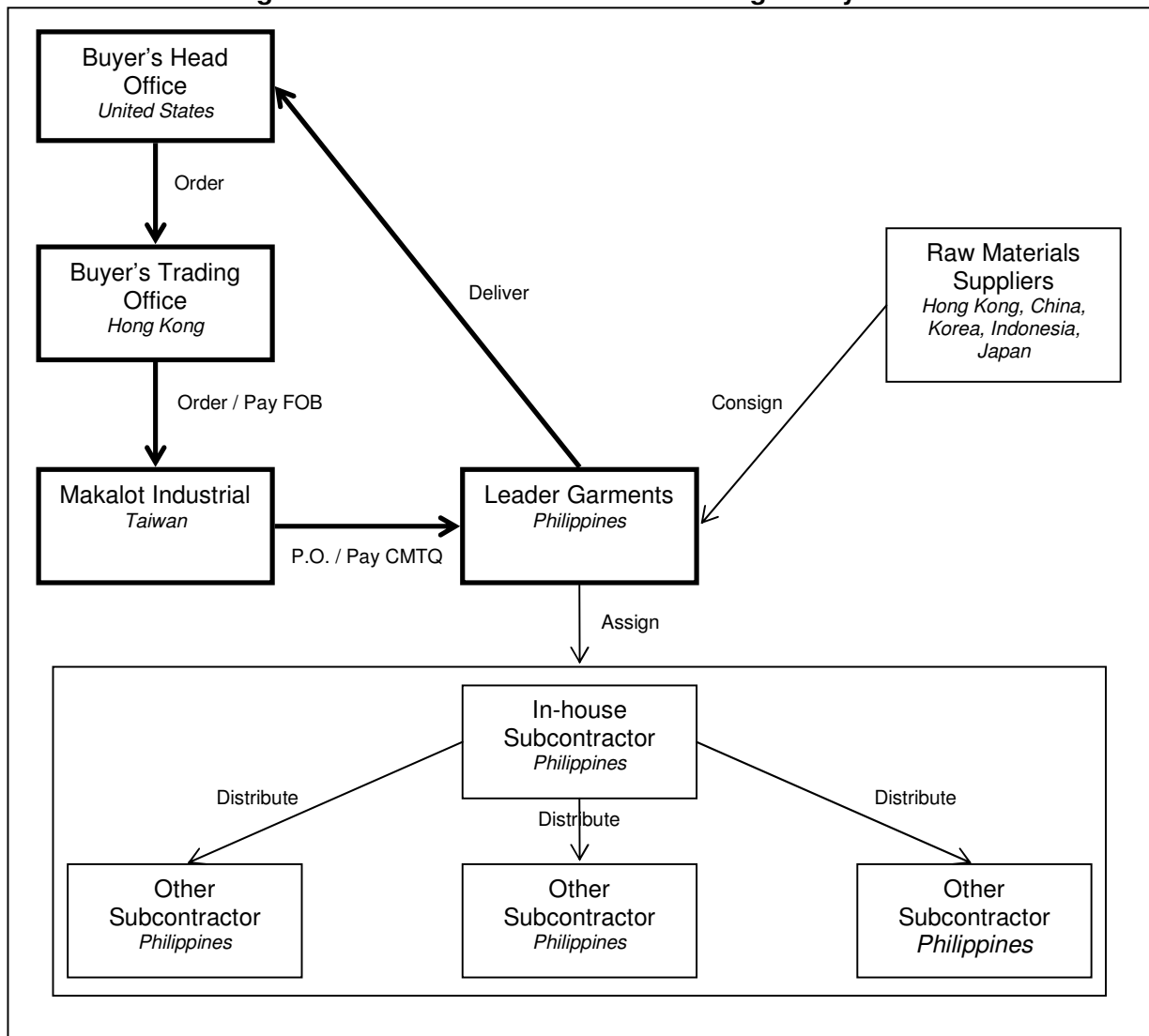
**Figure 1: Conceptual Framework
Geographical Scale / Context of Global Value Chains**



Source: Humphrey and Schmitz (2003)

Leader Garments assigns the manufacture of the garments to its in-house manufacturers in Laguna and Cavite, and other local subcontractors. After manufacturing, the products are delivered to the buyers in the United States through sea freight or, when there is a delay or upon instruction of the buyer, through air freight. The buyers pay Makalot on an FOB basis (FOB point is Manila), while Makalot pays Leader Garments through a CMTQ – cut-make-trim-quota – arrangement. This whole system has been called the triangular system, with the U.S. buyer, the Taipei trading office, and the local manufacturer composing each of the three corners of the triangle (see Figure 2).

Figure 2: Leader Garments and the Triangular System



A. Leader Garments and Gap Inc.

Leader Garments has an ongoing trading relationship with Gap Inc. that has lasted for the past eight years. The relationship began when Makalot Industrial “courted” Gap. At the time, Makalot and Leader had to prove to Gap that they can conform to the buyer’s standards, and today, Gap is already confident in Leader in terms of the quality of products manufactured and

the ability to deliver on time. At present, 30-40% of orders from Makalot/Leader are by Gap (although this once stood at 60-70%). It also helps that these orders are derived with the advantage of the quota for products like pants, sleepwear, and blouses.

Gap Inc.'s orders from Leader Garments are based on its needs. However, while Leader is able to supply more than what Gap orders, the relationship is still buyer-driven. Considering the size of Gap, Leader is only a small part of the total business of this buyer; thus, Leader doesn't have much power to dictate terms. Leader (as is the case for any other supplier) must always try to please Gap and conform to its standards. In the type of business Leader is in, "the big [companies] get bigger, and the small [companies] have fewer opportunities." Buyers such as Gap are too smart to get small manufacturers who cannot shoulder its claims on quality, delivery, and documentation. These claims, particularly on quality, can run up to millions of Pesos or thousands of Dollars, and are implicit in the buyer-supplier relationship. Aside from claims, Gap can also reject products delivered by Leader and return them due to quality concerns. In this case, Leader has no choice but to find another buyer and sell the returned products at lower prices.

Given the opportunity, Leader wishes to get better prices for its products and more flexibility in delivery time. For example, when Gap places a special order to Leader, Gap imposes a delivery time of 30-45 days in order to lessen inventory costs, and "make more money." Before, delivery time was around 50-60 days, but this period has shortened, forcing Leader to improve its efficiency in order to cope. (If raw materials are made available immediately, however, manufacturing only takes two weeks.) This, however, is the only negative aspect of Leader's relationship with Gap, which, in general, is considered very advantageous for the company. Besides, Gap (along with Wal-Mart and J.C. Penney) is really the only market that suits the needs and capacity of Leader to produce middle- to lower-end products at large volumes. Leader does not cater to buyers who require smaller quantities of labor-intensive and higher end products.

1. Ordering Procedure and Communication

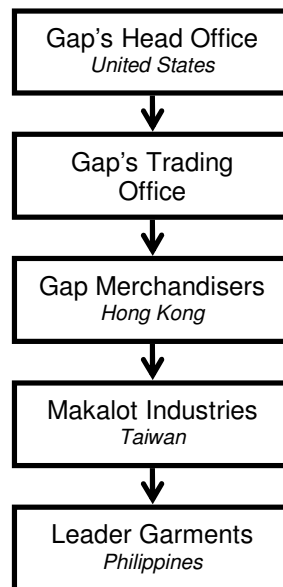
There is a chain of communication from Gap Inc.'s head office in San Francisco through to Leader Garments in the Philippines (see Figure 3). Gap in the United States communicates to its office in Hong Kong, who then assigns its merchandisers to communicate with Makalot's merchandisers in Taipei. For issues regarding production, Makalot's merchandisers get in touch with Leader's manufacturers in the Philippines; while for issues regarding documentation, the Taipei office gets in touch with Leader's office in Metro Manila. The whole Makalot group is connected online, thus facilitating internal communication. As for Leader and Gap in Hong Kong, Leader had to purchase special software to access the purchase orders of Gap. For other relevant issues such as sewing techniques and other technical aspects, Makalot's Hong Kong and Taipei merchandisers communicate with the production offices of Leader here in the Philippines. Other more traditional means of communication, i.e. the telephone, are also used for really urgent matters, but online communication is the norm in the company.

Communication between Leader and Gap as a buyer isn't just limited to transactions, though. Other topics of discussion include specification of products to be manufactured, export and shipping dates (and request for extension, if necessary). Communication is usually between the merchandisers of Gap and the merchandisers of Makalot.

2. Price Determination and Credit

The price for which Leader Garments charges its products depend on the volume and the needs of the buyer, particularly Gap Inc. However, even if Leader and Gap have a generally good and advantageous relationship, this doesn't mean that Leader will give Gap a "better price." Leader's buyers are "hard-nosed businesses," and therefore the standing relationship does not really affect the determination of prices. The same goes for every buyer.

Figure 3: Ordering Procedure



Primarily, it is Leader that sets the prices. Gap might negotiate, but "not too much," since it can always find other sources of products. That is why Leader has to "be abreast with raw material prices in different areas" so that it can immediately quote a price when orders from Gap arrive. Having regional offices also helps, since Leader can easily get information regarding prices of products and raw materials. These regional offices are located in China (with five factories or manufacturing warehouses), Indonesia, Cambodia (with three), Vietnam, and Bangladesh. There is also a presence in El Salvador established four years ago. This has the advantage of not having a garments quota especially for the critical categories such as pants and cotton jackets, by virtue of El Salvador being part of the North American Free Trade Agreement (NAFTA). For purposes of comparison, Leader's Philippine office provides around 30% of the overall demand.

Leader Garments does not extend credit to its buyers; the method and terms of payment is always through letters of credit (L/C). Leader does not maintain open accounts to ensure that they can always collect payments from their buyers. Nevertheless, Leader Garments – in the Philippines, at least – has not experienced any delays in receiving payment, save for the time when K-Mart closed down due to bankruptcy. (K-Mart was able to negotiate with some U.S. banks to assume its payables. Leader got paid eventually, although not for some months.) Leader deals with reputable buyers, thus there is no need for them to institute or impose penalties for any delays in payments. This, however, would still depend on any given situation.

3. Contracts and Method of Inspection

As mentioned previously, Leader Garments secures information regarding Gap Inc.'s purchase orders through special software. These "contracts" are basically just documents procured from the software that contain every relevant piece of information and all the requirements of Gap regarding a specific order from prices, technical specification, and packing/shipment details. However, other details regarding the order and technical aspects such as sewing techniques and designs are communicated to Leader through the Internet and through e-mail. These written documents are needed every time before any manufacturing activities are started.

Besides the requirements indicated in the purchase orders, inspection of goods is an important aspect that is thoroughly considered. Every step of the manufacturing process, from the receipt of fabrics, to cutting-making-trimming, to packaging, involves an inspection, either at the sewing lines or by roving inspectors. This is a requirement implied in every order. Before the products are shipped to Gap, Leader performs a pre-final inspection. The whole shipment is inspected lot-by-lot, sometimes even twice. The necessity for a 100% inspection has been determined by internal studies by Leader. Statistical quality control is performed through a random inspection by the buyer's quality control personnel of each lot of products for delivery. If one of the lots reveals defects, the whole lot is then inspected and returned to Leader for any repair. However, if the goods do pass this random inspection, they are shipped to the United States and delivered immediately to Gap's stores. The process is the same for Leader's other buyers.

The inspections performed are generally internal procedures, but the guidelines and standards indicated in Gap's quality control handbook must still be followed. From time-to-time, Gap sends over quality control personnel to perform their own inspections. If defective products do reach the Gap's stores in the U.S. from under the noses of the inspectors, Gap will perform an investigation, recall certain products, and make a claim against Leader.

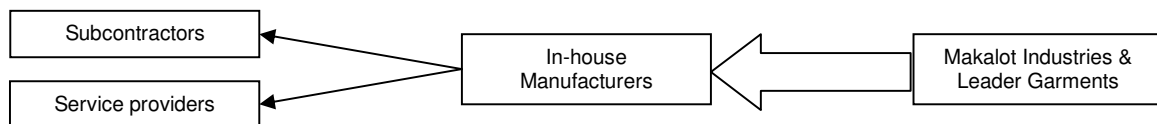
4. Leader Garments and Its Subcontractors

Leader Garments has in-house manufacturers and other subcontractors to perform general sewing activities. It has two subsidiary companies that serve as in-house manufacturers: Diamond Apparel Manufacturing (with around 900 sewers) and Prime Line Fashion (around 400). These subsidiary companies were created to maximize quota allocation. Leader also has subcontractors to meet buyers' orders. These subcontractors – Trigold Garments and Daehan Manufacturing – are both Korean firms located in the Philippines and are contracted exclusively to manufacture the orders of Leader Garments' buyers. They are on an exclusive arrangement because they are often at full capacity, and because Leader relies on their efficiency (this can be attributed to the piece-rate mode of payment of its workers), which is superior to local firms. Leader Garments previously had subcontracting arrangements with firms such as Pilgrim Fashion Manufacturing and Frontline Garments. These have been terminated (allegedly) for trust and relationship issues (see Figure 4).

Production scheduling, buyer's requirements, and technical capabilities are the main considerations in deciding which of these subcontractors will manufacture a specific order or portion of an order. Overall, the distribution of manufacturing duties is around 60% for the in-house manufacturers, 40% for the outside subcontractors. The in-house manufacturers produce the products for Gap, Wal-Mart, and Kohl's, Trigold produces mainly for Wal-Mart and some for Gap, Primeline produces mainly for Gap, and Daehan produces for Gap and J.C. Penney.

Gap has to pre-approve whichever manufacturer will produce its products. Foreign representatives of Gap perform audits to ensure the quality and social compliance standards of the firms involved. For specialized processes, Leader employs such firms as Bayview Embroidery, El Grande, and JGC for embroidering, 3M Steam Laundry, Pilipinas Washing Co., and Acetex Laundry Corp. for garment washing, and CKP Packaging Products for packaging. Leader communicates with its subcontractors and suppliers through more conventional means (telephone, fax), seldom using online means.

Figure 4. Relationship of Leader Garments with Service Providers



Leader Garments control the price determination with its subcontractors, although there can be some haggling involved. These subcontractors do not extend credit to Leader since Leader provides all the raw materials needed to produce the products. Meanwhile, in terms of contracts, the subcontractors just rely on the instructions of Leader on when to begin as soon as raw materials are ready and what product to manufacture. During the entire manufacturing process, there are three inspections at rates ranging from 40% to 100%.

Makalot's merchandising office and Leader's main production facility in the Philippines is located in Carmona, Cavite. It contributes around 50% of the total products delivered to Leader's buyers in the United States, by far the highest contribution among the subcontractors. The scope of its activities involve procuring purchase orders, patterns and samples of buyers from the online system described above, and production planning, control and scheduling. Its interaction with Leader's office in Metro Manila is mainly on aspects of accounting, documentation, and processing of import-export requirements.

Leader relies heavily on its subcontractors due to their high efficiency rates. This can be attributed to the piece-rate compensation of its workers. Leader's in-house manufacturers are also planning to implement such a pay scheme for its own workers, but this is still subject to its internal studies regarding the matter, as well as approval of the Department of Labor and Employment. This shift is intended to make Leader more competitive.

B. Upgrading Practices

Leader Garments' in-house manufacturer in Carmona is greatly involved in many upgrading and technical aspects of the business. Upgrading is a continuous process in Leader, but while there are indications of each of Kaplinsky and Morris's (2003) trajectories of upgrading, it is clear that process upgrading is given emphasis.

1. Process Upgrading

Process upgrading in Leader is more geared towards the introduction of new machinery rather than research and development, which is performed by Makalot in Taiwan. In 2004 alone, 206 units of new computerized machines were delivered to Leader in the Philippines to use in its manufacturing activities. These machines perform such general functions as sewing and cutting. The use of these kinds of machines started more than three years ago and has

improved the efficiency and quality of work and products by around 10%. While this is the case, there has been no significant change in the management procedures of Leader Garments as a result of the use of these machines. It's still the Taiwan office that approves and purchases these machines, although there must first be an approval by Leader's General Manager here in the Philippines. Recovery for the cost of these machines takes about two years. The older machines replaced by these new machines are lent to the other subcontractors of Leader at no cost.

Some of the machines recently procured by Leader Garments include direct drive electronically controlled button sewing machines (brand: Sunstar) and direct drive electronically controlled bartacking sewing machines (brand: Sunstar). There are also a 2-needle, needle feed splithead needle bar rockstitch sewing machines (brand: Sunstar), a 1-needle bottom and variable top feed lockstitch machines with automatic thread trimmer (brand: Juki), a 2-needle variable top feed safety stitch machine (brand: Yamato), and bard knife machine.

The use of the online software previously described is also a significant upgrade in the processes of Leader Garments, particularly in terms of getting information on the order of the buyers. Before, Leader had to report to the Taiwan office in order to get these order information. Today, these orders go directly to the in-house manufacturer. There were plans to implement an even more automated management information system – Enterprise Resource Planning (ERP) purchased from Oracle – as far back as 2002. However, the MIS personnel of Makalot in Taipei encountered problems, and while the system is running, the implementation is incomplete. The database maintained by Makalot is very large and unwieldy, and the sheer number of suppliers and materials that Leader Garments purchases for its operations makes the ERP system even harder to implement.

Besides machinery and online communication, Leader Garments utilizes other means to upgrade its processes. The company gives in-plant seminars to its line managers and managerial staff using trainers from other institutions such as Meralco Foundation. Individual sewers are then trained internally by the managerial staff. Unlike in the case of the machines, these seminars are locally-funded, and there is no need for the approval of the Taiwan office.

2. Product and Functional Upgrading

In terms of product upgrading, it is Makalot's office in Taiwan that makes the designs to be presented to the different buyers of Leader Garments. As such, there is only minimal design activities performed in the Philippines. The capability to perform design and marketing functions here in the Philippines is not sufficient. It is still the design team and merchandisers in Taiwan that deal directly with the buyers in terms of new product development, making plant visits to U.S. buyers and making suggestions regarding new product designs. The Philippine operation is mainly concerned with counterchecking of patterns and measurements of samples presented.

The higher value-added functions of design and marketing are performed in Taiwan by Makalot itself, rather than absorbing it from its buyers or its suppliers. Meanwhile, lower value-added functions such as embroidery, washing, and packaging are outsourced to local companies (as discussed in the section on Leader and its subcontractors).

3. Chain Upgrading

While not exactly moving to another link in the value chain, i.e. becoming a buyer or component supplier, or vacating the chain it is currently participating in, i.e. leaving the garments manufacturing industry, Makalot has plans in the future to establish a distribution

function to provide warehousing and direct delivery services to its buyers. Currently, Leader secures the services of freight forwarders nominated by its buyers to deliver their products. These forwarders include Expeditors, APL Logistics, and Max Global. With its own distribution subsidiary in place, Makalot and all its Leader arms will be able to establish offices in either Los Angeles or New York, and deliver products at the buyers' doorsteps. This will also enable Leader to quote orders with the distribution service already accounted for. There is sufficient capability to implement this plan, since the Taipei Makalot office, being a public company whose stocks are rising, has the proper financing. Also, in the face of the quota-phase out in 2005, this integration of distribution services will be a plus factor to the company in the face of global competition.³

4. Activities Related to Upgrading

Leader Garments' buyers don't regularly provide technical assistance, pool expertise, or transfer technology save for "common sense" suggestions regarding manufacturing, seminars (by Gap) regarding new policies, and quality assurance inspections. Leader relies on Makalot to provide it with expertise, and choices and funding in new machinery. And, as already mentioned, Leader transfers used machinery to its subcontractors at no cost.

VI. CONCLUSIONS

Based on the information gathered on Leader Garments, its operations, and its relationships with its buyers, subcontractors and specialized service providers, the case can now offer insights regarding the company's place in the global value chain, the manner by which this value chain is governed, and the way the company upgrades to compete in the global economy. These insights can then be used to answer the research questions, and either support or debunk the propositions being studied.

To review, this study sought to answer the following questions:

1. In terms of the **typology of chain governance** presented by Gereffi, et. al. (2003), in which types of value chains do firms in the Philippine textile and apparel industry generally participate? Are they governed as part of markets, modular value chains, relational value chains, captive value chains, or hierarchies?
2. In terms of the **dimensions of global value chains** presented by Sturgeon (2001), at which geographic scale is the Philippine textile and apparel industry currently situated in? Is the industry positioned in the local, domestic, international, regional, or global scale? How do the firms within the industry participate in the global value chain? Do they act as integrated firms, as retailers, as lead firms, as turn-key suppliers, or as commodity suppliers?
3. While competing in the global economy, do firms in the Philippine textile and apparel industry take the "low-road" or the "high-road"? If they take the "low road," what prevents them from undertaking upgrading? On the other hand, if they take the "high-road," what **types of upgrading** – in terms of the trajectories presented by Humphrey and Schmitz (2003) – do these firms undertake? What steps do these firms take to go about product, process, functional, and/or chain upgrading?

A. Dimensions of Global Value Chains

³ This case was written in October 2004, two months before the lifting of the garments quotas

In terms of the dimensions of global value chains presented by Sturgeon (2001), specifically geography, Leader Garments is currently situated in a **global geographical scale**, with the productive actors, i.e. Leader as the manufacturer and Gap as the buyer, coordinating activities across at least two continents (Asia and North America) and/or two blocs (ASEAN and NAFTA). This is, of course, only in terms of trading relationships. Subcontracting is performed in a local/domestic scale, while raw material sourcing is done more on an international scale rather than on a global scale. As already discussed, Leader employs local manufacturers and gets 97% of its raw materials from other Asian countries barring the inclusion of the United States and Italy. These, nevertheless, do not betray the fact that the overarching scale in which Leader participates is global.

As for the bundles of activity Leader Garments is engaged in, the productive actors, i.e. Leader's in-house manufacturers, its subcontractors, and its specialized service providers, are mostly **turn-key and component suppliers**, as opposed to being lead firms and retailers, or integrated firms. Leader's presence in the Philippines focuses on manufacturing and delivery of products to U.S. buyers (retailers such as Gap, which can be considered as the lead firm in this case), while Makalot in Taiwan is the one concerned with design and marketing. As already mentioned previously, this is due to the lack of requisite capability to attempt such higher value-added activities.

B. Typology of Chain Governance

With the positioning of Leader Garments in the global value chain established, the typology of governance in such a value chain can be determined by looking at the relationships and transactions the company has with other productive actors. To determine within which typology of value chain governance Leader Garments is, the three key determinants provided by Gereffi, et. al. (2003) as shown previously, will be used and discussed in turn (see Table 6).

Table 6. Key Determinants of Global Value Chain Governance

Governance Type	Complexity of Transactions	Ability to Codify Transactions	Capabilities in the Supply-base	Degree of Explicit Coordination and Power Asymmetry
Market	Low	High	High	Low ↑ ↓ High
Modular	High	High	High	
Relational	High	Low	High	
Captive	High	High	Low	
Hierarchy	High	Low	Low	

Source: Gereffi, et. al. (2003)

1. Complexity of Transactions

This determinant is based on the complexity of information and knowledge transfer required to sustain a particular transaction, particularly with respect to product and process specifications (Gereffi, et. al., 2003). If we follow Assumption 3 of this case study ("[W]hile there are firms operating within networks, they generally do not attain arm's length market relations with their suppliers and buyers.") and relate it to Table 6 above, the issue of the complexity of transactions will have been addressed since all governance types below market relations have high complexity of transactions.

Good indicators of complexity of transactions would be three of the ten factors used by Humphrey, et. al. (1998; cited in Kaplinsky and Morris, 2003) in their assessment of trust

relations in value chains: (1) the degree of dependence firms within the value chain have on each other, (2) the length of the firms' trading relationships, and (3) the nature of the ordering procedure. Taking these in turn and relating them to the case of Leader Garments, it can be illustrated in Table 7.

Table 7: Complexity of Transactions in the Case of Leader Garments

Degree of Dependence	Length of Trading Relationship	Ordering Procedure
Leader only has less than ten buyers (all in the United States), and Leader and its buyers resort to select-sourcing of raw materials and manufacturers. On the other hand, Leader has exclusive subcontractors that perform manufacturing activities along with its in-house manufacturers. Service providers are also selected.	There is a long-term relationship between Leader and its buyers (in the case of Gap, eight years) so as to satisfy the needs of both sides. Meanwhile, Leader has exclusive relationships with its subcontractors due to the quality of work they provide.	Bidding for contracts does not usually take place in the case of Leader and its buyers. Orders placed are already inherent in the existing trading relationship and prices are settled mostly by Leader with little negotiation from its buyers. Leader then assigns orders for manufacture to its subcontractors.

The sheer amount of information needed to complete a specific order makes each transaction by Leader more complex. Comparing this with the summary of the possible indicators for complexity of transactions (Table 8), it can be surmised that Leader Garments, indeed, does not operate in a market-based value chain, but rather in one of the four remaining "lower" typologies.

2. Ability to Codify Transactions

This determinant is the extent to which this information and knowledge can be codified and, therefore, transmitted efficiently and without transaction-specific investment between parties to the transactions (Gereffi, et. al., 2003). The distinction established in the examination of indicators for complexity of transactions has excluded market relations. The next step, therefore, is to distinguish between the governance types with high ability to codify transactions (i.e. captive and modular value chains, which this case study aims to examine) from those with low ability to codify transactions (i.e. relational value chains and hierarchies).

Table 8: Possible Indicators for Complexity of Transactions

Governance Type	Degree of Dependence	Length of Trading Relationship	Ordering Procedure
Market	Suppliers have many customers, and buyers utilize multiple sources	Short-term trading	Open bidding for buyers, with prices being negotiated and agreed upon before orders are commissioned.
Modular Relational Captive Hierarchy	Suppliers only have few customers, while buyers resort to single- or dual- or select-sourcing	Long-term trading	Bidding for contracts may not take place. Likely winner is known in advance. Prices are settled after the contract is awarded.

Source: Adapted from Humphrey, et. al. (1998, cited in Kaplinsky and Morris, 2003)

To do this, a further four of the ten factors used by Humphrey, et. al. (1998; cited in Kaplinsky and Morris, 2003), in their assessment of trust relations in value chains, can be utilized: (1) the determination of prices, (2) the nature of credit extended along the chain especially to exporting firms, (3) the nature of the contractual relationship, and (4) the modes of inspection used in accepting incoming materials. Taking these in turn and relating them to the case of Leader Garments, Table 9 serves as an illustration.

Table 9: Ability to Codify Transactions in the Case of Leader Garments

Price Determination	Credit Extended	Contractual Relationship	Inspection
While not exactly adversarial, the price determination in the transactions that Leader enters into aren't done with an "open book" policy either. The price for which Leader Garments charges its products depends on the volume and the needs of the buyer. However, even if there is a good relationship, this doesn't mean that Leader will give its buyers a better price. For subcontracting, it is still Leader that controls the determination of prices.	Leader does not extend credit to its buyers, and neither does it get extended credit by its subcontractors.	Leader's manufacturing and other activities greatly depend on the information and specifications provided by its buyers.	There are thorough inspections in each step of the manufacturing process up until the delivery of goods.

All these facts necessitate that Leader must have a high ability to codify its transactions. This is facilitated in no small part by the special software it utilizes to procure order information from Gap. As shown earlier, comparing this with the summary of the possible indicators for ability to codify transactions (Table 10), it can be surmised that Leader Garments is operating either in a modular or a captive value chain, rather than a relational value chain or a hierarchy.

Table 10: Possible Indicators for Ability to Codify Transactions

Governance Type	Price Determination	Credit Extended	Contractual Relationship	Inspection
Modular and Captive	Adversarial, with hiding of information	Punitive or no credit extended	Suppliers only start production on receipt of written order	Inspection on delivery
Relational and Hierarchy	Non-adversarial with "open books" policy	Easy access to letters of credit, longer period, and easier terms	Suppliers are more flexible about instructions and start production without written order	Little or no inspection on delivery of most parts

Source: Adapted from Humphrey, Kaplinsky and Saraph (1998, cited in Kaplinsky and Morris, 2003)

3. Capabilities in the Supply-base

This determinant refers to the capabilities of actual and potential suppliers in relation to the requirements of the transactions. Notice that only captive value chains and modular value chains have both high complexity of transactions and high ability to codify transactions. The distinction, therefore, between the two lies in the capabilities in the supply-base.

To determine the distinction, the remaining three of the ten factors used by Humphrey, et. al. (1998; cited in Kaplinsky and Morris, 2003) in their assessment of trust relations in value chains can be utilized: (1) the types of technical assistance that flows along the chain, (2) the nature and methods of communication along the chain, and (3) the modalities of payment to outsourced informal economy producers. As illustrated in Table 11, these can be taken in turn and related to the case of Leader Garments.

Comparing this with the summary of the possible indicators for capabilities in the supply base (Table 12), there are certain aspects that can point to a modular typology (i.e. technical assistance, while performed mostly internally, is very important in the operations of Leader; outsourcing payment terms is characterized by prompt payment by Leader buyer's and to Leader's subcontractors and service providers), but there are also certain aspects that can point to a captive typology (i.e. technical assistance doesn't greatly involve Leader's buyers; multi-channel communication is performed by Makalot in Taiwan rather than the Philippines.):

Looking further at the definitions of modular value chains and captive value chains, there are certain characteristics from both typologies that apply to Leader and the productive actors it interacts with.

Captive value chains – In these networks, small suppliers are transactionally dependent on much larger buyers. Suppliers face significant switching costs and are, therefore, “captive.” Such networks are frequently characterized by a high degree of monitoring and control by lead firms.

Modular value chains – Typically, suppliers in modular value chains make products to a customer's specifications, which may be more or less detailed. However, when providing “turn-key services,” suppliers take full responsibility for competencies surrounding process technology, use generic machinery that limits transaction-specific investments, and make capital outlays for components and materials on behalf of customers.

Table 11: Capabilities in the Supply Base in the Case of Leader Garments

Technical Assistance	Communication	Outsourcing Payment Terms
Leader Garments' buyers don't regularly provide technical assistance, pool expertise, or transfer technology save for "common sense" suggestions regarding manufacturing, seminars (by Gap) regarding new policies, and quality assurance inspections. Leader relies on Makalot to provide it with expertise, and choices and funding in new machinery. And,	The whole Makalot group is connected online, thus facilitating internal communication. As for Leader and Gap in Hong Kong, Leader had to purchase special software to access the purchase orders of Gap. For other relevant issues such as sewing techniques and other technical aspects, Makalot's Hong Kong and Taipei merchandisers	Leader Garments – in the Philippines, at least – has not experienced any delays in receiving payment, save for the time when K-Mart closed down due to bankruptcy. Leader deals with reputable buyers, thus there is no need for them to institute or impose penalties for any delays in payments. This, however, would still depend on any given situation.

as already mentioned, Leader transfers used machinery to its subcontractors at no cost.	communicate with the production offices of Leader here in the Philippines. Other more traditional means of communication, i.e. the telephone, are also used for really urgent matters, but online communication is the norm in the company.	
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Table 12: Possible Indicators for Capabilities in the Supply-base

Governance Type	Technical Assistance	Communication	Outsourcing Payment Terms
Modular and Relational	Extensive unilateral or bilateral technology transfer over time	Multi-channeled system, which includes engineers, personnel department and top management; frequent and often informal	Payment on receipt of finished goods
Captive and Hierarchy	Expertise is rarely pooled, and assistance is granted only when paid for.	Infrequent and often done through formal channels, and narrowly focused on the purchasing department	Long delays in paying agents and informal economy producers

Source: Adapted from Humphrey, Kaplinsky and Saraph (1998, cited in Kaplinsky and Morris, 2003)

Leader's subcontractors and specialized service providers are practically captive because Leader fills their capacity almost all of the time. Meanwhile, Leader (in conjunction with Makalot in Taiwan) has a modular relationship with its buyers, providing "turn-key services" and taking full responsibility for competencies surrounding process technology. Leader is more than capable in conforming with the standards of its buyers that it can still find other buyers if one or other existing buyers should decide to leave. This does not mean that the departure of a buyer like Gap would not have a significant negative effect on Leader's operations, only Leader has enough capability to bounce back. Therefore, the dominant governance typology in the chain is **modular** until the subcontractors and specialized service providers are factored into the equation, in which case, that portion of the chain would be **captive**.

C. Types of Upgrading

Upgrading is a continuous process in Leader, but while there are indications of each of Kaplinsky and Morris's (2003) trajectories of upgrading, it is clear that **process upgrading is given emphasis**. Product upgrading is performed in Taiwan by Makalot, rather than in the Philippines by Leader. The same goes for functional upgrading, though Leader's presence in the Philippines is already moving lower value-added services to its selected specialized service providers. Finally, chain upgrading (the establishment of a distribution subsidiary) while still in the planning stages, is possible in the chain given the right amount of resources. This, however, must still be initiated by Makalot in Taiwan, rather than in the Philippines.

D. Integration

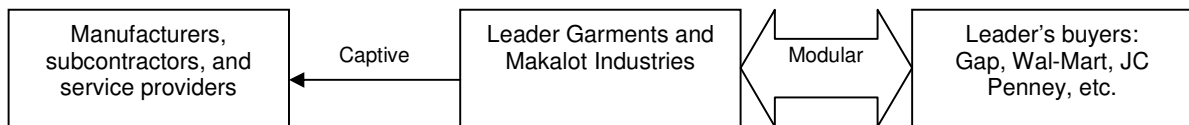
While Leader Garments Corporation is the leading Philippine exporter of garments, it may be difficult to draw an overall picture of the state of the whole industry's participation in

global value chains. However, if the case of Leader is any indication of the potential of local firms, the industry may yet leave a significant mark in global value chains.

Looking back at the propositions and connecting them with the conclusions already drawn from the case, **Hypothesis 1** (looking at it in the perspective of Leader and its subcontractors and service providers) may be partially true, i.e. Leader in the Philippines experiences process upgrading, but product upgrading is performed by Makalot in Taiwan, and functional upgrading is confined to delegation of lower value added activities to specialized service providers.

Meanwhile, **Hypothesis 2** (looking at it in the perspective of Leader and its relationship with Makalot and buyers like Gap) may also be partially true, since the potential to undertake each of the four trajectories of upgrading is present, but only for firms with such high capability as Leader Garments.

The models presented by Gereffi, et. al. (2003) on the typologies of value chain governance, and by Kaplinsky and Morris (2003) and Humphrey and Schmitz (2003) on the trajectories of upgrading, have provided significant insights in the case. While the models are valid, several statements can be added to supplement them. Regarding the typologies of upgrading, some chains may have characteristics of several different typologies. This would depend on the point of view of a particular productive actor from either direction. In this particular case, the relationship of Leader Garments (in conjunction with Makalot) with Gap and other buyers is modular, but as the chain moves down towards the subcontractors, the relationship is now more on the “captive” side.



As further studies about the governance of value chains become available, the five typologies presented by Gereffi, et. al. (2003) can be increased (or decreased) by either introducing hybrid chains much like the one discovered in the case, or by combining the existing typologies into more streamlined ones. Also, as this case showed, further studies can combine the typologies of Gereffi, et. al. (2003) with the ten factors used by Humphrey, Kaplinsky and Saraph (1998; cited in Kaplinsky and Morris, 2003) in their assessment of trust relations in value chains: (1) the degree of dependence firms within the value chain have on each other, (2) the length of the firms' trading relationships, and (3) the nature of the ordering procedure.

For upgrading, further studies can find new indicators for each trajectory, exploring activities that improve certain productive actors in the value chain, as well as downgrading for the betterment of the whole chain.

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