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**Formation, Organisation and
Management of the (Global) Value
Chain in a Theoretical Perspective**

by

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1. The Emergence of the Value Chain Concept

One of the significant trends in inter-firm studies over the past two decades has been the rapid development of interest in value chain and value chain management. While competition and thus the horizontal dimension of the organisation of economic activity is dominant within Industrial Economics and Organisation, we have witnessed an increasing number of theories focusing on the organisation of the economic activities from raw materials to final consumer goods, i.e. the vertical or value added dimension of economic organisation. Reflecting the focus on environment and sustainable development over the last 10-15 years, the value chain concept has even been extended and become a value cycle through the recovery, recycling or reuse of products/waste from the end user (Handfield and Nichols 1999) as well as scrap from the production process itself.

Already Adam Smith pointed out the economic gains to be obtained from specialisation and thus moving away from subsistence production to a division of labour between a set of economic actors. The gains from specialisation can, however, only be captured if we have well functioning value chains and the required information to coordinate them (Douma and Schreuder 2008)

The aim of this paper is to provide an overview of this emerging theoretical field and how the theories can be useful for the strategic management of a company in positioning it within the framework of the value chain. Focus is on the global value chain and thus on management across borders and cultural spheres.

More specifically, the aim is to deal with three overlapping issues. First, and with Adam Smith as the starting point, we may ask if we have any theories, which deal with the conditions under which new links and actors in the chain will be added, or old ones eliminated. The question includes the tendency to integrate forward and backward. Having established the chain, the next question would be, if we have any theories that deal with the organisation of the value chain, including how the relations between the units, constituting the chain, are organised; the power structure, and how functions and profits are shared in the chain. Finally, we will discuss the management of the chain.

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Thus, the theories may be categorised and put into three interrelated groups:

1. Theories which deal with the formation of the chain, i.e. the rationale for expanding or contracting the number of more or less autonomous links or actors in the chain (downward and upward integration).
2. Theories which deal with the organisation of the chain and the relations between the given set of actors, including the type of relationships, power structure, and profit distribution.
3. Theories which deal with the management of the chain, including the identification of drivers of the chain, positioning within the chain, and how to trace activities and outputs of the chain, assure innovation throughout the chain, etc.

2. Why this Increased Interest in the (Global) Value Chain?

Value chains are created as soon as production leaves the subsistence level, at which you consume whatever you yourself has produced. When Adam Smith advocated productivity increase through division of labour and specialisation, he also created the foundation for the concept of value chain.

Historically, however, (micro) economists were more interested in the competitive dimension than the vertical or value chain dimension of the market economy. The founder of modern value chain analysis could be said to be Coase (1937), who wrote an article on when a company end and the market begins. This idea was taken up by Williamson (1975), who formulated the Transaction Cost Theory (TCT) that outlines the conditions for conducting an activity in-house versus out-house. Thus, this theory basically determines how many links a value chain will have.

The reasons for the recent increase in the interest of the value chain are many and three main ones will be mentioned.

First, the increase in the intensiveness of competition and thus in the companies' continuous search for competitive advantages was the foundation for the formulation of the corporate value chain by Porter (1980, 1985). As will be shown below, the corporate value chain is a tool for analysing and improving a company's competitive platform.

Second, when more and more countries opted for a liberal trade and investment regime, there was a need for a new conceptual framework to understand how production and transactions would be organised across countries, especially how transnational companies (TNCs) would take advantage of this possible increase in the international mobility of factors of production.

Thirdly, and partly a consequence of point 2, competition became more and more systemic in the sense that value chains, even global value chains, increasingly competed against each other. I.e., global value chains were increasingly organised by lead firms to improve competitiveness not just for companies at a specific level of the value chain (a specific industry), but for all partners of the global value chain. Until now, the literature on value chains has focused primarily on describing the structure of value chains, including determining the position of companies in the chain. This provides the companies in the value chain with a good overview over the situation and their position. What is needed, however is that the value chain literature focuses more on the management aspects of the value chain: How can

companies use the value chain concept as a strategic management tool? The present paper aims to take a small step in that direction and thus fill the gap.

3. Defining the Concept Value Chain

Before starting answering the three questions raised in section 1, a definition of the value chain concept is needed. As a new phenomenon that furthermore has been studied by various scientific disciplines and from different angles, it is of no surprise that the phenomenon has many names. A value chain is basically a linked sequence of activities in which each activity and thus stage in the value chain adds value to the production process, – a value that the end consumer is willing to pay for (Dicken 2007). The value generating activities takes place within a company as well as through the transaction between companies. The simple, generic value chain is shown in Figure 1.

Figure 1. The Simple, Generic Value Chain.

Extracting/Raw materials → Design → Production → Sales/marketing → Consumption → Recycling.

This basic value added process has many names. The French invented the term “*filiere*” (meaning “thread”) already in the 1960’ies (Kaplinsky and Morris 2002). This term was used to study the structure and various characteristics of the agricultural sector, the result of which was applied to the formulation of policies both in France and in developing countries.

Gereffi (1994) launched the concept “*global commodity chain*”. He focused on chains linking the developing and developed countries. He was especially interested in identifying lead firms that controlled the chain and thus framed the conditions for developing country firms.

Dicken (2007) presented the concept “*global production network*”. The chain concept was to him inappropriate as it signalled a linear process and he replaced it with the term network, indicating more circularity in the activities, including simple feed back functions. Furthermore, the term commodity gave associations to a specific category of products transacted through various auctions. The term was therefore imprecise as all products have a value chain.

Scholars from production engineering developed the terms “*supply chain*” and “*global supply chain*” (Russell and Tayler 2009). This concept has emerged from dealing with logistics and organisation of production. Even if the term is still in use, most literature covers now the whole value chain although with a focus on logistics, procurement and production systems.

Finally, the well known concept of “*the distribution or marketing channel*” (Buckley 1966; Stern and Reve 1980; Stern and El-Ansary 1988) should be mentioned. Although the cross-fertilization between the distribution literature and the value chain literature is low and almost non-existing, the literature on distribution, at an early stage, discussed similar issues as the value chain literature, although with a focus on down-stream activities from the producer to the final consumer.

Today, most researchers use the term “*value chain*”, reflecting the importance of the chain as a value adding process. This is also the term, we will be using in this text, focusing however on the global value chain.

Porter (1980) needs, however, special mentioning as he uses the concept of value chain to connote company internal value adding activities, while he uses the term value system, when he discusses the total set of companies composing the value chain. To avoid confusion, we will make a distinction between “*the corporate value chain*” (the company internal value adding activities), “*the value chain*” (the inter-firm value adding activities) and the “*global value chain*” for cross border activities and companies.

To sum up, a Global Value Chain is, in this paper, defined as *a set of consecutive value adding activities performed by a set of autonomous but interdependent actors located across borders in two or more countries.*

4. Theories of the Value Chain Formation, Organisation and Management

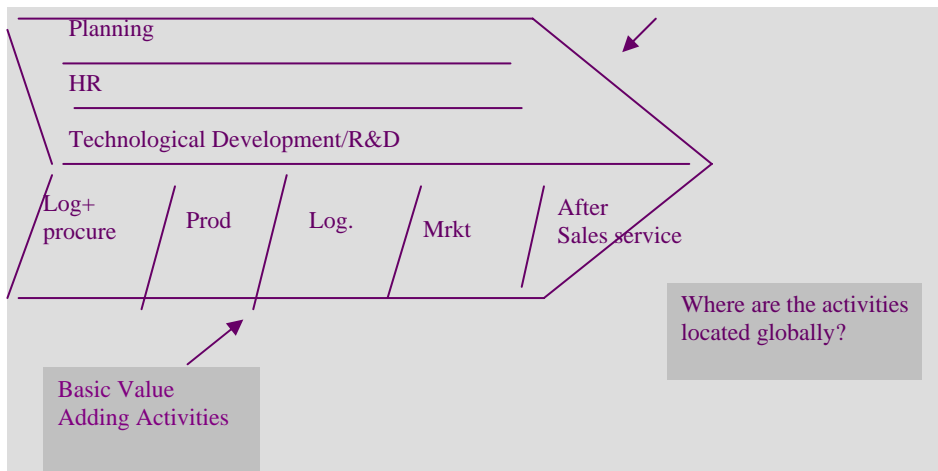
In this section, we return to the three basic questions formalised in section 1, i.e. how the (global) value chain is formed, organised, and managed.

The basic building blocks in a value chain analysis are the value adding activities (by some called the functions, e.g. Dicken (2007)) and the actors, i.e. the companies and consumers and other stakeholders. We shall, however, begin by discussing the corporate value chain, i.e. value adding activities within the company.

4.1. The Corporate Value Chain

As mentioned, Porter (1980 and 1985) developed a corporate value chain-model with nine generic activities (Figure 2) divided into primary or direct value adding activities and support activities underpinning and assuring that the primary activities are carried out in an optimal manner and thus allowing each firm to compete with an advantage. He suggests that a firm’s competitive advantage is best measured in terms of the amount buyers are willing to pay for the value created by the firm.

Figure 2. The Corporate Value Chain.



To assure that the activities are performed in an optimal manner, i.e. that there are no non-value adding activities, three questions are asked related to each of the nine activities, i.e., can the activity be:

- * Performed cheaper
- * Performed better
- * Performed faster.

There are many ways to alter the performance of activities, but in a global value chain perspective the interest relates primarily to two. First, as TNCs have their activities distributed globally in subsidiaries or JVs, the activities can be relocated from one unit in one country to another in a different country. Such re-location through off-shoring of activities will alter the configuration of activities internally in the company, but not change the basic structure of the value chain.

Secondly, the answer to the performance questions may also have the result that an activity should be outsourced rather than conducted in-house, the reason being that other companies are able to carry out the activity in a cheaper, better or faster way. This outsourcing may be to another company within the home country of the TNC-unit or it may be off-shored to foreign companies. Such a change implies changes in the very structure of the global value chain.

To assure that the corporate value chain activities are conducted in an optimal manner, Porter (1980) defined four support activities (Figure 2). These are basically management activities that assure that each of the nine activities are performed optimally and that the activities are well coordinated and integrated.

The Porter value chain-model is thought of as a generic model useful for all companies. Stabell and Fjelstad (1988) argue that the model is useful related only to making products, but not very useful related to, for example, the service industry with its focus on problem solving for clients. Blomstermo et al (2006) has made an attempt to combine the two models.

These valuable additions to the Porter version of the corporate value chain, lead to the general conclusion that the corporate value chain should be reconsidered and, if necessary, adapted each and every time a study of a specific value chain is commenced. For example, in the light of the increase in importance of procurement (compared to when Porter launched the concept) it seems purposeful to add procurement to the primary activities when studying global value chains. Furthermore, it is essential to add a spatial dimension as the activities of TNCs are distributed globally. See section 6.

4.2. The Formation of Value Chains

Having established the building blocks (activities and actors) of the value chain, we will turn to the formation of the value chain. Why do some chains have few links while others have many? What makes actors integrate (forward or backwards) or disintegrate the value chain, i.e. reduce or enhance the number of chain links.

Some like to state the issue as “where does the company stop and the market begins”. However, this is an imprecise expression as we do not have markets. We only have companies that choose to relate to other companies in a market way. Others prefer to establish other ways of relating, e.g. through network relations.

Marketing Literature

The marketing or, to be more specific, the distribution channel literature was, as mentioned, early out to discuss the issue related to the number of trading links from the producer to the final consumer. Bucklin (1966) developed a theoretical framework for the formation of such distribution channels. This was basically an argument for why it is rational to include traders – at that time, often looked upon as unnecessary costs, waste, exploiters, etc. Both Bucklin (1966) but especially Stern and Reve (1980) treat the distribution channel as a system and present and use concepts and rationales that are in line with the transaction cost literature, the literature on power in relations, and the governance literature. Today, this discussion on structure and formation of the down-stream part of the value chain is still vivid in the marketing literature focusing on how to design, how to choose and especially how to manage the channel.

Transaction Costs Literature

The core of the transaction cost literature is to answer the question, when an activity should be carried out in-house or outsourced. The theory is based on Coase's work (1937), but Williamson (1975) is the scientist, who has developed and refined the theory.

TCT is a contingency theory, i.e. it stipulates the conditions for when it is advantageous to use the market and when it is advantageous to carry out the activity in-house. It is a cost based theory, i.e. the switching from market to hierarchy and visa-versa will take place if it is cheaper to use the hierarchy or the market respectively. In other words, when transaction costs become lower than costs associated with conducting the activity yourself, a new link to the chain will be added.

Transaction costs include (a) the search costs, e.g. searching customers, market analysis etc., (b) the costs of closing a deal, including establishing a contract; (c) servicing and maintaining the customers, and (d) costs of breach of contract. These transaction costs can be grouped into two, i.e. the costs of

creating a customer (a+b above) and the costs of maintaining a customer (c+d). Transaction costs when an activity is carried out in-house comprises primarily the planning costs and the co-ordination costs.

The theory is based on two human factors, one environmental factor and two structural factors. The two human factors are (a) bounded rationality and (b) opportunistic inclinations; the environmental factor is (c) uncertainty, i.e. incomplete information and the two structural factors are (d) the frequency of transaction and the degree of asset specificity.

The theory stipulates that

If...

1. Uncertainty about outcomes of an activity prevails,
2. Transactions recur frequently, and
3. The degree of asset specificity is high

Then...

... transaction costs/risk will be high and the activity should be internalised.

The reason is that actors are "intended rational but limited so", implying that uncertainty combined with human bounded rationality make it impossible to predict exactly what will happen. Furthermore, the situation gives rise to the unfolding of opportunism among the actors in the value chain. Not that it will happen, but the possibility is there. In this case it is better to internalise the activity and break it down into sub-activities which can be controlled.²

The Theory of Outsourcing

As indicated in the discussion of the corporate value chain (section 4.1.), the theory of outsourcing deals with the issue of establishing new links. The idea is that a company to compete must concentrate on its core competence and outsource the non-core competencies. Underlying is both a cost rationale and an innovation rationale. The company should outsource a non-core competence, if others can do it cheaper. However, it should also outsource if other can do it better in the sense of having access to, for example, the most modern technology. For core competence, the companies must develop and use it themselves, as the competence is the very foundation for the company - the knowledge that gives them their competitive advantages.

Apart from being both cost focused and also, unlike the TCT, focusing on innovation, the outsourcing theory accommodates not just the dichotomy of the market and the hierarchy but includes strategic alliances as well. But unlike the TCT, the outsourcing theory does not stipulate the exact conditions for the selection of one or the other.

The Theory of Market Entry Mode Choice.

Within the literature on how to enter and penetrate a new market and reach the customers (Hollensen 2007), value chain formation issues are also considered, for example, by using the contingency approach to entry mode choice. This approach entails the listing of all possible entry modes such as agents, importers, direct export, sales subsidiaries, production subsidiaries, franchising etc.

² For an easy accessible overview of the TCT, see Douma and Schreuder (2008)

Furthermore, it entails the definition of the key decision criteria to be used when making the final choice of market entry mode. The conventional decision criteria are the effectiveness in terms of sales generation of the market entry mode; risks associated with the entry mode; required investments to use it, and the control that the company will have over the entry mode.

The possible modes and the decision criteria are then confronted as illustrated in Figure 3, where it can be seen that if the company has little investment capacity and want to be in control of its foreign operations, it should choose an agent over a sales subsidiary. Although the sales subsidiary may provide more control over the foreign activities, it requires finance beyond the capacity of the company. An agency solution on the other hand is cheap to set up financially and gives you, in principle, full control over operations as an agent cannot do anything without your consent. Thus, depending on the outcome of the analysis, the value chain may be extended (the agent solution) or kept in-house (the sales subsidiary solution).

Figure 3. The Choice of Market Entry Mode as an In-House or Outsourced Activity

Entry Mode	Agents	Sales Subsidiaries
Decision Criteria		
Risk: High/ Low	Low	High
Control: High/Low	High	High

4.3. Theories of how the Value Chain is organised.

Models and theories of value chain formation are overlapping with models and theories of the organisation of value chains. Even so, we have found it possible and purposeful to keep the distinction.

The organisation issue has two levels, the first being the organisation of the corporate value chain, the second the organisation of the relations between the actors, who participates in the chain. The former entails the models and theories of company organisation and the second the theories of inter-organisation, i.e. coordination or the governance of the value chain.

We will not discuss the organisation of the corporate value chain at any length except when the organisation has implications for the relations between actors. Broadly speaking, the corporate value chain take on three different modes of organisation, i.e. the conventional hierarchy with its unified decision structure; the matrix organisation with its focus on negotiations, and the more recent network organisations, focusing on collaboration within distributed power structures. From the hierarchy to the network organisation, the company becomes increasingly more open to the environment and the actors within the value chain. In the network organisation, for example, the collaboration across the value chain is at times so close that it difficult to see what is inside and what is outside the company. For example, the supplier may have an office within the buyer organisation as the supplier is responsible for managing the stocks.

The Theory of the Marketing Channel.

As already mentioned, the marketing literature was early out to discuss the formation and the organisation of the distribution channel.. The literature especially focused on the marketing channel,

i.e. from the company and downstream towards the final customers. Stern and El-Ansary (1988), for example, worked with four organisational modes for the marketing channel, i.e. the conventional market channel; the administered system, the contractual system, and the vertical marketing system. Thus, between the two extreme, the pure market and the hierarchy, they envisioned a distribution channel with a leader, who dominated and thus was able to administer the channel, and a channel based on long-term contracts.

The same researchers were also interested in the power structure and the distribution of power within the channel and they even named their analysis "the political economics of marketing channels" (Stern and Reve 1980).

The Five Forces Model

The Five Forces Model by Porter (1980) aims to analyse the potential of an industry by assessing a set of factors pertaining to buyers and suppliers, but especially to competitors, both present competitors (rivalry), potentially new ones, and substituting market offers.

Basically, Porter analysis the value chain, i.e. the relations to suppliers and buyers in terms of who has the power to influence the transaction conditions. He lists a number of factors of influence, more of which are taken from the literature on Industrial Organisation, including number and size of suppliers and buyers, the importance of the buyer/supplier to the company in question in terms of their share of total sales/procurement; the importance of the procured items to the supplier in terms of share of the total production costs or the share of the value created.

Together with the analysis of the other three of the five factors, the analysis of the five forces defines the structure of the industry and its profit potential. This information can, together with other analyses using other of Porter's models, e.g. the strategic group map (Porter 1980), be used to position the enterprises in the industry and as an input to the strategic planning process of the company.

The Porter model has its strength in its focus on the competitive dimension while the vertical or value chain dimension has little to offer. As we shall see, the Five Forces Model integrates well with the dominant literature on the value chain and thus contributes to an integrated model that includes both the vertical and the horizontal dimension.

The Global Commodity Chain

Gereff (1994) is one of the prominent authors on the value chain. He focuses on the global value chain and especially the value chains that run from developing to developed market economies. His main interest was, at the early stage of his work, to identify the dominant or lead firm(s) of the global commodity chain. His writings do not focus much on the formation of the value chain but on the following three issues: (a) the number and type of actors in the global chain, i.e. the structure of the chain (b) the spatial distribution, i.e. the global configuration of the actors, and (c) the organisation mode or governance structure of the global commodity chain.

By describing the GVC along these three dimensions, Gereffi was able to identify any drivers or lead firms of the chain. Broadly speaking, two main types of global value chains were identified, the Producer Driven and the Buyer or Retailer Driven Commodity Chain. (Gereffi 1994)

The Producer Driven chains are controlled by big multinational companies in industries where economies of scale and learning matter and where capital and technology form barriers of entry. An

example is the automobile industry. Being in control, the multinational company organises the relations upwards as well as downwards, using the whole range of organisational modes, including forward and backward integration, strategic alliances and managed tiers of sub-suppliers, franchisers, etc. The car industry is well known for its organisation in tiers of sub-suppliers in 3-4 layers where the 1st layer comprises a few set of innovative module suppliers who in turn gets their supplies from component sub-suppliers etc. But other value chains try to copy these ideas that combine economies of scale with innovation.

Spatially, the producer driven chain is locating globally to capture mainly static efficiency, i.e. low cost, but also dynamic efficiency when locating in various competencies centres (valleys of excellence). The headquarters are normally located in a developed market economy.

The Buyer Driven chain is directed from the consumer end, i.e. the big retailer chains (or wholesalers-retailers) are in power. The rationale here is that the retailers with their close contacts to the final customers are in control of design, marketing, and logistics and based on this platform, they source globally. They may use middlemen to bridge to the often small-scale producers, who produce on a contractual basis, i.e. they sell production time rather than products. But they may also establish their own subsidiary abroad to handling the procurement of raw materials, the organising of contracts with producers, and the shipment of the finished goods to the customers.

The spatial distribution or location of the global value chain activities is determined by three factors, the demand and thus the market for the products; the costs and thus the efficiency, and innovation. Conventionally, the lead firm would look east for cost efficiency and look west for innovation and the market. However, these simple orientations are being challenged today with the rise of Asia. Taking China as an example, China can offer both a market with around 60 million up-market buyers; efficiency due to low labour costs, and increasingly China can also offer R&D-facilities and dynamic clusters.

Thus, the basic rationale for this theory is the costs, the innovation and the control. In addition, the theory also looks at the influence upon the global value chain exercised by Governments. For example, in case a government pursues an export-oriented policy, the buyer driven chains get a bigger operative space compared to countries where they pursue an import substitution policy.

Although Gereff, in his work, was primarily interested in identifying the lead firms of the value chain, he was also concerned with the options for the companies who were led, i.e. the companies in the developing countries. This interest, however, has however been more pronounced in other writings, which explicitly studied the strategic options of developing country firms (Sorensen and Dao 2008). One of the key concepts in this literature is “*upgrading*”, i.e. “the possibility for (developing country) producers to move up the value chain, either by shifting to more rewarding functional positions or by making products that have more value added invested in them and that can provide better return for producers” (Gibbon and Ponte 2005: 87-8).

The Theory of the Global Production Network

Dicken (2007) coined the term Global Production Network as he saw the global value chain as an interaction between numerous actors, both those in the primary chain from raw materials to end consumers and those that had a more supportive role, like technology suppliers. He also included other actors like government institutions, NGOs etc. The complete set of actors forms a network that adds value to the product.

Dicken (2007) did not use the concept of network in a very stringent way, but his observations fit well the more general theory of business networks (Ford 2003) and how companies internationalise within a network framework.

The Network Theory is a general theory in the sense that it encompasses all relevant actors in the market. The researchers behind the theory found that long-term relations prevail in the chain of autonomous actors and that buyers are as active and important as sellers are.

Key concepts in the theory are long-term co-operation, mutual understanding and orientation, trust, engagement and commitment, and access to resources controlled by a partner (Ford 200). Furthermore, one of the main ideas of the Network Theory is that economic activity is socially embedded. The theory has an economic core, but no pure economic rationality. Decisions are taken within a social context. The actors in a network have bounded rationality, which is dealt with by forming a network that enables the participants to decrease uncertainty.

Thus, on the continuum from market to hierarchy, the network way of organising a global value chain falls in between the two extremes of hierarchy and market. There may not be a lead firm, but some firms will clearly be better positioned in the network and thus have more influence than others. Conflicts may also arise and thus an exclusion process may take place and thereby make room for others waiting outside to become members of the network. In that sense the network can be very dynamic through inclusion and exclusion processes. In this way, the network way of thinking is useful for the understanding of how global value chains are organised.

The Theory of Governance of Global Value Chains

A key issue in GVC-analysis is the governance of the chain. By governance is meant, how the value chain is coordinated and managed. The analysis is carried out at two levels, i.e. at the individual actor or organisation level (intra-organisational level) and at the inter-organisational level, i.e. the governance of each of the links in the value chain. Is there, for example, a lead company, who makes sure that the activities are coordinated throughout the chain or is the chain more fragmented with rather autonomous companies at each level of the value chain.

The intra-organisational level entails an analysis of the organisation and management of the company where we, as mentioned, basically have three organisational modes, the hierarchy, the matrix organisation and the network organisation. In this section, we focus on the inter-organisational coordination throughout the global value chain.

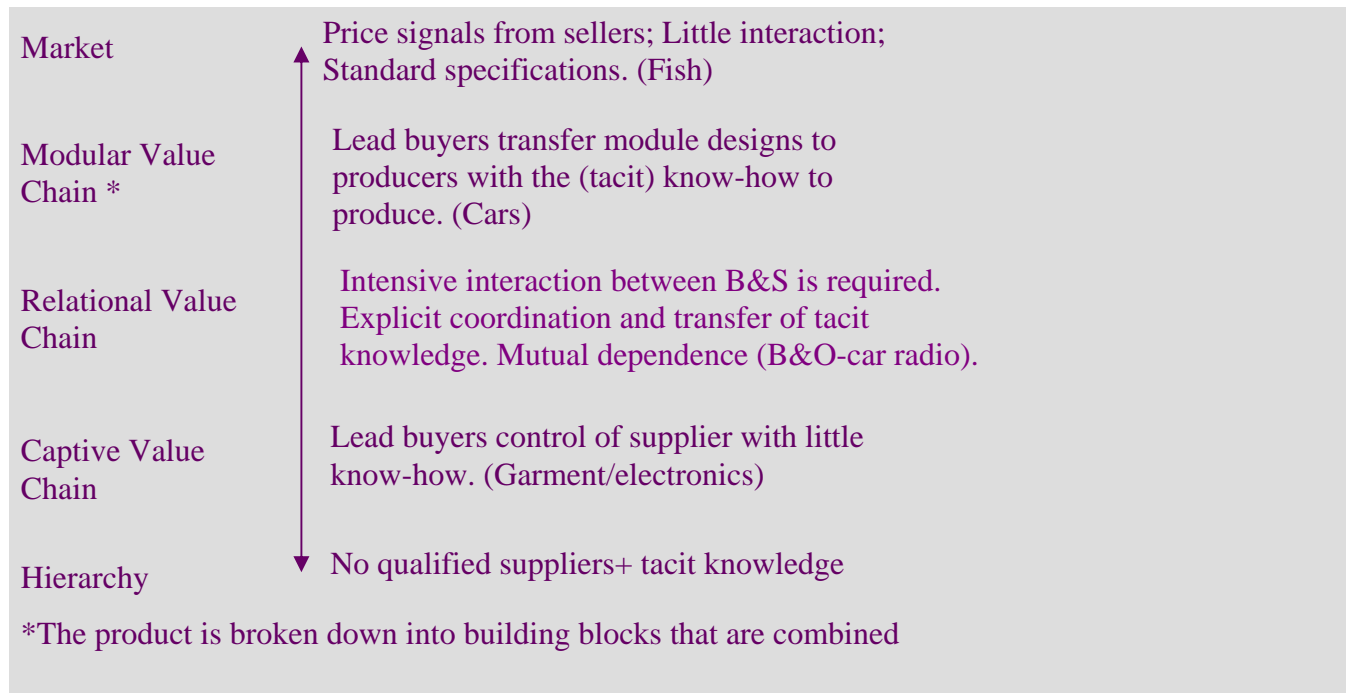
The analysis of the coordination of the GVC is the more complex the more links and also the more complex the more different types of coordination mechanisms that are used. Some GVC have only a few actors and thus a few links such as most service value chains, while others such as the garment industry have many links. Furthermore, some are dominated by one particular governance mode such as the market, while others have many different coordination mechanisms across the GVC. Furthermore, some GVC has a lead actor/company that designs the coordination and make sure that participants of the GVC follow the design. Thus, power and influence is also part of the governance.

Various typologies for possible coordination mechanisms have been presented in the literature. They mostly range from one extreme – the market – to the other extreme – the hierarchy. In-between various authors have various categories. Lorange and Ross (1993), for example, talks about degree of

integration and have five categories between the two extremes, i.e. M&A; Joint Ownership; Joint Venture; Formal Cooperative Venture and Informal Cooperative Venture.

We will use a five dimensional model developed by Gereffi, Humphrey, and Sturgeon (2005). Apart from the two extremes, the market and the hierarchy, the model has three network governance modes with collaborative features, the modular, the relational and the captive modes. Figure 4 shows the main characteristics of the five coordination modes .In the market mode, the price is the main defining characteristic of the relations between buyers and sellers in the value chain. In the hierarchy, management fiat is the defining characteristic. The captive mode entails that there is a lead or dominant buyer that stipulates the conditions under which the seller/producer carry out the value adding activities and often the buyer will also have to support the seller in a number of other ways. In the modular mode, the seller/producer is stronger and have own in-house resources and capabilities. The buyer provides only a design or the basic requirements while it is the task of the producer to translate those into actual market offers. Finally, in the relational mode, the buyer and seller collaborate on a common platform to develop and transact the market offer.

Figure 4. Governance Mode of Global Value Chains



To determine the governance mode in a concrete situation, the authors have out forward three criteria, i.e. the complexity of the transactions between the parties; the ability to codify a transaction, i.e. explicitly write down what they need and want, and the capabilities of the supply base, i.e. the resources and competencies of the supplier to deliver. In some cases, the transactions between the parties are relatively simple as in case of standard components. In other cases, it can be very complex as when a product has to be adjusted or a new design created. Similarly, in some cases, a product or a production process is well documented and a blue print may exists. In other cases, the documentation is weak and you may rely only on what people remember. Finally, some suppliers may have much experience, be entrepreneurial and innovative while others have few capabilities and need instructions on everything.

Relating the three determining criteria to the five governance modes, we get a matrix a shown in Figure 5.

Figure 5. Governance Modes of Value Chains

	Complexity	Codifiability	Capability	Power/ Coordination
Hierarchy	Hig	Low	Low	Hig
Captive *	Hig	Hig	Low	
Relational*	Hig	Low	Hig	
Modular*	Hig	Hig	Hig	
Market	Low	Hig	Hig	

* Various degrees of networks

The governance mode used is also dependent on the competitive situation at a given level of the GVC. Mostly, the literature talks about more or less intensive competition and in general, the stiffness of competition is not well described in the literature. Easton (1991) presented a typology that focused indirectly on the intensiveness by characterising the type of competition from outright conflict and thus attempt to destroy the competitor to normal competition through parallel striving (the actual meaning of the concept of competition); further on to co-existence, collaboration and ending with collusion. The competitive situation is also described in terms of position in the industry. Thus, within an industry we may have the leader, the challenger, the follower and the Nicher (Kotler 2001). The latter classification seems to be more in line with the value chain literature as both speak of lead firms. The lead firms and the challengers may both try to improve their value chain position and thus be able to keep or improve their position within the industry.

4.3. Theories of Management of the Value Chain

The issue of management of the value chain has been hinted at several times in the preceding two sections on formation and organisation of the value chain. For example, we have talked about a value chain with a lead company that make sure that the activities are coordinated. The aim of this section is to discuss in some details how the activities across the chain are managed.

The starting point is that a global value chain will not have a unified management for the global value chain as such. If it had, it would mean that the chain was completely integrated and thus becoming a

corporate value chain. Furthermore, we do not see much of “global value chain associations” like we have “industry associations” for most industries, i.e. an association for each level of the value chain.

Thus, the management of the value chain is more subtle and part of the endeavours of companies to coin a good position in the value chain. At one extreme we have the lead firm that has a position to give directions to value chain partners and thus be coordinating the activities throughout the chain to make it efficient. At the other extreme we have the fragmented chain, where each link manages its corporate value chain and transact on simple market terms, i.e. the price is the main coordinator of the value chain. Between the two extremes, we may have a situation where the coordination is based on the realisation that coordination is good, but none have the capacity or power to become the lead firm. In this situation companies are interdependent and they have a mutual interest to collaborate. Thus, network structures will emerge in which the management of the chain takes place through daily interaction and the development of trustful relationships. This style of management is short of complete integration as coordination takes place only in areas of mutual benefit and trust. It is stronger than market coordination as the managers are interacting and can take up issues with buyers and sellers whenever they feel that a specific activity could be further developed and integrated.

The governance of a value chain may also be influenced by outside forces. For example, the government may require that products in especially the food industry must be traceable from the shelf in the retail store to the producer of the produce and further down to the very cow that the meat came from. Environmental concerns and concerns related to work conditions may similarly force the companies in the value chain to be able to trace and be assured that production at any level in the global value chain violates the international codes of conduct adopted by countries through which the global value chain runs.

Turning to strategic management and strategy formulation, the literature is dominated by two schools of thoughts, the Outside-in-School where the strategy is formulated on the basis of studies of the markets and environment of the firm and the internal organisation of the firm being adapted to be able to implement the strategy (Porter 1980). The other school is the Inside-out- School, where the resources and competencies of the firm form the foundation for the formulation of the strategy and the sales and marketing functions of the firm are challenged with the tasks of convincing the markets of the value of the offers. (Grant 1991 and 2007). In both cases, in the end, a “fit” between the internal organisation and the market environment is required.

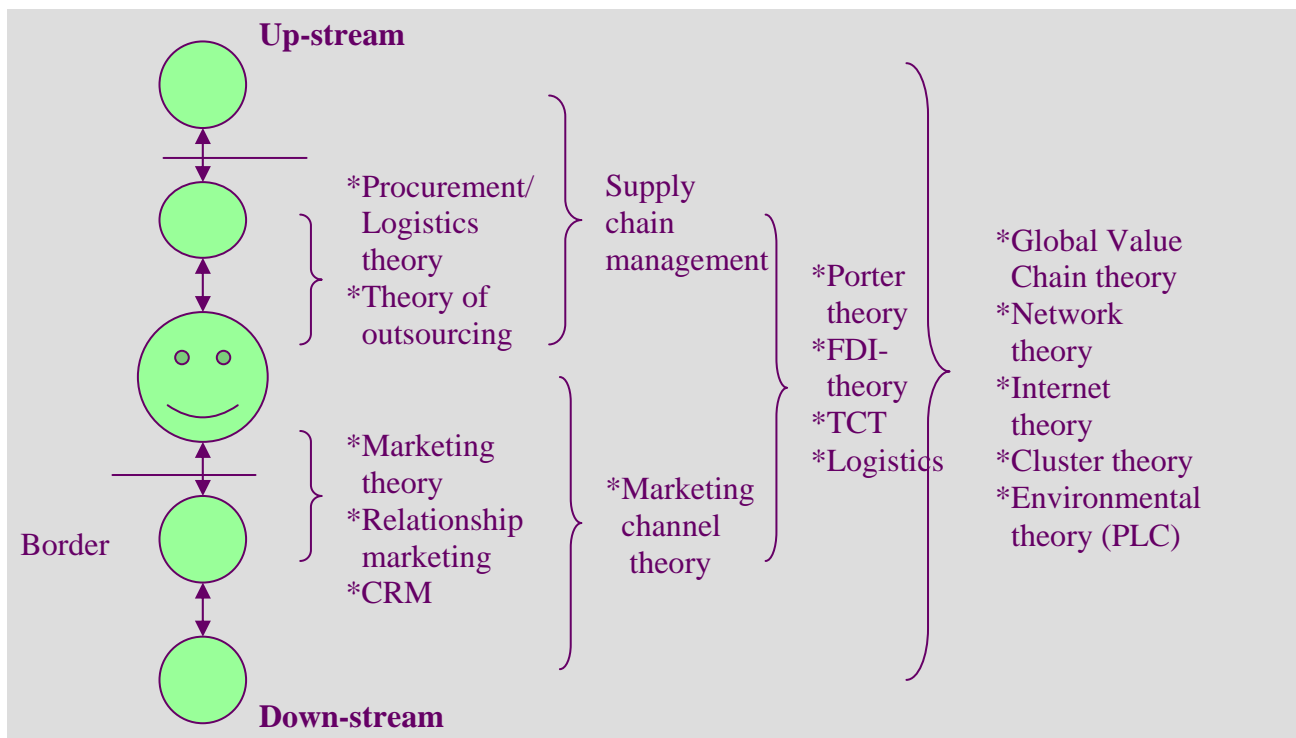
The aim of strategic planning is for companies to look at the strategic options for improving their position. All companies at all levels do that, but the question has especially been important for late-comers to the global arena, i.e. companies from emerging market economies as they have a weak starting point and want to integrate into the global value chain. They basically have four options: First, to produce for and sell on the domestic market to consolidate resources and experience and use this platform to internationalise the company. This option is especially useful when the domestic market is growing; Second, to become a niche producer by developing a market offer that caters for a particular need and demand in the international market; Thirdly, to gradual learn and upgrade as a sub-supplier to TNCs and become a key sub-supplier to foreign or domestic companies, and fourthly, if you are resourceful, then buy your way through to a position in the global value chain.

4.4. Summing up on the World of Theories of the Value Chain Concept

Figure 6 provides an overview of the theories discussed and showing the extend to which they cover part of the whole of the value chain. Some theories like the distribution channel theory focus only on the down-stream part of the value chains, others only on the up-stream, etc.

It appears that most of the mentioned theories are contingency theories, i.e. they adhere to the formula “If...then” and thus requires a detailed analysis to identify the best description and choice. Furthermore, they all belong to the functionalistic paradigm assuming an objective world, which can be revealed through positivistic research and the findings, used in actual company planning. The exception from this is the Network Theory where things are not analysed and planned to the same extent. They emerge as a result of the interaction in the network.

Figure 6. Theories of the (Global) Value Chain



It is also worth noting that no theory is postulating a universal pattern of development of the chain. For industries, we have life cycle theories (Grant 2007) based on the product life cycle idea. For a company's internationalisation, we have the Stages Models (Hollensen 2007 and Kuada and Sørensen 2000), but for global value chains we have no theories stipulating a certain pattern over time.

The choice of theory will depend on the scope of the research or the actual decision in the company to be made. Looking at the various theories, we have framework with a focus on various issues such as:

1. Downstream and upstream activities
2. Immediate links or the whole chain
3. Cost focus or innovation focus

4. Domestic or global perspective
5. Economic rationality or economic activity socially embedded.
6. Company perspective or chain perspective
7. Descriptive, explanatory or normative
8. Checklist, conceptual framework or theory

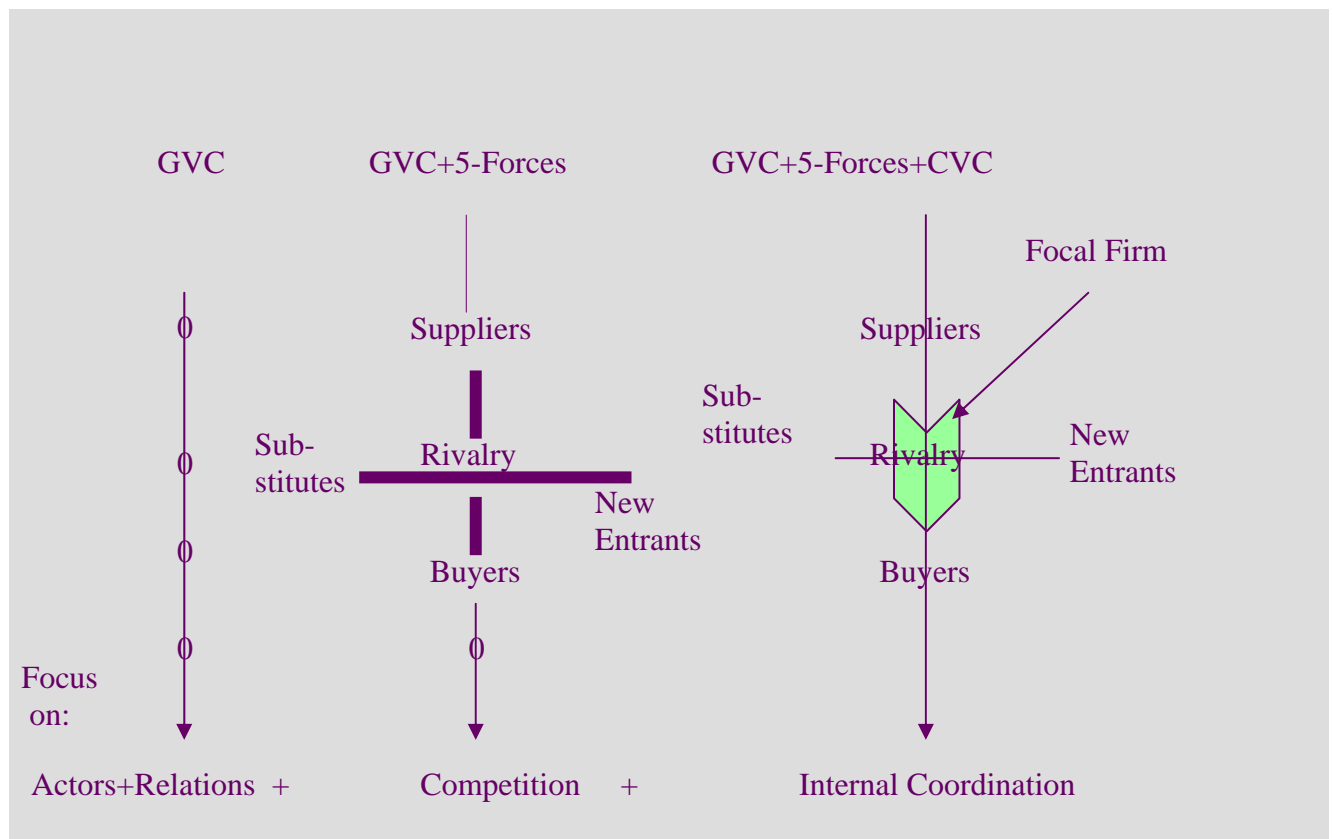
Thus, across the literature dealing with value chains, a wide choice of aspects is available.

5. Integrated Framework for the Analysis of the Value Chain

The GVC-framework is useful in itself to understand the global context of the company as well as the position it has in the GVC. However, its strategic value could be enhanced if it is linked more directly to the strategic planning of firms. It is the aim of this section to combine various models to form an integrated value chain strategic planning framework. Already in section 4.3., we presented the two dominant strategic planning schools. With the value chain as the starting point and platform, we will in this section present an integrated framework that enables us to encompass both strategic schools.

In the value chain framework, the corporate value chain is the fundamental building block. As mentioned, this framework consists of a set of coordinated activities. In the Porter model (1980), there are nine generic activities divided into primary, i.e. direct value adding activities and support activities. This means that the value chain comprises a set of linked corporate value chains as shown in Figure 7.

Figure 7. Integrated Conceptual Framework for the Global Value Chain



To carry out each of the activities, the company deploy a set of resources and associated competencies. This means that we can integrate the corporate value chain with that of the Resource Based Theory of the Firm by analysing each of the value chain activities in terms of required resources and competencies. In case the company does not have the resources or competencies, there is a resource gap that has to be filled by linking to other corporate value chains.

Having created a solid foundation for the generic activities through the link to the Resource Based Theory of the Firm, we turn to the environment. Within the field of Industrial Organisation, the environment can be described in terms of a vertical (functional links), a horizontal (competition) and a diagonal dimension. The two former dimensions have already been introduced. The latter, the diagonal dimension comprises all the support activities a company needs to run a business. This includes auditors, advertising agencies, public institutions, etc.

The vertical and the horizontal dimensions are integrated in Porter's (1980) Five Forces Model. This model focuses on the immediate links both up- and down-stream, i.e. suppliers and buyers at the same time as it operates with three types of competitors, i.e. the present competitors (rivalry), the possible future competitors (new entries) and the companies that produce substitutes. As seen from Figure 5, the Five Forces Model can be imposed on the GVC-framework and thus integrate the horizontal or competitive dimension with the GVC.

Thus, we have in Figure 5 an integrated strategic planning framework consisting of the Resource Based Theory of the Firm (Grant 2007), the Corporate Value Chain (Porter 1985), the Global Value Chain (Dicken 2007 and Gereffi, Humphrey, and Sturgeon 2005) and the Five Forces Model (Porter 1980). This integrated framework can be used to for analysis and the result of the analyses, in turn, be incorporated into the strategic planning process and, in the end, become part of the company strategy.

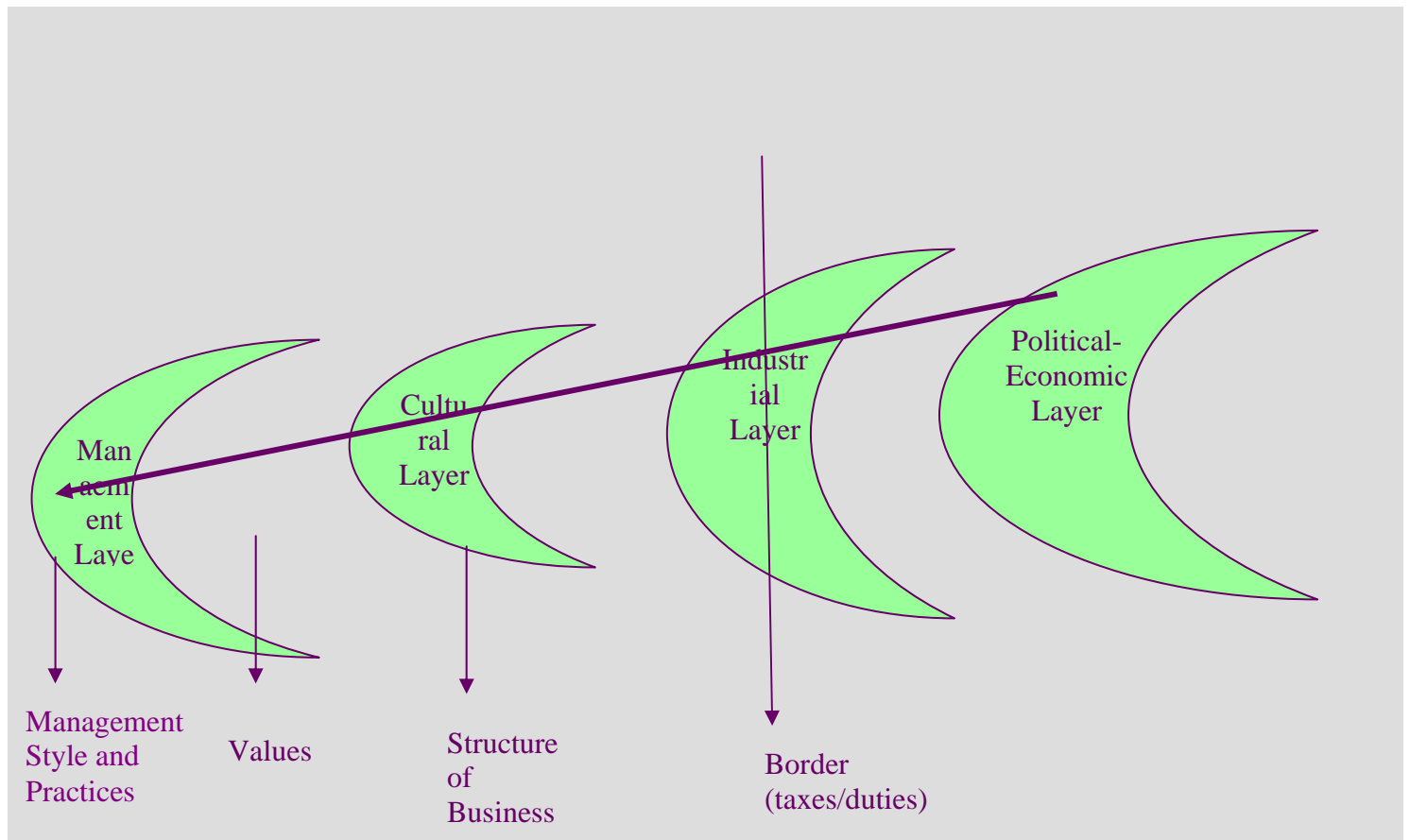
6. The Spatial Dimension of the Global Value Chain

The spatial or the geographical dimension is important especially related to the global value chain. The spatial dimension has two aspects, i.e., physical aspects, i.e. distance between the links in terms of km or travel time and a socio-cultural, economic and political aspect as the global value chain runs through countries with different political and economic arrangement and cultural values. In the global value chain for garment, for example, the cotton may come from Brazil, the textile from Japan or Taiwan; the garment from China and the marketing may take place in the USA.

Each time a global value chain runs through a new country, it has to deal with what in the literature is called “the liability of foreignness” or “psychic-cultural distance”. More specific, the foreign liability concept may be described in terms of four layers that have to be penetrated and overcome (see figure 8).

With an increase in the liberalisation of trade and investment, the first layer has become relatively easy to deal with and with the development of a TNC-market, the second structural layer as well. However, there is still some liability of foreignness connected to both management style and cultural values. This is why we see an increasing number of articles,

Figure 8. Layers to Penetrate for TNCs in Host Countries

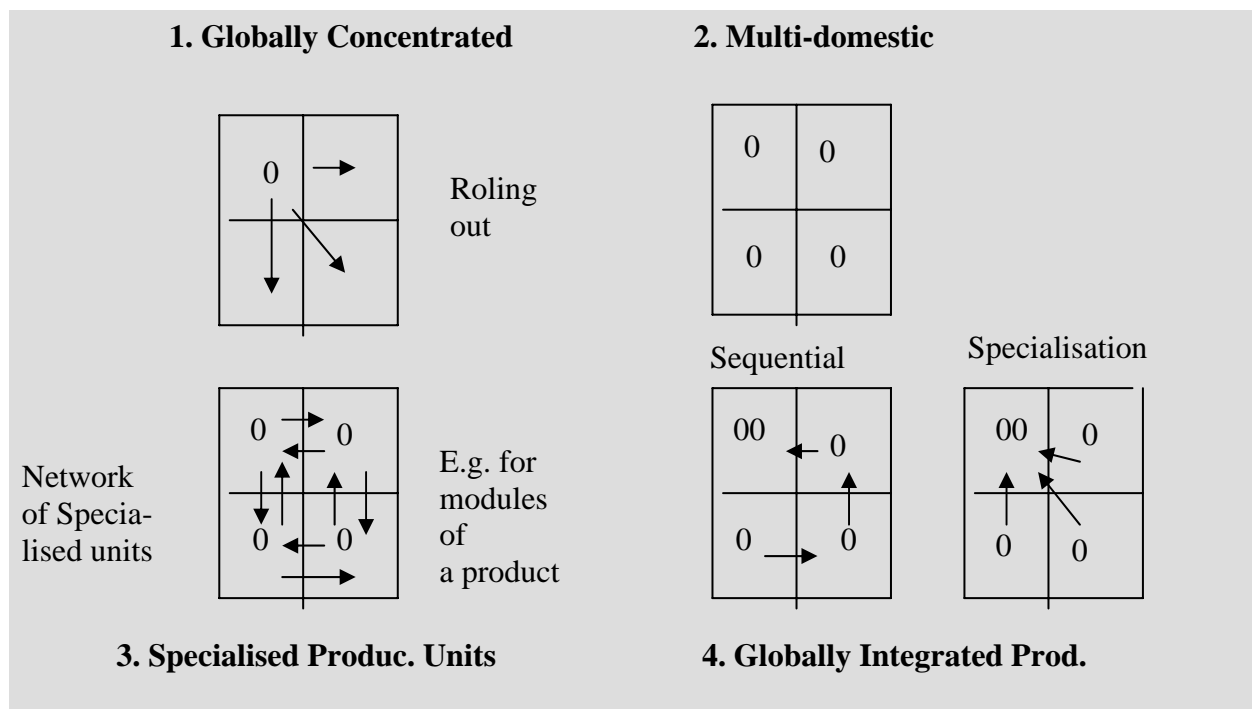


books and courses on inter-cultural management. TNCs are not just exporters of their products to more and more markets. They are integrated into the local markets and thus their way of (Whitley 1994).

In more economic terms, TNCs make attempts to locate their activities to capture comparative economic advantages. This is, for example, the case with the garment industry which over 50 years have moved from location to location to capture the low labour costs in various areas. It started in Japan about 50 years ago, and then the industry moved to Hong Kong, South Korea and Taiwan, further on to Malaysia, Bangladesh, India and China. (Gereffi 2003). This attempt to capture comparative and develop competitive advantages is reflected both in the corporate and the global value chain. For example, in the corporate value chain, the TNC may organise global production in different ways as shown in Figure 9. Here the various units located in various countries each have their role to play and a different role over the five situations in Figure xx. The same specialisation could also be the case in a global value chain.

Another spatial dimension is that the global value chain moves through clusters to capture innovations and through industrial parks to capture cost efficiency and mass production. For example, the Silley Convalley is known for its IT-innovations while the (Malaysia) is know for its efficiency in producing IT-equipment, for example, mother boards for computers.

Figure 9. Global Configuration of Production



Another example is that the garment industry moves through two locations with much entrepreneurship. First, we observe entrepreneurship in emerging economies such as Vietnam and China, where many new garment producers are being established. Second, entrepreneurship in developed market economies where many small design bureaus are established to serve the big producing houses.

Embeddedness is yet another dimension of location (Dicken 2007). Embeddedness means how sticky a place is, i.e. how integrated in and dependent on is a company in the locality where it is situated. Some have coined the term that TNCs are “footloose” in the sense that their resources have a high degree of mobility. They can move around freely and thus take advantage of comparative and competitive advantages wherever they may arise. (Ohmae 1990). Others like Dicken (2007) are more sceptical and find that local embeddedness is to be taken seriously. Locally you are a member of a business network that provides valuable resources and you have gained mutual trust that reduces transaction costs. Embeddedness thus has both a social side as well as an economic side and the exit costs can therefore be high just as the entrance costs in the new location can be high because you have to penetrate existing network or start from scratch and build a new one.

Thus, relocating is often not a simple issue. Furthermore, if a specific location should be selected or not depends not only on the location and its advantages, but also on how mobile the resources are and whether or not the TNCs have the capacity to transfer resources and the location the absorptive capacity to receive the resources. (Hansen and Schaumburg-Müller 2006). A country may have low labour costs, but if the needed technology cannot be transferred or the labour cannot learn to operate the technology, it is of little value. New entrepreneurs in the garment industry, for example, do not have the expertise to procure the textile or the accessories nor the ability to carry out quality control. They start as simple cut, sew, and make (CSM) entrepreneurs. Later with more experience they move up and become OEM-entrepreneurs (Original equipment manufacturers) where they undertake more functions and have larger responsibilities.

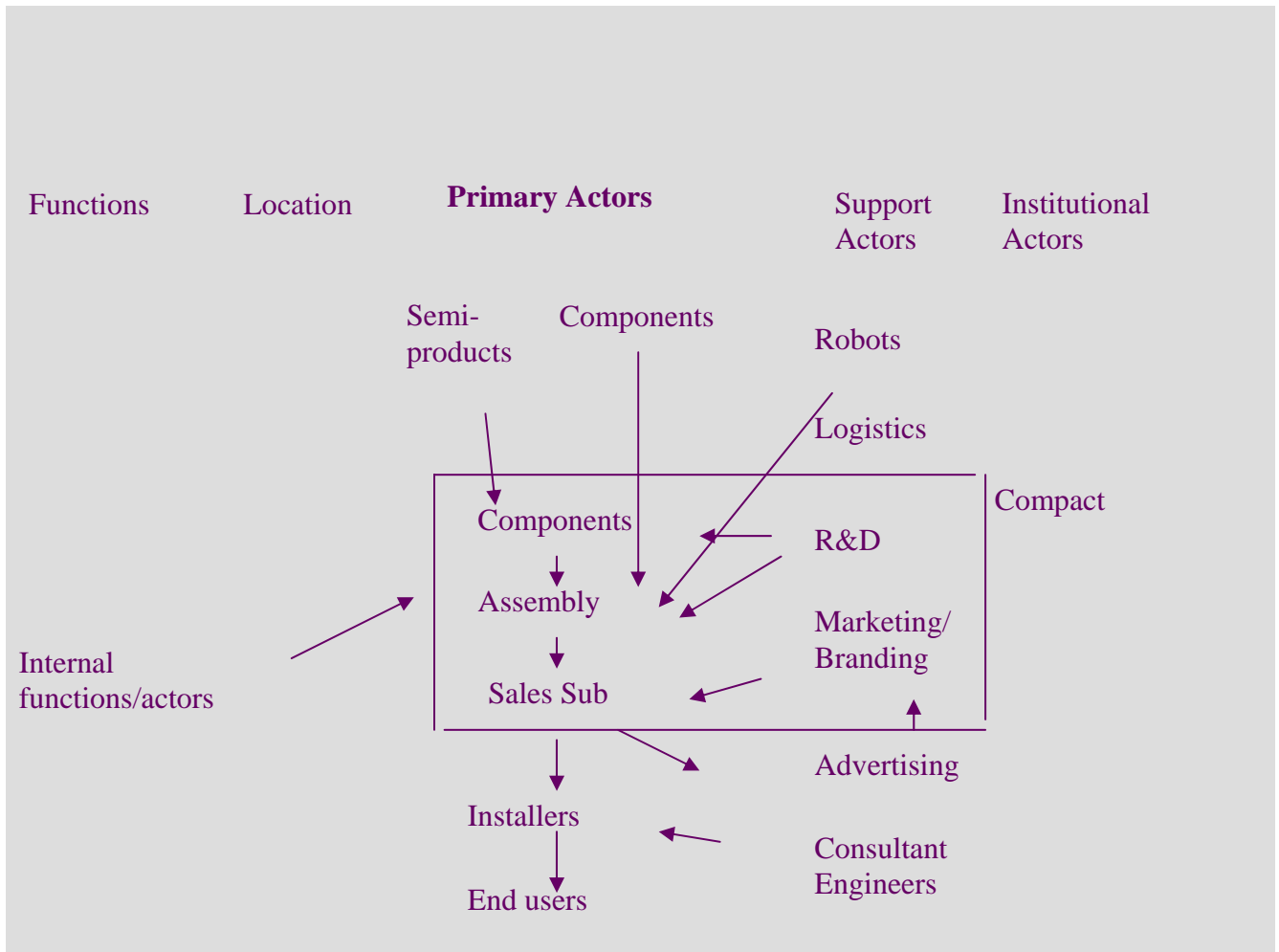
To sum up, a given global value chain moves through a set of socio-cultural, political and economic locations and each location provide value to the product due to its special qualities in terms of cost-efficiency; innovation, closeness, compatibility in values, etc. How freely locations can be chosen depends on the mobility of resources (embeddedness and type of resources) and the absorptive capacity of the location.

7. Mapping the Global Value Chain

To use the global value chain as an analytical tool, we need to map its activities, actors, location etc. This mapping can be done in a series of steps as follows (see Figure 10)

The starting point is the identification of activities and the actors performing the activities. This provides us with the basic structure of the value chain (see figure 10, Column 1 and 2). Next, we may map the locations of the actors and the activities, when the actor has located the activities in different locations. This is done in Column 3. In Column 4, the governance mode is listed based on a specific analysis of each link and in Column 5, the main support actors/activities are listed with “main” meaning those that are contributing the most to the working of the global value chain. This may vary dependent on what is being studied. Finally, in Column 6, we list the important institutional actors, i.e. government regulations, global guidelines and regulations, business associations that exercise influence on the global value chain. The mapping may be divided into two stages, where the map in the first stage consists of the core actors and activities while the stage two map is more detailed. Annex 1 shows a detailed map for the global tea value chain.

Figure 10. Composing the GVC: The Case of Grundfos



With this map in place, we can start analysing the various issues of relevance to the company in question. Is there a lead company? Where are the main barriers to competitiveness? How uniform across the linkages are the governance mode? Is the governance mode appropriate for the development of the value chain? These issues will be dealt with in the next section.

8. The Global value Chain as an Analytical tool

Having a good description and understanding of the value chain and an integrated analytical model, the question is how to use it. What kind of analysis can conduct using this framework, analyses, the result of which eventually can become an integral part of the company’s strategic planning process?

Basically, we can study all phenomena of interest to the strategic planner using a value chain perspective and applying the integrated framework. In Figure 7, the most important issues – those on

the agenda today of most TNCs – are listed. For example, how is the total value and profit in the chain shared among the actors? Do we get a share appropriate to our efforts? How can we increase our share? In what links can we increase efficiency, etc.

Figure 11. The GVC as a Flexible Analytical Framework

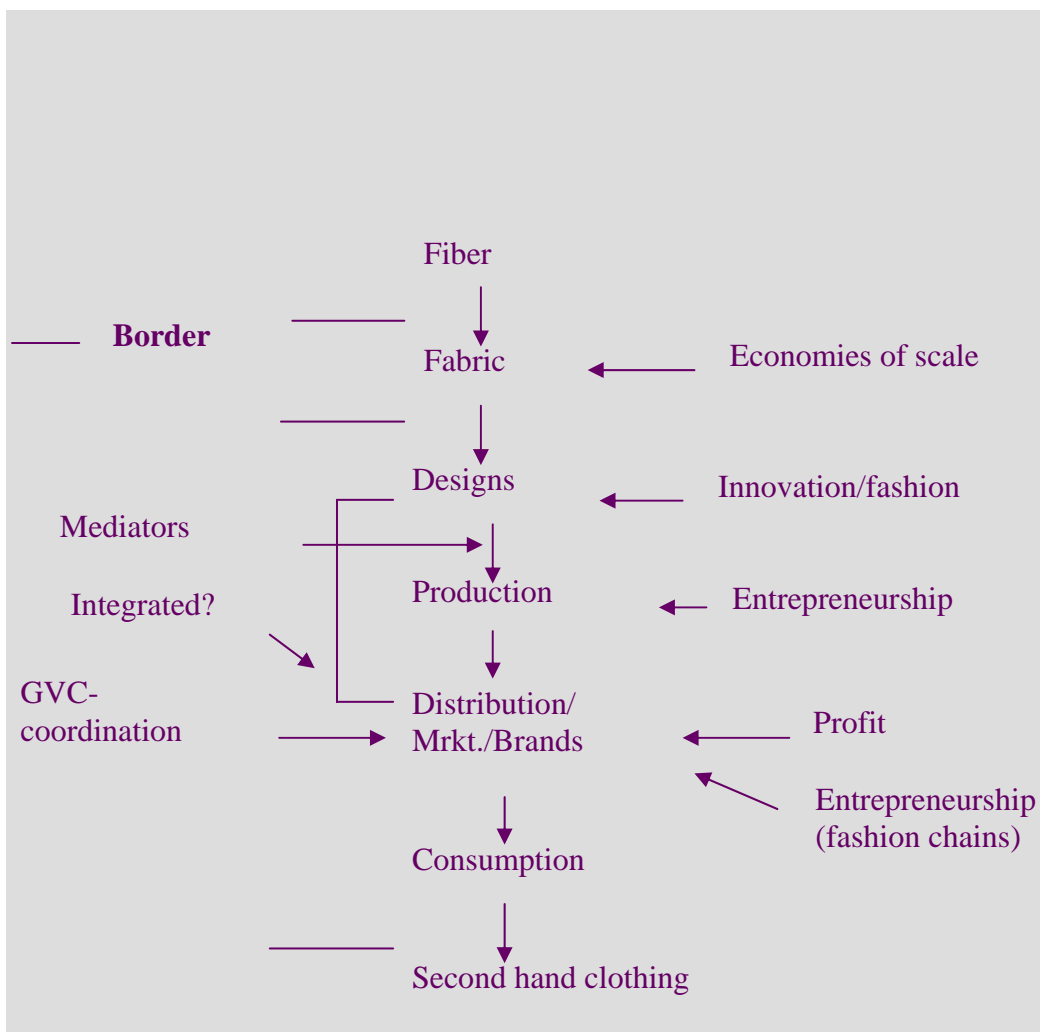
* Value Creation	Who creates value
* Profit	Who appropriates the value
* Efficiency	Location; economies of scale.
* Co-ordination	How are the actors linked; What systems are used: JIT; IT; SCM
* Entrepreneurship	Degree of entrepreneurial dynamics
* Environment	Life Cycle Management
* Innovation	Who innovates; Any clusters?

A company may also ask the same questions as in case of the corporate value chain, i.e. can an activity, somewhere in the value chain, be conducted cheaper, better, and/or faster. Each link and the relations between links may be scrutinized to find out if efficiency can be increased at any stage of the value chain. Similarly, an analysis may locate the actors who are or who are not, in particular, innovative and/or entrepreneurial. If a bottleneck as to efficiency and innovation is identified, what can we do to eliminate the barrier? Do we have chain power enough to demand such a change?

The automotive and the garment industries can be used to illustrate. In the automotive industry, many car manufacturers have become assemblers by outsourcing activities to sub-suppliers whom they in turn have organised in a tier system. By so doing, they captured both efficiency (especially economies of scale) and innovativeness as the sub-suppliers were specialists and interested in strengthening their position by becoming an indispensable innovative partner to the automotive assembler.

Figure 12 shows for the garment industry, how a number of phenomena, crucial for value chain competitiveness, are located within the global value chain. For example, innovation takes place primarily at the design stage and the marketing stage. Entrepreneurship, however, is primarily at the production stage with many new entrepreneurs in Asia entering the industry every day. Entrepreneurship is also found at the design stage, where designers establish their own company and sell their designs to the big retail chain or garment producers.

Figure 12. The Garment Industry to Illustrate Critical Qualities of the Global Value Chain



In the global value chain for tea the entrepreneurial and innovative activities are primarily with the seven dominant and global tea marketers. Specialised tea companies are established to capture niches in the market and the big companies try to be innovative through new blends, packaging and tea-in-use features. In the global tea value chain, the primary producers and processors have very little power and they also capture a very small share of the total value generated throughout the value chain.

The coordination of the individual links in the chain has already been discussed. In some global value chains, one coordination mechanism is dominant. In tea, for example, the market is the dominant one. In other value chains, there may be different modes of coordination depending on the level in the chain.

Finally, environmental sustainability is a big issue for the global value chain both in the sense to minimise the impact of the activities throughout the chain and in the sense of being able to trace products and services to the source if something unexpected happens at the lower levels of the value chain. For example, in the global value chain for food, the food item and the various ingredients that are included in the product or used in the production process must be traceable.

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