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Management of Supply Network Relationships in  
an Emerging Market

**---- A Case Study of Volvo Sunwin Bus Corporation in China**

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## **Abstract**

This thesis examines how an MNC in the bus industry operating in China manages its local supply network relationships. Our research is based on exploring Volvo Sunwin Bus Corporation, one of Volvo Bus Corporation joint ventures in China.

Institutional reforms and globalisation of production in terms of FDI of MNCs are the primary driving forces behind the recent restructuring and changes of the Chinese bus industry. However, limited technological capacity, overcapacity and low profitability are still main characteristics of this market.

Volvo Sunwin's supply base consists of 280 domestic and foreign companies of which many suppliers are located in Shanghai. In general the company has developed various types of relationships with its suppliers. However great majority is traditional market supply network relationships. It is mainly characterized by low involvements from both sides. In this way the company can handle its suppliers with limited coordinations, adaptations and interactions. In order to gain economic scale, the company needs to consolidate its supply base by reorganizing its supply relationships and sourcing strategies.

*Key words: China, The Bus Industry, Supply Relationships, Sourcing Strategy, Supply Network Management*

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Edin Osmanovic & Fang Zhao

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# 1 INTRODUCTION

*This chapter gives an overall picture of our thesis. First, the major trends of the global automotive industry is shortly introduced in order to describe the background and specify the research problem. In addition the research purpose is formulated and Volvo Sunwin Bus Corporation as the case company is presented. To conclude our introduction, we indicate the delimitations, which set the bounds of the thesis.*

## ***1.1 The Major Trends of the Global Automotive Industry***

### ***The Globalisation of Competition***

The global automotive industry has undergone a slowdown with the falling demand in the past years. Internationalisation has modified the context of competition in which three main changes are notable. The first is the geographical redistribution of markets looking for the new business opportunities in industrialized and developing markets. The emergence of excess production capacity and saturation of developed markets forced the manufacturers to seek for new markets in emerging markets. The second characteristic is reorganization of the production, where the automotive companies have adopted new techniques to manage it. Such structural changes have led to more efficient modes of organization that have permitted the synchronized management of the main dimensions of production efficiency: quality, variety and productivity. The third characteristic is the destabilisation and deregulation of the wage-labour nexus. The reorganization of production has led to a contraction of employment in the automobile industry and the drop of workers' real wages. The situation has been further worsened by huge cost-reduction solutions adopted by both suppliers and producers in order to reinforce their competitiveness.<sup>1</sup>

### ***Outsourcing Activities to Suppliers***

This trend has been particularly important because of increases in the number of different technologies a company needs in order to be able to operate in a product area, and because of the greater cost of developing each subsequent generation of technology. Through outsourcing activities to suppliers,

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<sup>1</sup>Humphrey, p.72 ff.

companies have tended to concentrate on some kind of “core competence,” with the aim of increasing both their effectiveness and efficiency. As a result, companies have been increasingly dependent on the technologies of their suppliers.<sup>2</sup>

### ***Reducing the Number of Supplier Used***

A lot of large automotive companies, such as Ford, and Daimler Chrysler reduced its supplier base in the past years. Ford reduced its supplier base from more than 3,200 to 2,100. Chrysler decreased the number of suppliers from more than 3,000 to just over 1,000.<sup>3</sup>

### ***The Restructuring of the Global Components Industry***

In the past decade, relationships between suppliers and assemblers in the global automobile industry have changed significantly. Three changes are noteworthy. The first is that suppliers have taken more responsibilities for design. The suppliers who formerly worked to assemblers’ designs have moved towards offering their own design solutions. The second is that there has been a shift from individual components towards the supply of complete functions such as systems, sub-assemblies and modules. This means that a first-tier supplier becomes responsible both for the assembly of parts into complete units such as dashboards, seats, cockpit and for the management of the second-tier suppliers. The third is that assemblers are standardising their platforms across their constituent companies and divisions.<sup>4</sup>

These changes have led to significant restructuring in the component industry. Several trends have been identified. One of them is the emergence of mergers, acquisitions and the selective transfer of activities between large companies. The component industry is being increasingly concentrated in companies that can design and provide systems and subassemblies across many different markets. In addition, new global companies such as Autoliv MNC have been created through the fusion of smaller companies. The major component manufactures have encouraged the development of strategic alliances in order

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<sup>2</sup> Ford, p. 108

<sup>3</sup> Ford, p. 109

<sup>4</sup> Humphrey, pp. 154 ff.

to deliver more extensive component systems or develop new products. These changes have had considerable effects in the emerging markets.<sup>5</sup>

## ***1.2 Problem background***

In June 2000, Volvo Bus Corporation (VBC) signed a joint venture (JV) agreement with Shanghai Automotive Industry Corporation (SAIC). The new company manufactures and sells city and commuter buses with annual production capacity of 2,500 units. In 2001, the company sold 1,070 units and in 2002 it is expected to sell 1,500 units. Establishment in the Chinese market required the company to respond effectively to rapidly changing macro- and microenvironment. Furthermore, the company faces huge challenges due to Chinese regional protectionist, local contents requirements, fierce competition and large supply base.

Since Volvo Sunwin set up its business in China, the company has established business relationships with a large number of suppliers. Today Volvo Sunwin's supply base consists of 280 domestic, and foreign companies and JVs, of which many suppliers are located in Shanghai. The relationships in the supply base of the company represent one of the most important assets. Supplier relationships are important partly because of the volume of the business they represent and partly because of quality and the technical development of the company. The large supply base of Volvo Sunwin Corporation requires high managerial tasks. There is a continuous need to monitor relationships to ensure that benefits keep pace with costs. Therefore our ambition has been to explore how this company manages its local supply relationships in China. In discussion with managers from Volvo Sunwin Bus Corporation it has become evident that they are also interested in conducting our research.

### **1.2.1 Problem definition**

For an MNC established in the Chinese market, it is necessary to actively manage its supplier relationships. Relationships are seen as assets for the company that can bring a great value if they are managed in the right way. Therefore managing is required to make the best use of the resources of

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<sup>5</sup> Humphrey, pp. 154 ff.

suppliers. This discussion brings us to the question how the MNCs in bus industry operating in China manage the local supply network relationships.

**Main Problem**

How can a multinational corporation in the bus industry operating in China manage the local supply network relationships?

In order to penetrate all important theoretical aspects, to explore all relevant organizational levels within Volvo Bus Volvo Sunwin Corporation and to develop a practical solution according to actual requirements, the main problem has been divided into separate research problems. They support our main problem because they make for three separate cornerstones forming different levels of investigation.

China is moving away from a rigid, centrally planned economy through a series of market reforms that create a dynamical and turbulent macro and microenvironment. As the MNC is embedded into environment it is necessary to adapt its behaviour to follow new rules. The understanding of changes provides the company with a strategy on how to effectively respond to current turbulence in its environment. Therefore our first research proposal is to identify how a multinational company in bus industry match its supply strategy to Chinese business environment.

**Research Problem 1**

How does a multinational corporation in bus industry match its supply strategy to the Chinese business environment?

The MNC needs suppliers with various capabilities and resources. The process of providing information is very complex and costly. The needed information on suppliers is generally available from a variety of sources which can be collected both from external sources and the company's own supplier evaluation management. The gathered information helps the MNC to identify supplier strengths and weaknesses based on existence or absence of assets or competencies. This discussion raises the question on how the MNC evaluates its suppliers and how suppliers differ from each other.

**Research Problem 2**

How does a multinational corporation evaluate its suppliers and how suppliers differ from each other?

The supplier base can be seen as the aggregate of all the supplier relationships of a company. The supply base of the MNC is characterized by variety in terms of relationship involvement. Both MNCs and suppliers are active participants in the market. The reliance on a large number of suppliers increases total supply costs because handling many relationships is costly. This discussion brings us to the question what is the level of involvement relationships and how the interaction process between the MNC and suppliers looks like.

**Research Problem 3**

How does a multinational corporation's supplier network relationships look like currently in China?

The main problem statement and research problems provide the instruments, by which we will attempt to reach the logic conclusion of our research.

**1.3 Purpose**

The objective of this thesis is to explore how an MNC in China can manage its local supply relationships within the bus industry. Particular attention will be paid to the process of supplier evaluation and interaction between the MNC and its suppliers.

**1.4 Case Study Company**

**1.4.1 Volvo Bus Corporation (VBC)**

VBC is a subsidiary of the Volvo Group and the world's second largest manufacturer of large buses and bus chassis, with an annual production of approximately 11,000 vehicles. The product range consists primarily of diesel-powered vehicles for city, inter-city and tourist operations. The company is also a leading manufacturer of natural-gas powered buses in Europe. Complete transport systems for urban traffic are included in operations. The Volvo Bus

industrial operations cover Europe, North and South America and Asia, which include over 80 markets. In 2001 the turnover was 16,675 million SEK.<sup>6</sup>

#### **1.4.2 Shanghai Automotive Industry Corporation (SAIC)**

SAIC is owned by Shanghai Municipality and it is the third of the “big three” companies in China. The company includes the Shanghai Tourist Bus Factory, making coaches with the “Junma” brand and the Shanghai Winxiang Auto Factory, making light buses. The company was established in 1958 and has now eight complete-vehicle-manufacturing companies and more than 30 Sino-foreign JVs such as Shanghai Volkswagen (SVW), and Shanghai General Motors (SGM). The company employs more than 65,000 workers.<sup>7</sup>

#### **1.4.3 Shanghai Volvo Sunwin Bus Corporation**

Shanghai Volvo Sunwin Bus Corporation is a joint venture invested by Shanghai Automotive Industry Corporation (SAIC), Volvo (China) Investment Corporation (VIC) and Volvo Bus Corporation (VBC). With the total investment of 97million USD and registered capital of 54.22 million USD, the Chinese side owns 50% and Swedish side owns 50% of its share. In 2001, the number of employees reached 1216 among which over 190 are engineers and technicians. Most workers were taken over from SAIC.<sup>8</sup>

Volvo Sunwin offers both traditional Chinese buses produced today and modern buses from Volvo’s product development. The first buses, launched in the middle of 2001, had Volvo B7R chassis with Chinese Bodywork.<sup>9</sup> Today the business scope of Volvo Sunwin is to develop, assemble, and manufacture city buses and commuter buses, and chassis, bodies, parts, components and accessories. In addition, it is to sell the products produced by itself and to engage in repair and after-sales service in relation to the aforementioned products (including paid after-sales services and parts for repair and maintenance) and to provide technical consultancy services.<sup>10</sup>

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<sup>6</sup> Volvo Buses, Company Presentation, 2002

<sup>7</sup> Zheng, H., Interview

<sup>8</sup> Tucunduva, H., Interview

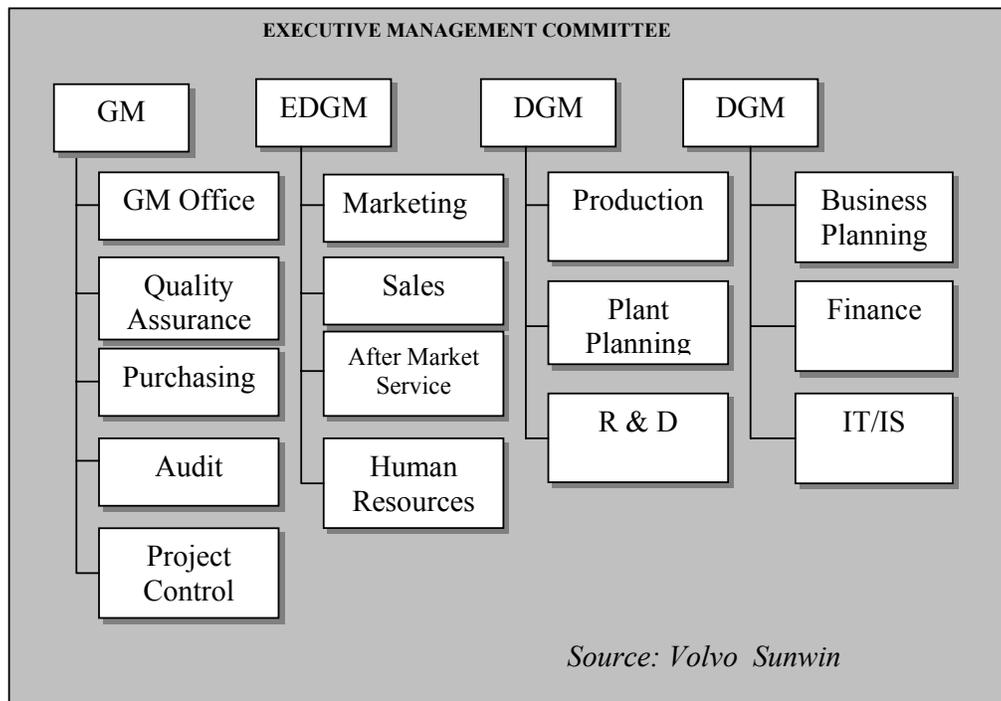
<sup>9</sup> Zheng, H., Interview

<sup>10</sup> *Introduction of Volvo Sunwin*, PowerPoint Slides

Volvo’s core values are “*Quality, Safety and Care for Environment*” while SAIC stands for “*Satisfaction from Customer, Advantage through Innovation, Internationalisation in Operating and Concentration on People*”. SAIC’s core value is also a following up managing concept of “*Customer’s focused and creating value for society, Continuous improvement & high efficiency, Honesty and a reliable partner.*” The core values of JV’s partners have been the basis for establishing perfect Volvo Sunwin’s R&D, production and quality control systems, sales and after-sales services.<sup>11</sup>

The mission of Volvo Sunwin is to provide the market with high quality, safe and environment-friendly products together with customer-oriented service. By creating value for customers, it also creates value for shareholders, employees and society. The vision of Volvo Sunwin is to be valued as the world’s leading provider of public transport solutions and to become one of the best enterprises in Volvo Bus Group (VBC).<sup>12</sup> The figure below shows how Volvo Sunwin is organized.

Figure 1-1. The organization of Volvo Sunwin (Autumn 2002)



<sup>11</sup> Zheng, H., Interview

<sup>12</sup> Ibid

## *1.5 Delimitations*

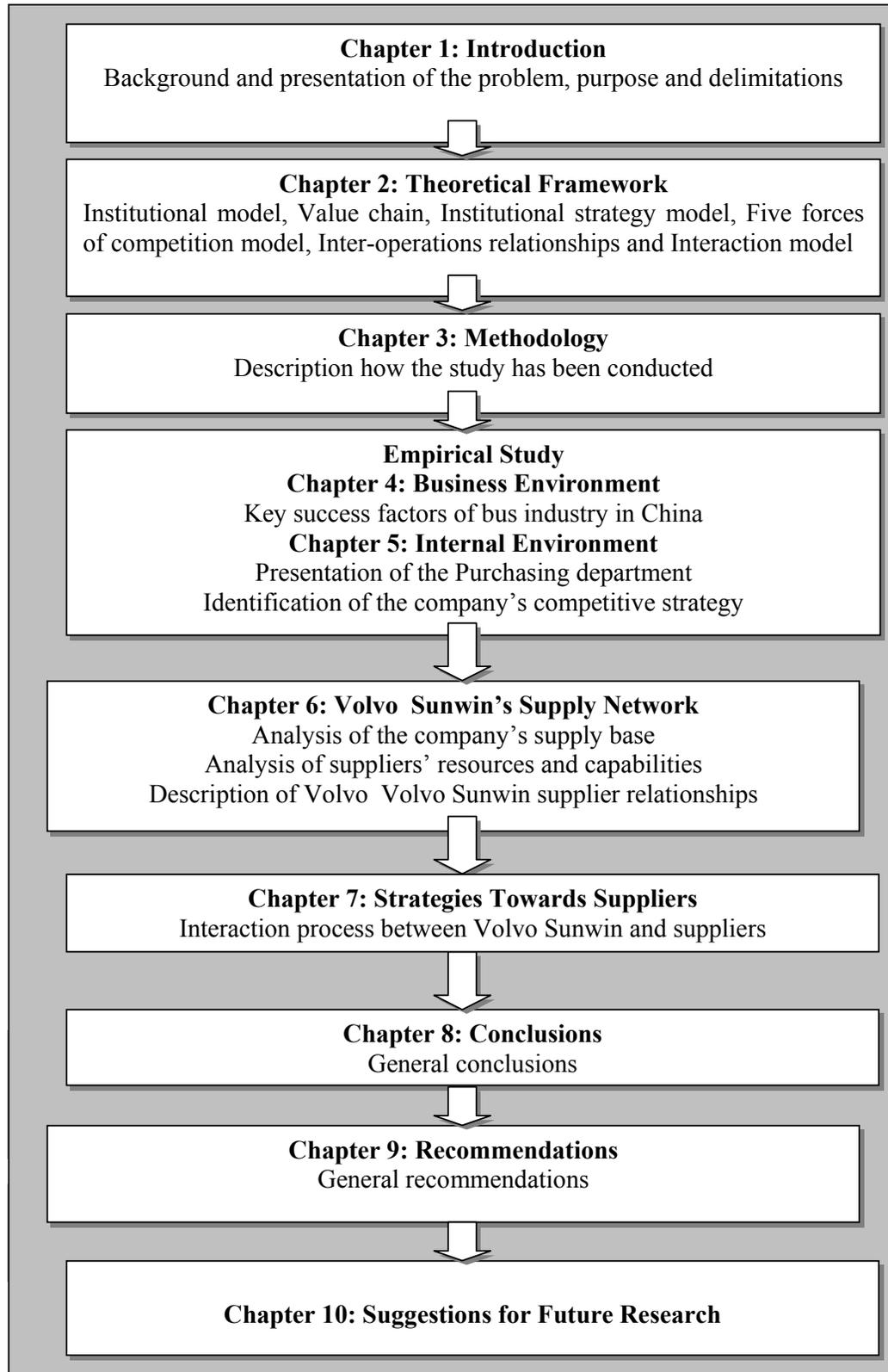
Our research is limited to the Chinese bus industry and will not specifically explore other markets of automotive industry. Our attention will be more paid to large and medium size bus product range because of the nature of business that our case company runs. No comparisons between the case company and competitors will be undertaken.

The scope for this project has been limited to the major commodities delivered by Chinese suppliers and applicable for both product lines of Volvo Sunwin Bus Corporation in China. Representatives of Volvo Sunwin Bus Corporation have made the choice of specific suppliers which were interviewed during our field study. According to the agreement with the company's manager, we interviewed a total of 10 suppliers.

We will not take into consideration the analysis of financial resources. Since the company recently started business this analysis cannot be decisive for the research problem.

Geographically, our field study will be concentrated to the Shanghai area where our case company is based and the main part of the suppliers are located.

## 1.6 Thesis Overview



## ***1.7 Abbreviations***

AP: Automobile Parts section  
APEC: Asia-Pacific Economic Cooperation  
CAAM: China Association of Automobile Manufactures  
DGM: Division's General Manager  
FDI: Foreign Direct Investment  
GDP: Growth Domestic Product  
GM: General Manager  
HR: Human Resource  
ISO: International Standard Organization  
JIT: Just-In-Time (delivery)  
JV: Joint Venture  
M&A: Mergers and Acquisitions  
MNC: Multinational Corporation  
MOFTEC: the Ministry of Foreign Trade and Economic Cooperation  
MQA: Material Quality Assurance section  
NPC: National Party Congress  
NAP: Non-automobile Parts Section  
OEM: Original Equipment Manufacturers  
PPM: Products Per Million  
RMB: Renminbi (Chinese currency)  
R&D: Research and Development  
SEM: Supply Evaluation Management  
SQA: Supply Quality Assurance Section  
SAIC: Shanghai Automotive Industry Corporation  
SETC: the State Economic and Trade Commission  
SABIC: the State Administrative Bureau for Industry and Commerce  
TQM: Total Quality Management  
VBC: Volvo Bus Corporation  
WTO: World Trade Organization

## 2 THEORETICAL FRAMEWORK

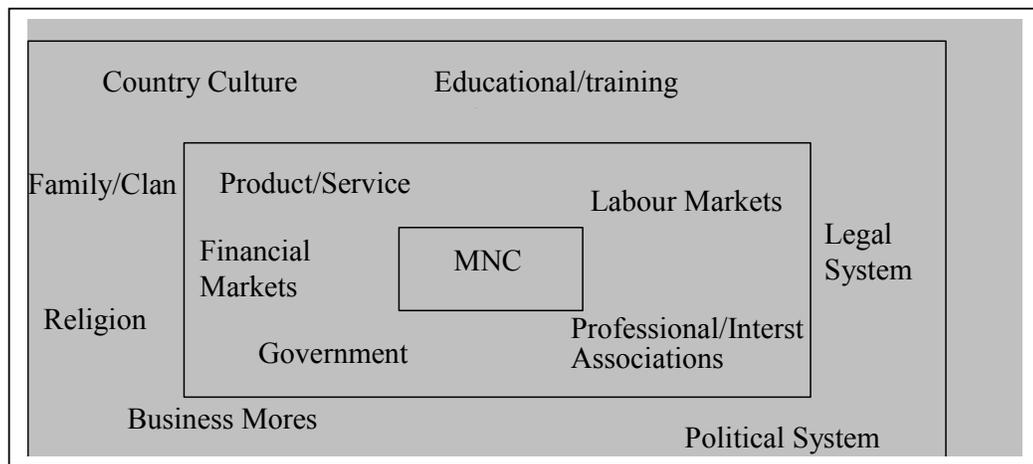
*This chapter provides the theoretical framework for our research. This framework reflects the authors' perception and interpretation of various existing theories and concepts which form theoretical foundation for our analysis.*

### 2.1 Basic Institutional Model

Before we get any further into the theoretical framework we would like to explain the concept of the institutional network theory developed by Jansson (2002). The theory builds on the fact that MNCs are surrounded with various institutions grouped into different categories. Some actors constantly influence MNCs, which forms the organizational field. They are connected in a network and affect each other directly or indirectly, including financial markets, labour markets, government, professional and interest associations as well as product/service markets.

The organizational field is in its turn influenced by surrounding forces such as country culture, business mores, legal system and political system etc. These forces form the societal sector which is different from country to country. For an MNC, it is very important to understand this setting and be able to adapt to the local institutions in order to do business successfully in various environments. Only on rare occasions, an MNC can affect the societal sector indirectly by affecting various organisational fields that will influence the societal sector.

*Figure 2-1. Basic Institutional Model*



*Source: Jansson, 2002*

## 2.2 Value Chain

In order to identify a company's core competence and special capabilities, it is often essential to understand the different capabilities available within the company. Various ways of performing this identification has been presented during time. We have chosen to use the Value Chain Analysis model developed by Porter. The Value Chain Analysis separates the internal activities of a firm into a sequential chain. These are classified as primary and supportive functions.<sup>13</sup> This analytical tool can also very effectively be used when analysing strategic cost drivers within a firm caused by separate functions, actions or business units.<sup>14</sup> However the model will not be used for that purpose in this report. The reason for applying the model is to identify capabilities within the organization and to better put them into perspective of competition and the industry as a whole.

According to the Value Chain Analysis the company's primary activity is broken down into five different categories: inbound logistics, operations, outbound logistics, marketing and selling and finally service. The value Chain represents the actual manufacturing of a product or service that the company performs. The chain of functions starts with the supply of raw material and continues on through parts and components production, manufacturing and assembly, wholesale distribution, and retailing to the ultimate end user of the product or service.<sup>15</sup>

The supportive functions in a firm are divided into three different categories: research and development, human resource management and general administration.<sup>16</sup> These activities support the above primary activities creating the fundamental structure and internal infrastructure necessary needed within the company in order to produce goods and services.

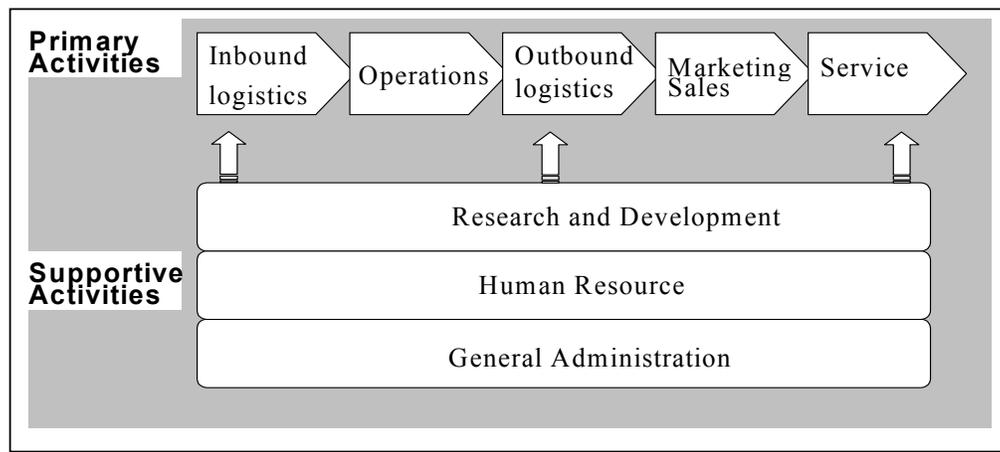
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<sup>13</sup> Grant, 1998, p.120

<sup>14</sup> Thompson, & Strickland, 1998, p.115

<sup>15</sup> Thompson, & Strickland, 1998, p.115

<sup>16</sup> Ibid

*Figure 2-2. The Value Chain*

*Source; Kotler (1999)*

### 2.3 Institutional Strategy Model

The Institutional Strategy Model aims to identify the competitive advantage of MNCs. Competitive advantage is a firm's ability to outperform competitors and rivals in profitability. In other words, when two or more firms compete within the same market, a firm possesses a competitive advantage over its rivals when it earns a higher profit.<sup>17</sup>

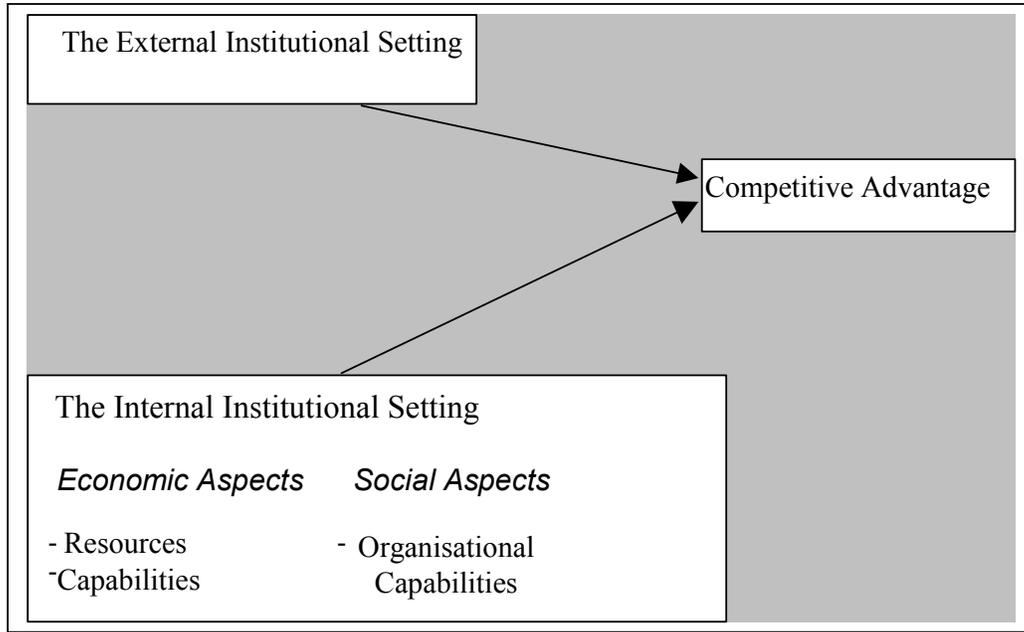
The competitive advantage of the MNC is shaped by factors in the external institutional setting as well as factors in the internal setting of the MNC. By organizing efficiently internally, the MNC is able to match the external environment, and create a competitive advantage. The internal resources within an MNC are divided into tangible and intangible. The more one divides an MNC's resources, the more one can determine various capabilities and unique resources that can constitute a competitive advantage.

In general, the more sustainable the competitive advantage is, the better is the MNC's ability to compete in the long term. Different factors such as economic value, rarity, durability and appropriability, can be applied to measure the resources and capabilities and make up the MNC's competitive advantage.

<sup>17</sup> Grant, 1998, p. 174

The Institutional Strategy Model analyses the internal setting of the MNC and then applies its resources and capabilities to the business environment surrounding the company. By successfully combining the Institutional Strategy Model and the Basic Institutions Model, one will be able to determine a firm's competitive advantage.

*Figure 2-3. Institutional Strategy Model*



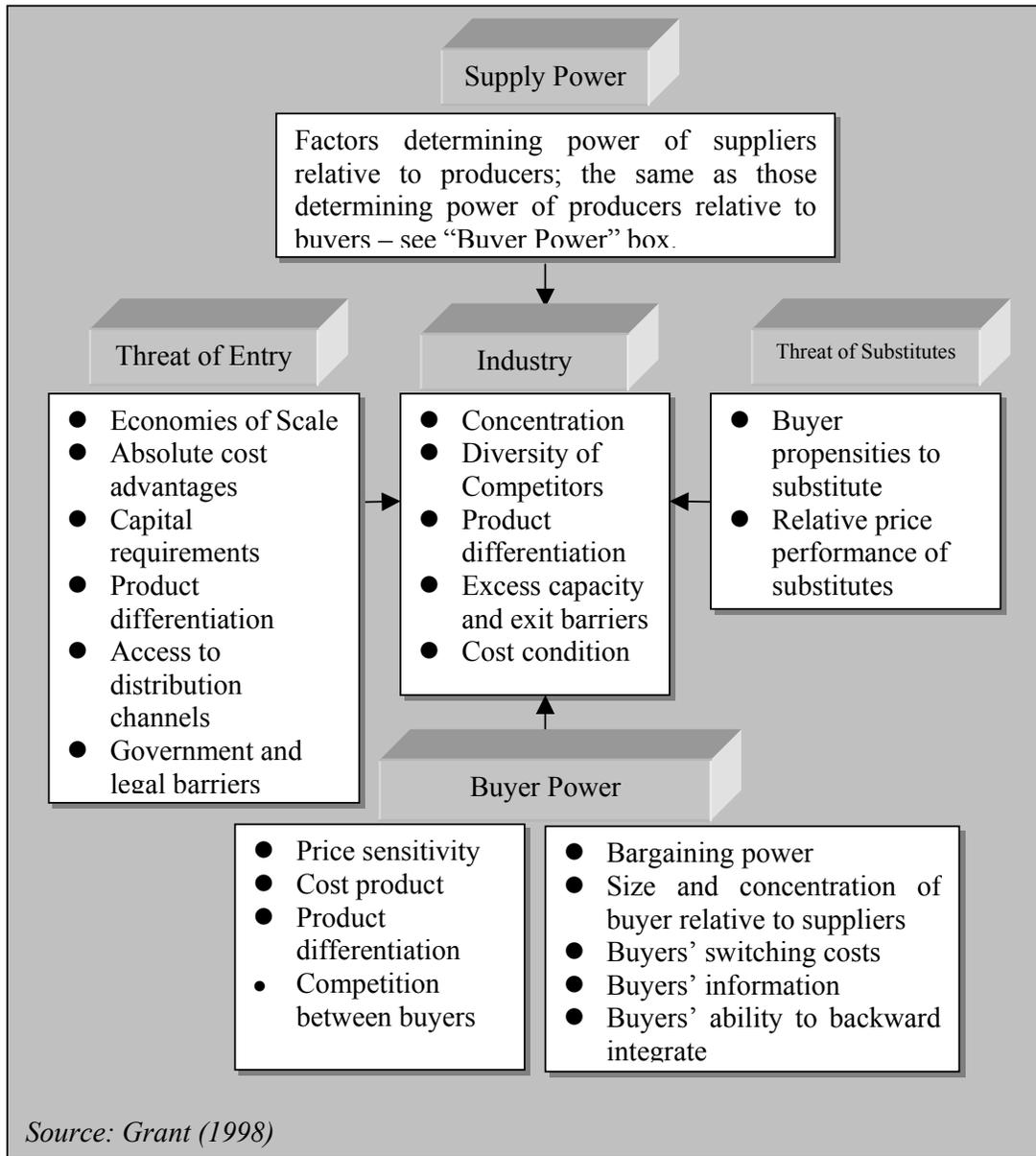
*Source; Jansson (2002)*

## ***2.4 Five Forces of Competition Model***

We have chosen to apply Porter's Five Forces of Competition Model to assess and analyse the automobile industry. The model views the profitability of an industry by investigating the possibility to get a good return of capital when evaluating various actors' power within the industry. The fundamental elements of the model are five different categories: buyers, substitutes, suppliers, potential entrants and industry rivalry, which are illustrated in figure 2-4.<sup>18</sup>

<sup>18</sup> Grant, 1998, p. 55

Figure 2-4. Porter's Five Forces



Writers on supply network management have offered several ways of categorizing the relationships between players in supply networks. One of them offered by Slack and Lewis distinguish between the market and resource perspectives of relationships.<sup>19</sup> The resources relationships with suppliers include the degree to which activities are performed in house, that is from performing all activities within the operation on one extreme, to totally outsourcing all activities on the other extreme. In addition they include the

<sup>19</sup> Slack & Lewis, 2001p. 174

importance of the activities performed within the operation from outsourcing only trivial activities on one extreme to outsourcing even strategically important activities on the other extreme. The market relationships with suppliers involve the structure of market relationships in terms of the number of supply relationships used by an operation, that is, from using many suppliers for the same set activities at one extreme, through to a few or even one supplier for each set activities at the other extreme. They also include the “posture” of market relationships in term of the closeness of those relationships. This means from transactional or “arm’s length” relationships at one extreme, to close and intimate relationships at the other extreme.

*Figure 2-5. The Market and Resource Dimensions of Supply Networks*

	Extent of activity (Quantitative)	Nature of activity (Qualitative)
	‘Structure’	‘Posture’
Market relationships	Number of relationships	Closeness of Relationships
Resource scope	Degree of Activity performed in house	Importance of activity performed in house

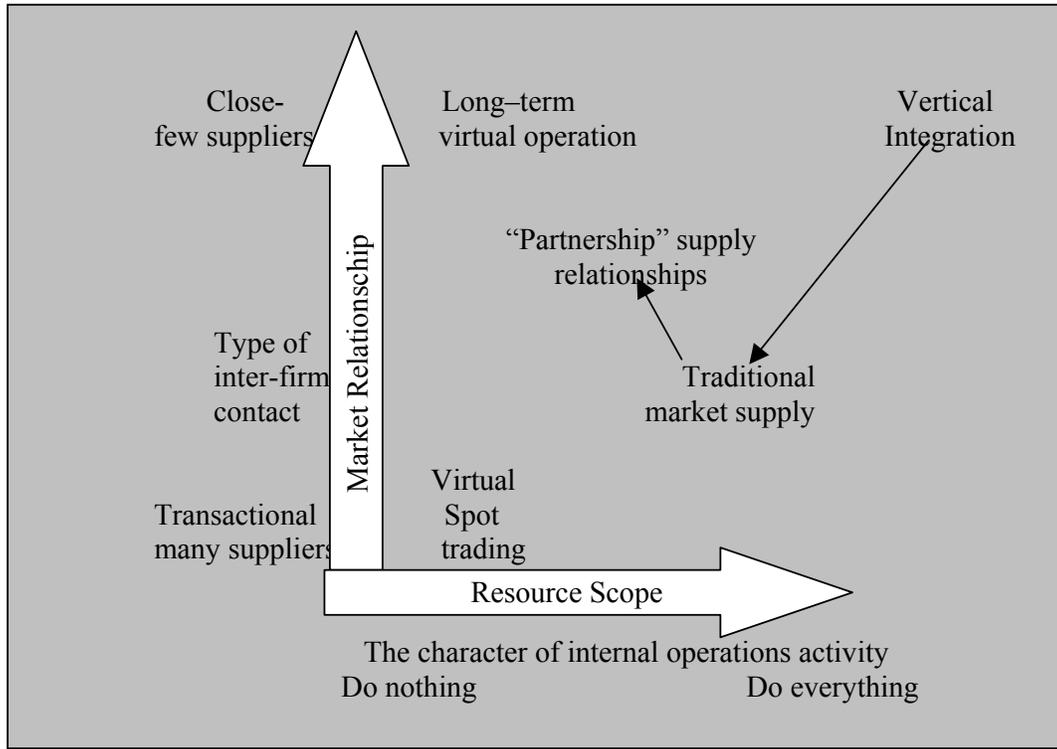
*Source: Slack & Lewis (2001)*

In practice, the extent of activity and the nature of both market relationships and resource scope are related. For example, in terms of resource scope, if some operations try to do everything in-house it is by definition doing both important and relatively unimportant activities within the operation. Otherwise, if it makes nothing in-house, both important and unimportant activities are outsourced.

Aspects of market relationship can be related. A transactional approach to sourcing implies little or no loyalty to any supplier. This kind of market relationship is characterized by loose relationships with many different suppliers, usually, whoever is the cheapest at any point in time. On the other

hand, close and intimate relationships involve significant efforts in building and maintaining contacts between a company and its suppliers. In such a case the company could maintain those relationships with a few key suppliers.

Figure 2-6. Types of supply relationships

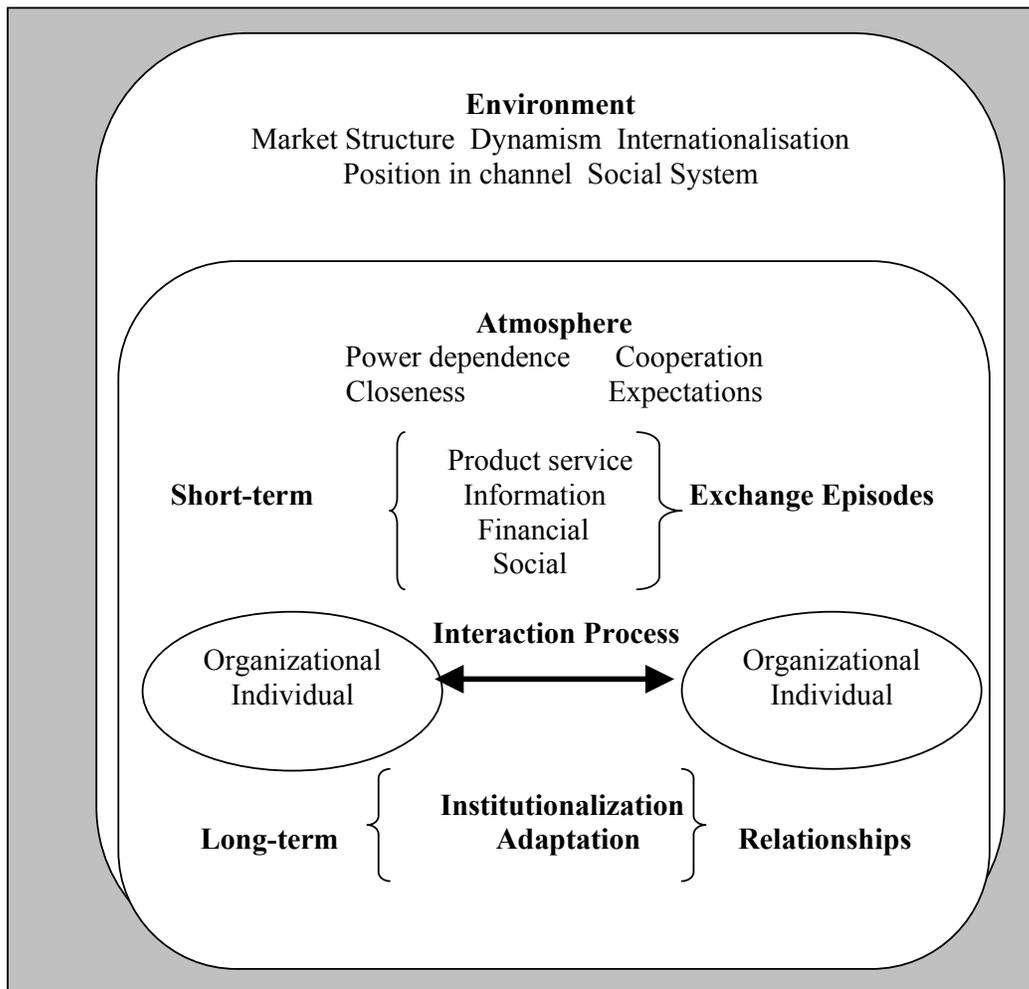


Source: Slack & Lewis (2001)

## 2.5 The Interaction Process

The interaction model is divided into five different sectors: environment, atmosphere, short term exchanges episodes and long-term relationships as well as interacting parties.<sup>20</sup>

<sup>20</sup> Ford, 1998, p. 19

*Figure 2-7. Interaction Model*

*Source: Ford (1997)*

### 2.5.1 Interaction Environment

The Interaction Environment is divided into five different aspects. First, the market structure depends on the concentration of the buyers and sellers and how they are able to operate on an international basis. The second aspect is the dynamism of the industry. It will affect the relations between parties in two ways. First it may increase the value of information. On the other hand it may leave a company who only has few relationships more vulnerable. The third aspect concerns the degree of internationalisation of the buyers and sellers. The fourth aspect discusses the position in the manufacturing channel because certain positions may affect a relationship in one way compared to another

position. The last aspect described in the Interaction Environment concerns the social system.

### **2.5.2 Interaction Atmosphere**

The relationship between the interacting parties is influenced by the characteristics and circumstances in the atmosphere of the process. Some aspects within the atmosphere are stronger than the others, such as power/dependence, conflict/co-operation, closeness/distance and the expectations. All these aspects can be related to the interacting parties, but also to the industry in which the parties operate.

### **2.5.3 Short-Term Exchange Episodes**

One can assume that the relationship between a buyer and a seller often has the tendency to become long-term. Hence, before a relationship has become long-term it must be considered as of a short-term character. Once a relationship is considered to be a long-term relationship, one can say that the institutionalisation process has begun. This is the reason why the Interaction Process itself is divided into two parts, one describing the short-term and the other the long-term relationship.

The short-term exchange in the Interaction Process involves four aspects, product/service exchange, information exchange, financial exchange and finally social exchange. The first type of exchange, called products/services, is often the core of the exchange. This is where the seller transfers the sold item to the buyer. The character of the item often affects the nature of the relationship. The second form of exchange, the exchange of information contains several vital aspects of the relationship. One can say that information itself can vary in three different ways, in content, in width and in depth. The way the information is transferred is also interesting. The exchange between parties can be done either personal or impersonal. The later type is often used when transferring basic technical and commercial data. Personal channels are more likely to be used when transferring soft data related to the product, conditions of the agreement etc. The fourth aspect of exchange deals with financial issues. The exchange mainly concerns the actual transfer of funds. The last type of exchange concerns to the social exchange and is in many perspectives perhaps the most important one of the four aspects in the short-term exchange process. The social exchange is vital when trying to reduce uncertainty between the two

parties. This is especially true when there is a kind of distance between the business parties, such as cultural or geographical. Often parts of agreements between parties are not fully formalized. Instead the relationship is based on trust. This is a very time consuming activity but is often vital for taking the relationship to a high level. However, the development of trust within the social exchange is to some extent dependent on how the other three exchanges have proceeded.

#### **2.5.4 Long-Term Relationships**

As the short-term exchanges are mentioned above, the business relationship will be institutionalised and moves to a long-term character. One aspect that is of special importance is the phase of adaptation. When the adaptation process occurs is often hard to determine. In the initial phase of the exchange processes it may also be hard to foresee what exchange process will take place.

#### **2.5.5 The Interacting Parties**

The outcome of the relationship is also closely connected to the characteristics of the involved parties. The model identifies four different aspects that are of specific interest. Firstly, technological issues. Secondly, the organizational size as the size and structure of the parties may affect the way the parties interact. This can be due to hierarchical structures within the company for example the mental models existing in the various organizations. The third factor concerns the level of experience from similar relationships of the two organizations. The last factor refers to employees and individual levels.

### **2.6 Summary**

Management of supply network relationship is the main issue of this thesis. In order to approach this specific subject it is necessary to develop an understanding of the underlying theoretical framework and existing thought in research. There are well-defined concepts for specific areas in this field.

An MNC is surrounded with various institutions grouped into different categories which influence it. Institutions are connected in a network and affect each other directly or indirectly. The MNC has to be able to adapt to the local institutions in order to do business successfully in various environments. Within its micro environment the MNC has to consider profitability of an

industry by investigating the possibility to get a good return of capital. Since our subject is the management of supply network relationship it is of crucial importance for the MNC to identify suppliers and to provide good knowledge about their capabilities and resources. Analysis of the MNC's value chains also helps us to identify their capabilities within the organization and to better put them into perspective of competition and the industry as a whole. By matching the MNC's capabilities with the business environment we are able to identify its competitive strategy.

For developing relationships between the MNC and suppliers it is very important to pay attention to their interaction process. The interaction between them can be characterized not only by cooperation, mutual learning and trust but also by conflicts, misunderstandings and power dependence. By analysing the atmosphere we will find how the case company balances mutual interdependence.

The case of Volvo Sunwin illustrates how the MNC in the bus industry manages the supply network relationships. In this work it will also be examined how the company evaluates suppliers and to what extent they differ from each other. The following empirical study will show how previously discussed aspects of theory can be used to describe and explain current praxis in supply network relationships management.



### 3 METHODOLOGY

*The methodology chapter gives a clear understanding of how empirical work has been conducted and how the findings have been generalized. It describes different approaches of Research Strategy, Research design and Data collection methods. Furthermore, issues of research validity, and reliability are discussed.*

#### 3.1 The Research Strategy

According to Yin there are five different research strategies: case study, experiments, surveys, histories and archival analysis. What distinguish the strategies are such factors as the type of the research question, the extent of control over behavioural events and the degree of focus on contemporary versus historical events. Researchers can also use more than one strategy in any given study. Each strategy has its advantages and disadvantages. The case study has a distinct advantage in the situation when a "how" or "why" question is being asked about a contemporary set of events over which the examiner has little or no control.<sup>21</sup>

Yin defines a case study as *an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident*. This definition clearly distinguishes case studies from the other research strategies. An experiment divorces a phenomenon from its context, so that the focus only is possible on a few variables. A survey can deal with the phenomenon and context but the ability to investigate the context is extremely limited. Finally, a history has possibility to deal with the phenomenon and context, but usually with no contemporary events.<sup>22</sup>

Because phenomenon and context are not always distinguishable in real-life situation, Yin incorporates a whole set of other technical characteristics, including data collection and data analysis strategies, into his technical definition of the case study. According to him the case study inquiry copes *with the technically distinctive situation in which there will be many more variables*

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<sup>21</sup> Yin, 1994, pp. 1-11

<sup>22</sup> Ibid, p. 13

*of interest than data points, and so one result relies on multiple sources of evidence, with data needing to converge in triangulating fashion, and so another result benefits from prior development of the theoretical propositions to guide data collection and analysis.* In the other words, the case study as a research strategy is a comprehensive method with the logic of design including specific approaches to data collection and to data analysis.<sup>23</sup>

The undertaken study at Volvo Sunwin Bus Corporation is a case study. We investigate one specific company to get deeper understanding of internal organizational setting, supply network strategies and supply network management in the emerging market. Our questions are being asked about a contemporary set of events over which we as investigators have no control. The case study of Volvo Sunwin Bus Corporation is used as a tool to confront our own theoretical understanding of supply network strategies and supply management with contemporary business praxis. This case study makes it possible to verify the aspects. Discussions and problems found in the theory are confronted with the real life example of Volvo Sunwin Bus Corporation.

The case study research strategy has constantly been criticized as a less desirable form of inquiry than experiments and surveys. The critics refer to a lack of rigor of case study research. The investigator many times allows biased views to influence the direction of the finding and conclusions. A second common concern about case studies is that the case study provides a poor base for generalizing the findings.<sup>24</sup>

In spite of this criticism we have chosen to apply this kind of research strategy taking in to consideration the advantages in undertaking a case study. The case study will make it possible to analyse all aspects of the research questions, using a full range of evidence, from documents to interviews and observations.

### ***3.2 Research Design***

A research design is defined as the logic that links the data to be collected to the initial questions of a study, and ultimately, to its conclusions. The main

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<sup>23</sup> Yin, 1994

<sup>24</sup> Ibid, p. 13

objective of the design is to avoid the situation in which the evidence does not address the initial research questions. Five components of a research design are particularly important for case studies: a study's questions, its propositions, its units of analysis, the logic linking data to propositions, and the criteria for interpreting the findings.<sup>25</sup>

The case study is most likely to be appropriate for "how" and "why" questions. Study proposition directs attention to something that should be examined with the scope of the study. Unit of analysis is related to the fundamental problem of defining what "the case" is and specific boundaries are needed to define the case. Previous literature can also become a guide for defining the case and unit of analysis. The design should tell us what is to be done after the data has been collected as indicated by the logic linking the data to the propositions and the criteria for interpreting the findings.<sup>26</sup>

Theory development as a part of the design phase is essential for the case studies. This tells us whether the ensuing case study's purpose is to develop or to test theory.<sup>27</sup> The appropriately developed theory is not only an immense aid in defining the applicable research design but also the main tool for generalizing the results of the case study. Two ways of generalizing results are recognizable, namely "analytic generalization and statistical generalization." An inference in statistical generalization is made on the basis of empirical data. Analytic generalization can be used if the case study involves one or several cases. This type of generalization is more relevant for doing case studies.<sup>28</sup>

The figure 3-1 below indicates the initial step in designing the study consisted of theory development.

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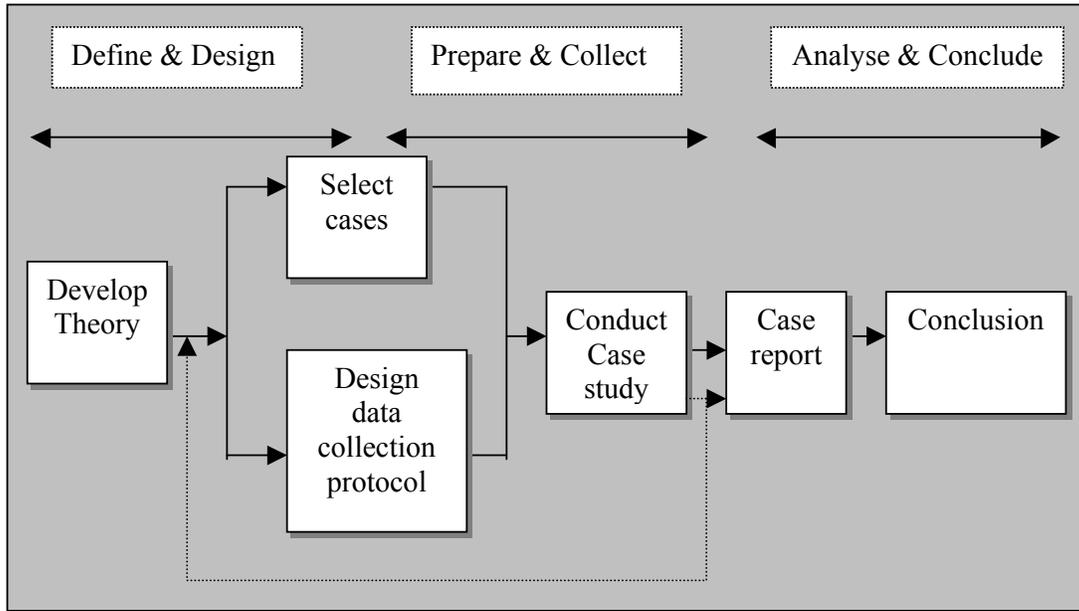
<sup>25</sup> Yin, 1994, p. 13

<sup>26</sup> Ibid

<sup>27</sup> Ibid

<sup>28</sup> Ibid, pp. 30 ff.

Figure 3-1. Case Study Method



Source: Yin, Modified

Our theoretical framework provides us guidance for designing this study and even for collecting relevant data. Preparations for the case study had been made by reviewing the appropriate literature, discussing our topics and exchanging ideas with the case company and constantly asking ourselves what we are studying and what we hope to learn as a result of this study. Furthermore we have identified some important units of our analysis such as relationships, interaction process and supply network management. Our investigation continues with an analyze based on our theoretical propositions.

Our study should show how the Chinese business environment affects the business and also how it affects the supply strategy of a multinational company. It should identify the level of heterogeneity among suppliers in an emerging market and to which extent they can respond to requirements of the principal company. In addition the case study should provide knowledge of how an MNC's supplier network looks like. Finally the case study should show how an MNC in the bus industry can manage its local supply network relationships.

### 3.3 Preparation for Doing a Case Study

The preparation includes the prior skills of the investigator, the training and preparation for the specific case study, the development of a case study protocol, and the conduct of a pilot case study. A person should:

- *be able to ask good questions and to interpret the answers.*
- *be a good “listener” and not be trapped by his or her own ideologies or preconceptions.*
- *be adaptive and flexible, so that newly encountered situations can be seen as opportunities, not threats*
- *have firm grasp of issues being studied. Such a grasp focuses the relevant events and information to be sought to manageable proportions.*
- *be unbiased by preconceived notions, including those derived from theory*<sup>29</sup>

A case study protocol contains the instrument but also contains the procedures and general rules that should be followed in using the instrument. One could say that the protocol is a major tactic in increasing the *reliability* of case study research and is intended to guide the investigator in carrying out the case study.

The protocol is very important because it reminds the investigator what the case study is about and forces him to anticipate several problems, including that how the case study reports might be completed. The protocol should have the following sections.<sup>30</sup>

- *An overview of the case study project (project objectives and auspices, case study issues, and relevant readings about the topic being investigated).*
- *Field procedures (credentials and access to the case study “sites,” general sources of information, and procedural reminders).*
- *Case study questions (the specific questions that the case study investigator must keep in mind in collecting data, “table shells” for*

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<sup>29</sup> Yin, 1994, p.56

<sup>30</sup> Ibid, pp. 63 ff.

*specific arrays of data, and potential sources of information for answering each question).*

- *A guide for the case study report (outline, format for the narrative, and specification of any bibliographical information and other documentation).*

Providing the protocol we created an instrument to increase the level of reliability of the study research. The protocol was also a guide which helped us to structure our findings in the right way.

### **3.4 The Research Method**

In general two research methods can be identified: *the qualitative method* and the *quantitative method*. The *qualitative method* covers several forms of inquiry that makes it easier to understand and explain the meaning of a social phenomenon with as little disruption from the natural setting as possible. Overall, the purpose of the qualitative model is to understand the situation in which individuals, groups or organizations are situated. The negative aspect of the qualitative method is that the obtained information is both subjective and objective, which reduces the possibility to generalize the findings.<sup>31</sup>

The *quantitative method* indicates that the structure of investigation is already set and the investigation is already finished in theory and problem formulation. Some advantages are: first, that an objective measure is gained to ensure the validity of the conclusion and secondly, this model requires less resource.<sup>32</sup>

We used the qualitative method research due to possibility to deepen the knowledge and understanding about supply network management process within Volvo Sunwin Bus Company, based on qualitative measures. In addition, a quantitative method is used when we analysed the supply base of Volvo Sunwin Corporation.

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<sup>31</sup> Merriam, 1998

<sup>32</sup> Holme&Solvang, 1991

### **3.5 Data Collection**

#### **3.5.1 Relevant Sources of Data Collection**

The six sources of evidence can be identified thus: documentation, archival records, interviews, direct observations, participant-observation, and physical artefacts.

No single source has a complete advantage over all the others. A good case study will therefore want to use as many sources as possible. The procedure for collecting evidence has to be developed and mastered independently to ensure that each source is properly used.<sup>33</sup>

We used all six sources of evidence in order to make our research more comprehensive. This was possible thanks to the opportunity to make a visit to manufacturing plants of the case study company in Borås and Shanghai, and the library of Volvo Group in Gothenburg.

#### **3.5.2 Principles of Data Collection**

According to Yin there are three principles of data collection: the use of multiple sources of evidence, the formation of case study database and the maintenance of a chain of evidence. They are intended to make the process as explicit as possible, so that final results, the data that have been collected, reflect a concern for construct validity and for reliability. They are very important for all six sources of data mentioned earlier.<sup>34</sup>

A major strength of case study collection is the opportunity to use many different sources of evidence. This allows an investigator to address a broader range of historical, attitudinal and behavioural issues. However, the most important advantage is development of converging lines of inquiry, known as a process of triangulation. Four types of triangulation in doing evaluations are identified, that is data triangulation, investigator triangulation, theory triangulation and methodological triangulation.<sup>35</sup>

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<sup>33</sup> Yin, 1994, pp. 79 ff.

<sup>34</sup> Ibid, pp. 90 ff.

<sup>35</sup> Ibid

In our case study triangulation of multiple data sources is applied. The conclusion and finding are converged by multiple sources of evidence in order to make them more convincing and accurate.

The second principle concerns the way of organizing and documenting the data collected for case studies. Every case study should strive to develop a formal, presentable database so that other investigators can review the evidence directly and not be limited to the written reports. In this way, a case study database increases the reliability of entire case study. Yin identifies four important components of a database: notes, documents, tabular materials, and narratives.<sup>36</sup>

Our database included notes, which are a result of our interviews, observation and document analysis, and case study documents. They were arranged in terms of establishing a primary file and a secondary file for documents, tabular materials and narratives. With regards to narratives we tried to compose open-ended answers to the questions in the case study protocol.<sup>37</sup> The main purpose is to document the connection between specific pieces of evidence and various issues in the case study, using footnotes and citations generously.

To maintain a chain of evidence is the principle that also increases the reliability of the information in a case study. The principle is to allow an external observer to follow the derivation of any evidence from initial research questions to final case study conclusion. Moreover, the external observer should be able to trace the steps in opposite direction that is from conclusions back to initial research.<sup>38</sup>

This principle was of crucial importance for our case study because of understanding very complex nature of the supply network management. In order to be able to derivate correctly evidence we had three e-mail interviews with the Purchasing department Manager before the field study and then two interviews in Shanghai, in the beginning and at the end of our field study. In

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<sup>36</sup> Yin, 1994, pp. 94 ff.

<sup>37</sup> Appendix 1, 2

<sup>38</sup> Yin, pp. 98 ff.

this way we could create a chain of evidence since our first meeting in September in Borås and increase the reliability of the gathered information.

### **3.5.3 Primary Data**

Primary data is defined as information gathered directly from a certain source for a certain purpose. Primary data can be divided into internal and external primary data. Internal primary data is collected within a company and external primary data outside the company. Most relevant sources of primary data are interviews, direct information and participant-observation.<sup>39</sup>

*The interview* is the most important source of case study information. The interviews of an *open-ended nature* are most common, in which an investigator can ask key respondents for the facts of matter as well as for the respondents' opinions about events. Generally, key informants are often critical to the success of a case study. They can provide important insights into a situation, shortcuts to the prior history of the situation, helping the investigator to identify relevant sources of evidence. In a *focused* interview the respondent is interviewed for a short period of time and the investigator is more likely to be following a certain set of questions derived from the case study protocol. A third type of interview involves more structured questions, along the lines of a formal survey. This type of interview should entail both the sampling procedures and instruments used in regular surveys. The common problems related to the interviews include potential bias, poor recall, and poor or inaccurate articulation.

Since the case study involved many different participants we applied open-ended, focused and sampling interviews. Interviews were conducted with different people at VBC in Borås and Gothenburg, Volvo Sunwin Bus Corporation in Shanghai and its ten suppliers, Swedish Trade Council in Shanghai, and Ba-Shi Group, the largest customer of Volvo Sunwin.<sup>40</sup>

The Purchasing department of Volvo Sunwin determined the choice of suppliers as well as interview time schedule. In all interviews we took notes and used a tape recorder.

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<sup>39</sup> Ibid, pp. 79 ff.

<sup>40</sup> See Appendix 3

*Direct observation* can be made throughout a field visit, or other occasions such as interviews. This evidence is useful in providing additional information about the topic being studied.

*Participant-observation* is a special mode of observation in which the investigator is not merely a passive observer, but the researcher may actually participate in the events being studied. The major problems related to participant-observation have to do with the potential biases.

Since the Purchasing department of Volvo Sunwin Corporation holds the meetings with its employees once a week we had the opportunity to actively participate and to communicate with them about the main problems they meet in relationships with suppliers. This also helped us to better understand the corporate policy and to obtain additional information about specific suppliers.

#### **3.5.4 Secondary Data**

Secondary data has to do with information collected from already existing sources of information for another purpose. This type of data is usually used in the beginning of an investigation to get a quick overview of the subject. According to Yin the two most important sources of secondary data are documentation, archival records and physical artifacts.

*Documents* play an explicit role in any data collection in doing case studies. Documentation can take many forms such as letters, written reports of events, administrative documents, studies and newspaper clippings. For the case study purpose, the most important use of documents is to confirm and augment evidence from other sources. In reviewing any document, it is also important to understand that it was written for some specific purpose and some specific audience *other than* those of the case study being done.<sup>41</sup>

*Archival records* include survey data, personal records, organizational records, maps and charts, and service records. These can be used in conjunction with other sources of information. The usefulness of these archival records can vary

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<sup>41</sup> Yin, pp. 81ff.

from case study to case study. As in the case of documents, most archival records were produced for specific purposes and specific audiences and these conditions have to be fully assessed in order to interpret the usefulness.<sup>42</sup>

*Physical artefacts* comprise a technological device, a tool or instrument or some other physical evidence. They have less potential importance in the most typical kind of case study.<sup>43</sup>

In our case the secondary data was gathered externally from literature and other sources like scientific articles, Chinese newspapers and to a little extent from Internet. Of crucial importance for gathering secondary data was our visit to Volvo Group's library in Gothenburg where we found much information that was interesting for our research. We also collected relevant secondary information from VBC and Volvo Sunwin internally. The information from Internet was validated through using known sources and published works.

### ***3.6 The Quality of Research***

Generally, four tests may be considered relevant in judging the quality of case study research: construct validity, internal validity, external validity and reliability. In designing and doing case studies, various tactics are applicable to deal with the tests, even if not all of tactics occur at the formal stage of designing a case study. Some of the tactics may occur during data collection, data analysis and composition phase of the research.<sup>44</sup>

#### **3.6.1 Validity**

Validity is defined as a term for measuring the quality of a case. High validity is reached when the investigation measures what it was intended to measure from the beginning and when the absence of possible errors is significant.<sup>45</sup>

Three different kinds of validity can be distinguished: construct validity, internal validity and external validity. *Construct validity* has to do with

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<sup>42</sup> Yin, pp. 83 ff.

<sup>43</sup> Ibid, p. 90

<sup>44</sup> Ibid, p. 32 ff

<sup>45</sup> Patel, R. & Davidson, B., 1994

establishing correct operational measures for the concepts being studied. The test of construct validity can be met if an investigator covers two steps<sup>46</sup>:

1. *Select specific types of changes that are to be studied (in relation to original objectives of the study) and*
2. *Demonstrate that the selected measures of these changes do indeed reflect the specific types of change that have been selected.*

According to Yin there are three recommended case study tactics to increase construct validity. The first is the use of multiple sources of evidence and this is relevant during data collection. The second tactic is to establish a chain of evidence, also relevant during data collection. The third tactic is to have the draft case study report reviewed by key informants and this is relevant under phase of composition. In this thesis we were eager to ensure the application of three tactics.

*Internal validity* deals with establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships. This kind of validity is only relevant for explanatory or causal studies, in which an investigator is trying to determine whether event  $x$  led to event  $y$ . The specific problem of internal validity has to do with the problem of making inferences. Basically, a case study involves inference every time an event cannot be directly observed. In the other words an investigator will “infer” that a particular event resulted from some earlier occurrence, based on interview and documentary evidence as a part of the case study.<sup>47</sup>

Three different tactics are applicable in increasing the internal validity. These tactics include the use of pattern matching, explanation-building and time-series analysis; and that they are relevant during the data analysis phase of case study research.<sup>48</sup>

*External validity* deals with the problem of knowing whether a study’s findings are generalizable beyond the immediate case study. In analytical generalization,

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<sup>46</sup> Yin, 1994p. 34

<sup>47</sup> Ibid, , pp. 33 ff.

<sup>48</sup> Ibid

the investigator is striving to generalize a particular set of results to some broader theory.<sup>49</sup> External validity is obtained in two ways. Firstly, through studying supply network theories, which also deals with problems of relationships supply management in emerging markets, and matching our findings with them. Secondly, since our study has internal validity, it is reasonable to generalize our findings and apply them to other cases. The findings of our study can be applied to other MNCs in automobile industry operating in, or planning to establish operations in China.

### **3.6.2 Reliability**

Reliability demonstrates that the operation of a study, such as the data collection procedures can be repeated, with the same results. The goal is to minimize the errors and biases in a study. Generally, the investigator makes as many steps as operational as possible and conducts research as if someone were always looking over his shoulder.<sup>50</sup> The protocol and database are main tactics in increasing the reliability of case study research and are intended to guide the investigator in carrying out the case study. The tactics occur under data collection phase.<sup>51</sup> As we already mentioned before these instruments are successfully applied in our case study.

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<sup>49</sup> Yin, 1994, p. 36

<sup>50</sup> Ibid, 1994, p. 36

<sup>51</sup> Ibid, p. 33



## 4 BUSINESS ENVIRONMENT

*Since Volvo Bus Corporation brings Western thinking and working styles to developing countries such as China, there is a risk of conflicts, misunderstandings and disagreements in relations with domestic partners. Therefore it is of crucial importance to consider local culture, business mores and government power etc in order to avoid a negative attitude towards institutions in the local community.<sup>52</sup> In this chapter we will describe main Chinese macro environmental factors that Volvo Sunwin has to take into consideration, and in the later part we describe the general patterns of the bus industry.*

### 4.1 Country Description

For centuries China stood as a leading civilization, outpacing the rest of the world in the arts and sciences. However, in the 19<sup>th</sup> and early 20<sup>th</sup> centuries China was beset by civil unrest, major famines, military defeats, and foreign occupations. After World War II, the Communists led by Mao Zedong established a dictatorship ensuring China's sovereignty. After 1978, his successor Deng Xiaoping gradually introduced market-oriented reforms and decentralized economic decision-making, which resulted in quadrupled output by 2000. Political controls are still tight even while economic controls continue to be relaxed.

In 2002 China has become a member of WTO. Today it is the world's 10th largest trading country, and the biggest telecommunication market. Between 1980 and 2000 the annual average GDP growth rate was 9.7%. Despite a global economic downturn in 2001-02, China's GDP had a growth with 7.3% in 2001. The country has a large domestic market, unrivalled competitiveness in labour intensive industry and access to high-level intellectual talents. Emerging high-tech companies and huge foreign financial reserves give a very strong advantage to China.<sup>53</sup>

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<sup>52</sup> Jansson, 2002, Chapter 5, p.9

<sup>53</sup> Sjolín M., Interview

## 4.2 *The Societal Sectors*

### 4.2.1 Culture

With a history of more than five thousand years, China is one of the four ancient civilizations in the world. The culture of traditional China involves diverse and competing philosophies such as Taoism, Buddhism, Legalism, and a host of local “little traditions.” Confucianism is identified as a foundation of the Chinese great cultural tradition. Until now Confucian values still provide the basis for the norms of Chinese interpersonal behaviour.<sup>54</sup>

The principles of Confucian values are acceptable in the various domains of social interaction. For example, the negotiating behaviour is affected by three norms: basic communication patterns, social obligations and relationships among different life domains. Confucian’s impact on communication means that it should be harmonious, that the principle of moral potential obliges one to restrain oneself for the sake of harmony, and that hierarchy designates the different obligations of each party to the communication process. Additionally, kinship affiliation has governed the interrelationship between the realms of work and non-work activities, and modes of behaviour expected for each.<sup>55</sup>

### 4.2.2 The Business Mores

The Guanxi concept is an important instrument for foreign firms in dealing with institutional risks of investing in China. Guanxi is defined as informal particularistic relationships of reciprocity based on personal trust. People establish and maintain Guanxi through informal interactions and they tend to engage in Guanxi activities, privately, outside of official domain. In the economic realm Guanxi means that transactions depend critically on personal rather than organizational trust and relationships. Guanxi constitutes a reciprocal relationship through which people exchange favourites involving a chain of benefactors and beneficiaries connected by intermediaries. Trust is established and managed through long-term relationship between the parties. Once trust breaks down, the Guanxi is over. Chinese business networks are

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<sup>54</sup> Jansson, & Samuelsson, 2002 p.194-195

<sup>55</sup> Ibid

based on intensely personal connections and depend on the bonds between particular individuals.<sup>56</sup>

For doing business in China, the knowledge of Guanxi is of crucial importance because it is a source of vital information for business negotiations, of practical protection for business operations, and for gaining access to favourable solutions of investment-related disputes. In China foreign companies sometimes rely on informal personal relationships where the law fails to protect their interests. Because of the unclear nature of China's regulatory framework and frequent government intervention foreign companies still need to use informal channels to obtain information and reduce uncertainties.<sup>57</sup>

The reform era has increased corruption significantly. In the mid-1990s corruption reached such an extent that it began seriously eroding the basic legitimacy of the political system. Corruption thrives on the fact that the Chinese system is currently semi reformed. The nature of China's negotiated economy has created situations in which corruption carries few risks and pay large dividends, because government officials at all levels can use their power to affect economic outcomes to a certain extent and have considerable discretion available in doing so.<sup>58</sup> Under the current political system, widespread abuses, irregularities and corruption among party cadres cost China a staggering 14.5 per cent of gross domestic growth (GDP) in 2002.<sup>59</sup>

### **4.2.3 The Educational/Training System**

Between 1980 and 1990 China made considerable progress in reducing the number of illiterates from 284 million to 205 million. Now the problem is the small percentage of people in higher education. China suffers from an acute shortage of skilled personnel due to years of under-funding of the educational system and the general under-estimation of the importance of education and training for sustained economic development.<sup>60</sup> The lack of adequate human resources has become one of the main obstacles to China's economic development in spite of its enormous population resources. The lack of skilled

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<sup>56</sup> Wang, H., p. 87 ff.

<sup>57</sup> Ibid

<sup>58</sup> Jansson & Samuelsson, 2002, p.267 ff.

<sup>59</sup> Huang, C., 2002, p.13

<sup>60</sup> Maxton, 1997, p. 21

personal, especially mid-level and senior management was the top concern of Western investors in China in the 1990s.<sup>61</sup>

#### **4.2.4 The Legal System**

Since the establishment of the People's Republic of China in 1949, China has set up an organic, comprehensive legal framework, which consists of various laws and regulations. The central government also tries to further accelerate reforms in China's legal system. A considerable amount of laws and regulations were issued to protect the interests of private entrepreneurs, the new emerging middle class as well as foreign investors. However, the current legal system cannot match the rapid economic development very well since there are new problems emerging from the economy reform leading to a certain degree of blanket and discontinuity in the country's legal system.<sup>62</sup>

Concerning foreign investment, there are a bunch of laws and regulations at both national and local level. Some relatively newly issued laws, such as foreign investment law, company law, and foreign contract law are playing important roles in regulating increasing China's foreign trade and attracting foreign investment.<sup>63</sup> China has also produced some other new economy-related laws. Amendments have been made to the Trademark Law and the Copyright Law and a new law came out earlier in 2002 to encourage small and medium-sized enterprises. In sum, China has targeted its efforts to work harder on drafting and improving major laws governing the market economy.<sup>64</sup>

### **4.3 The Organizational Fields**

#### **4.3.1 Government**

The State Council (SC), China's cabinet, is the highest organ of state administration as well as highest executive organ of state power, whose composition is decided by the NPC (The National Party Congress). It has a large number of specialized ministries, which are in charge of very specific industries. The main ministries with a direct impact on the economy are the

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<sup>61</sup> Maxton, 1997, p. 21

<sup>62</sup> www.photius.com, downloaded on November 10, 2002

<sup>63</sup> Ibid

<sup>64</sup> Zongwei, S., China Daily, October 19-20, 2002, p.2

State Developing Planning Commission (SDPC), State Economic and Trade Commission (SETC), the State Administrative Bureau for Industry and Commerce (SABIC) and the Ministry of Foreign Trade and Economic Cooperation (MOFTEC).<sup>65</sup>

The SDPC is in charge of the long-term strategy and economic planning, drafting and supervision of industrial policy and large investments projects. The SETC is concerned with state owned enterprises and it supervises the reform and management of the “300 key enterprises”. Additionally, the commission implements reform policies as regards medium and small state owned enterprises. Functional ministries and industry association implement the State Council’s policies for their sector referring to the SDPC for large investments and strategic policies and the SETC for short- and medium-term issues such as funding for technological innovations. MFTEC regulates international trade, FDI, and Chinese overseas investment and approves large foreign investment projects. This ministry is less powerful than SDPC and SETC and it is subordinated to them.<sup>66</sup>

The Five-year Plan is the most important planning tool of the government. Since the economic reforms started, the FYP has been transformed into a more general economic policy plan, indicating which industries and infrastructure projects the government intends to promote.<sup>67</sup>

For the Chinese government the automotive industry is a “pillar” industry. Government policy in the automotive industry has focused on attracting FDI and protecting the domestic industry from import. Provincial and municipal governments are important stakeholders in the automotive sector and their involvement is still very high. The government supports mergers, take-overs and controlling shares to improve overall efficiency.

When analysing the component industry, the government applies the concept of “key component manufactures.” This means that it identified the components in which the Chinese industry is weak and set up a series of tax breaks and

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<sup>65</sup> Maxton, 1997 p. 2-5

<sup>66</sup> Ibid

<sup>67</sup> Ibid

subsidies to help Chinese companies to improve production quality and quantity. The government also encourages foreign manufacturers to enter the component sector and provide modern technology and production techniques.<sup>68</sup>

#### **4.3.2 The Professional and Interest Associations**

The most important automobile industry associations in China are National Automotive Industry Consultation and Development Corporation and China's Association of Automobile Manufacturers.<sup>69</sup>

Today China is strictly carrying out its commitments as a new member of the World Trade Organization. It has done impressive efforts to put in place a stronger legislative framework, covering intellectual property, the service industry and at the technical level, the structure for quotas and tariff-rate quota management after its WTO accession. The impact of China's entry into the WTO on auto industry will be particularly great.<sup>70</sup>

According to Mr. Teng Bole, vice president of China Association of Automobile Manufactures (CAAM) there will be a period of 5 to 6 years for China to adapt its auto import tariff from 80% – 100 % to about 25%. The WTO entry does not simply means tariff/price reduction and competition increase. There are a lot of factors influencing the price of imported automobiles besides tariff; for example, the import quota will still limit the automobile import. It will protect the domestic market from the shock and the large-scale price reduction. The internationalisation of the auto market would speed up the technical upgrading of Chinese auto enterprises and eliminate local protection obstacles.<sup>71</sup>

The WTO entry means both opportunities and challenges for China's automotive industry. There is a deep gap between the Chinese and the foreign auto industry in product quality, R&D, and production scale. Some enterprises being less market-competitive will face the possibility of stopping production, switching production, bankrupt and even closing up. Products with poor quality

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<sup>68</sup> China's automotive Market, December 1998, pp. 23 ff.

<sup>69</sup> www.chinadaily.cn, Downloaded on November 1, 2002

<sup>70</sup> Yan, M., China Daily, October 18, 2002

<sup>71</sup> China Auto, December 1999, p.1-2

that are non-competitive will lose the local protection in the opening market and be eliminated by fierce competition. Especially after 2005, most domestic manufacturers will face severe challenges because China will fully implement its obligation to eliminate quota limits.<sup>72</sup> The auto part manufactures in China will also experience a shock wave because the tariff on automobile parts import will be reduced to 10% in 2005.<sup>73</sup>

Besides the WTO, China is the member of Asia-Pacific Economic Cooperation (APEC) within which the country maintains close economic relations. Since 1991 China's trade with other APEC members has accounted for over 70% of its total foreign trade and more than 60% of overseas FDI in China came from APEC.<sup>74</sup>

### **4.3.3 The Labor Market**

State-owned enterprises are still very important employers, especially in China's cities where they employ more than 50 per cent of the labour force. However, their employees run the danger of becoming impoverished or moving into low salary scales. 26% of urban residents saw decrease in their real income.<sup>75</sup> At the end of 2001 the official government figure for urban unemployment was 3.6%, which is 0.3% higher than that of mid-2001. This figure understates the current urban unemployment rate, which actually is close to 8%, corresponding to 33 million unemployed. Redundant labour will put enormous pressure on the cities, as state-owned enterprises will be forced to lay off many workers over the years to come. Salary increases are much higher in JVs, monopolies and in new industries such as electricity, real estate, and financial service. Compared to agriculture and commerce, difference in salary of these industries is up to 200 per cent.<sup>76</sup>

The share of rural residents dropped from 67.7 per cent in 1978 to 47.7 percent in 2001.<sup>77</sup> According to Chinese statistics the current labour surplus is estimated to be a minimum 100 million in the countryside, but could as well be as high as 150 million. This surplus has led to massive migration to the

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<sup>72</sup> Xuekun W., China daily, October 19-20, 2002, p. 4

<sup>73</sup> China Auto, December 1999, p.1

<sup>74</sup> China Daily, p. 2

<sup>75</sup> Maxton, 1997, p. 2-5

<sup>76</sup> Ibid, p. 16

<sup>77</sup> China Daily, October 18,2002, p.5

prosperous south and east with as many as 70-100 million migrant workers in the whole China.

The reforms have resulted in a steady growth of private income. Between 1989 and 2001, the per capita disposable income of urban residents increased by 7.1 per cent annually. At the same time the per capita income of rural residents rose 4.3 per cent annually. In 1978, per capita GDP was RMB 379Yuan, by 1989 it had increased to 1512 Yuan, and finally in 2001, it was 7543 Yuan.<sup>78</sup>

#### **4.3.4 Financial Markets**

China enjoyed a strong balance of payments in the first half of 2002, with the current account and capital and financial accounts maintaining surpluses and its foreign exchanges reserves building up steadily. China attracted US\$ 24.6 billion in FDI, which is an increase of 19 per cent.

In 2001 private deposits accounted for RMB 7.38 trillion Yuan, compared to 21 billion Yuan in 1978.<sup>79</sup> In February 2002 the central bank cut interest rate to stimulate consumption and provide a boost for the flagging stock market.<sup>80</sup>

While the tax rate for most domestic companies is 33%, many foreign companies enjoy a preferential tax rate as low as 15%. However, since the WTO entry, the government announced that it would introduce uniform tax rates for all types of firms.<sup>81</sup>

### **4.4 The Bus Industry**

Based on our above introduction, the institutional environment in China has been changing rapidly since the middle of 1980s. The first change is the decentralization of planning power, resulting in the weakening of the central government's authority in economic decision-making and the strengthening of competitions among provinces. Provincial rivalry and protectionism are evident. The second change is the shift towards a market economy and a gradual removal of the central planning mechanism. The third change is the appearance of conglomerates or groups such as the First Auto Works (FAW)

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<sup>78</sup> China Daily, October 18,2002, p.5

<sup>79</sup> Ibid

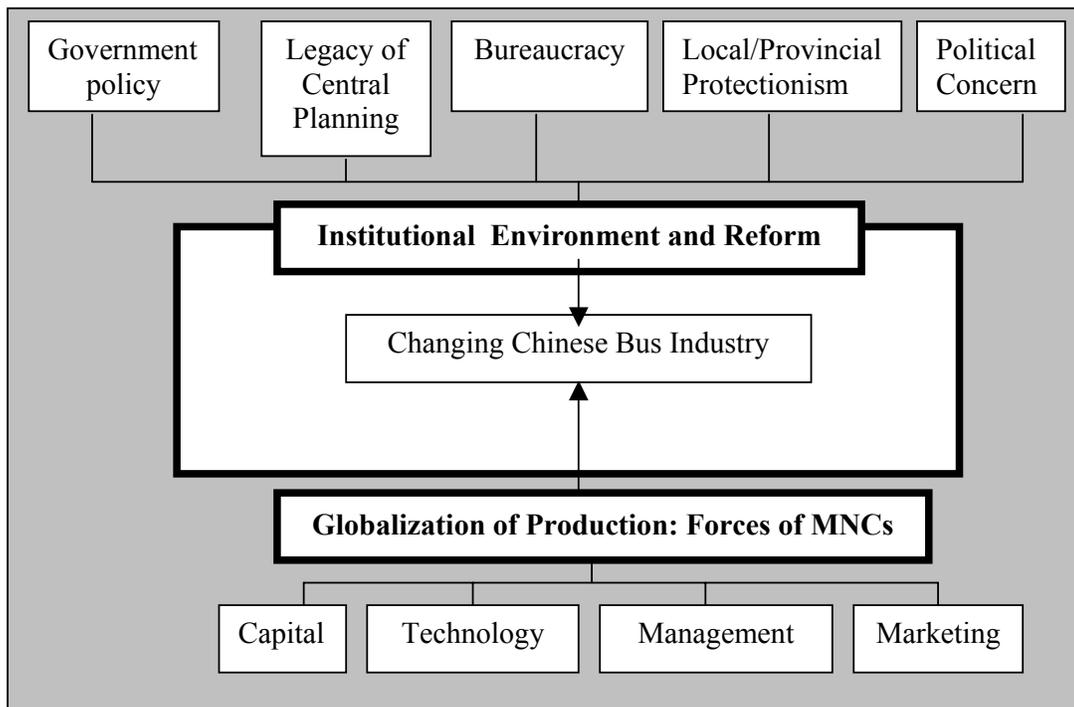
<sup>80</sup> Asian Automotive Industry, August of 2002, p. 54

<sup>81</sup> Ibid

Group, Second Auto Works (SAW) and Shanghai Automotive Industry Corporation, which are subordinated to a local government or an industrial ministry. The fourth is preferential treatments given to JVs and foreign-owned enterprises, which usually include a two-year exemption and three-year tax reduction.

This institutional reforms and globalization of production in terms of FDI of MNCs are the primary driving forces behind the recent restructuring and change of Chinese bus industry. A framework for recent changes in the Chinese bus industry is shown in the figure below.<sup>82</sup>

*Figure 4-1 A Framework for the Changing Chinese Bus industry*



*Source: Sit & Liu (2000) Modified*

#### 4.4.1 Volumes

Today there are 700,000 registered buses in China.<sup>83</sup> The total annual passenger flow handled by domestic transportation firms was 15.8 billion in 2001. China now has more than 1.47 million kilometres of highways, 19,300 kilometres of

<sup>82</sup> Sit & Liu, 2000, pp. 653 ff.

<sup>83</sup> <http://www.transport.no>, Downloaded on November 3, 2002

expressways and the second longest road network in the world.<sup>84</sup> The number of buses and coaches sold in China every year is almost three times as many as in Europe.<sup>85</sup>

There are about 121 bus makers and over 350 plants, which produce heavy, medium and light buses. The three biggest are Yaxing-Benz, King Long and Yutong. Most foreign manufacturing companies are JVs in which the foreign partner cannot hold more than 50 per cent of capital.<sup>86</sup> Only 10 per cent are built on the basis of foreign technologies.<sup>87</sup> Looking at the table below the production and sales of buses increased more than three times between 1994 and 2001.

*Table 4-1. Production and sales of large and medium buses*

Year	1994	1995	1996	1997	1998	1999	2000	2001
Production	20585	22627	22895	20217	28913	37143	62374	73720
Sales	20597	22151	22803	20457	28208	36708	62485	73400

*Source; China Auto, March 2002*

In 2001 the bus production growth volume was around 18.2% while the sales growth was 17.5% compared with 2000, which is 5.44-percentage point higher than the average growth speed of automotive industry. In 2002 it is forecasted that 69,700 large and medium-sized buses will be produced which is an increase of 16.9% compared with 2001. According to the same forecast 69,367 buses will be sold which corresponds to a same increase of 16.9%.<sup>88</sup> The high demand for city buses will continue as a result of the bus fleet renewal programme. The better expressways are boosting demand for luxury intercity buses. For instance, the Beijing government plans to spend 12.8 billion Yuan in the next few years to purchase 14,000 environmental-friendly urban public buses to displace the old models.<sup>89</sup>

The strong growth in demand is explained by some other key factors such as robust consumer and business confidence, boosted by strong economy, intense

<sup>84</sup> <http://www.china.org.cn>, Downloaded on November 3, 2002

<sup>85</sup> China Auto, March 2002, p.11

<sup>86</sup> Asian Automotive Industry, August 2002, p. 155

<sup>87</sup> <http://www.ace-europe.org>, Downloaded on November 3, 2002

<sup>88</sup> China Auto, March 2002, p.11

<sup>89</sup> Asian Automotive Industry, August 2002, p.165

price competition and promotional activity, new models launches, and improved traffic management which leads to reduced congestion in big cities.<sup>90</sup>

However, there are many challenges. Over-optimistic projections, and entry by foreign companies has led to chronic overcapacity, low prices and low profitability. In spite of low nominal labour costs, over-manning and low productivity combined with high level of social costs make China a less competitive production location than countries such as the Philippines.<sup>91</sup>

The government has succeeded in completely controlling vehicle imports by restricting the distribution of import permits and by giving a majority of this year's import quota to auto parts, although it had cut tariffs from between 70 – 80 per cent to between 44 and 51 per cent at the beginning of 2002.<sup>92</sup>

#### **4.4.2 Competition**

In order to analysis the competitiveness of the bus industry we have applied Porter's five –forces model.

##### **4.4.2.1 Rivalry**

The bus market in China is highly concentrated on bus makers. Some companies have entered into joint ventures with Japanese and Western manufacturers, particularly in the medium and large bus sectors. For some of these companies it has taken several years to make profits because there is only a limited secondary supply industry. The foreign bus companies have to be much more self-sufficient than those in Europe and North America.<sup>93</sup>

Some larger domestic companies have been active in acquisitions of loss-making provincial assemblers. Intense competition between established manufacturers and higher local content put downward pressure on bus price. In general, Chinese buses are very competitively priced but the structural quality is poor. Durability of some buses is only a few years with the maximum legal life limit of eight years. In the city bus sector most JVs are focusing on chassis

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<sup>90</sup> Asian Automotive Industry, August 2002, p.165

<sup>91</sup> China's Automotive Market, December 1998, p.102

<sup>92</sup> Zhengzheng, G., China Daily, October 21, 2002

<sup>93</sup> The World Bus and Coach Manufacturing Industry, 2001, p. 1-12

and mechanical technology, using locally made bodywork. This results in higher prices than domestic competitors. However, JV manufactures hope that the much higher durability and reliability will win the argument. If it does, the next stage is likely to be a substantial improvement to bodywork structures according to Western standards. Furthermore, there is a growing interest in more accessible vehicles, such as low floor buses.<sup>94</sup>

Today, more attention is paid to quality. Both customers' demand for higher quality and competition between producers have increased. The most important competitors of Volvo Sunwin are King Long, which uses Japanese technology, Chang Zhou Bus Corporation and Beijing Bus Huan Hai. Generally speaking, there is no contact or cooperation between competitors.<sup>95</sup>

It is forecasted that the production-sales ratio for buses will be 99.51% in 2002.<sup>96</sup> This ratio indicates that the production capacity is adequate to meet various domestic demands. However the unused production capacity is too high<sup>97</sup>, which can further affect bus manufacturers to cut prices in order to spread a fixed cost over a greater sales volume.<sup>98</sup> How low the prices will go depends on cost structure of the bus companies. Barriers to exit for such companies are substantial because local protectionism may enforce the use of locally made products with poorer quality but higher cost in order to secure fiscal revenues and prevent unemployment.<sup>99</sup>

#### **4.4.2.2 Threat of Substitutes**

Competition from substitutes is very high because of the customers' price sensitivity and the existence of a great number of substitute products. This means that customers will switch quickly to substitutes in response to price increases for the product. Accordingly demand is very elastic. In terms of city transportation, the main substitutes for bus in China are underground, trolley-bus, taxi and local train.

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<sup>94</sup> The World Bus and Coach Manufacturing Industry, 2001, p. 1-12

<sup>95</sup> Tucunduva, H., Interview

<sup>96</sup> China Auto, March 2002, p.11

<sup>97</sup> China Auto, August 2002, p.24

<sup>98</sup> Grant, 1998, p. 62

<sup>99</sup> Chinese Automotive Market, p. 24

A lack of law framework results in new emerging actors, which copy technology from global players. They are competing in the segments where consumers are less critical about quality and more price sensitive.<sup>100</sup> “Borrowing technology” from global players is a serious threat to MNCs.

#### **4.4.2.3 Threat of Entry**

The bus industry acts as a magnet to other players to establish business in this attractive market. The threat of entry is very high because of the high demand and huge potential to grow. The preferential tax rate of 15%, which the foreign companies enjoy, is an additional reason for JVs to establish their business in China. The nature of JVs, where capital costs are shared between partners, reduces risks to entry the market and aims at encouraging investments.

The government’s long-term outlook to reform the massive and inefficient state companies can result in emerging new actors, which will be more market-oriented and more efficient. Furthermore, the government is adopting a more relaxed stance on approving new production ventures and new model launches that can be an additional reason for emerging new players. The lower tariffs and the higher quotas will lead to an increase in import penetration. However, imports will not make significant inroads into the Chinese market because the major foreign companies have already made significant investments in production facilities.<sup>101</sup>

There are also other significant barriers to entry this bus market. The industry is highly capital intensive and efficiency requires large-scale operation. New entrants can face the risk of drastic underutilization of capacity while they build up sales volumes. Large established companies, such as FAW, King Long and Dongfeng, have a cost advantage over new entrants because they have been active in the market for a long time. Absolute cost advantage of domestic largest companies can be a result of acquisition of low cost sources of raw materials before entering new bus players. The existence of big brands such as King Long and Volvo can also be significant barriers for potential entrants, who will be forced to spend heavily on advertising and promotion to gain a level of brand awareness. Furthermore, new entrants to the assembly sector

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<sup>100</sup> Asian Automotive Industry, August 2002

<sup>101</sup> Asian Automotive Industry Forecast Report, pp.147 ff.

have to pay much attention to component issues before entry. In order to be able to enjoy favourable import tariff rates they have to meet different levels of localization requirements. New JVs have to achieve 40% of the local content within first three years of operation and 60% within five years.<sup>102</sup>

#### **4.4.2.4 Bargaining Power of Buyers**

The customers are the companies or persons that require transport services. Intermediate consumers mainly include governments and public/private transportation companies. The important factors that affect the purchase of buses are quality, price, after sale service and design of the product. Since bus companies have the responsibility for passengers to make trips safe and comfortable, so the quality of buses is the most important factor. Today in China the tickets in the public transport systems are very cheap and ticket prices are still controlled by governments, so the price of buses is also a critical factor when purchasing buses. The city bus is a symbol of one city contributing to the city's image, so design of buses is another essential factor.<sup>103</sup>

During the period of the previous planned economy, public transportation companies were forced by the government's decisions to buy buses from certain bus manufactures, but now those companies are independent on purchasing decision-making under most circumstances. Meanwhile many domestic Chinese manufactures and some bus JVs with foreign investments entry into this market with their improved qualities, lower prices and new designs, which provide customers many buying choices. In addition, more intense price competition in this market, bus industry overcapacity, more frequent new model launches and customers' better knowledge on bus suppliers contributes to the stronger bargaining power of buyers.<sup>104</sup>

Shanghai Bashi Yongda Automobile Sales is a company, which has 12.000 vehicles in operation of which 250 units from Volvo Sunwin. The purchasing value from Volvo Sunwin amounted to 220 million RMB yuan or 2% of the market share. An additional 1,000 vehicles were ordered in September 2002, to

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<sup>102</sup> Asian Automotive Industry Forecast Report, pp.147 ff.

<sup>103</sup> Yu, J., Interview

<sup>104</sup> Ibid

be delivered in 2004. The company's largest customer is Changzhou Iveco Company.<sup>105</sup>

There are many reasons why Shanghai Bashi Yongda has bought the products from Volvo Sunwin. First, the bus of the Volvo Sunwin has a better chassis with larger load capacity, less using costs and longer durability. Secondly, even though the price of Volvo buses is almost twice as high as those of local buses, comparing to local buses whose average durability are 8 years, a Volvo Sunwin bus can be in use up to 12 years. So the total costs for using of Volvo Sunwin bus are similar to costs for using buses of the other local companies. Thirdly, Volvo is a famous brand and Shanghai Bashi Yongda Automobile Sales Co., Ltd believes that it will improve the company's own image by using Volvo buses in internal city traffic.<sup>106</sup>

However, Shanghai Bashi Yongda Automobile Sales Co., Ltd still thinks the price of Volvo buses is too high especially in contrast with the general price downward trend in this industry. In order to be able to supply to the customer, Volvo Sunwin has reduced the unit price by RMB 80.000 yuan (from 880.000 to 800.0000) recently. In order to maintain this largest customer, Volvo Bus also has sourced several components from suppliers appointed by Shanghai Bashi Yongda Automobile Sales. For example it buys passenger seats from Bashi Feng Yong Trading who is appointed by Bashi Yongda. However Shanghai Bashi Fengyong hopes Volvo Sunwin will continue replacing some other suppliers by the complementary (concretely, to replace ZF, the German manufacture of chassis and gearboxes by American Ailixun), instead of trying to make its own component purchasing decisions. Furthermore this company believes the negotiation time or contract time is too long with Sunwin and Volvo Sunwin should make its product development more dynamical.<sup>107</sup> Finally, the delivery time of Volvo Sunwin is much longer than those of other competitors, which results in Bashi Yongda's unsatisfaction. While the other bus assemblers are able to deliver within 45 days, delivery time for Volvo Sunwin Bus Corporation is usually 3-5 months. Today, the customer wants to

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<sup>105</sup> Yu, J., Interview

<sup>106</sup> Ibid

<sup>107</sup> Ibid

get the bus delivered immediately. This is regarded as one of the reasons why Volvo Sunwin loses potential customers.<sup>108</sup>

#### **4.4.2.5 Bargaining Power of Suppliers**

The most prominent characteristic of the current Chinese component industry is fragmentation, low efficiency and economies of scale. There are more than 5,000 companies with 1 million employees in this sector and many produce the same kind of components to supply limited demands. Most components companies produce only one or a few product lines.<sup>109</sup> In contrast some companies sacrifice efficiencies through a full range of activities including casting, forging, stamping, machining, heat treatment and assembly.<sup>110</sup> Local protectionism in many provinces and regions is one of the serious problems resulting in scattered production. The bus maker is often under political pressure from local governments to buy components from suppliers located within the province, which creates a dilemma.<sup>111</sup>

Low quality, low levels of technology and limited or no R&D also characterizes the Chinese component sector.<sup>112</sup> Investments are very low and local content levels have been advancing very slowly. The equipment investment per head has been only about Yuan 30,000, less than 10% of the figure for the industry in developed countries. Today China is able to produce many components, but it still has no capacity to produce some components such as ABS, airbag systems and electronic fuel injection. Furthermore, quality and reliability are still big problems.<sup>113</sup> So the government has prioritised 60 key components trying to improve the quality level of the component production and encourage R&D developments.

In recent years outsourcing has grown with more and more parts supplied by independent component manufacturers. This has created a special relationship between some component suppliers and major assemblers. *So-called "closely-related" suppliers* are those who are either fully or partially owned by the assemblers and they produce only for them. *Loosely related suppliers are*

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<sup>108</sup> Yu, J., Interview

<sup>109</sup> Tucunduva, H., Interview on October 25, 2002

<sup>110</sup> The Automotive Sector of China, p. 109

<sup>111</sup> Ibid

<sup>112</sup> Tucunduva, H., Interview

<sup>113</sup> The Automotive Sector of China, p. 109

independent firms that have signed contracts with assemblers, usually with several clients simultaneously.<sup>114</sup> Most of major assemblers have today realized the need to rely on more *loosely related* suppliers. In general the major assemblers source from two suppliers for each component in order to guarantee efficient supplies when bus production is substantially increased.<sup>115</sup>

Generally speaking, the bargaining power of the assemblers is stronger than that of suppliers' because they can demand the suppliers to deliver any order size at any time, or replace unsatisfactory deliveries at any time. The credit payment is three to four months in the industry but this debt problem has become more serious in recent years because of delays of a few months up to one or two years. Despite these delays, some suppliers have to continue supplying in order not to lose the business.<sup>116</sup>

There are also suppliers who have a dominant position in bargaining with the assemblers as a result of their large customer base. Some of them simply do not take care about some customers who buy smaller quantities (by offering them to buy or cancel their orders). Their "watchword" to "small customers" is: "*take the component or leave it*" refusing to bargain on price.<sup>117</sup>

#### **4.4.3 Summary**

Our analysis has shown that the customer is high quality and price sensitive, brand conscious, putting requirement of JIT delivery and well informed about products and suppliers. On the other hand competition is very intense, due to new entrants, a large number of players, under-capacity in the production, lower import taxes, higher quotas level and finally high exit barriers.

Taking all these features into account, the key success factors for the bus manufacturer in China are high cost efficiency reached through scale-efficient plants, fast adjustment of capacity to production and efficient use of labour. China's bus industry also offers good opportunity to bus manufacturers to differentiate its products. In this segment we believe there is a good opportunity for first mover advantages. Beside the price and product competitiveness, the

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<sup>114</sup> The Automotive Sector of China, p. 117

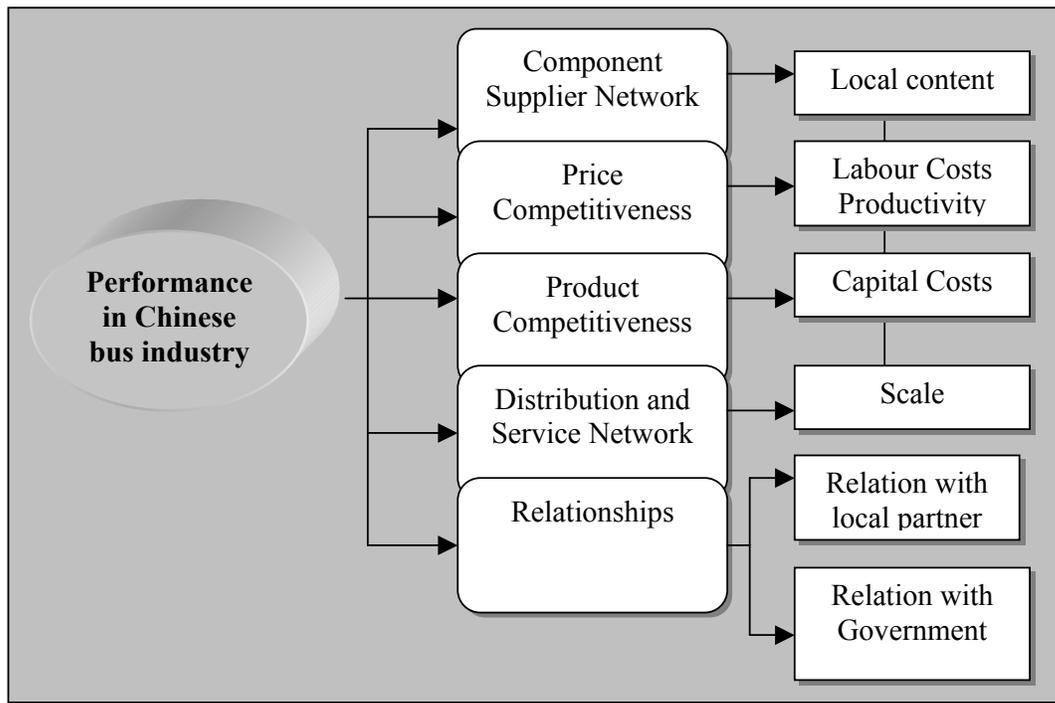
<sup>115</sup> Ibid, p. 109

<sup>116</sup> The Automotive Sector of China, p. 109

<sup>117</sup> Tucunduva, H., Interview

additional success factor is the company's capability to build up an efficient local supply network, effective purchasing strategies and logistic management. For success, good relations with governments at different levels are also of crucial importance. Product strategies of bus manufacturers need to reflect the changing nature of the vehicle market as well as the evolution of government policy.

Figure 4-2. Chinese Automotive Industry: Key Success Factors for the MNC



Source: Own

## 5 INTERNAL SETTINGS

*In this chapter we describe the Purchasing department of Volvo Sunwin, and supplier evaluation management. Furthermore we compare purchasing processes between Volvo Sunwin and VBC. In addition we analyse the company's resources and matching strategy. Finally the chapter is concluded by defining the company's competitive and supply strategy.*

### 5.1 The Purchasing Department of Volvo Sunwin

The purchasing department is responsible for four sub-functions: ordering, negotiating, sourcing and supply chain management.

The costs of purchased goods and services account for 75% of the total costs at Volvo Sunwin. Therefore the purchasing department has an increasingly important role in managing the company's supplier relationships and outsourcing. Managing is needed to make the best use of the resources of suppliers and to use each supplier in the most appropriate way.<sup>118</sup>

The purchasing department has 37 employees and most of them have technical backgrounds. They are divided into four sections: non-automobile parts (NAP), the automobile parts (AP), supply quality assurance (SQA) and material quality assurance (MQA).

#### 5.1.1 Supplier Evaluation Management (SEM)

One of the most important functions of SQA is to evaluate suppliers according to the company's supplier evaluation system. In the process of SEM buyers responsible for contacts with suppliers also participate. SEM includes the collection of the basic information about suppliers such as the product development, its equipment, quality, delivery, and environmental protection etc. The supplier evaluation process started in April 2002 at the same time as the SQA team was created.

The system ranks suppliers in three groups: A, B, and C. SEM grades the suppliers by scores within a range from 0–3 according to the factors mentioned

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<sup>118</sup> Tucunduva, H., Interview

early. Each supplier who has the total score which is higher than 80 is regarded as the excellent or “A” class supplier, with the score between 50 and 80 as good or “B” class supplier and under 50 as the bad or “C” class supplier. SEM performs each year and Volvo Sunwin Corporation gives the training to the suppliers who lack the capabilities to meet the requirements. Frequency of the re-evaluation for “C” supplier is 6 months, “B” supplier 1 year and “A” supplier is 2 years.<sup>119</sup>

### **5.1.2 The Negotiating and Ordering Process**

Usually the agreements with suppliers are contracted on an annual base. First, Volvo Sunwin assesses in its budget how many buses the market demands next year. Before the negotiating process the purchasing department has to define how many parts the company needs and when to produce the product. In addition, buyers give suppliers specification and product requirements. Buyers never tell suppliers the price because they can lose their bargaining power.

When the price is set up, the purchasing department sends the production plan to the suppliers. In general the plan should fix two months quantity and it forecasts per-month quantity. In this way the supplier can organize its production and prepare it to meet Volvo Sunwin’s demand for next two months. For Just-in-time delivery (JIT) it needs a long way to go, because the company has to insure the supplier quality. In Sweden, the supplier of VBC directly put components in the production.<sup>120</sup>

## **5.2 The Purchasing Process in VBC**

In Sweden purchasing cost accounts for 70% of the total cost of VBC in a decentralized organizational structure. There are huge differences between VBC and Volvo Sunwin in the routines of how to manage supply network. In Sweden, this process is more advanced and the planner has better control. SQA and the product development department together manage the supply network very close. The authority of the buyer and the planner of Volvo Sunwin is still unclear. Moreover, the buyer of VBC faces higher education requirements put by company. The purchasing process at VBC includes the teamwork which is

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<sup>119</sup> Gong, X., Interview

<sup>120</sup> Tucunduva, H., Interview

unlike the purchasing process of Volvo Sunwin that is more individual. The mental model of the buyer at “Volvo Sunwin Corporation” has to be changed in the direction to more collective decision-making.<sup>121</sup>

The most important task for Volvo Sunwin is to improve the quality of the purchasing process and the coordination with product development department. Sometimes, the customer directly contacts the product development department requiring the purchase of some auto parts from certain suppliers. The product development department sends the order directly to the production department and the planner without scrutinizing if the supplier is able to meet the customer requirements. In this way the purchasing department is completely ignored as well as SEM. In addition, when the buyer from the purchasing department contacts the supplier to order auto parts, he finds out that the supplier can't meet the customer requirements. In this way whole process goes back in which a lot time is lost.<sup>122</sup>

### ***5.3 The Boundaries of Volvo Sunwin Bus Corporation***

Outsourcing is about “*taking an operation or function traditionally performed in-house and to produce it out to a contract manufacturer or third-party service provider.*”<sup>123</sup> Volvo Sunwin outsources all activities of auto part production to suppliers and the company has no in-house component-producing activity. Such a decision was based on assessing factors such as the company's economic capacity, core competences, supplier capability and corporate relationships. The outcome of the increasing level of outsourcing in the company has been substantial vertical disintegration.<sup>124</sup>

Outsourcing implies that Volvo Sunwin has become increasingly dependent on the resources of its suppliers. The primary driving force for Volvo Sunwin to rely increasingly on outsourcing is to gain access to the resource collections of more specialized suppliers. Outsourcing makes possible full utilization of external suppliers' investments, innovations and specialized professional capabilities that would be prohibitively expensive to duplicate internally. Now the company can concentrate more on improving its core capabilities and

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<sup>121</sup> Shen, L., Interview

<sup>122</sup> Ibid

<sup>123</sup> Gadde & Håkansson 2001, p. 120

<sup>124</sup> Tucunduva, H., Interview

benefit from the increased specialization reaping greater economies of scale. Its reliance on outsourcing increases its flexibility in terms of decreased lock-in-effects, but at the same time this reduces the ownership control. There is also the belief that outsourcing will increase the speed in corporate product development.<sup>125</sup> Such a focus provides the company with two strategic advantages. It may maximize return on internal resource investments by concentrating efforts in the field where the company has already developed an advanced capability. The second advantage refers to the development of the core capability that works as an entry barrier to competitors.<sup>126</sup>

But outsourcing also has some disadvantages such as companies might take conscious decisions to divest resources that could become important in the future. Three problems are notable. First, it is never possible to know what will be “core” in long term because “core” changes over time. A company that has deliberately outsourced its owned competence base for a number years can find it very difficult to redevelop when it is needed again in-house. Second, through specialization, the buying company can lose cross-functional skills. Cross-functional skills mean that new resource combination is sometimes developed in the daily contacts between various corporate functions. On the other side, outsourcing can develop similar inter-functional interaction with the functions in the supplier company. Third, outsourcing leads to loss of control. The lower control is, the higher flexibility is needed. However, the buying company may attain various forms of partial or indirect resource control from its cooperation with suppliers.<sup>127</sup>

## **5.4 Resources**

### **5.4.1 Tangible Resources**

Tangible resources include financial resources and physical resources. The total investment in the JV was 97 million USD with registered capital of 54.22 million USD in 2000. Volvo Buses has renewed its entire product range of city buses in less than four years so that one could conclude that Volvo Sunwin’s capital equipment is relatively new which is an important aspect of the firm’s

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<sup>125</sup> Tucunduva, H., Interview

<sup>126</sup> Gadde& Håkansson, 2001, p. 125

<sup>127</sup> Ibid, p. 125 ff.

cost position. The plan area is 140,000 square meters including a construction area of over 60,000 square meters. Annual production capability is 2,500 city buses and 500 commuter buses as well as chassis.<sup>128</sup> In 2001 total turnover was over 353 million RMB selling 1,070 units.<sup>129</sup> The expected sale in 2002 is 1,500 units.<sup>130</sup>

The location of Volvo Sunwin in Shanghai is of crucial importance for the company to be competitive in the Chinese market.<sup>131</sup> As a trade-, port- and financial centre of China, Shanghai has experienced double-digit growth in the last ten years and it is one of the fastest-growing cities in the country.<sup>132</sup> Shanghai economy grew 10.6% year-on-year during the first three quarters of 2002.<sup>133</sup> The annual income in Shanghai is on average 25,000 RMB which is considerably higher than Chinese income average. Within the Shanghai region the government estimates that about 3 million move to the city to look for work or move out again. The demand for transport is huge and the government imposed measure to restrict the possession of private car in order to reduce the city congestion. The authority prefers public buses to meet this demand for transport starting to impose some environmental regulations under which all vehicles have to comply with the Euro II standard.<sup>134</sup>

#### **5.4.2 Intangible Resources**

Intangible resources include technological resources, reputation and human resources. The product development is focused on the driver's working condition including design of the driver's environment to the construction of the cabin, the vehicle driving characteristics and the choice of brake system.<sup>135</sup> Volvo Sunwin's operations are regulated by extremely high quality and environmental standards. The company is accredited according to the International Standardisation Organization's norms for quality and eco-compatibility, ISO 9001 and ISO 14001.

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<sup>128</sup> Zheng, H., Interview

<sup>129</sup> Jin, S., Interview

<sup>130</sup> Fu, X., Interview

<sup>131</sup> Tucunduva, H., Interview

<sup>132</sup> Swedish Trade Centre, Interview

<sup>133</sup> Shanghai Daily,

<sup>134</sup> [www.ace-europe.org](http://www.ace-europe.org), Downloaded on November 3, 2002

<sup>135</sup> Volvo Group Presentation

Volvo Sunwin invests considerable R&D investments to provide a constant flow of improved and innovative products to satisfy customers' changing needs. Of crucial importance is the technical support that it receives from VBC which has implemented several ambitious measures to renew its product range and enhance the efficiency of the organization during the past few years. VBC's global product range is today one of the broadest and most modern in the bus industry. Volvo Sunwin applies its expertise to create products of superior quality, safety and environmental care for demanding customers in public transport in China.<sup>136</sup>

Volvo Sunwin's market approach is that "customers who choose Volvo should be the most satisfied customers in the market." By creating values for customers, Volvo Sunwin creates values for its shareholders, employees and society.<sup>137</sup> Customers have seen Volvo Sunwin' product as a reliable, durable city bus offering good overall operating. The customers recognized significant benefits of the city buses with a low floor and low step height. They experience Volvo Sunwin' buses as a safe product which offers a safe working environment with a low noise level, comfortable climate and a good view of both instruments and surrounding area.<sup>138</sup>

## *5.5 Capabilities*

### **5.5.1 Value Chain Analysis**

Our second level of analysis is to examine how Volvo Sunwin can create competitive advantages. In order to be able to do that we must look at how resources work together to create capabilities. Therefore, we have used the value chain that distinguishes between the primary activities and support activities.

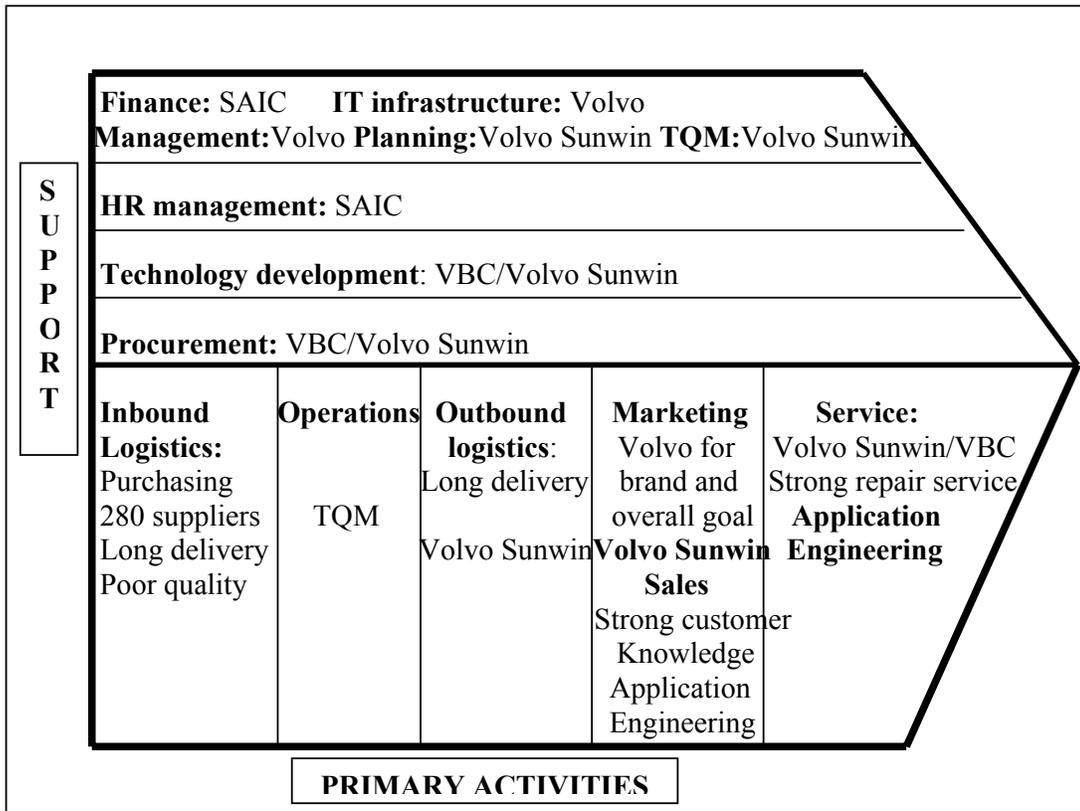
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<sup>136</sup> Tucunduva, H., Interview

<sup>137</sup> Zheng, H, Interview

<sup>138</sup> Fu, X., Interview

Figure 5-1. Value Chain



Source: Kotler (1999) Modified

### 5.5.1.1 Primary Activities

Primary activities include inbound logistics, operations, outbound logistics, marketing and sales and services.

Volvo Sunwin is responsible for order-processing while suppliers are responsible for delivery. The problem is met in terms of finding suppliers, which can offer long-term quality guaranty. The company’s inventory management process makes it possible to manage the right inventory levels of equipments, so adequate supplies are available while the costs of high overstocks are avoided. However, further education and training of staffs in inventory management is needed to improve it.<sup>139</sup>

The production operations are well organized and consist of some production lines depending on if the bus is manufactured with Volvo’s chassis or a locally

<sup>139</sup> Tucunduva, H., Interview

manufactured chassis. The better coordination between the purchasing-, the production- and development department is essential for gaining economics scales.<sup>140</sup>

Volvo is seen as a powerful brand, which has high brand equity. It provides more leverage and synergy to the company in bargaining with the suppliers and customers.<sup>141</sup>

Volvo Sunwin has a centralized sale system and no sales offices outside of Shanghai. Salesmen are well-educated and trained to better understand the product and consumers' needs. Application of engineering is of crucial importance to reach this goal. Marketing promotion is used as the main tool in winning new customers. In this sense face-to-face contacts and public relations have dominant importance.<sup>142</sup>

### **5.5.1.2 Support Activities**

When analysing procurements Volvo Sunwin has well defined procedures that regulate authorities of each employee. However an effective internal information system is in lacking which makes information-flow fragmented. The external information system towards suppliers is also needed in order to improve the information flow between companies.<sup>143</sup>

Efforts of Volvo Sunwin are focussed on developing trust and team work practice among employees. The management applies open-door policy, open-minded approach and training of staffs to do their job well. The employees of Volvo Sunwin favour conditions that the company provides. The company has introduced new rules and directives, which makes easy to transfer and integrate specialized knowledge. All productivity activities involve teams of people undertaking closely coordinated activity. This has brought new organizational routines which are highly appreciated by the employees. One could say that the attitude of purchasing workers is the key factor in maintaining qualitative

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<sup>140</sup> Tucunduva, H., Interview

<sup>141</sup> Fu, X., Interview

<sup>142</sup> Ibid

<sup>143</sup> Tucunduva, H., Interview

relationship with suppliers. The support that Volvo Sunwin obtains from VBC in personal training is significant.<sup>144</sup>

Volvo Sunwin is responsible for product development process cooperating very closely with VBC. In addition, all Volvo's bus models are also available for local bodybuilding by external body builders, in which case they are sold as naked chassis. Work on safety is based on the solid bank of experience and know-how. VBC and Volvo Sunwin also care about the environment through adopting comprehensive approach that encompasses the entire lifecycle of the bus – design, production, use, service, reuse of components and recovery of materials.<sup>145</sup>

Total quality management (TQM) is comprehensive and supported throughout the company, but not yet integrative. Cross-functional teams support Volvo Sunwin TQM, help with quality improvement projects and they are empowered to make changes.<sup>146</sup> Volvo Sunwin applies quality measurement systems and evaluates suppliers according to supplier audits, ratings, and recognition. Since acceptance level for mistakes in the automobile industry is very low the company has protected itself through insuring its business activities.<sup>147</sup>

## ***5.6 Technical Organizational Capabilities***

AN MNC 's capability to change its internal resources in order to adjust the current external institutions is referred to as a firm's technical organisational capability. It concerns the ability for individuals to act in an integrated way in various market environments with the purpose to create competitive advantage.

Volvo Sunwin has demonstrated high flexibility in the production offering both Chinese buses currently produced, and modern buses from the Volvo programme. So far Volvo Sunwin has introduced two bus models in the Chinese market. In the middle of 2001, the first launched buses had Volvo B7R chassis with Chinese bodywork. Recently the company introduced the next low floor B7L model. Using its experience and knowledge Volvo has succeeded to

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<sup>144</sup> Tucunduva, H., Interview

<sup>145</sup> Volvo Buses, Company presentation, Study visit on September 9, 2002.

<sup>146</sup> Lei Shen, Interview

<sup>147</sup> Gong, X., Interview

convince operators of their greater reliability and persuaded them to buy complete the low floor B7 and higher standards of body work. In addition the combination of Volvo chassis and Chinese bodywork helps to keep the price down.<sup>148</sup> Last time Volvo Sunwin reduced the price of the bus by approximately 10%. The company has made efforts to customize their product according to requirements of the customers. For example the engine of 230-horse power will be replaced by 260-horse power next year.<sup>149</sup>

### **5.6.1 Network Organizational Structure**

A good relationship with the Volvo Group is a precondition for success in the Chinese market. In addition, the recently made changes in organizational structure of the purchasing department makes smoother flow of logistic activities and improves communication with suppliers. Before the buyer was responsible for both planning and purchasing but today these functions have been separated. This system maps out purchasing and planning process within the company in a detailed and transparent way. In addition it defines the responsibilities within the company so that each individual is accountable for their work.<sup>150</sup>

### **5.6.2 Network Controls**

The control of the supply network is mainly carried out through buyers' day-to-day management, supplier evaluation process and technical support by SQA.<sup>151</sup> Other ways to control its supply network includes regular / irregular spot visits and a certain extent of database information management.<sup>152</sup>

## ***5.7 Determining Sustainable Competitive Advantages***

According to Barney *“a firm is said to have a sustained competitive advantage when it is implementing a values creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy.”*<sup>153</sup>

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<sup>148</sup> The World Bus and Coach Manufacturing Industry 2001, p.14-7

<sup>149</sup> Tucunduva., Interview

<sup>150</sup> Ibid

<sup>151</sup> Ibid

<sup>152</sup> Questionnaire to buyers of Purchasing department

<sup>153</sup> Jansson, 2002, p. 9

Sustainable strategy is concerned with matching a firm's resources and capabilities to the opportunities that arise in the external environment. In this section we will explore how strong Volvo Sunwin's resources and capabilities are to create a competitive advantage in the environment in which it operates. The discussion will be structured around rarity, durability, transferability and replicability.

Volvo Sunwin product development resources are seen as rare in the Chinese market. VBC's R&D operations generate a stream of new product concepts in close coordination with customers worldwide based on environmental friendliness. Such technological capabilities are not common in China, which makes Volvo Sunwin resources more relevant. Volvo's brand and reputation are very important resources, which have provided the company with credibility and reliability. The increasing pace of technological change is shortening the useful life span of most capital assets so that technological resources cannot be considered as a stable platform on which to base the competitive advantage. Some resources such as finance, machines and employees with standardized skills are mobile and can be acquired by other companies. The management is in particular a very sensitive resource for Volvo Sunwin. For the most part, executive managers in China have brought their knowledge from SAIC. For Volvo Sunwin it is very important to protect the knowledge developed by the company. Some managers, who have left Volvo Sunwin, left away with their specialized knowledge and expertise that will be difficult for the company to replace. In such case the company's competitive advantage will be short lived. In the Chinese market imitation is a frequent way of competitive behaviour. The competitive advantages that derive from the company's layout, physical technology, capabilities and organizational routines can be copied easily with Chinese competitors and they cannot be considered as the platform for the company's competitive advantages in the long run.

### ***5.8 Competitive Strategy***

Our institutional and internal resources analysis clearly identifies a number of different advantages, which Volvo Sunwin Corporation enjoys in comparison with the competitors.

Firstly, it is the global potential attached to Volvo brand. Secondly, it is the product – the heavy bus that offers huge environmental and social benefits to the Chinese society. The value added offers opportunity to differentiate from other competitors. Thirdly, it is the location Shanghai, where a great number of auto parts companies are situated and there is a high demand for metropolitan traffic improvements.

### **5.8.1 Supply Strategy**

The company's supply strategy is simply to replace the suppliers with bad quality with the better ones. Throughout reducing of supply base the company wants to improve the cost efficiency.<sup>154</sup>

#### **5.8.1.1 Multiple Sourcing**

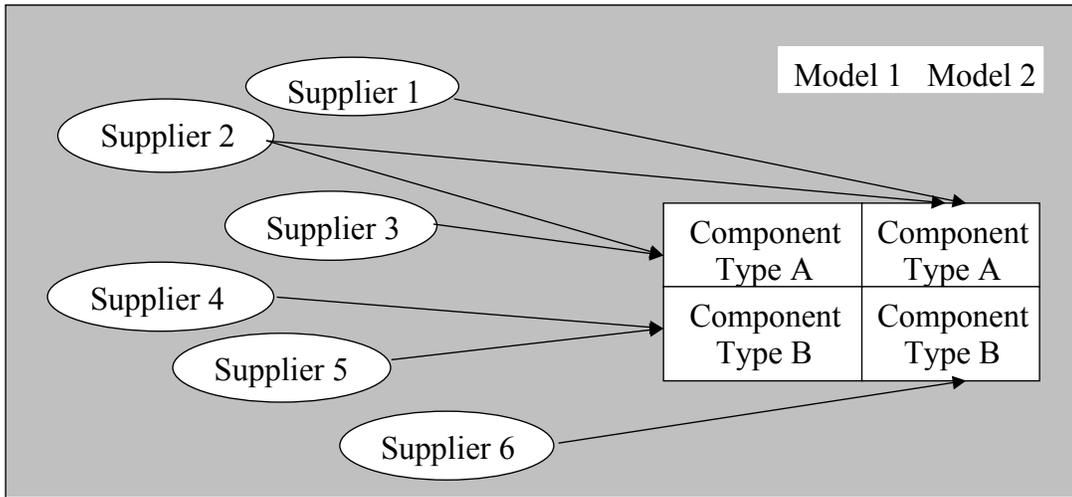
Volvo Sunwin applies multiple sourcing strategies.<sup>155</sup> There are a lot of reasons why the company uses this kind of sourcing strategy. First the company will avoid too strong a dependence on individual suppliers. In this way it can improve reliability in the flow of goods on the supply side. Multiple sourcing also reduces the risks connected with being locked into certain technical solutions which later become outmoded. Second, by stimulating competition among suppliers Volvo Sunwin may be better off in terms of the input they receive. Third, with two suppliers holding stocks, Volvo Sunwin can reduce inventory level. Fourth, giving orders to a number of suppliers increases flexibility in case of large additional call-offs or decreased needs.

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<sup>154</sup> Tucunduva H., Interview

<sup>155</sup> Ibid

Figure 5-2. Multiple Sourcing Strategy



Source: Gadde & Håkansson (2001)



## 6 VOLVO SUNWIN'S SUPPLY NETWORK

*The previous two chapters have helped us to identify the competitive strategy of Volvo Sunwin. This chapter initially analyses Volvo Sunwin's supply base and describes its nine suppliers. Then we analyse the resources and capabilities of suppliers, which results in presenting a competitive strength grid for them. In addition we will describe relationships between Volvo Sunwin and its suppliers.*

A supply network is an interconnection of organizations which relate to each other through upstream and downstream linkages between the different processes and activities that produce values in the form of products and services to the ultimate consumer.<sup>156</sup>

### 6.1 Supply Base of Volvo Sunwin

Since Volvo Sunwin was established in 2000, the company has established business relationships with a large number of suppliers in China, including some suppliers who have no production, acting as distributors or agencies. By establishing relationships with domestic companies Volvo Sunwin met the government's requirement for 40% local content.<sup>157</sup> There are a lot of reasons why Volvo Sunwin has a large supply base. First, by establishing JV the company has inherited many suppliers of SAIC. Second, the large supply base is also a result of the company's outsourcing supply policy which has led to the fact that Volvo Sunwin has increasingly been dependent on resources and capabilities of suppliers. Third, a limited production capacity of the company and different requirements of customers have forced Volvo Sunwin to rely on resources and capabilities of specific suppliers. Finally, the large supply base has made it possible for the company to play suppliers off against each other. This means it has created the advantages through having competing suppliers. Some of the supply companies are also suppliers to Volvo Silver, VBC second JV in Xi'an.<sup>158</sup>

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<sup>156</sup> Slack, N., & Lewis, M., 2002, p.181

<sup>157</sup> Tucunduva H., Interview

<sup>158</sup> Interviews with different market bus players

Figure 6-1 shows the supply network of Volvo Sunwin. The company's production system is entirely based on outsourcing too many suppliers. Suppliers produce specific components in-house or outsource them to second tier suppliers. First-tier suppliers are considered sub-contractors rather than "production partners." Suppliers manufacture both individual components and complete units such as seats, gear boxes and frameworks. Major components such as gear-boxes, glasses and tires etc are provided by not less than 20 suppliers.<sup>159</sup> Delivery time is on average 18 days.<sup>160</sup> In addition they have also standardized their platforms across their constituent divisions. Many suppliers also supply the company's competitors. This can be one reason why neither the company nor competitors develop or manufacture any of their innovative products in these plants. Many customers buy not only from Volvo Sunwin, but also from its competitors. For example, Shanghai Bashi Yongda Automobile Sales, the largest customer of the company, also buys from Changzhou Iviq Company, King Long, Wuxi Taihu Bus Corporation, Anhui Kaishibao, Hefei Xiandai and Nanjing Jinling Bus Corporation etc.<sup>161</sup>

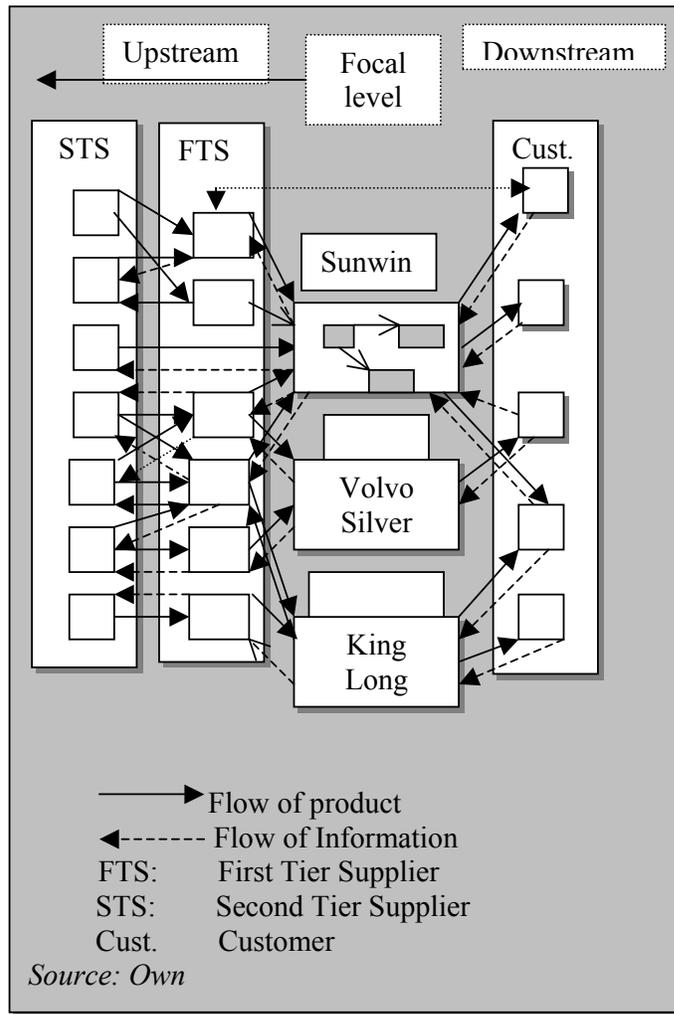
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<sup>159</sup> Supply data-base of Volvo Sunwin

<sup>160</sup> Ibid

<sup>161</sup> Yu J., Interview October 21, 2002

Figure 6-1. Supply network of Volvo Sunwin



Many suppliers are qualified to produce the same components such as tyre, rubbers products, framework, engine, battery, gear-box, fastener, water tank etc. The reason for this supply policy is to guarantee efficient supplies when the bus production is substantially increased. One could conclude that these suppliers are rather used to balance demand and supply in various phases of the business cycle. On the other side there are single suppliers in production of such components as electric road labels, acoustic system, LCD, milometer, ring-cover etc. Most of domestic suppliers are state-owned companies. However there are also a number of private and collectively owned companies as well as JVs. Among the 9 interviewed suppliers, 5 are domestic Chinese

companies, while the other 4 are JVs.<sup>162</sup> The table below illustrates the crucial role played by the main suppliers of Volvo Sunwin for the period between January and August of 2002.

*Table 6-1. The 16 Largest Local Suppliers of Volvo Sunwin*

Suppliers	Comodity	Purchase Value Million RMB	Rank
SHANGHAI KANGZI trade Ltd. Thermokin	LENGWANG air conditioning unit	4.7	4
Auto Industry import&export	Electrical air condoning unit	2.44	9
SONGZHI A/C	SONGZHI air conditioning unit	4.05	5
TIANSHUN industry and trade Ltd.	NC CITYBUS air conditioning unit	1.06	16
Yirunhang Traffic Equipment	French floor leather	1.18	13
HeBei XingHua Fibreglass Co.	Fibreglass	1.24	11
Beijing BODE traffic equipment	Bus door integration	1.36	10
TAILISI business Ltd.	Glass cement	1.13	15
Bus Fittings Manufactory	Framework	7.25	1
Shanghai Xingwo Bus Fittings	Framework, plate integration of compressor	3.61	7
SHANGHAI bus tyre Ltd.	Tyre	1.16	14
Shanghai Dongfeng Diesel Engine	Engine	5.73	3
YUCHAI machine stock Ltd.	Engine	3.04	8
ZF Transmission Technology	S6-85 gear-box	6.63	2
Xiangfan Axle	EQ153 front and rear bridge	3.99	6
Shanghai Bus Seat	Integration of front and rear parts,seats	1.21	12
Total		49.77	
Per cent of Volvo Sunwin turnover		67%	

<sup>162</sup> Interviews with Volvo Sunwin's suppliers between October 14 and 24

The 16 largest suppliers account for 67% of the total purchase value. The criterion for choice of this group of suppliers is made according to purchase value of each supplier higher than 1 million RMB. Shanghai Bus Fitting Manufactory is the biggest supplier which accounts for 9.8 % of total purchase value of Volvo Sunwin.

The table below indicates how much a specific component group accounts for the total purchase value of Volvo Sunwin. Framework stands for 14.7% of total costs of the company, “engines” for 11.8%, gear-boxes for 10.3% etc.

*Table 6-2. The proportion of Volvo Sunwin Component Costs*

Components	Gear Box	Glasses	Fibre Glass	Air compressor Machine	Heater System	Seats
Purchase value Million RMB	7.64	1.82	1.34	0.03	0.1	1.41
Number of suppliers	4	9	2	1	2	5
Per cent of purchase value	10.3	2.5	1.2	0.04	1.4	1.9

Components	Floor Cover	Painting (Body)	Lamps (Head, mark and rear)	Wiper System	Tires
Purchase value Million RMB	0.40	0.56	1.26	0.16	1.93
Number of suppliers	2	2	8	2	4
Per cent of purchase value	0.5	0.8	1.7	0.2	2.6

Components	Tires	Wheels	Fuel Tank	Framework	Engines
Purchase value Million RMB	1.93	0.25	0.03	10.86	8.77
Number of suppliers	4	2	1	4	5
Per cent of purchase value	2.6	0.3	0.05	14.7	11.9

It is noteworthy to mention that Volvo Sunwin and its suppliers tend to be located closely to each other, which indicates the emergence of the large industrial condominium described in the introduction. The closeness to suppliers provides a good opportunity to reduce transport costs and gain economies of scale. When investigating the geographical location of suppliers, 161 of the suppliers are located in the Shanghai region, which represents 67% of the total supply base. Other important locations for Volvo's suppliers are Jiangsu and Zhejiang provinces with 74 suppliers, accounting for 17% of Volvo's local purchase value. The remaining 45 suppliers are located in other parts of China, basically in Beijing, Xian, Chongqing city and Fujian, Shandong, Guangdong province, together only representing about 16% of local purchases.<sup>163</sup> These figures seem to indicate a tendency for Volvo Sunwin to purchase the main part of their components from suppliers nearer the assembly since the production of these components regularly need face-to-face contacts between the suppliers and Volvo Sunwin.

The large size of the supply base also implies the large costs of handling. Some of the costs are a function of the number of vendors rather than volume of the business. Prospecting for potential suppliers, tendering procedures and supplier evaluation are resources demanding.<sup>164</sup> Therefore one could say that consolidation of the supply base has today been a strong driving force to reduce

<sup>163</sup> Supply data-base of Volvo Sunwin

<sup>164</sup> Gadde,L.,E., p.158

the number of suppliers. The consolidation should bring greater leverage, flexibility and cost savings. On the other hand a consolidated supply base will make easier for the company to manage its suppliers and reduce their contact work.

## **6.2 Interviewed Suppliers**

This section will give a general introduction for each chosen supplier as a foundation for our later description and analysis.

### **6.2.1 Shanghai Aojin Fibreglass Products**

Established in 1993 as a joint venture the company produces sanitary products and auto parts, such as fiberglass. Sanitary products account for 70-75% of the sales turnover while auto parts account for 25-30% of turnover. The American investor has 95% of the shares while its Chinese counterpart owns 5% of the shares. Shanghai Aojin Fiberglass Products has four production factories, one of which produces fiberglass and auto body parts. Turnover in 2001 was 1billion RMB.<sup>165</sup>

### **6.2.2 Shanghai Bende Tire**

Shanghai Bende Tire is the dealer of an American owned company called Bandag, which repairs used tires for trucks, buses and special vehicle. Bandaq started business in Shanghai in 1997 via this dealer. Besides this dealer in Shanghai, Bende has further 10 dealers over the whole China. Meanwhile, Shanghai Bende Tire is also the sole agent of Japanese Bridgestone in Shanghai area, which deals with distribution of the new tires. Bridgestone has a manufacture plant in Liaoning province of northeast China as a joint venture with a Chinese partner. The components are imported from Japan. In 2001 the turnover was 40 million RMB.<sup>166</sup>

### **6.2.3 Shanghai Shijia Dope**

Shanghai Shijia Dope was founded in 1994 as a privately owned company. The company deals with painting cars, buses, trucks and other products out of automobile industry. Total sale in 2001 was 10 million RMB.<sup>167</sup>

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<sup>165</sup> Lei Ji, Interview

<sup>166</sup> Qin, L., Interview

<sup>167</sup> Fan, L, Interview

### **6.2.4 Shanghai No. 1 Automobile Gear Company**

Shanghai no.1 Automobile Gear Company is a stock enterprise held by Shanghai automotive which belongs to Shanghai Automotive Industry Group. It was founded in 1986 and it mainly produces gear-boxes and shafts. The company is 92.2% owned by state and 7.8% collectively owned. In 1999 the company started to produce a new SH804 tractor transmission. Nowadays, it has been engaged in the development of the coach transmission assemblies. 77 kinds of 19 series gear-boxes are exported. The products include light-duty transmission assembly, Shanghai 50 series tractor transmission assembly, transmission part of Santana cars and Jinbei light bus as well as various engine gears<sup>168</sup>. Fixed assets are 120 million RMB and the company is ranked among the “500 most powerful enterprises” in Shanghai. In 2001 the turnover was 1.5 billion RMB.<sup>169</sup>

### **6.2.5 Qi Chi Heavy-Duty Auto Parts**

Chongqing Qijiang Gear & Transmission is a state-owned company founded in 1928. Its second name is Qijiang Gear Works. The company deals with maintenance of auto parts such as gearboxes and after-sales services and manufactures heavy-duty trucks transmissions. Qijiang heavy-duty auto parts is a part of Chongqing Qijiang Gear & Transmission company. It is the Shanghai Service Station of Chongqing Qijiang Gear & Transmission. The manufacturing plant is located in Chongqing city in the southwest of China. In the very beginning the company mainly produced components for USA companies. Today the advantages of its products are perfect construction, advanced performance, perfect suitability, flexible operation, good reliability and long durability. Those products are also applicable to trucks with an engine torque of 700 – 1250 Nm and to various kinds of engineering machinery. They are modified according to customers’ requirements<sup>170</sup>. The turnover in 2001 was 200 million RMB.<sup>171</sup>

### **6.2.6 Bashi Feng Yong Trading**

Bashi Feng Yong Trading, which was established in 2001, is a subsidiary of Shanghai Bashi Yongda Automobile Sales. The products are manufactured in

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<sup>168</sup> Hua, Q., Interview

<sup>169</sup> Catalogue 2000 of Shanghai No.1 Automobile Gear Factory

<sup>170</sup> Gao, J., Interview

<sup>171</sup> Ibid

Yuyao city of Zhejiang province, where the national plastic fair is held every year. This is a state-owned company listed on stock exchange market. It sells bus seats to both inter-city bus and inner city bus customers. Turnover in 2001 was 2 million RMB.<sup>172</sup>

### **6.2.7 Hella Shanghai General Electronics (HSE)**

HSE was founded in June 2000 as a joint venture between German Hella KG Hueck & Co. LTD, a leading supplier of lighting and electronic products for automobile industry worldwide, and Chinese Shanghai General Electronics Group Co., Ltd, one of the “top 100” of electronic product markers in China.<sup>173</sup> Both investors hold half-half of the shares. Registered capital of HSE amounts to 96 million RMB and the investments totals 170 million RMB.<sup>174</sup> HSE is engaged in producing and selling automotive lighting as well as electronic products, such as climate control system, body electronics, driving system, headlamp cleaning system etc. The turnover in 2001 was about 700 million RMB while in 2002 it is expected to reach 1.3 billion RMB.<sup>175</sup>

### **6.2.8 Shanghai Shooting Star Wheel Rim Works**

Shanghai Shooting Star Wheel Rim Works belongs to Shanghai Automotive Forging Works. It is a member of Shanghai Automotive Industry Group. It was established in 1958 and rebuilt in 1993. The company was one of the earliest specialized manufacturers who produced automotive components and spare parts in China. It is 53 percent owned by state and 47 per cent collectively owned<sup>176</sup>. Fixed assets amounts to RMB 36 million. The company has very broad range of products (50) for trucks, tractors, agriculture trailer, busses, and different construction vehicles. The company exports the products to seven countries such as Japan, Southeast Asian countries, South Africa and Yugoslavia etc. The turnover in 2001 was 75 million RMB.<sup>177</sup>

### **6.2.9 Shanghai LKW Transparts**

Shanghai LKW Transparts was founded in 1999 as a private-owned company. The company is a trade agent of the French Ger Flor Company, which provides

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<sup>172</sup> Zeng W., Interview

<sup>173</sup> Li Q., Interview

<sup>174</sup> Catalogue of Hella Shanghai General Electronics

<sup>175</sup> Li Q., Interview

<sup>176</sup> Wu Z., Interview

<sup>177</sup> Catalogue of Shooting Star Wheel Rim Works

PVC floor leathers/covers to public transport companies. Ger Floor Company produces PVC floor leathers in France from where the products are transported to Hongkong and then to Shanghai. The turnover in 2001 was 1.5 million RMB.<sup>178</sup>

### **6.3 Supplier's Resources and Capabilities<sup>179</sup>**

#### **6.3.1 Primary Activities**

##### **6.3.1.1 Inbound Logistics**

Volvo Sunwin's suppliers have a large number of sub-suppliers. The number varies from 1 to 60 sub-suppliers. In general the suppliers with many sub-suppliers are at advantage since they are not dependent on any single supplier or exposed to price fluctuations because the products in which they purchase from sub-suppliers are easily available from other sources. From the aspect of input costs, the companies purchase their inputs mainly locally. This considerably reduces the transportation costs. The majority is domestic companies but there are also JVs. One of Shanghai no.1 Automobile Gear Company's suppliers is a JV between Japanese Tangshan Gear Factory and Shanghai Wanjin Forging Corporation. Shanghai Shooting Star Wheel Rim Works applies the supplier evaluation process before purchasing decision.

The suppliers always perform income inspection control according to design specification, sample test or different standards before starting production process. Many companies keep products in storage. Shanghai Shijia keeps 1,000 kg raw materials which is enough for the paint of 80 vehicles. The storage of Shanghai no.1 Auto Gear amounts between 300-500 products, standardized for all customers. Many suppliers adapt their storage to annual and monthly production plans that they receive from assemblers.

##### **6.3.1.2 Operations**

Some of Volvo Sunwin's suppliers such as Shanghai Shooting Star Wheel Rim Works, Hella and Shanghai No.1 Auto Gear Company show strength in the broad range of products that they produce for the automotive industry.

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<sup>178</sup> Haoping, Z., Interview

<sup>179</sup> See Appendix 4

Headlights for Volvo Sunwin bus are also not produced in China but Hella imports them from Germany.

The strategies of Hella, Shanghai Bende, Shanghai Shijia, Shanghai Aojin and Shanghai LKW are based on good product quality. They attempt to gain new market shares through product differentiating. The companies face significant competition from domestic competitors that offer products with lower quality and lower price. Some of the suppliers are planning to introduce new equipments, technology, and building up new facilities in order to meet the growth of the customers' demands. For example Shanghai Shijia has recently doubled its production capacity by building up a new workshop.

### **6.3.1.3 Outbound logistics**

Delivery time depends on the ordered quantity and the location of the customer. Production proximity to assemblers in Shanghai is definitively one advantage. Some suppliers such as Shanghai LKW and Hella can provide JIT delivery for their clients. Hella has established very good relationships with Volkswagen and Ford. For these companies, Hella has provided JIT delivery. Delivery time varies between suppliers within 3 days and 50 days. In average the delivery time for auto parts is 15 days. Usually the suppliers are responsible for transport. Assemblers meet considerable uncertainty, due to long delivery time.

### **6.3.1.4 Marketing and Sales**

Direct marketing is the most important tool to sell products. The companies do not pay great attention to reach customers through advertisements due to the character of this industry. Shanghai LKW never uses newspaper to advertise their products. The suppliers believe that the more important thing is to take part in events managements (exhibitions, trade fairs, open houses), and visit potential or existing customers. Relationships with people within this automobile industry are of crucial importance. Shanghai Ba-shi Feng Yong Trading Co., Ltd. uses "*follow up*" marketing strategy. That means when Shanghai Bashi Yongda Company, which is the largest customer of Volvo Sunwin, wants to buy buses from an assembler, Shanghai Ba-shi Feng Yong Trading will supply seats to the buyer. Additionally the companies have realized the importance of brand image and they are developing locally well-known trademarks.

In general the companies also supply auto parts to competitors of Volvo Sunwin as well as other companies operating within the automotive industry such as VW, Qi Cherry, GM, Valeo, Ford, Fiat, King Long etc. Volvo Sunwin is one of the most important customers for Shanghai Shijia (20% of turnover), Ba-shi Feng Yong (10% of turnover) and Shanghai LKW (33% of turnover). Shanghai LKW is increasingly dependent on a relatively small customer base. A very strong customer base is identified in Hella, Shanghai Aojin and Shanghai no.1 Auto Gear.

### **6.3.1.5 Services**

Service includes consulting, financing, repair, spare parts availability, and re-sale. None of the interviewed companies have well developed after sales service network. Departments responsible for after sales services are located at the same place as the companies' manufacture plants. A very small number of companies has after sales offices outside Shanghai.

All companies give quality guarantee to their customers. For example, Shanghai Shijia provides quality guarantee for a period of 8 years. Ba-shi Feng Yong's guarantee is valid for a period of 2.5 years. The companies can respond to the customers' complaints within one day.

### **6.3.2 Support Activities**

#### **6.3.2.1 Procurement**

Some suppliers, such as Shanghai Shija, HAS and Shanghai Bende, import raw material abroad from Germany, Netherlands, France and the USA. Products or material imported from abroad are usually transported by sea which take 2-3 months. The companies are also able to provide transport by air on the assumption that the customer covers costs. Due to China's access to WTO, import tariffs have been significantly reduced. For example, import tariffs on Hella's products have decreased from 18% to 14% between 2002 and 2001. Shanghai LKW has also enjoyed the reduction of import tariffs from 12% to 11%. Reduced import tariffs on Shanghai Shija's products are now about 40%.<sup>180</sup>

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<sup>180</sup> Different interviews with bus market players in China

The company usually has few contacts with sub-suppliers, but there are exceptions such as between Volvo Sunwin and French Ger Company, a sub-supplier of Shanghai LKW. Sometimes, the contact with French Ger Company is kept via HQ in Gothenburg, Sweden.<sup>181</sup> Zhe Jiang YuYao Company, which is a supplier of Ba-shi Feng Yong, cannot sell the bus seats directly to customers but via its trade agency. According to the contract with Bashi Feng Yong, this company is obligated every year to reduce prices of products.

### **6.3.2.2 Technology Development**

Usually Chinese state-owned companies are at a disadvantage when analysing technology. They have domestically produced technology which is uncompetitive compared to the technology produced in developed countries. Therefore they increase their efforts to find relevant foreign investors in order to meet fierce foreign competition in the market. They also meet requirements from the government to use such technology that will be environment- and health friendly.

Other suppliers such as Hella, Bende, Shanghai LKW, and Shanghai Aoijin, Shanghai Shijia use German, American, French and Australian technologies which give them significant economies of scale.

### **6.3.2.3 Human Resource Management**

The companies with the large number of employees have an HR department that is responsible for HR management. Furthermore the supply companies employ between 10 and 4,000 workers. A great majority of employees have a technical background. Personal policies include employee training and support. The wage varies between companies and in foreign companies it is in average about 1,000 RMB for a worker and 4,000 RMB for managers.<sup>182</sup>

### **6.3.2.4 Firm Infrastructure**

A great majority of the companies have quality inspection departments that are responsible for quality management. Almost all suppliers have different standard certifications such as ISO 9000, ISO 9001, ISO 9002, ISO 717/2, DIN, QSE 9001 and VDA except Ba-shi Feng Yong Trading Company. In

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<sup>181</sup> Zhang J., Interview

<sup>182</sup> Qin, L., Interview

general the quality inspection is performed before, under and after production according to test records and sample tests. For example, the quality inspection process of Shanghai Bende concerns 1-2 tyres per bunch. Its junk products account for 1.4% while in Shanghai Aojin it amounts to 1%. Shanghai No.1 Auto Gear has introduced total quality management (TQM) and uses products per million (PPM) for control of quality. PPM for products of VW is less than 300, PPM for products of SN Holland is 2,000 and it is 0 for products of Volvo Sunwin.<sup>183</sup> The companies with good financial resources have a decisive advantage because they can pursue strategies not available to smaller companies.

There is huge heterogeneity when analysing the suppliers of Volvo Sunwin. They differ considerably from each other with regards to their relevant assets, competences and turnovers.

### **6.3.3 Competitiveness of Suppliers**

In order to summarize the position of the suppliers with respect to assets and competencies we use the competitive strength grid. The comparison is done in relation to each component industry average. Hella Company has many advantages such as product line, product quality, and delivery time.

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<sup>183</sup> Hua, Q., Interview

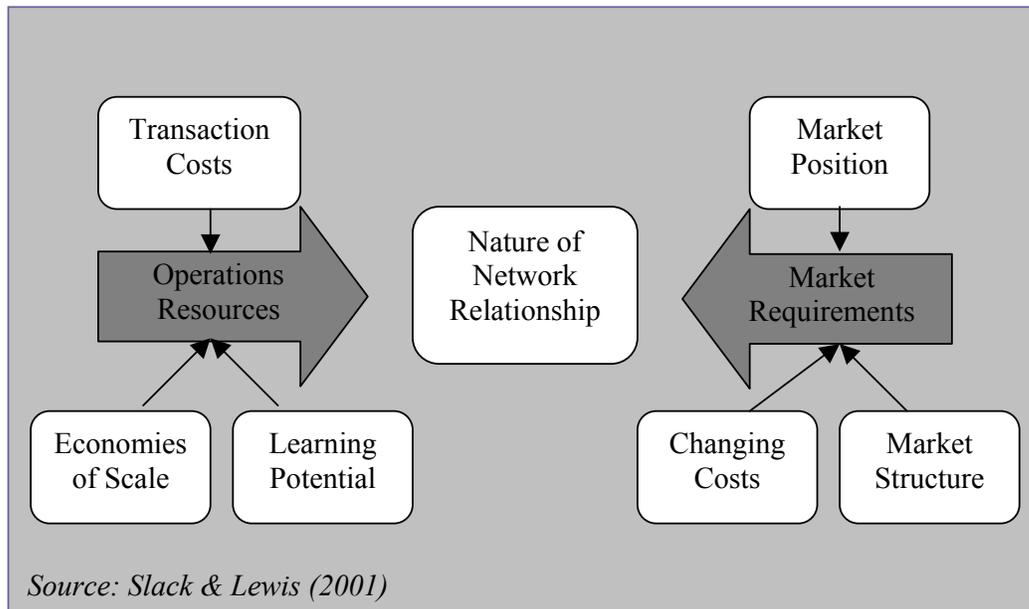
Figure 6-2. Competitive Strength Grid for Volvo Sunwin's Suppliers



## 6.4 Description of Volvo Sunwin-Supplier Relationships

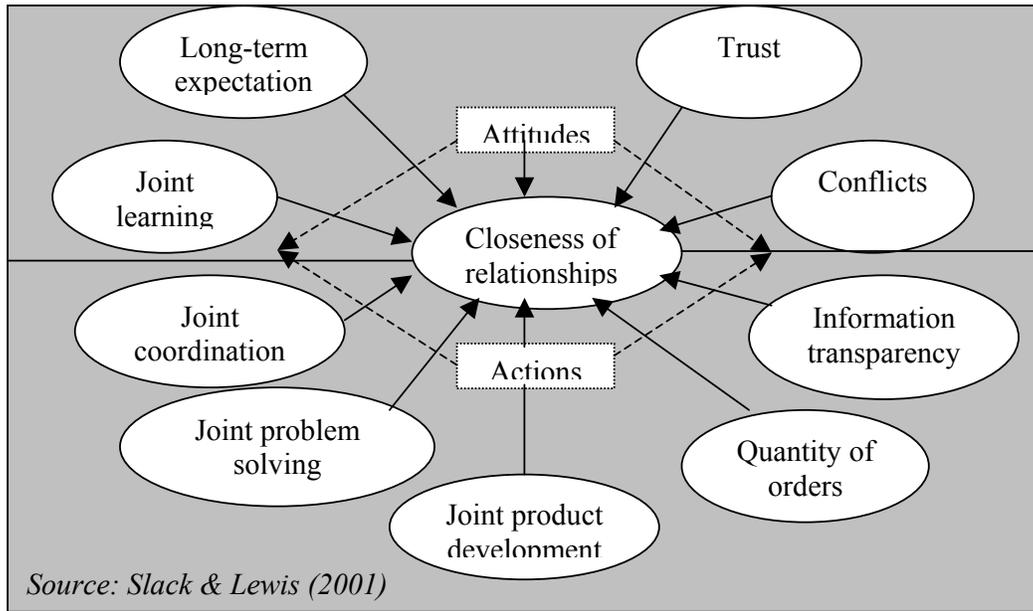
There are some factors that influence the decision of the company as to what form of relationships to develop towards suppliers. These factors are illustrated in figure below.

*Figure 6-3. Factors Influencing the Nature of Volvo Sunwin Supply Network Relationships*



This section will portray the relationships between Volvo Sunwin and the nine interviewed suppliers. The description of relationships between the case company and its suppliers will indicate their cooperation in terms of contact, conflicts, technology transfer, information exchange etc. The figure below shows the main elements of our analysis. The elements are divided into two groups depending on actors' attitudes and actions.

Figure 6-4. Elements of Partnership Relationships



#### 6.4.1 Joint Learning

Joint learning is defined as a kind of attitude on mutual learning between two companies.<sup>184</sup> Volvo Sunwin has selected some suppliers on the basis of their contribution beyond what Volvo Sunwin can do itself. The reasons for this are that they have expertise, experience and technical advantage which Volvo Sunwin finds valuable. In this way the company can learn much about the application of whatever is supplied. For example, between Volvo Sunwin and its floor cover supplier-Shanghai LKW Transparts there is a common joint training program.<sup>185</sup>

On three occasions engineers from LKW side came to Volvo Sunwin for the technical training. However, there are no such joint learning activities between Volvo Sunwin and other suppliers.

#### 6.4.2 Trust

Generally speaking, the trust level between Volvo Sunwin and its suppliers is high. The trust from the supplier side can be regarded as very high. Volvo Sunwin enjoys trust from almost all suppliers, such as Shanghai Bende Tire,

<sup>184</sup> Slack, N., & Lewis, M., 2001

<sup>185</sup> Zhang, H., Interview

Shanghai Shijia Dope etc. Even if sometimes the company has delayed its payment to certain companies, suppliers still think it is not a serious issue.

On the other hand, Volvo Sunwin has different levels of trust towards different suppliers, which play an important role in determining the scope and extent of each customer-supplier relationship. The company's reliance on suppliers is more and less seen as calculative trust.<sup>186</sup>

### **6.4.3 Information Transparency**

An open and efficient information exchange system is a key element in customer-supplier relationships. Such a system is lacking in relationships between Volvo Sunwin and its suppliers which can lead to a fragmentation of information. A supply database of Volvo Sunwin is still under construction and Electronic Information Exchange system has not been planned in a short term. An information exchange system has already been implemented between VW, Ford and their suppliers such as HSE and Shanghai Shooting Star Wheel Rim Works who are also the suppliers of Volvo Sunwin. The company lacks much information about its suppliers to complete its supply base. Information is mainly exchanged through more traditional ways such as fax, telephone and face-to-face meeting. Information-exchange takes different forms such as operation analysis meetings with suppliers that take part twice per year, information meetings, seminars, conferences and written information exchange about new products. Excepting companies listed on stock markets other companies do not report their annual financial result.<sup>187</sup>

### **6.4.4 Joint Problem Solving**

Volvo Sunwin has two specialized sections related to joint problem solving with suppliers. As we have mentioned before, one is Supply Quality Assurance (SQA), which is mainly in charge of solving problems together with suppliers on the quality matters. The second section is Material Quality Assurance section (MQA), which is responsible for inspecting delivered auto parts by the supplier and for identifying potential quality problems.

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<sup>186</sup> Slack, N., & Lewis, M., 2001

<sup>187</sup> Qiang, H., Interview

Joint problem solving activity is common in the cooperation between Volvo Sunwin and its suppliers. For example, the company sent engineers to Shooting Star Wheel Rim Works in order to help them solve product control problem. Those engineers provided more advanced and practical measures to inspect the products quality.

#### **6.4.5 Product Development Cooperation**

Product development cooperation activities take place between Volvo Sunwin and some suppliers. However this is at the very beginning stage of cooperation. The Purchasing department seldom takes part in this process. The two interviewed suppliers such as Shanghai Aojin Fibreglass Products and Shanghai LKW Transports have cooperated with Volvo Sunwin in the product development while other suppliers have not been involved.

#### **6.4.6 Joint Coordination of Activities**

Coordination is particularly important for just-in-time delivery. Some interviewed suppliers complain of lacking Volvo Sunwin's coordination actions. For example, some suppliers think the company frequently changes its production plan, which brings them troubles when delivering goods. Sometimes products were sent back to the supplier because there was no storage. This is a result of a lack of coordination among production department, purchasing department and suppliers.

#### **6.4.7 Conflicts**

Generally speaking the relationships between Volvo Sunwin and its suppliers are good without big conflicts. Suppliers try to meet the requirements from Volvo Sunwin. The interest conflicts are common and they concern price, quality and delivery time. They are especially evident in the process of negotiations between companies. Volvo Sunwin puts great pressure on some suppliers to further reduce prices, increase quality and reduce delivery time. Many interviewed suppliers believe that they can additionally decrease the price. For instance, Shanghai Bende Tire has taken seriously the requirements of the company in order to reduce its price.<sup>188</sup>

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<sup>188</sup> Qin, L., Interview

### 6.4.8 Long-Term Expectations

Bashi Group Company plans to provide the seats for the long distance buses.<sup>189</sup> Shanghai Shooting Star Wheel Rim Works often meets requirements by Volvo Sunwin to improve quality and technology and decrease costs. In other words their efforts are directed to the product quality improvement. On the other side Shanghai Bende Tire does meet a requirement to reduce price. This company plans to extend its capacity by building a new plant. It also believes that they have already reached a good product quality level. Qi-Chi Heavy Duty Auto Parts and Shanghai Star Wheel have announced plans to run business with foreign companies in order to improve its technological capabilities.<sup>190</sup> Shanghai Hella Corporation expects more cooperation and a higher level of involvement relationships, because the company can offer good product quality according to Volvo Sunwin's needs. Volvo Sunwin Corporation is the company of strategic importance for Shanghai LKW Transparts. Volvo Sunwin is regarded as a company with special status.<sup>191</sup> All suppliers expect that relationships with the company will continue and improve.

### 6.4.9 Quantity of Orders

The relationship in terms of quantity of orders should be regarded as a part of all relationships which Volvo Sunwin has within supply network. In order to answer this question we used the supply base of the company with all information registered from January to August in 2002. Supply base consists of all relevant data such as the quantity of orders, the quantity of bought auto parts and purchase value of each supplier. For this kind of analysis we use data that reflect inter-firm contacts in terms of the number of orders.

The figure below identifies different types of supply network relationships which are positioned in terms of their implied resource scope and market relationships. According to the figure there are two kinds of *market relationships* such as transactional or arm's length relationship characterized by involvement of many suppliers and close market relationship characterized by involvement of few suppliers. Closeness between Volvo Sunwin and suppliers is defined in terms of the quantity of orders. The figure also identifies three

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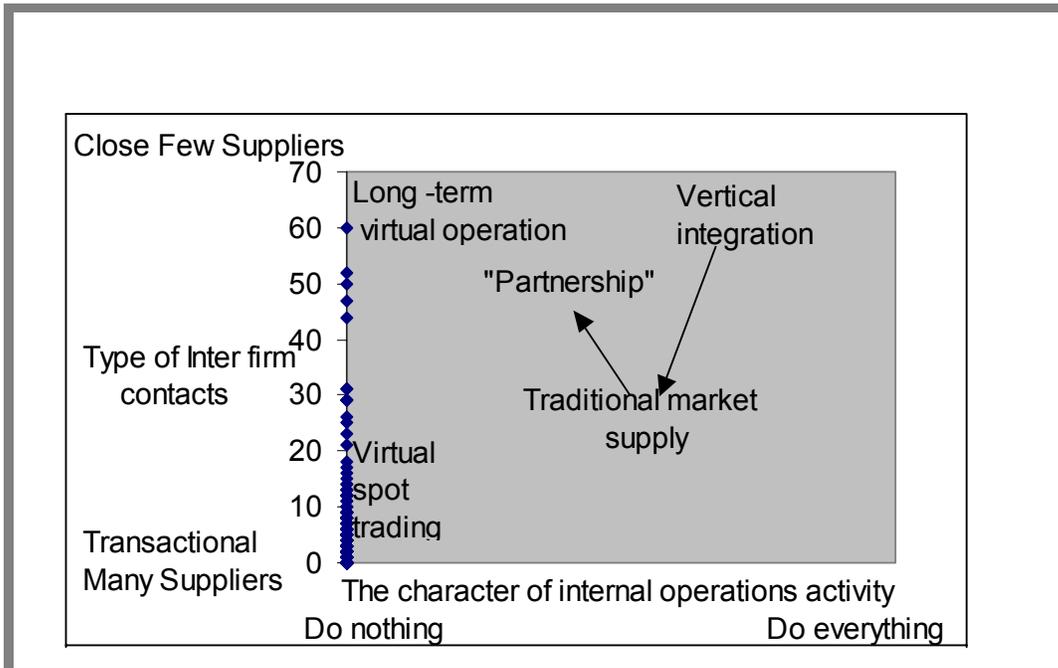
<sup>189</sup> Zeng, W., Interview

<sup>190</sup> Ping, Z., W., Interview

<sup>191</sup> Zhang, H., Interview

different *supply network relationships*: vertical integration, traditional market supply and partnership supply relationships.

Figure 6-5. Types of supply relationships between principal company and its suppliers



Source: Supply base of Volvo Sunwin

In terms of the resource scope we have already mentioned that Volvo Sunwin does not have any in-house component production so that vertical integration is excluded from our analysis. Slack and Lewis call such a company virtual. In the figure it is identified by “do nothing.”<sup>192</sup>

As the figure shows many suppliers delivered their auto parts to Volvo Sunwin in a range among 1 and 20. Looking at this figure it is evident that Volvo Sunwin takes the *transactional market relationship's approach* with many different suppliers. The relationships with these suppliers are characterized by few orders. The *transactional market relationships represent virtual spot trading* what means that at any point in time the company looks at the spot

<sup>192</sup> Slack & Lewis, 2002, p.184

price or spot terms of supply and make a choice independently of what its previous or future choices might be.<sup>193</sup>

Looking at the supply base we found that Volvo Sunwin also has transactional type market relationships with our interviewed suppliers. The quantity of order with them is shown in the table below.

*Figure 6-6. The Quantity of Orders Between Volvo Sunwin and Specific Suppliers from January to August of 2002.*

Suppliers	Aojin	Bende	Shijia	No.1	Qi Chi	Ba shi	Hella	Star	LKW
Number									
Of orders	7	3	18	2	0	2	-	-	-

The market relationships with suppliers, such as Shanghai Hong Yang Spring, Nan Feng Auto Equipment, Yaowei Enterprise, Shanghai Hong Yang Air Spring and Huaxia Electrics & Meter, are getting closer since the number of orders is higher than 20. With only few suppliers such as Su Zhou Auto Electric Equipment Corporation and Dongfang Auto Decoration, this supply network relationship *tends* to be a “partnership”. Their number of orders is more than 50.<sup>194</sup>

Consequently the company applies traditional market supply network relationships. In general it can handle these relationships with limited coordination, adoptions and interaction. Keeping low involvement relationships the company decreases its relationship handling costs. On the other side many suppliers are switching from one supplier to another that makes it difficult for Volvo Sunwin to practice exchange activities which probably increases the direct transaction costs.<sup>195</sup>

<sup>193</sup> Slack&Lewis, 2002, p.184

<sup>194</sup> Supply base of Volvo Sunwin

<sup>195</sup> Gadde, 2001, p.138

## 7 STRATEGIES TOWARDS SUPPLIERS

*Strategies towards suppliers are analysed in terms of interaction model that helps the company to structure and identify problems and thereafter develop relevant strategies to solve them. We start with the description of the interaction process between Volvo Sunwin and its suppliers. Our way of analysing the interaction process has four basic elements which we have already described in the theoretical background. These are the atmosphere affecting and affected by interaction, the environment within which interaction takes place, the participants in the interaction process and the interaction process. The main focus is on description of buyer – seller relationships and interactions.*

### 7.1 Environment

#### 7.1.1 Market structure

The market is very concentrated on bus-assemblers and auto parts suppliers and characterized by margin pressure, share shifts and new product proliferation. China's access to WTO has brought a lot of implications for Chinese bus manufacturers and suppliers. Their efforts are focused on closing the competitive gap on product development, scale economy and R&D capabilities. They have accelerated M&A activities to force out companies that lack technical and financial resources. Furthermore, they have intensified their cooperation with foreign partners to speed up the pace of technology transfer and thereby accelerate their integration into the global strategy of OEMs. When analysing foreign companies, they are allowed to handle marketing activities, including wholesale and retail business. They can now own more than 50% of JVs and have flexibility with the product's portfolio.<sup>196</sup>

The increased competition between suppliers will profile the companies which are able to offer the best quality and the best price in the future. This fact supports Volvo Sunwin's arguments about transactional market relationships with current suppliers since the company is expecting more transparency in the supply market.

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<sup>196</sup> Asian Automotive Industry Forecast Report, August 2002, p.154-172

### 7.1.2 Dynamism

The Chinese bus market cannot be characterized as a matured market since China's automobile industry is fragmented and in a huge need of rationalization. As we already mentioned, China's bus industry suffers from chronic overcapacity, low market price and low profitability. China's entry into WTO and the emergence of new actors have awakened up new values, norms, regulative and ideologies. Therefore bus industry revitalization can result in new markets, new products, new applications, revitalized marketing and government-stimulated growth.<sup>197</sup> These changes put pressure on interaction actors to be more efficient and competitive with regards to production, distribution and marketing resulting in the creation of a very dynamical environment. The companies have intensified individual relationships and accelerated M&A activities in response to those increasingly high requirements.

### 7.1.3 Internationalization

Internationalisation of Chinese bus market has mainly occurred through the overseas direct investments by foreign bus companies. The driving force for internationalisation in China is twofold: first, to exploit the country's *market opportunities* and second, to exploit *production opportunities* by establishing production activities where they can be conducted more efficiently. Internationalisation of the bus market has required firms to match their internal strengths in resources and capabilities to the key success factors of the bus industry.<sup>198</sup>

VBC has responded to these challenges through establishing a decentralized, flexible organization, clear corporate objectives and fostering supportive organizational norms and values. Top management board consists of executives with substantial experiences in overseas subsidiaries. The critical factors such as culture and language are noteworthy since adaptation of corporative values and norms takes time.

VBC' JV with SAIC is a result of the desire of both companies to access a complementary set of resources and capabilities. Its alliance with SAIC has

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<sup>197</sup> Aaker, 2001 pp.250 ff.

<sup>198</sup> Grant, 1999, p.332

permitted more rapid market penetration. However, the greatest problems arise from divergent management styles, conflicting objectives and disputes over quality and labour practices. JVs, which share management responsibility, are far more likely to fail than those with independent management.<sup>199</sup>

#### **7.1.4 Position in the Manufacturing Channel**

The company's position in the supply channel is complex. Volvo Sunwin avoids too much involvement with individual suppliers in order to not become overly dependent on a specific vendor and to decrease its handling costs. Meanwhile Volvo Sunwin's relationships with a supplier are also often affected with partners' relationships with government and customers. Many inherited suppliers make supply management for the company more complicated. SAIC's willingness to keep certain suppliers at cost efficiency expense can escalate internal conflicts between partners in the JV. On the other hand some buyers in the Purchasing department believe they also need to control some critical sub-suppliers that provide main essential material in order to get a better price and quality as well as reduce risks.<sup>200</sup>

#### **7.1.5 The Social System**

Generally speaking the Chinese attitudes and perceptions are characterized by nationalistic buying practices. Volvo Sunwin is often under political pressure from local governments as well as customers to buy components from specific suppliers located in the Shanghai province. The government and customers' pressures are in the function of teaching Volvo both the "language" and rules before it will be accepted in the bus industry. This creates doubtless constraints on Volvo Sunwin business when trying to establish an exchange process with a certain more cost-efficient counterpart. The role of SAIC is of crucial importance in terms of establishment relationships with customers and government.

### **7.2 The Atmosphere**

#### **7.2.1 Power and Dependence**

The power of Volvo Sunwin over suppliers is clear and visible. In our interviews each supplier regards the company as a brand that stands for quality.

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<sup>199</sup> Grant, 1999, p.332

<sup>200</sup> Questionnaire to buyers of purchasing department of Volvo Sunwin

To be a supplier of Volvo Sunwin brings a lot of advantages to them such as improvement of their own images. A high concentration and competition among suppliers in the market and China's access to WTO have empowered the company's position because of further reduction of auto parts price. Some of the interviewed suppliers consider Volvo Sunwin as a "special" customer depending on the company's share of the supplier's turnover or their aspiration to develop closer relationships. The negotiation process with suppliers is very dynamic. This process can be seen as process that *"can put you in power or can allow the supplier to be in the power depending on the situation and the timing during the process."* Volvo Sunwin has only one "special" supplier due to the connection to the Chinese partner in JV. Furthermore the company does not want to dominate anyone. Suppliers are responsible to run their own business.<sup>201</sup>

In order to straighten their competitive position the company is pressed by choosing more qualified component suppliers outside the Shanghai province. The company meets significant political pressures from local government to purchase as much as possible within the own province and from specific suppliers at the cost of efficiency. The pressure is also identified in the government's requirement for 40% local content. However, in the long term, these pressures will weaken in the course of market liberalization since the market becomes fully responsible for regulating relationships among companies.

### **7.2.2 Cooperation/Conflicts**

The relationships between the company and suppliers are characterized by both conflicts and co-operations. Conflicts of interest cannot be completely avoided because each side wants to benefit as much as possible from the relationship. Such conflicts associated with price, quality and product range are especially present when negotiation's process is undertaken. The high competition in the Chinese market has led to the price of buses being significantly reduced. Volvo Sunwin has to reduce the price as much as possible in order to compete with companies who offer low-price products. This is one reason that leads to certain conflicts between the company and its suppliers.

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<sup>201</sup>Tucunduva, H., Interview

The problem is identified within the internal organizational structure of the company where the R&D department, in accordance with the customers' requirements, puts demands on the purchasing department to buy auto parts from specific suppliers and locations. In this way SEM is completely evaded and ignored. The R&D department does not take into consideration the suppliers' capabilities to meet the requirements of customers. When suppliers are not able to meet requirements the whole process goes back to the customers necessarily losing a lot of time. The R&D department should send the specification to the purchasing department, which needs to decide where and from which supplier to buy.<sup>202</sup>

Of considerable importance is the support which Volvo Sunwin enjoys from HQ. Their support has been great and includes buyer training and quality control training. However, the support to suppliers is very low in terms of technological, engineering backing, and know-how. One could rather conclude that the suppliers provide the company with technological supports than Volvo Sunwin to suppliers.<sup>203</sup>

### **7.2.3 Closeness and Distance**

The distance, which is perceived to exist between Volvo Sunwin and customers, and Volvo Sunwin suppliers, has several aspects.

*Social distance* is the extent to which both the individuals and organizations in a relation are unfamiliar with each other's way of working.<sup>204</sup> This distance is considerable for Volvo Sunwin in all new relationships with suppliers. This distance becomes longer with suppliers located outside the Shanghai province since partners lack information about each other.

*Cultural difference* is the degree to which the norms, values or working methods between two companies differ because of the separate national characteristics.<sup>205</sup> These differences are deeper between the company and Chinese state-owned suppliers than between it and foreign suppliers. The

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<sup>202</sup> Tucunduva, H., Interview

<sup>203</sup> Ibid

<sup>204</sup> Ford, 2001, p. 43

<sup>205</sup> Ibid

differences are partly reconciled by employing Chinese managers whose appointments should reduce the business style dissimilarity.

*Technological distance* is the differences between the two companies' product and process technologies.<sup>206</sup> As in the case of cultural distance there is a huge technological gap between Volvo Sunwin and state-owned suppliers. Most of the local state-owned companies possess domestic and obsolete technology. However there are also some JV suppliers such as Hella Shanghai General Electronics which have more advanced technological processes than Volvo Sunwin.

*Geographical distance* refers to physical distance between two companies' locations.<sup>207</sup> This distance between Volvo Sunwin and suppliers abroad is considerable. 60% of auto parts are imported from suppliers abroad. On the other hand many domestic suppliers are located in Shanghai.

*Time distance* is the time, which must elapse between establishing contact or placing order, and actual transfer of the product or service involved.<sup>208</sup> Delivery time varies in terms of some companies such as Hella Shanghai General Electronics Co. Ltd<sup>209</sup> can offer JIT delivery while others such as Shanghai Bende Tire Co.LTD (new tires) can deliver products in 1 month.<sup>210</sup> Volvo Sunwin is not satisfied by the delivery time of its suppliers.<sup>211</sup> The customer requires that Volvo Sunwin is able to respond immediately on his demand. The company is now in a process to develop delivery management.<sup>212</sup>

#### **7.2.4 Expectations**

As we already have mentioned Volvo Sunwin intends to reduce its supply base from current 280 to 200 suppliers and thereby reduce its transaction cost in this way. They believe that suppliers will additionally continue to reduce their price and improve their productive quality.<sup>213</sup> They also hope that they can convince

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<sup>206</sup> Ford, 2001, p. 43

<sup>207</sup> Ibid

<sup>208</sup> Ibid

<sup>209</sup> Qian, L, Interview

<sup>210</sup> Ibid

<sup>211</sup> Tucunduva H., Interview.

<sup>212</sup> Ibid

<sup>213</sup> Ibid

Chinese operators of the bus's greater reliability and gradually persuade them to buy complete low floor B7L and higher standards of bodywork.<sup>214</sup>

Customers expect that the company will reduce the price of the bus, increase the product capacity and make product development more dynamically. They believe that the relationships between the companies can improve in the future, especially in the area of new product development, re-designing old products and delivery time shortening.<sup>215</sup>

Most of the interviewed suppliers expect that their cooperation with Volvo Sunwin will keep going in the future. They expect additional pressures from the company to increase the quality of auto parts, decrease the price, and reduce delivery time.

### ***7.3 Short Term Exchange Episodes***

#### **7.3.1 Product or Service Exchange**

In China the fee of the city bus ticket is very cheap and restricted by the local government so that the price of buses is a dominating factor when purchasing the product. Volvo Sunwin bus has very good quality, small fuel consumption costs, good load capacity and good comfort but also very high price.<sup>216</sup>

The company faces high uncertainty with regards to the quality of suppliers' auto parts that is very low to meet the needs of company. Current parts per million (PPM) is as high as 10,000 while Volvo standards are around 1,000. Volvo Sunwin's efforts are aimed to put PPM under this level in order to get 5,000 in 2003. They also feel uncertainty towards certain suppliers to deliver components on time. Most of the Chinese suppliers do not have good production plans. Volvo Sunwin is still struggling to improve the company's production plan that could help the suppliers to set up their own.<sup>217</sup>

The Volvo Sunwin brand is very important for suppliers because they believe that it will improve their own image. Therefore it is necessary to continuously

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<sup>214</sup> The World Bus & Coach Manufacturing Industry, 2001, Chapter 14, p.14-7

<sup>215</sup> Yu J., Interview

<sup>216</sup> Ibid

<sup>217</sup> Tucunduva, H., Interview

improve and innovate new products in order to respond to the fast market changes in the Chinese market. The information exchange with suppliers is essential in order to get ideas for improvements or new techniques.

Many problems with suppliers could be solved by the reduction of the supplier base of Volvo Sunwin. The purchasing department has recently installed a supplier evaluation management system so they should know in the future which suppliers actually offer the best business conditions. A consolidated supply base would both imply the reduction in contact work and make it easier for the company to manage its suppliers.

Another aspect considers technical competences of the people dealing with purchasing. Technical background of employees at the purchasing department facilitates both internal and external interaction. However purchasing process has become more complex and the stronger competences of purchasing staff are necessary. Components, materials and equipment are increasingly technically sophisticated which puts new demands on technical competences in the procurement process. The company should take into consideration these factors and put higher demands on technical competences of its purchasing staff. Purchasing professionals have to be more technically competent, have multifunctional skills, capable to work in a team atmosphere, and be capable to manage design projects. Mental models of company executives and employees towards suppliers should be changed gradually. Trainee programs and support by Volvo Bus Corporation will lead to improved efficiency of employees in the company.

A better production planning is a precondition for Volvo Sunwin to cut the delivery time and to avoid misunderstandings with suppliers. In addition a better internal coordination between the production department, the purchasing department and R&D department is needed.

### **7.3.2 Information Exchange**

The company believes that suppliers must be informed about its own activities, knowledge and capabilities. The information-exchange between the company and its supplier is very frequent. Once the Volvo Sunwin Corporation identifies potential suppliers, two companies exchange drawings, production process

information, quality control process etc in order to insure some quality and production on time. In order to influence the knowledge of suppliers, Volvo Sunwin tries to make them learn the internal capabilities. The company gives suppliers an opportunity to become educated through technical support.<sup>218</sup>

The content of information exchange between the company and suppliers are all about economic, technical and organizational problems. Technical information may be linked to Volvo Sunwin's need to solve problems related to choosing among alternative items in the standardized product range of a supplier. Economic information relates to the company's need of information such as identification of potential suppliers and evaluation of what they can offer prior to signing a business contract. Organizational information concerns the exchange of information connected with a specific transaction such as transfer of Volvo Sunwin's month and annual production plans to suppliers, inquiries for delivery and for invoicing.<sup>219</sup>

The company has neither external nor internal information exchange system. External information is transferred by either personal or impersonal means such as fax and telephone. Personal channels are used for the transfer of "sensitive data" such as the conditions of an agreement between parties, the plans about the joint product development, the training programs about the use of a product and supportive and general information about either company. The company and its supplier also use impersonal means to transfer basic commercial and technical data. The use of e-mail to transfer information between partners is very limited.

At present Volvo Sunwin and its suppliers do not share a perspective about introducing IT to speed up the information exchange between them although a few of its suppliers, have already implemented it with other automotive companies.<sup>220</sup> Volvo Sunwin as well as suppliers have internally regulated procedures for further transfer of received information. Internal information transfer is based on nature of information depending on which department, section, team or person it concerns.

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<sup>218</sup> Tucunduva, H., Interview

<sup>219</sup> Information from different interviews with Volvo Sunwin's suppliers and buyers

<sup>220</sup> Li Q., Interview

The introduction of an effective external IT exchange system should revolutionize Volvo Sunwin's purchasing. IT facilitates purchasing in terms of choosing the right supplier for a given product and of finding alternative suppliers. Introduction of an external IT exchange system by Volvo Sunwin should be followed by supplier's investments in new technology. Some very important suppliers would be forced to introduce new IT by Volvo Sunwin to be involved in their financing. Therefore, the purchasing department must be able to make more detailed financial analysis of the consequences of such supplier relationships.<sup>221</sup>

Furthermore, some information about suppliers is "hidden" by a buyer, which prevents an effective internal information exchange. The buyers still do not realize the benefits of mutual information exchange. The problem also relates to Chinese business mores where keeping information is sometimes used as a tool for self-promotion.<sup>222</sup> Linked communication and information systems in production, product development, logistics, marketing and sales, distribution should bring together previously fragmented flows of data. It would allow the better monitoring of markets, products and competitors and strengthen links between strategic and operational managements.<sup>223</sup>

### **7.3.3 Financial Exchange**

Volvo Sunwin does not yet select the importance of relationships with suppliers depending on the transaction amount. The company intends to set up a database that could help to identify the importance of suppliers through turnover. In addition, Volvo Sunwin plans to keep on the co-operation with these kind of identified suppliers in order to reduce the costs and improve quality. The company does not meet any uncertainty in the currency exchange.<sup>224</sup>

Suppliers offer credit terms to the company. In some case Volvo Sunwin enjoys the status of special customer and benefits in form of payment terms up to 3 months. Despite late payments suppliers see Volvo Sunwin as a trustful partner

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<sup>221</sup> Gadde, L-E., & Håkansson, H., 2001, pp. 39 ff.

<sup>222</sup> Stive H., Interview

<sup>223</sup> Gadde, L., E., & Håkansson, H., 2001, pp. 39 ff.

<sup>224</sup> Tucunduva, H., Interview

and they believe in its solvency.<sup>225</sup> However, there are no doubts that late payments damage Volvo Sunwin's reputation.

### **7.3.4 Social Exchange**

Social exchange between the company and suppliers is mainly formal and business related. The formal social exchange is frequently taking place between buyers and suppliers. It is vital for the company when creating relationships based on trust, loyalty and commitment. Informal social exchange with suppliers in terms of the meetings between managers outside the business sphere is rare. It takes such forms as visits, annual conferences and exhibitions. All parties would gain by a better social exchange in the long run since the supply base is consolidated. Volvo Sunwin's business plan in 2003 targets to have 70 "development" visits to new and old suppliers in order to improve the costs and quality. In this way suppliers can be stimulated to invest in knowledge of how to make the best use of existing resources. Additionally, it can lead to improvements in suppliers' productivity.<sup>226</sup>

Social exchange should have an important function in reducing uncertainty between the company and its suppliers due to the existing cultural distance between the parties and their limited experience. Social exchange may be important in avoiding short-term difficulties and in maintaining a relationship in the periods between transactions. In the long term successive social exchange episodes would gradually interlock Volvo Sunwin and the suppliers with each other and build up mutual trust.<sup>227</sup>

## **7.4 Long Term Relationships**

### **7.4.1 Institutionalization**

When sales people obtain feedback from customers this information is transferred to the R&D department. This process has been a standardized procedure, which has reduced uncertainty with customers. However, the standardized procedure has created a paradox. In some cases the purchasing department were not involved in choosing suppliers which created the

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<sup>225</sup> Zhang, H., Interview

<sup>226</sup> Tucunduva, H., Interview

<sup>227</sup> Ford, p. 10

problems we mentioned early. Consequently Volvo Sunwin has been seen as less responsive and uncommitted to the customer.<sup>228</sup>

When analyzing the communication channels with suppliers, buyers are responsible to keep contacts with sales people of suppliers, in the urgent case with their general manager mainly through phone or fax.<sup>229</sup> The contacts with suppliers are made according to the need to develop a final negotiation or purchasing decision. This means that there is no fixed rule for contact pattern. The company's trading procedures with suppliers are still not very standardized.<sup>230</sup>

### **7.4.2 Adaptations**

The development of relationships between the company and suppliers are still in the early stage. No routine procedures have been established to deal with issues as they arise, such as design changes, product development, etc. Volvo Sunwin has little evidence on which to judge their partner's commitment to the relationship. The action of the company to suppliers is influenced by its initial assessment of their performance and potential. Some suppliers are very active to develop the relationship, while others remain passive.

Most of the suppliers can adapt themselves fast to increase capacity on the company's request. Few of them would have problems and they need only some time or extra investment to adapt their organizations to Volvo Sunwin's increasing production requirements.<sup>231</sup>

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<sup>228</sup> Xiaoming, F., Interview

<sup>229</sup> Questionnaire to buyers of purchasing department of Volvo Sunwin

<sup>230</sup> Tucunduva, H., Interview

<sup>231</sup> Ibid

## 8 CONCLUSIONS

*This chapter will conclude our analysis and thereby our thesis. In order to answer our main problem, we will first give answers on three research questions.*

### 8.1 Research Problem 1

#### **Research Problem 1**

How does a multinational corporation in bus industry match its supply strategy to the Chinese business environment?

The Chinese market is a protectionist market since bus makers are often under political pressure from local governments to buy components from suppliers located in the provincial territory. The problem of the bus makers is how to straighten their competitive position when more qualified component suppliers are located outside their provinces and when local governments put pressures on purchasing within their own province at the cost of efficiency. In addition competition in the bus market is very intense due to a large number of bus players, new entrants, under-capacity in the production, lower import taxes and higher quotas level and finally high exit barriers.

Low quality, low levels of technology and limited or no R&D characterize Chinese component manufacturers. Some components such as ABS, airbag systems and electronic fuel injection are mainly imported abroad since the companies still lack the capacity to produce them. On the other side they can produce many other components but quality and reliability are still problematic. Their second feature is the low efficiency and low economies of scale. Some component companies sacrifice efficiencies through producing a full range of activities. The emergence of powerful suppliers with large customer bases is also perceived.

Key success factors for the actors in the bus industry are: high cost-efficiency reached through scale-efficient plants, fast adjustment of the capacity to production, efficient use of labour, and product differentiation. Additional success factors are the company's capability to build up an adequate local

supply network, its effective purchasing policies, vendor appointment, logistic management and good relations with governments.

Faced with very confused business environment Volvo Sunwin has responded by using multiple outsourcing strategies. Such a decision was also based on assessing the company's internal resources and capabilities such as economic capacity and core competences. The company outsources all auto parts production to suppliers and it has no in-house component-producing activity. In this way Volvo Sunwin has become increasingly dependent on the resources of its suppliers. However outsourcing makes it possible for the company to use fully external supplier's investments, innovations and specialized professional capabilities that would be prohibitively expensive to duplicate internally. In addition the increased specialization is possible since the company can concentrate more on improving its core capabilities and benefit from reaping greater economies of scale.

The company relies on more loosely related suppliers with whom it has supply contracts. In general the company has sources from two suppliers for each component in order to guarantee efficient supplies when bus production is substantially increased.

## 8.2 *Research Problem 2*

### **Research Problem 2**

How does a multinational corporation evaluate its suppliers and how do suppliers differ from each other?

Supply evaluation management is the main tool of the MNC for assessing suppliers' resources and capabilities. The purchasing department is fully responsible for performing it. In this process supply quality assurance and buyers participate together. The elements, which are the subject of the supply evaluation, are product quality, product development, price, delivery, environmental protection etc. Suppliers are ranked in three groups: A, B, and C. The frequency of the re-evaluation is different for them. "A" supplier has the longest re-evaluation time of two years since it has the best result in the

measurement system. “B” supplier is re-evaluated after one year, and “C” supplier after six months.

The differences among suppliers of Volvo Sunwin are significant. They differ considerably from each other with regards to their relevant assets, competences and turnovers. Suppliers, which run business as trade companies, have only one sub-supplier. A great majority have many sub-suppliers which the number varies from 20 to 60. In general the suppliers with many sub-suppliers are at advantage since they are not dependent on any single supplier or exposed to price fluctuations because the products in which they purchase from sub-suppliers are easily available from other sources. There are only a few suppliers who provide their inputs abroad.

Foreign companies and the JVs operative in China base their competitive strategies on the product differentiating, design and product line breadth. They have creative organizations with significant R&D activities. The price these companies offer are considerably higher than the industry average. The state-owned suppliers are at a disadvantage with regards to the technology. However, they compete on the market by offering low-price products and product line breadth. Protectionist measures among them are common. Some companies use “follow up” market strategy in order to protect their interests.

Delivery time is one of the most important indicators which reflects differences among suppliers. Only few companies can offer JIT or short-time delivery. For many companies the average delivery time is 15 days. However, a few companies need almost two months to deliver auto parts.

The customer base of suppliers differs to some extent. Many suppliers have a very strong customer base. They also supply the companies in the other sectors of the automotive industry. A few suppliers have a small customer base but with very strong brand names. The proportion of their turnovers that Volvo Sunwin accounts for, varies from marginal to almost 33%. Volvo Sunwin is a significant trade partner for a few of them.

The number of employees varies from 10 to 4,000. Consequently their organizational structure is different. The companies with many employees

usually have human resource departments which give employees training and support. The wages also vary among suppliers and in general it is higher at the foreign companies and JVs. Suppliers without product standard certification, introduced total quality management and information exchange system are rarely among the suppliers of Volvo Sunwin.

The huge heterogeneity among suppliers of Volvo Sunwin emphasizes the importance of supply evaluation management and information exchange. Supply evaluation management assures the needed quality in the production process and improves two-way communication between Volvo Sunwin and a core of its suppliers. It also makes suppliers more mobilized to meet requirements of the company. In addition the motivational aspects to suppliers are crucial. Since all interviewed suppliers are well informed about supply evaluation management of the company, different measures have been undertaken to increase their production quality and to reduce the costs of production.

### *8.3 Research Problem 3*

#### **Research Problem 3**

How does a multinational corporation's supplier network relationships look like currently in China?

The huge heterogeneity among suppliers in the Chinese market signifies that the company has to be very careful what kind of supply network relationship it has chosen. A lack of information about suppliers puts additional emphasis on this issue. In general Volvo Sunwin has developed various types of relations to its suppliers. However the great majority is traditional market supply network relationships. It is characterized by low-involved contacts where the company can handle them with limited coordination, adaptations and interactions. The benefits that the company gains are significant because it avoids dependence on a few suppliers and thereby a transaction uncertainty. What's more the company is protected against being locked into specific relationships. Competition among suppliers is also encouraged and the exploitation of innovations by Volvo Sunwin is possible no matter where they originate. Activity links between the company and suppliers are weak which decreases

Volvo Sunwin's handling costs resulting in gaining economies of scale. On the other hand splitting orders among vendors affects direct procurement costs negatively. Furthermore switching from one supplier to another makes it difficult to standardize exchange activities. Sometimes the company has to keep a buffer against the possible risk rising from a lack of suppliers' responsiveness, which implies substantial transaction costs.

In contrast, relationships with few suppliers tend to be more close and higher involved. They are characterized by joint product development, joint problem solving, mutual trust and joint learning. The 16 suppliers account for 67% of the total purchase value. By extending involvement with these companies Volvo Sunwin can gain cost benefits in terms of reduced costs of production and material flows as well as improved service level and flexibility. However high-involvement relationships are costly because the gains of the benefits cannot be attained without substantial co-ordination, adaptation and interaction, which entail costs. For further development of relationships between Volvo Sunwin and these companies, continuity is needed.

The conflicts of interest cannot be completely avoided because the parties have both contradictory and shared interests. Since Volvo Sunwin faces high uncertainty in terms of product quality and delivery time the company tries to eliminate it through the process of negotiations with suppliers. Therefore many suppliers feel pressures to reduce prices and delivery and increase product quality. The company is still struggling to improve its production plan that could help the suppliers to set up their own. The late payments to specific suppliers and frequent changes in the company's production plans can be the source of potential conflicts.

The present situation is characterized by mutual dependence between the company and suppliers. The company has focused on avoiding dependence on suppliers through applying multiple outsourcing strategy. Volvo Sunwin does not tend to exploit the power it has in relation to suppliers. On the other hand the negotiation process with suppliers is very dynamic. In general the company has stronger bargaining power because it dictates the trade conditions. However the company can be in power depending on the situation and the timing during the process. Negotiating with suppliers who have a large customer base and

where the company accounts for small turnover is very difficult. Then Volvo Sunwin has to accept the condition the suppliers make. Some suppliers consider the company as a “special” customer in terms of reduced price and longer terms payment. Volvo Sunwin has only one “ special supplier” due to the nature of the connection to the Chinese partner in the JV. The Volvo Sunwin brand is a very important tool for the company in the terms of gaining the power. By cooperating with Volvo Sunwin suppliers improve their own image.

Many suppliers know Volvo Sunwin very well and trust the company. Suppliers that the company recently established relationships with have no good knowledge about the company and they need more information. On the other hand, Volvo Sunwin has different degrees of trust towards suppliers. Generally speaking Volvo Sunwin lacks information about many suppliers, which can be a barrier for developing trust. Our conclusion is that Volvo Sunwin conducts a form of calculative trust towards its suppliers. This means that the company, when it makes a purchasing decision, refers to a supplier which offers most preferential conditions on the market.

#### *8.4 Main Problem*

**Main Problem**

How can a multinational corporation operating in China manage the local supply network relationships in the bus industry?

Purchasing staff is responsible for the operations related to supply chain management. The buyer has the central position in managing day-to-day supply relationships. Their relationships with suppliers are mostly characterized as formal or business determined. Security quality assurance is responsible for supply evaluation management providing information to buyers which suppliers offer the best business conditions. It gives the training and technical support to the suppliers who lack the capabilities to meet the requirements.

In addition the company uses several tools to manage its supply network relationships:

- Appropriate organizational structure in terms of decentralized purchasing makes it possible to actively manage supply network relationships.
- Supply measurement system, which provides the needed input quality, mobilizes and motivates suppliers to performance enhancement.
- The annual and monthly production plans help structure and organize the production of suppliers.
- Joint production activities such as product development, joint learning and joint problem solving are also important tools for an efficient two-way communication.
- The negotiation process, trade agreements, conferences, visits, information exchange and Volvo Sunwin brand are also effective tools used to manage supply activities.

Our conclusion is that the purchasing staff actively manage the company's supplier relationships. In general suppliers have developed a good understanding about Volvo Sunwin's requirements, resources and activities. They are conscious that they have to improve their quality further, cut price and reduce delivery time. By applying traditional supply network relationships, the company has decreased its costs, avoided dependence on few suppliers, and protected itself against being locked into specific relationships. Since the start of business in 2000, Volvo Sunwin has also used this time to learn from suppliers and teach them in the supply network.

However additional improvements in the supply network management are necessary. The most important task for the company is to improve the quality of the purchasing process and the coordination with production and R&D department. It has to create better conditions for collaboration among different functional departments and the employees. The support of VBC in forms of cross-functional teams has already resulted in substantial improvements of company operations.

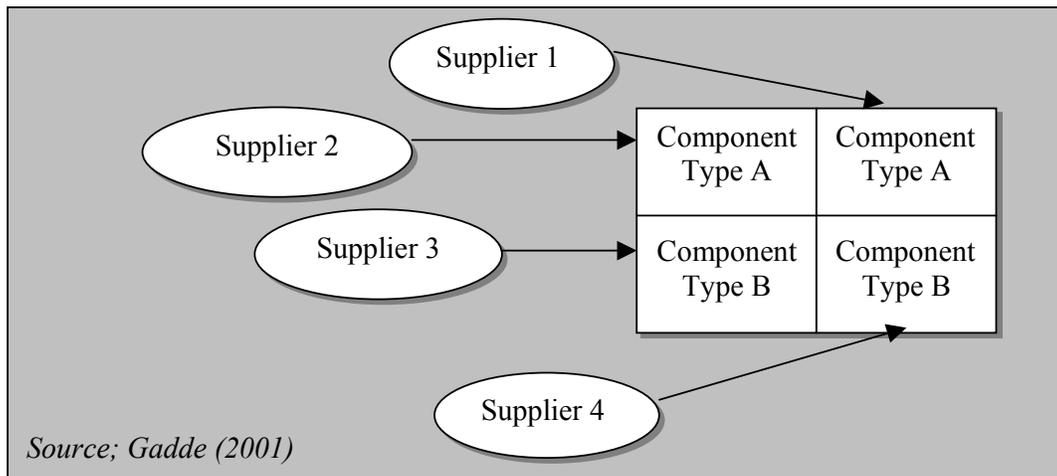


## 9 RECOMMENDATIONS

### 9.1 Alternative Sourcing Strategies

The existence of two and more than two suppliers for a specific component makes it possible for Volvo Sunwin to introduce a parallel sourcing strategy that can bring additional benefits in the future. Since the company has provided information about specific suppliers it is possible to implement a new strategy. This strategy can reduce the transaction cost of the company without increasing risk. Namely, if one of the suppliers failed, business can quickly be shifted. The distinctive feature of parallel sourcing is that two or more suppliers with similar capabilities are concurrently sole-sourcing suppliers for similar components. While using a sole source for a component, Volvo Sunwin can establish parallel sources to provide performance comparisons and competitive bidding for the next model cycle. This strategy is illustrated in the figure below.

*Figure 9-1. Parallel sourcing strategy*



### 9.2 Information Exchange System

The reduction of the supply base and consolidating purchases with fewer suppliers will provide substantial opportunity for economies of scale. At the same time consolidation of supply base will make Volvo Sunwin Corporation more dependent on supplier. More dependency will bring more needs for the company to improve its operations on the supply side. This enhanced the need for efficient information exchange through electronic data interchange. Some

suppliers own very effective information systems which can improve information exchange between partners. A standardized information-exchange could bring great benefits. In addition some very important suppliers would be forced to introduce new IT. Therefore, the purchasing department must be able to make more detailed financial analysis of the consequences of such supplier relationships.

### *9.3 Promotion of Cooperation among Specific Suppliers*

The consolidated supply base would both imply the reduction in contact work, improve cooperation with “confirmed” suppliers, develop additional trust between partners and make it easier for the company to manage its suppliers. After consolidation of supply base Volvo Sunwin should promote more actively cooperation among specific suppliers combined in the network which can contribute to product development and product quality. With the new supply base there is a strong need to stimulate the “formal” and “informal” exchange of information for a new well-functioning network.

## 10 SUGGESTIONS FOR FURTHER RESEARCH

Our area of research involves a number of challenging opportunities for future research. It has shown to be a wide-ranging and complex subject including many significant factors. The framework of our thesis has enabled us to analyse the supply network relationships, interaction process and supply strategies in the way we wanted. We give suggestions in this chapter for areas that we believe could be interesting to investigate further.

The follow up of our research could be interesting since it would give us an indication how we succeeded in our speculations based on empirical findings. In addition the most exciting idea would be to explore how the multinational company has changed its supply management after supply base consolidation.

One challenge for the future researcher would be how first-tier suppliers manage their supply network. It would be very interesting to investigate how the company's supply evaluation management influences first and second tier suppliers' quality management.

Future research could also include the transfer of technology from a multinational company to its suppliers. In this context the interesting area for research is how the multinational company protects its technological contribution to suppliers from other competitors. On the other hand a researcher could also explore how the MNC uses technologies of suppliers for the own product development.



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Questionnaire to all buyers of Purchasing department of Shanghai Sunwin Bus Corporation

Supply Data-base of Shanghai Sunwin Bus Corporation

## 12 Appendix

### 12.1 Appendix 1: Questionnaire to Buyers

1. When you decide the suppliers, which criterion do you think is the most important?  
 A. Technology B. Price C. Quality D. Delivery E. Trust and relationship with Volvo F. Others \_\_\_\_\_

How many people are there in the purchasing department of Volvo Sunwin? What is the work division of the buyers? Among the components that you are responsible to buy, since the weight of each criterion can vary depending on the different commodities, could you please tell us which factors are the most important ones?

2. Can you briefly tell us the impact of environment factors on your procurement operations and decisions such as WTO's new regulation, the role of government and the influence of Sunwin's customers? How do these factors determine the conditions for the coming decades?
3. How do you usually contact suppliers?  
 A. Internet B. Electronic Data Interchange C. face to face D. Telephone E. Fax F. other \_\_\_\_\_

Do you often contact your suppliers? How often per month? Among the components that you are responsible to buy, who do you usually contact, the sales people or the general manager of the supply company?

4. Are suppliers being asked to reduce cost and improve efficiency of production or provide the lower price? Which suppliers do you think should improve further as regards delivery?
5. Under which circumstances, do you also contact your sub-suppliers? What is your relationship with the main customers of Volvo Sunwin? What does a complete activity chain from the sub-supplier to the second tier customer look like? Can any activity be eliminated?

6. Do you have any co-operative projects with suppliers who control critical resources, such as joint product development or joint training program? Do you sometimes have to adapt to those important suppliers in technical aspects?
7. Do you have any conflicts when you cooperate with your suppliers? Why? Could you give us any example?
8. Did you know or cooperate with any suppliers before Volvo Sunwin was established? What is the process of choosing a Volvo supplier in China?
9. Do you adopt a centralized purchasing organization or decentralized organization? Why? Is there anyone else outside purchasing department, for example company executive staff in board, also taking part in the purchasing decision or managing purchase activity?
10. Is the purchasing staff in Sunwin involved into the design/product development phase? Are the purchasers required with technical background or have to receive any technical training?
11. Generally speaking, how much proportion does your purchasing cost account for the whole turnover of your company?  
A. 0-24% B. 25-39% C. 40-49% D. 50-59% E. 60-79% F. 80-100%
12. In which ways do the suppliers try to maintain and/or improve the relationships with Volvo Sunwin?  
A. Product fair, seminars or other types of conferences  
B. Product joint development project  
C. Joint training program  
D. Hold party or have dinner together etc  
E. Supplier advisory boards or other supplier organization  
F. Others \_\_\_\_\_
13. From your point of view, are there any suppliers who are unable to keep up with the pace of technology? Under this circumstance, do you usually

consider providing technical assistance to them or just changing to another supplier instead?

14. Why do you sometimes use several suppliers to provide you very similar or even same products, for example, there are several suppliers who provide seats to Sunwin?

- A. Encourage competition among a group of those suppliers in order to get more efficient purchasing such as better price
- B. Because of the limited product capacity of each supplier
- C. Commodities are similar but with small differences, adapt to different technical requirements
- D. Guarantee supply especially in case of urgency
- E. Others \_\_\_\_\_

15. Which criteria does your company or you adopt in order to evaluate one supplier?

- A. Amount of technical support to Sunwin
- B. Number of innovative ideas
- C. Supplier's ability to communicate effectively on important issues
- D. Flexibility shown by supplier in the urgent case
- E. Cycle time, responsiveness, and quality shown
- F. Supplier identification with Volvo goals; Are goals common?
- G. Level of trust that exists
- H. Others \_\_\_\_\_

16. What are your supplier management strategies? How does Sunwin manage its suppliers?

- A. Annual supplier assessment
- B. Annual supplier convention
- C. Regular or irregular visit
- D. Database information management
- E. Others \_\_\_\_\_

17. Do you adjust shares of business based on actual supplier rating results every year? For example you increase the amount of order to one seat supplier according to its good performance of previous year.

18. Which companies are Sunwin's main competitors on the Chinese market now? Why? Compared with Volvo Sunwin buses, what are their advantages and disadvantages? Do you co-operate with them in any fields? What do you know about their purchasing strategies?
19. Which suppliers/commodities do you think are the most critical to the core competence of Volvo bus?

## 12.2 Appendix 2: Questionnaire to Suppliers

1. Can you give us a brief introduction about your company? (Time of establishment, size, employee, organizational structure, key recourses and capabilities, future plan.)
2. Are you the common suppliers of Volvo Silver and Sunwin? How much is your sales turnover with Silver? With Sunwin? How many parts numbers do you sell to Silver? To Sunwin?
3. Before being a supplier of Volvo, did you already know a lot about each other? How many years have you co-operated with Volvo? How did you establish this formal / long-term supply-buy relations with Volvo? What do you know about Volvo in China? And what about its operations and products?
4. Which factor do you think is the most critical for Volvo Sunwin? In another words, what is your advantage compared with the other companies who produce the similar products?  
A. Technology    B. Price    C. Quality    D. Delivery    E. Others  
\_\_\_\_\_
5. How many customers do you have except Volvo? What are your ten top customers? What are your sales turnover with these top ten customers?
6. Do you have to adapt to the different requirements or conditions of various customers? For example, their different information exchange system and technical requirements.
7. Do you think your activity can be more effective by adapting it more to Volvo Sunwin's requirements?
8. What kind of joint activities do you have with Volvo?  
A. Product development    B. Logistics    C. Information systems    D. Others

9. Do you make use of information technology to improve efficiency of your cooperation with Volvo, in particular standardized exchange of information?
10. Are you involved into the early stages of the product development process of Volvo? Do you provide any technical assistance to Volvo in this respect?
11. Do you think Volvo is more dependent on you than vice versa?
12. Does the commodity you provide to Volvo Sunwin belong to standardized product or non-standardized product?
13. Do the auto parts completely fit the application of Volvo Sunwin or they require additional matching work?
14. Do you have any of your own suppliers? If yes, what's the relationship among your supplier, you, and Volvo?
15. Which company is your main competitor in your field? Do you cooperate with them in any aspects, such as decrease cost and improve quality?
16. Do you have manufacturing process inspection control? Do you know what is PPM quality level? (Parts per million) If yes, what is your PPM level today? If no, how do you measure your quality level?
17. Does the item you produce have greater capacity than required?
18. Are you being asked by Volvo Sunwin for suggestions to reduce cost or improve technology of production?
19. Do you have delivery inspections?
20. What is the amount of the item in your inventory? Do you apply JIT delivery to reduce inventories?
21. Are you responsible for all the transportation issues including transportation fee? Can cost of packaging be reduced?

22. Do you have income inspection process?
23. How does your relationship with Volvo look like?
- A. Arm-length relationships: limited co-ordination, adoptions and interaction.
  - B. High involvement relationships: very specific product or service adaptations, strong resource ties
24. Can you give us a brief introduction about the organizational structure of your company? Do you think if it is very appropriate for the current internal and external interaction, especially in the field of interaction with Volvo?
25. Is there trust between Volvo and you? How committed do you feel to each other?
26. Do you ever have any conflict when you cooperate with Volvo? Could you give us any example?
27. Are there some communication problems between you and Volvo Sunwin?
28. Do you have substantial costs with Volvo Sunwin because of frequent contacts with Volvo and other buying companies?
29. Do the people involved in selling have extensive and close personal contact network in relation to those people working for Volvo? How can you usually develop this network in order to enhance these individual relationships?
- a) Seminars or conferences with Volvo
  - B. Joint training program
  - C. Hold party or have dinner together etc
  - D. Others \_\_\_\_\_
30. If Volvo Silver and Sunwin decide to negotiate as combined volume and parts list, who do you would like to negotiate with? Do you think that if you can offer additional price discounts? If yes, how much. If no, Why?
31. Does your current production capacity allow Volvo to add extra production of at least 10 sets a day, without major investments or production

changes? (One bus, one set) . If you need to improve your production capacity in order to fulfill the requirement for the combined volumes of Volvo Silver and Sunwin, how long time do you need to be ready for it?

32. If you are already a supplier for both Silver and Sunwin, are you already negotiating your prices considering combined volumes? If not, how can Volvo change this situation to have combined volumes and only one negotiator on behalf of both companies?

33. Do you see any benefit in having common negotiations with Silver and Sunwin? If yes, why? If no, why?

34. How do you plan to improve your future cooperation with Volvo?

## 12.3 Appendix 3: Interviews

Surname	name	Organization	position	Place	Date
Tucundava	Horacio	Shanghai Sunwin Bus Corporation (SUNWIN)	Purchasing Manager	Gothenborg	06/14/25-10-2002
Ji	Lei	Shanghai Aojin Fiberglass Products Co.,Ltd	Project Manager and Assistant of Sales Manager	Shanghai	14-10-2002
Qin	Lu	Shanghai Bende Tire Co.,Ltd	Manager of Sales Dept.	Shanghai	15-10-2002
Fan	Liukui	Shanghai Shijia Doope Co., Ltd	Manager	Shanghai	16-10-2002
Hua	Qiang	Shanghai No.1Automobile Gear Factory	Director of Sales & Marketing Dept.	Shanghai	17-10-2002
Gao	Yu	Qi Chi Heavy-duty Auto Parts Co.,Ltd	Manager	Shanghai	19-10-2002
Yu	Jiafu	Shanghai Bashi Yongda Automobile sales Co., Ltd	Vice General Manager	Shanghai	21-10-2002
Zeng	Weizhong	Shanghai Bashi Feng Yong Trading Co., Ltd	General Manager	Shanghai	21-10-2002
Li	Qian	Hella Shanghai General Electronics Co., Ltd	Sales Dept.Supervisor	Shanghai	22-10-2002
Sjolin	Magnus	Consulate General of Sweden-Commercial Section	Commercial Consul	Shanghai	22-10-2002
Wu	Zhengping	Shooting Star Wheel Rim Works	Head of Director Office and Quality Pledge Section Chief	Shanghai	24-10-2002
Zhang	Haoqing	Shanghai LKW Transparts Co., Ltd	Manager	Shanghai	25-10-2002
Huang	Zheng	Shanghai Sunwin Bus Corporation (SUNWIN)	Manager of Project Control and Management Office of Management Committee	Shanghai	25-10-2002
Gong	Xunwei	Shanghai Sunwin Bus Corporation (SUNWIN)	Deputy Manager of Purchasing Dept.	Shanghai	25-10-2002
Jin	Shaogang	Shanghai Sunwin Bus Corporation (SUNWIN)	Financial Dept. Manager	Shanghai	25-10-2002
Shen	Lei	Volvo Bus Corporation	Trainer for Purchasing Dept. Of Sunwin and Buyer of Purchasing Dept.of VBC	Shanghai	25-10-2002
Zhang	Xiaoyang	Shanghai Sunwin Bus Corporation (SUNWIN)	Engineer of SQA of Sunwin	Shanghai	25-10-2002
You	Qiren	Shanghai Sunwin Bus Corporation (SUNWIN)	Buyer of Purchasing Dept.	Shanghai	25-10-2002
Fu	Xiaoming	Shanghai Sunwin Bus Corporation (SUNWIN)	Sales Dept.Manager	Shanghai	25-10-2002

12.4 Appendix 4: Resources and Capabilities of Suppliers

Suppliers Resources/Capabilities	Shanghai Aof Fibreglass Co.	Shanghai Bend Tire Corporation	Shanghai Shida Dope Co.	Shanghai No.1 Automobile Gear	Oi Chi Heavy-duty Auto Parts	Yong Trad. Ba-shi Feng	Hella Shanghai General Electron.	Shanghai Shooting Star	Shanghai LKW Transparks Co.
<b>Ownership</b>	JV/USA 95%	American private	Ch private	Ch 92% state	Ch state	Ch state	JV/German-Ch	Ch state	Ch private
<b>Production Capacity</b>	6 sets/day	2400 tyres/month	Maintains 80%	12000 sets/year	70000 seats	250000 sets			T rack agency
<b>Breadth of Product line</b>	Different auto parts	Bandag wide	Shanghai buses	77 kinds of 19 series of tractors	3 series	Different series lighting, electronic			Many series
<b>Turnover in 2001</b>	1 b RMB	40 m RMB	10 m RMB	1.5 b RMB	200 m RMB	70 m RMB			1.5 m RMB
<b>Product brand</b>	Aojin	Bandag Bridgestone	Shiua	Shuang Gong, Shang Chi	MF, Dana, Eaton	Hella			Ger Floor
<b>Technology R&amp;D</b>	Australia	USA	Domestic	Domestic	German ZF	German			France
<b>Quality system</b>	80 people	Bandag responsible.	4 engineers	R&D department		R&D department			Ger Floor Cop.
<b>Quality management</b>	ISO 9001		ISO 9001	ISO 9002	ISO 9001	ISO 9001, VDA 6.1, QSA 9000			ISO 9000, VDA 6.1, QSA 9000
<b>Delivery time</b>	Quality dep. In-house inspection	3 hours-3 days	3 engineers	TQM/PPM between 0 and 2000	Quality department.	Government			ISO 9172, DIN
<b>Payment term</b>	15 days	5d used/1 m. new	3 hours-3 days		2 weeks	JIT			4 engineers
<b>IT system</b>	30 days	30 days			30 days	JIT			JIT
<b>Employees</b>	No	No	No	No	No	Yes			30 days
<b>Advertising</b>	400	60	30	753	4000	167			Yes
<b>Customer base</b>	In average	Centralized by Bridgestone	In average	Low	High	High			10
<b>Sub-suppliers</b>	Autobacs	Shanghai seaport (40%) Shanghai Public Transport (30%) Container Shipment (30%) Many American suppliers	Volvo Swinwin (20%) Mercedes Benz (10%) Shenyang (5%) German, Holland	VW (35%), Fiat, GE. SN Holland (27%) Volvo Swinwin, Jin Bei (20%)	King Long (40%) Kausbai, Silver (10%) Lia Pulan, MB	VW (5%), Qi Cheny GM, Anke, MB King Long, Valeo			In average New Holland (30%) King Long (60%) Swinwin (30%)
<b>Export</b>	Patoc, IVTM, Sunwin (0.5%), Gaultier, Many	IV with Jap. USA, South America Italy	USA, South America Africa	All domestic USA, South Asia Africa	Zhe Jiang	Many domestic and foreign			1 French Ger Floor Co.