

Research into the Distribution Channel of CATERPILLAR Inc. in the Chinese Market

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Forward

In 2009, the very special situation has happened in the world. The financial crisis threatened from the financial industry to all over the industries. As a top 500 company, which lays the first biggest producer in mechanical engineering and construction equipment field, Caterpillar is facing the deteriorating economic situation in the US. North American and European market has been shriveling, which are the most main source of profits for Caterpillar. As a result, in order to rescue the declining tendency, Caterpillar should develop new market in developing countries. China, as the biggest developing countries in the world, has been arising step by step although the financial crisis has impacted the Chinese economy. Caterpillar should follow the increasing Chinese economy, and catch the most profits, which can complement the loss from American and European market.

However, Caterpillar has met the trouble in the Chinese market. At one hand, Caterpillar has been very famous for its good quality of the products. In the other hand, Caterpillar only has 6% of the whole large Chinese market share, which is not suitable for its status in the world. So there has been some trouble happened in Caterpillar's distribution channel. In this paper, the author wants to analyze the existed Caterpillar's distribution channel, and find the weak points of the current situation, especially in the Chinese market. After that, Caterpillar's marketing distribution channel should be reestablished and improved, which can suit for the different market environment in China, and the objective is to help the managers and decision makers to find a good strategy to make decisions in order to catch up with the competitors, not only get more market share than before, and also enlarge the Chinese market in the long term.

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Abstract

The author emphasizes analyzing the marketing distribution channel of Caterpillar Inc. in the Chinese market, which is based on the theory of marketing distribution channel and technology dynamics. The Caterpillar's distribution channel has been analyzed, by inquiring the four main dealers: LEISHINGHONG, CEL-CN, WESTRAC and ECI-METRO. At the same time, the main competitor Komatsu's distribution channel has also been analyzed, which can provide an overlook to Caterpillar in order to do comparative analysis. When we consider the comparative analysis between Caterpillar and Komatsu, it is clear that the different company culture can influence the strategy of the company. After that, we use distribution channel theory and the technology dynamics view to analyze and reestablish the distribution channel, and give conclusion and recommendation to the decision makers, managers and the board of Caterpillar so as to provide good suggestions for Caterpillar's future in the Chinese market.

Keywords: Distribution channel; Marketing; Technology dynamics

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Chapter 1 Introduction

1.1 Background of the Problem

Caterpillar is the world's largest manufacturer of earthmoving, construction equipment, diesel, natural gas engines and turbines. It was founded in Illinois, US, and has been expanded to all over the world. Facing with the global economy, especially the developing Chinese market, Caterpillar expanded its service to China. In 1996, Caterpillar (China) Investment Co., Ltd. ("CCI") was established in Beijing to augment the increased investment and business development activities in China. Today, Caterpillar has invested in eleven manufacturing facilities in China. They produce hydraulic excavators, compactors, diesel engines, undercarriage, iron castings, motor graders, track-type tractors, wheel loaders, remanufactured products machinery components, and electric power generator sets. Until 2007, the Caterpillar's dealers have covered all of the Great China, which is controlled by Beijing, Shanghai, Chengdu and Guangzhou office.

However, in the fourth quarter of 2008, the world financial crisis happened which originated from the United States so as to influence the Caterpillar's sales in the US. China, as a stable and developing fast country, which has large amount needs of construction and engineering equipments, is considered as the most potential beneficial market by Caterpillar. Because of the difference between US and China in policy, management style, distribution channel, information transparency, custom and culture, Caterpillar hasn't become the leader construction and engineering equipment provider in China. Some competitive domestic providers, North Asian providers, which are very suitable for the special Chinese distribution channel, are more successful than Caterpillar now. For instance, the excavator sales data in 2008 shows that the Caterpillar's market shares is only 7.3% in Chinese market, which is lower than Doosan (16.6%), Komatsu (15.9%) and Hitachi (14.5%).¹

As a result, Caterpillar tries to improve the market share as well as to build the stable distribution channel in Chinese market. Mostly depending on the dealer, not like Japanese and Korean manufactures, Caterpillar choose 4 strong dealers, which are LEISHINGHONG, WESTRAC, ECI-METRO and CEL-CN as the partner of Caterpillar. It also creates the special distribution channel between Caterpillar and the dealers. However, this successful distribution channel mode in US seems not very suitable in China because of different policy, different culture, different cognitive degree, and different customers, etc. In 2008, the very difficult situation forces Caterpillar to increase the market share in Asia-Pacific in order to survive in the world market. So Caterpillar must switch or revise some parts of the distribution channel that can catch and surpass the competitors in Chinese market so as to maintain the loss in Western market. Also, Caterpillar needs to find a good way to meet its company's culture, criteria, and value.

¹ GCN YTD Dec 08 HX PINS- by size class & manufacturer, Caterpillar confidential document

1.2 Problem Description

Caterpillar now faces a very emergent problem: in one hand, the world financial crisis deteriorates the investor's confidence and investment, which means the orders of Caterpillar's clients have decreased sharply. On the other hand, a lot of competitors in Chinese market are increasing fast, such as Doosan, Komatsu, Hitachi, Hyundai and Volvo from foreign competitors, and SANY Heavy, LiuGong, XuGong and Sunward from Chinese competitors.

Chinese market has become the world's hopeful and large developing construction equipment market, which can rescue the companies from the financial crisis. However, owing to the different distribution mode, Caterpillar didn't have enough market shares because of its global strategy in distribution channel. In China, the market is not mature so that most of the clients and dealers don't conform Caterpillar's standard. Also, Caterpillar's distribution channels are mostly dependent on the dealer, not supervise them, but collaborate with them. These features make Caterpillar's market share lower than other competitors although the quality of products is higher than them. In this paper, with comparing with other competitors in Chinese market, which includes domestic providers and foreign providers, we need to analyze the current Caterpillar's distribution channel and find a suitable way to improve the distribution efficiency in the future.

1.3 Research Objective

It is seen that the distribution efficiency can influence the whole company's sales achievement. It also impact whether Caterpillar can survive in Chinese market in the future. So the research objectives are located in the two levels:

In the theoretical level, the author wishes to find a good way to transplant Caterpillar's global distribution mode to China, which is necessary to suit for Chinese culture, Chinese custom and special Chinese policy, in order to explore an improved universal distribution model which can be used in each developing market.

In the practical level, the author desires to tackle the current situation of Caterpillar's distribution efficiency. With analyzing the typical competitors in Chinese market, the disadvantage of Caterpillar's distribution channel should be found and improved. We need to give possible solutions and suggestions to Caterpillar so that make Caterpillar sustainable in Chinese market and survive during the financial crisis period.

1.4 Research Boundary

Caterpillar has different products and the same own distribution channels. Considering the increasing need and strong competitors, we only focus on the excavator division in whole China, where lay more competitors, large amount needs and low Caterpillar's market share.

1.5 Research Questions

The central research question will be give as below:

“How can Caterpillar increase the market share in the Chinese market by improving the distribution channel in the current situation?”

In details, the author will seek for the answer of this question by exploring the following sub-questions in the research course in the following order of the thesis:

1. What is the general theory of distribution channel? (Chapter 2)
2. How to build a distribution channel? (Chapter 2)
3. What is the actual distribution channel of Caterpillar in Chinese market? And what are the strong and weak points? (Chapter 3)
4. What are the competitor’s distribution channels in Chinese market? How can they become successful or not? (Chapter 3)
5. What is the preferred distribution modes transplanted from competitors, which can be used in Caterpillar? (Chapter 4)
6. What are adoptive and innovative distribution channels for construction equipment in Chinese market? (Chapter 4)

1.6 Research Framework

1.6.1 Methodology

In this paper, the total logical research path and corresponding research methodology and specific methods used are presented in Figure 1-1. We firstly focus on the literature research about marketing distribution channel, and find a path as to how to use these theories to suit this topic. The author has checked the concerned theories: marketing distribution channel, policy analysis and technology dynamics are the important theories that we must consider. We will know the definition of the channels, types of the distribution channels, channel structure, distribution channel strategy, control in the channel, channel intermediaries, and how to evaluate the distribution channel. Based on these theories, we could find the basic structure of distribution channel and distribution mode. Then, we can get the basic scan of distribution efficiency.

After that, we should analyze Caterpillar’s distribution model, which concerned Komatsu’s story. First, structure of Caterpillar’s distribution channel should be certified. Then, Caterpillar’s distribution channel in Chinese market will be analyzed in details. Thirdly, considering “Dealer as the partner” as Caterpillar’s spirit in global market, we will make inquiry into this spirit. After that, we will find the commitment between dealers and Caterpillar. After the inquiry of Caterpillar, the channel flow functions of Caterpillar’s view: “Dealers are partners” should be checked and analyzed effectively. Then there will be shown a case story: Caterpillar’s main competitor Komatsu distribution channel analysis and comparative analysis on distribution channel between Komatsu and Caterpillar, so as to find the advantage and disadvantage of both of the companies to improve the distribution channel.

Based on the technology dynamics view, we divide the story into three aspects: technology (hardware), organization (orgware) and regime (software). Also depending on

the policy analysis and marketing theory, we use actor analysis, SWOT analysis, socio-technical system analysis and transition management to analyze Caterpillar's distribution channel, and find its own advantages and disadvantages. Also, we will use segmentation, supply side channel analysis and gap analysis to analyze the distribution channel design for Caterpillar.

In the last step, we need to give final conclusions and recommendations. We try to give suggestions and recommendations to Caterpillar. The output will show the adoptive distribution channel and innovative distribution channel, Chinese distribution channel, and transplantation of distribution channel. The recommendation will be provided for Caterpillar, American & European companies, and Asian companies, also, considering the successful universal distribution channel mode, it also makes sense to Chinese domestic competitors to force them improve and suit for the dynamic market, which representatively formed as distribution channel. Figure 1-1 shows this research logic.

1.6.2 Data Collection

There are three ways that we can get the data: firstly based on the research in Caterpillar Asia-Pacific distribution division, there are a lot of internal data that we can analyze. After getting the authorization from Caterpillar, the author will use some confidential data (the confidential level is green) as the reference of the analysis. Secondly, based on the existed research report, or concerned information on the internet, we try to search for these data, depending on both the internet and library, which is mostly concerned about competitors, existed analysis of Caterpillar, and concerned Chinese policy and market knowledge. Also, the author will get in practice to the actual sales sector of Caterpillar and other competitors to have some interviews with the sales managers and salesman, in order to collect some useful data for our research.

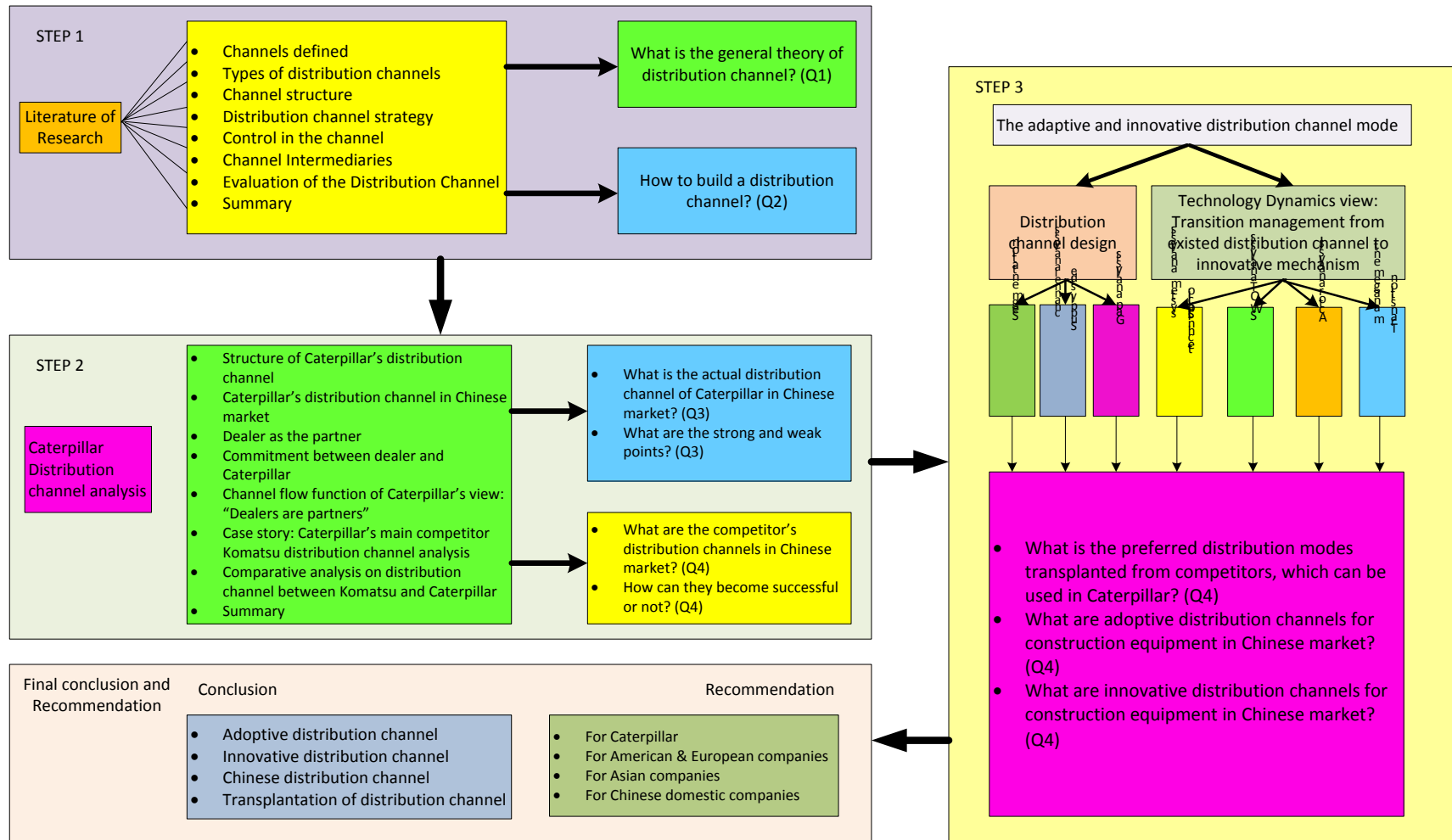


Figure 1-1 Logical Layout of Research Path

Chapter 2 Theoretical background

2.1 Introduction

The purpose of chapter 2 is to provide the reader with an understanding of the operations involved with, and problems of, marketing distribution channels. With surfing the theory of distribution channel, it is used to provide support to improving the distribution channels especially for Caterpillar in Chinese market in the future.

2.2 Channels defined

Marketing channels are the routes to market used to sell every product and service that consumers and business buyer's purchase everywhere in the world. There are several reasons that how they are designed and how they work, and how to manage them, which are shown as below: (Anne T. Coughlan, Erin Anderson, Louis W. Stern, Adel I. EI-Ansary, 2006)

- First, the channel is a gatekeeper between the manufacture and the end-user. This means that failing to understand and proactively manage the actions of one's channel partners can lessen the effective reach and attractiveness of the manufacturer's products or services.
- In addition, the channel is an important asset in the company's overall marketing and positioning strategy, often serving as the main differentiator of the company's market offering from those of its competitors.
- Third, the channel experience strongly affects the end-user's overall perception of a brand's image and, hence, end-user satisfaction.

In short, a strong channel system is a competitive asset that is not easily replicated by other firms and is, therefore, a strong source of sustainable competitive advantage. Further, building or modifying the channel system involves costly and hard-to-reverse investments. This means that making the effort to does it right the first time have great value and, conversely, making a mistake may put the company at a long-term disadvantage.

To understand channel behavior and performance, it is first necessary to understand the nature of distribution channels. There are, perhaps, as many definitions of distribution channels as there are authors who write about them. The most basic definition of a marketing or distribution channel may have come from *Wroe Alderson* who described them as a group of firms which "constitute a loose coalition engaged in exploiting joint opportunity in the market". (Phillip McVey, 1987) Through time, this basic definition has been redefined many times. From the original French meaning of the word "channel", *Revzan* suggests that a distribution channel is "the vehicle for viewing marketing organization in its external aspects and for bridging the physical and non-physical gaps which exist in moving goods from producers to consumers through the exchange process..." (David A. Revzan, 1987) More recently, *Walters* defined a channel to be a "team of merchant and agent business institutions that combine physical movement and title movement of products in order to create useful assortments for specified markets". (C. Glen Walters, 1997) *Bowerbox* cites the American Marketing Association definition

of the distribution channel as “the structure of intra-company organization units and extra-company agents and dealers, wholesale, and retail, through which a commodity, product, or service is marketed.” (Donald F. Bowersox, 1988) From *Anne T. Coughlan, Erin Anderson, Louis W. Stern, Adel I. El-Ansary*’s book: *Marketing channels theory*, it is described:

A marketing channel is a set of interdependent organizations involved in the process of making a product or service available for use or consumption.

A marketing channel is not just one firm doing its best in the market—whether that firm is a manufacture, wholesaler, or, retailer. Rather, many entities typically are involved in the business of channel marketing. Each channel member depends on the others to do their jobs.

What are the channel members’ jobs? Running a marketing channel is a process. It is not an event. Distribution frequently takes time to accomplish, and even when a sale is finally made, the relationship with the end user usually is not over.

The purpose of this process is making a product or service available for use or consumption. That is, the purpose of channel marketing is to satisfy the end-users in the market, become their consumers or final business buyers. Their goal is the use or consumption of the product or service being sold. A manufacturer who sells through distributors to retailers who in turn serve final consumers may be tempted to think that it has generated sales and developed happy customers when its sales force successfully places product in the distributors’ warehouses. Our definition argues otherwise. It is of critical importance that all channel members focus their attention on the end-user.

The distribution channels are composed of multiple members who work in consonance as a team effort. From a system theory approach, distribution channel members represent a team within the system while the environment of that system can be either the domestic and international market which impacts the channel. From *Berg* comes idea that all enterprises can be viewed as input-output systems made up of (1) the internal organization of the system, (2) the company environment and (3) various kinds of external organizations serving to link the process of inputs and outputs. The distribution channel, the individual team members within that channel, work within a system as just described. (Thomas L. Berg, 1997)

2.3 Types of distribution channels

A simplistic, yet compassing, categorization of distribution channel types is offered by *Bowersox, Cooper, Lambert and Taylor*. They classify channels into (1) vertical marketing systems, (2) free-flow channels, and (3) single transaction channels. This scheme is based on acknowledged dependency of the channel members. Vertical systems are characterized by acceptance of predetermined roles, interdependence among channel members, and a shared belief that all are better off as a team than as individuals. One member of this system accepts a leadership role and exerts influence over other channel members. Vertical systems are relatively stable due to the influence and other’s

acceptance of the leader's role. Beyond this acknowledged recognition, vertical marketing systems glean power from formal devices. (Donald J. Bowersox , M. Bixby Cooper , Douglas M. Lambert, and Donald A. Taylor, 1980) These are described as:

- (1) Corporate: owned and operated by a single business unit.
- (2) Contractual: independent members bound by contract but not ownership.
- (3) Administered: formal recognition exists but stability is based solely upon mutual reward.

Free flow marketing channels are characterized by less formal recognition and dependence among members than in the vertical system. Members here do acknowledge the value of specialization and total channel performance. Many free-flow members deal regularly with vertical channels but since they do not acknowledge the power relationships that exist within vertical channels, they do not become full participants.

The third type of channel is the single transaction channel. These channels usually have no plan or expectation to extend any type of relationship beyond a single transaction. An example of this type of channel would be a real estate transaction where, upon completion of all details, no further relationship is needed or desired by any of the parties involved.

Whatever classification scheme is used to define a distribution channel or its members, all channels share the common purpose of providing the right product at the right location at the right time. While the mechanics of each channel may be unique, the structure and function of all distribution channels are quite similar.

2.4 Channel structure

The structure of any system is defined by the relationships of the members of that system. In a logistics or distribution system, the structure is determined by the relationship of the flows within that system. This distribution flow concept has involved through numerous authors and is generally accepted as having two separate but interrelated types of flows, logistics and transaction-creating, which must be present to have a satisfactory marketing process.

Transaction-creating flows involve those functions which deal with negotiating, contracting, and administering trade on a continuing basis. These flows are related to logistics through their impact on costs and economies of the physical flow.

By contract, *Bowerbox* defines logistical flows to include (1) adjustment: concentration, selection, and dispersion, (2) Transfer, (3) Storage, (4) handling and (5) communication. Just as transaction-creating flows affect logistics flows which impact transaction-creating flows in obvious ways. If material does not arrive at the right place at the right time due to problems in logistics flows, future negotiations, contracts, and indeed, any prospective business may be affected. The two flows work within a common system and are highly dependent upon another. They are, however, performed independently and are separate flows. (Donald F. Bowersox, 1988)

The primary purpose of this separation of transaction and logistics flows is to increase the structural opportunities for specialization. As organizations become more complex they tend to become more specialized. Thus, as channels of distribution become more complex their structures tend to require more specialization. This specialization is performed by one or several intermediaries within the channel.

The idea of specialization being created by complexity of flow relationships is reinforced by *Aspinwall's* "depot theory of distribution." (C. Glen Walters, 1997) His theory suggests that the rate of flow in a distribution system is controlled by the customer. If a perfect system existed, no inventories would be required to be held since production would match consumption. There would be no costs incurred for storage, handling or holding goods for speculation. In reality, since a perfect system does not exist, "depots", or intermediate storage and handling facilities for material are required. Intermediaries in the channel provide this storage, handling and other functions and are paid for their services. Channel membership is thus established. Given that intermediaries are a necessary and integral part of a distribution channel, it then becomes paramount that careful thought and proper planning be used in selecting a distribution channel strategy.

2.5 Distribution channel strategy

Although the firm's distribution channel strategy is one part of overall strategic planning, it is one of the most important processes. The distribution channel relationships and flows mentioned earlier impact all areas within a firm. Effective planning of the channel must therefore be a primary consideration. As a minimum, management must consider the following areas in selecting a channel strategy. Firstly, the firm's relative power position with respect to the proposed system and any alternatives must be considered. Secondly, management must consider the arrangement of channel commitments and the design process by which alternatives are evaluated. The two flows which were mentioned earlier must be considered together even though they may be working independently. A third criterion for channel strategy formulation is measurement of channel performance. Prior consideration must be given to how the channel as well as its individual members will be measured for performance or effectiveness. Last, management must consider channel flexibility potential and the related dynamics produced during change.

It would seem that management should make the necessary and adequate preparations when deciding channel strategy. This is not the usual case. A study by *Lambert* has shown that most channels evolve as the result to solve a problem. (Douglas M. Lambert, 1996) Further, the study points out, channels seldom change substantially from their basic structure.

The design of the distribution channel should be the natural outgrowth of a firm's channel strategy. *Bucklin* defines a normative channel as "that group of channel institutions that generates maximum profits and consumer satisfaction per dollar of product cost." (Donald F. Bowersox, 1988) To produce such a normative channel, nine steps have been proposed. These are:

1. Formulate channel objectives.
2. Develop channel strategy.

3. Determine channel structure alternatives.
4. Evaluate channel structure alternatives.
5. Select Channel structure.
6. Generate alternatives with regard to specific channel members.
7. Evaluate and select individual channel members.
8. Measure and evaluate channel performance.
9. Modify channel arrangements if and when necessary

The authors point out that channels may not obtain the normative structure due to the influence of social, cultural, political, competitive and economic variables. **Berg** offers a different distribution model for producers. (Thomas L. Berg, 1997) The five interrelated stages are: (1) factoring the company-wide strategic situation, (2) converting key factors into functional prerequisites for the system, (3) grouping individual tasks into work units, (4) allocating tasks to appropriate functionaries, and (5) designing a structure of relationships to provide locus of distributive authority and responsibility within the work structure erected in previous stages. The value of this design lies in its ability to identify all the parts within the system and to then define the relationships which exist, or must be made to exist, between all participating members.

Mallen produces a different list of five factors which should be analyzed by managers designing distribution channels. (Mallen, Bruce E, 1997) His points include:

1. The selected target markets.
2. The rest of his marketing mix: price, product, promotion, physical distribution, etc.
3. The company's resources.
4. Competition and other external forces.
5. Current and anticipated distribution structure in his industry.

Although presented in different terms and words, all these models are saying the same basic things. Most authors agree that when making decisions pertaining to channel structure and strategy, a systems approach should be taken. A model by **Walters** is shown in Figure 2-1. (C. Glen Walters, 1997) Although Walters does not call his method for channel strategy and structure a systems approach; it appears to be one none the less.

A more recent study for channel design can be seen in **Lambert's** work. (Douglas M. Lambert, 1980) He stresses the importance of the systems approach by using a cost trade-off analysis between the basic distribution cost categories. The main purpose of this model is to minimize total system cost. Lambert's model is shown in Figure 2-2. The economic analysis of distribution becomes significantly more complex when taken in a global context.

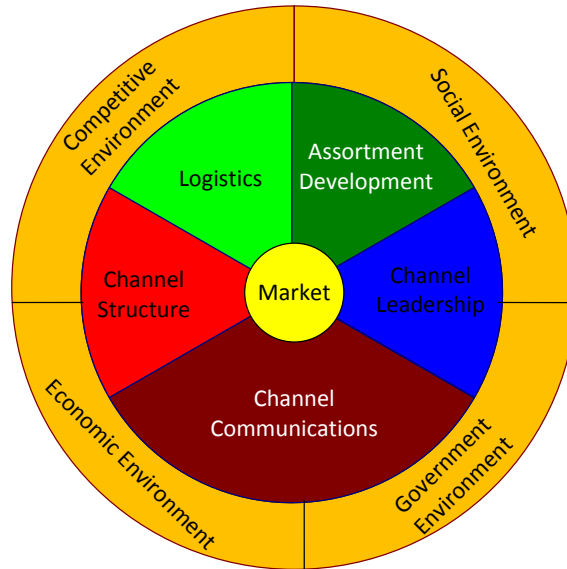


Figure 2-1 Variables of the channel system²

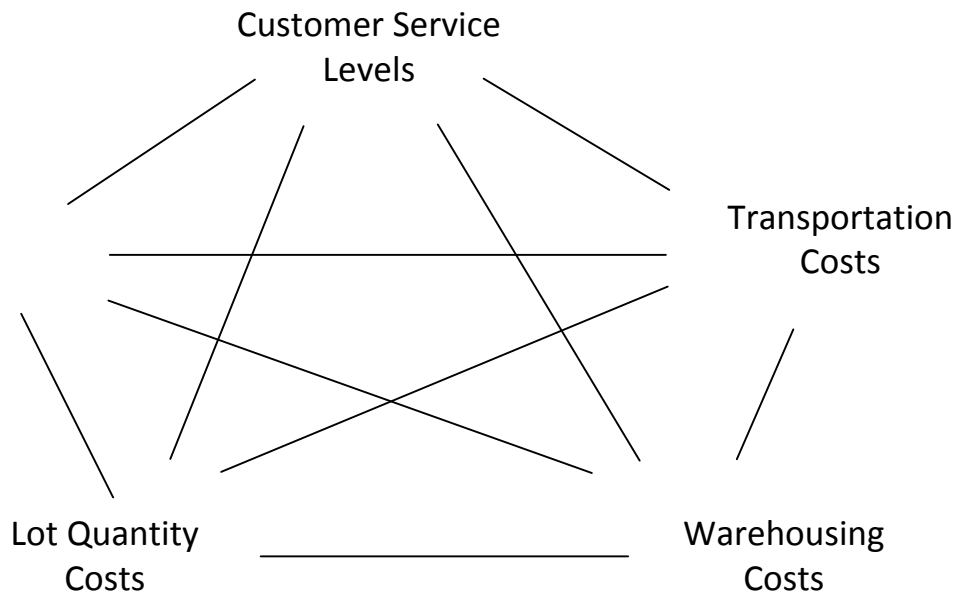


Figure 2-2 Cost tradeoffs required in the logistics system³

While the various authors differ in terminology, the differences are mostly in degree rather than substance. The degrees of difference are most evident when the channels of distribution become international. An example to illustrate this point can be shown from *Davies*. (R. Gray and G. Davies, 1991) He suggests that in addition to the cost variables

² C. Glen Walters, Marketing Channels, Goodyear Publishing, Santa Monica California , 1987, p. 18.

³ Douglas M. Lambert , The Development of an Inventory Costing Methodology A Study of the Costs Associated with Holding Inventory (Chicago: National Council of Physical Distribution Management, 1996) , p.7.

noted above, non-transportation cost variables are perhaps most critical in international distribution. These variables include:

1. Speed of service, reliability, time-in-transit, dependability, and transit variability
2. Loss and damage
3. Inventory levels
4. Product characteristics.

The systems approach is still the most germane but additional variables enter the decision processes as shown in the expanded systems model chart shown in Figure 2-3.

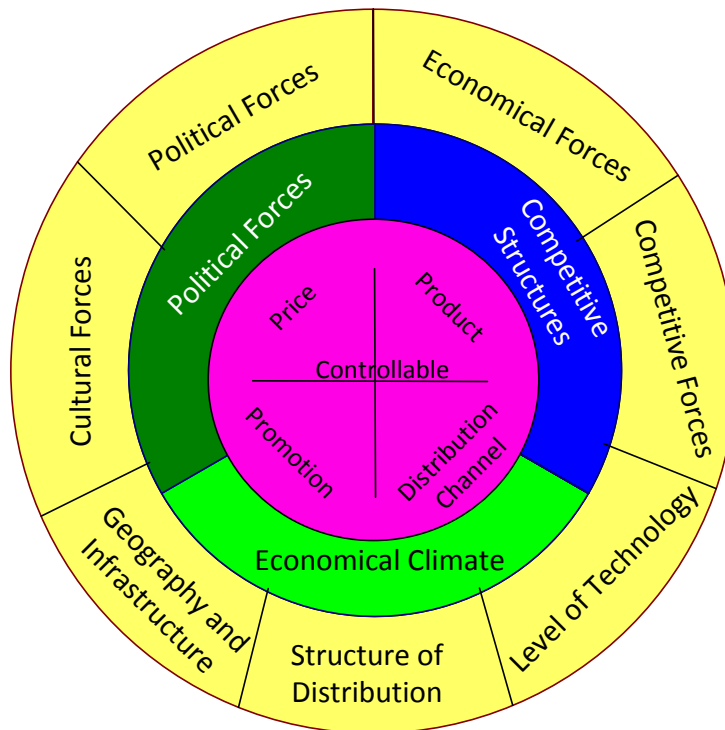


Figure 2-3 Marketing Mix⁴

Because of the potential for significantly larger sums of money to be involved in the distribution channel structures, most authors start the discussion of international channel strategies and structures by emphasizing the importance of long term strategic goals of the firm.

Cateora begins a discussion of the factors affecting choice of channels by stating: (Philip R. Cateora, 2003) "While the overall marketing strategy of the firm must embody the company's goals of healthy profits in the short and long run, the channel strategy itself may be considered to have six very specific strategic goals." These are listed as (1) cost, (2) capital requirement, (3) control, (4) coverage, (5) character, and (6) continuity.

⁴ Philip R. Cateora, *International Marketing*, (Homewood, I11., Richard D. Irwin Inc., 1993) p. 7.

Robinson stresses the importance of considering management's time horizon and the target market's relative overall importance to the firm when considering channel design. (Richard D. Robinson, 2008) When deciding who should bear the risk and responsibility, he suggests management consider the following areas when making channel decisions.

1. Market size and profit potential.
2. Availability of specialized export skills.
3. Desirability of direct relation with the foreign market.
4. Likelihood of eventual foreign production.
5. Possibility of supplying market from third source.
6. Costs associated with developing exporting expertise.

2.6 Control in the channel

As **Selera** points out, the type of channel design will depend on the overall amount of control the firm wishes to exercise. (Virgil Salera, 1999) The design of the channel impacts, and is impacted by, control within the channel. **Walters** suggests that channel structure affects functions as they relate to: (C. Glen Walters, 1997)

(1) Control over the performance of functions, (2) speed of delivery, and (3) cost of operations. Control of the channel functions and members themselves depends on many factors which may or may not be influenced by the firm.

Many years ago, **Peter Drucker** contended that the economic development of a country could be improved by a marketing system which could "integrate the needs, wants, and purchasing power" of the nation. (Peter F. Drucker, 1998) He cited Sears, Roebuck and Company as an example of a company which could combine those areas into an effective system. By helping local manufacturers sell their goods, Sears helped match supply and demand while at the same time added to the economic development of that country.

Research by **Oritt and Hagen** suggests that there are several theories related to channel structure and economic development. (Paul L. Oritt and Alfred J Hagan) One theory holds that channels must be present in order for economic development to take place. This "precursor" theory suggests that without channels there are no markets and without markets there is no desire, willingness, or ability to purchase. Thus, if no markets are available there will be no advances made in the economic development of that nation. The counter theory, called the "reflection" theory, suggests that the channel structure within a nation is a reflection of given stage of economic development. This latter theory is supported by the studies of **Wadinambiaratchi**. (George Wadinambiaratchi, 1967) The authors submit that other theories relating economic development and channel structure are also plausible and conclude that "whatever the relationship between marketing channels and economic development, there is a clear and immensely important connection between the two." Other studies are able to be more definitive about the conclusions when dealing with economic development and distribution channels.

A correlation has been found between the economic development of the country and the length of the channel of distribution. Generally, as the length of the channel increases, the amount of control of the channel leader is decreased. **Bartels** states that: "In low

economic development, merchant wholesalers tend to dominate distribution channels, but, with increasing industrialization, channel command becomes held more by other channel members." (Robert Bartels, 1991) Control is also affected by many other variables as has been noted by various authors.

From an exporting perspective, the firm must be mainly concerned with the availability and capability of the potential members of the distribution team. Once the distribution channel strategy is established and functional requirements and their interrelationships are identified and understood, the firm must then select members to perform the required functions. The individual and collective capabilities of the channel members will dictate the amount of control available to the firm as well as the length of the distribution channel, which has been shown to be dependent upon the stage of economic development of the country or countries involved in the distribution channel. *Salera* sums up this condition by stating "expansion of markets usually means that the distribution function becomes more specialized and that more intermediaries become involved. That is, the distribution channels lengthen...." (Virgil Salera, 1999)

As distribution channels lengthen, and more intermediaries become involved, individual differences in abilities will affect the effectiveness of the channel. Key elements which intermediaries to use are the availability and capability of channel intermediaries. To reinforce this thought, *Wadinambiaratchi* reports on a study involving marketing studies in nine areas which compared twenty-two fields of economic development for affects on distribution channels. (George Wadinambiaratchi, 1967) The study concluded that:

1. The more developed countries have more levels of distribution.
2. The influence of the foreign import agent declined with economic development.
3. Manufacturer-wholesaler-retailer functions become separated with economic development.
4. Wholesaler functions approximate those in North America with increasing economic development.
5. Financing function of wholesalers declines and wholesale mark-ups increase with increasing development.
6. The number of small stores decline and the size of the average store increases with increasing development.
7. The role of the peddler and itinerant trader, and the importance of the open-garden-fair declines with increasing development
8. Retail margins improve with increasing economic development.

Differences in economic development, lengths of distribution channels, levels of specialization, and abilities of the intermediaries are all related as enforced by the above mentioned study. Selecting the intermediaries is the final stage in developing a firm's distribution channel.

2.7 Channel Intermediaries

The term intermediary refers to any channel member other than the manufacturer or the end-user (individual consumer or business buyer). We differentiate among three types of intermediaries: wholesale, retail, and specialized.

Wholesale intermediaries include merchant wholesalers or distributors, manufacturers' representatives, agents, and brokers. A wholesaler sells to other channel intermediaries, such as retailers, or to business end-users but not to individual consumer end-users. Merchant wholesalers take both title to and physical possession of inventory, store inventory (frequently of many manufacturers), promote the products in their line, and arrange for financing, ordering, and payment with their customers. They make their profit by buying at a wholesale price and selling at a marked-up price to their downstream customers, pocketing the difference between two prices. Manufacturers' representatives, agents, and brokers typically do not take title to or physical possession of the goods they sell. The major flows in which they take part are promotion and negotiation in that they work on selling the products of the manufacturers they represent and negotiating terms of trade. Some of these intermediaries (such as trading companies or import-export agents) specialize in international selling, whether or not they take on title and physical possession flows.

Retail intermediaries assume many forms today, including department stores, mass merchandisers, hypermarkets, specialty stores, category killers, convenience stores, franchises, buying clubs, warehouse clubs, catalogers, and online retailers. Unlike purely wholesale intermediaries, they sell directly to individual consumer end-users. Although their role historically has focused on amassing an assortment of goods that is appealing to their consumer end-users, the role of today's retailers often goes much farther. As discussed above, they may contract for private label goods, effectively vertically integrating upstream in the supply chain. They may sell to buyers other than consumer end-users.

Specialized intermediaries are brought into a channel to perform a specific flow and typically are not heavily involved in the core business represented by the product sold. These intermediaries include insurance companies, finance companies, credit card companies, advertising agencies, logistics, and shipping firms, information technology firms, and marketing research firms.

2.8 Evaluation of the Distribution Channel

Literature in the field of channel performance measurement or evaluation is very sparse. *Lambert* cites three possible explanations for this phenomenon:

1. Measuring channel performance is difficult.
2. Some aspects of channel performance may be difficult to quantify, making a unified index of performance difficult to achieve.
3. Published standards are not available for industry comparisons.

His study, conducted on domestic companies, does ask for specific ways companies' measure channel effectiveness.

Table 2-1 shows some of the criteria commonly used to measure efficiency as offered by *EI-Ansary and Cooper*. (Abel I. EI-Ansary and M. Bixby Cooper, 1976) Lambert's study revealed that there are multiplicities of measures used to evaluate certain aspects of the distribution channel. Common carriers were evaluated in two-thirds of the cases by damage or claims reports. Public warehousemen were evaluated on the basis of warehouse inspection reports, costs, inventory reports, customer complaints, and safety and environmental factors. Costs of functions performed seemed to be the single most used measure for most operations. The most alarming finding of this study was that the majority of manufacturers had no specific data or reports to measure the performance of the total channel.

Table 2-1 **Measures of channel structure efficiency**

1. Number of channel levels
2. Number of outlets per level
3. The extent and distribution cost outcome of functional shifting in the channel.
4. The extent and distribution cost outcome of functional substitution in the channel.
5. The extent and distribution cost outcome of functional interchange in the channel.
6. The extent and distribution cost outcome of postponement in the channel.
7. The extent and distribution cost outcome of speculation in the channel.
8. Availability of clear channel policies on: <ul style="list-style-type: none"> A. inventory levels B. transportation C. warehousing D. customer service E. pricing and discounts F. promotion
9. Extent of channel member turnover.
10. Market image of channel members.
11. Financial strength of channel members.
12. Competitive strength of channel.

2.9 Summary

This preliminary review of the literature on distribution channels has shown that there is a significant amount of information on channel strategies, channel design and selection of distribution channel intermediaries. It also shows that most of the literature deals with the macro design and management of channels. There is little written on quantitative measures for evaluation and management of distribution channels at the individual firm level.

From the theory of distribution channel, we have found that how to analyze the distribution channel of an individual company, and how many kinds of criteria or methods we can use to set or design the distribution channel. Actually, when we use these theories to analyze Caterpillar's distribution channel, we should define the distribution

channel, and make sure the type of Caterpillar's distribution channel, after that, we will find the channel structure, and distribution channel strategy. Then, we will find how to control in the channel. After these steps, we can evaluate the distribution channel. Based on the criteria of the evaluation table, we will find the specific criteria of the table (may be not all of the criteria), and give the evaluation of the whole distribution channel.

However, although we analyze Caterpillar's distribution channel based on the theory which were mentioned above in this chapter, we should know that the special situation of Chinese market. So, we should also use another case such as Komatsu to find the difference between them. So the comparative analysis is also used in our distribution channel analysis. Because of the complicated competition, we should add more criteria based on the theories. That is how we can improve the original distribution model, which will be discussed in chapter 3 and chapter 4.

Chapter 3 Caterpillar Distribution Channel Analysis

3.1 Structure of Caterpillar's distribution channel

To become dealer as partner is the typical Caterpillar's characteristics of distribution channel. Caterpillar Inc. has owned 11 distribution global centers and 122 dealers all over the world. In the United States, Caterpillar owns 12 distribution centers and 65 dealers. Caterpillar has set the same mode of distribution channel in global market. The characteristics of Caterpillar's distribution channel are shown as below:

- Caterpillar's dealers are independent companies; they also have the function of manufactures. They can operate and exist independently, and be authorized by Caterpillar.
- Caterpillar's dealers can own their products independently. They can buy the products from Caterpillar and sell them to the end-users without any support from third-party (such as Sumitomo's support⁵). Usually, they have enough funds, which can support the stock, inventories and sales.
- For Caterpillar's dealers, it is not allowed to sell other competitors' products as the same function as Caterpillar. For example, LEISHENGHONG is not allowed to sell both Caterpillar's and Komatsu's excavators. It is only allowed to sell Caterpillar's excavator and at the same time can sell Mercedes Benz's car.
- Caterpillar's dealers can attend all of the activities in the distribution channel. They have more power to fulfill the functions in the distribution channel. Caterpillar can only help and guide them to enlarge the sales.
- Caterpillar's dealers can choose end-user freely, not following the Caterpillar's authorization.
- Caterpillar's dealers don't need to have inventories. They just make good relationships with Caterpillar's global distribution center, and can only have some stocks in order to meet some temporary large need.
- Caterpillar's dealers can afford some financial risks, which can share with Caterpillar. Also they can provide the rental and open account for the users.

3.2 Caterpillar's distribution channel in Chinese market

There are four dealers for Caterpillar in Chinese market, which are LEISHINGHONG, WESTRAC, CEL-CN, and ECI-METRO. They are not only focus in Chinese market, but also in Asia-Pacific Market for a long time. LEISHINGHONG is responsible for Jiangsu, Zhejiang, Henan, Shandong, Anhui, Hubei and Shanghai. WESTRAC is on duty in Beijing, Tianjin, Heilongjiang, Jilin, Liaoning, Hebei and Inner-Mongolia. ECI-METRO can get the market in district of Sichuan, Guizhou, Yunnan, Tibet, Chongqing, Shanxi, Gansu, and Qinghai. CEL-CN has the area: Guangxi, Guangdong, Fujian, Hainan, Jinagxi Hunan, Hong Kong and Macao. The structure is shown in Figure 3-1:

⁵ The details are shown on page 33, Chapter 3.

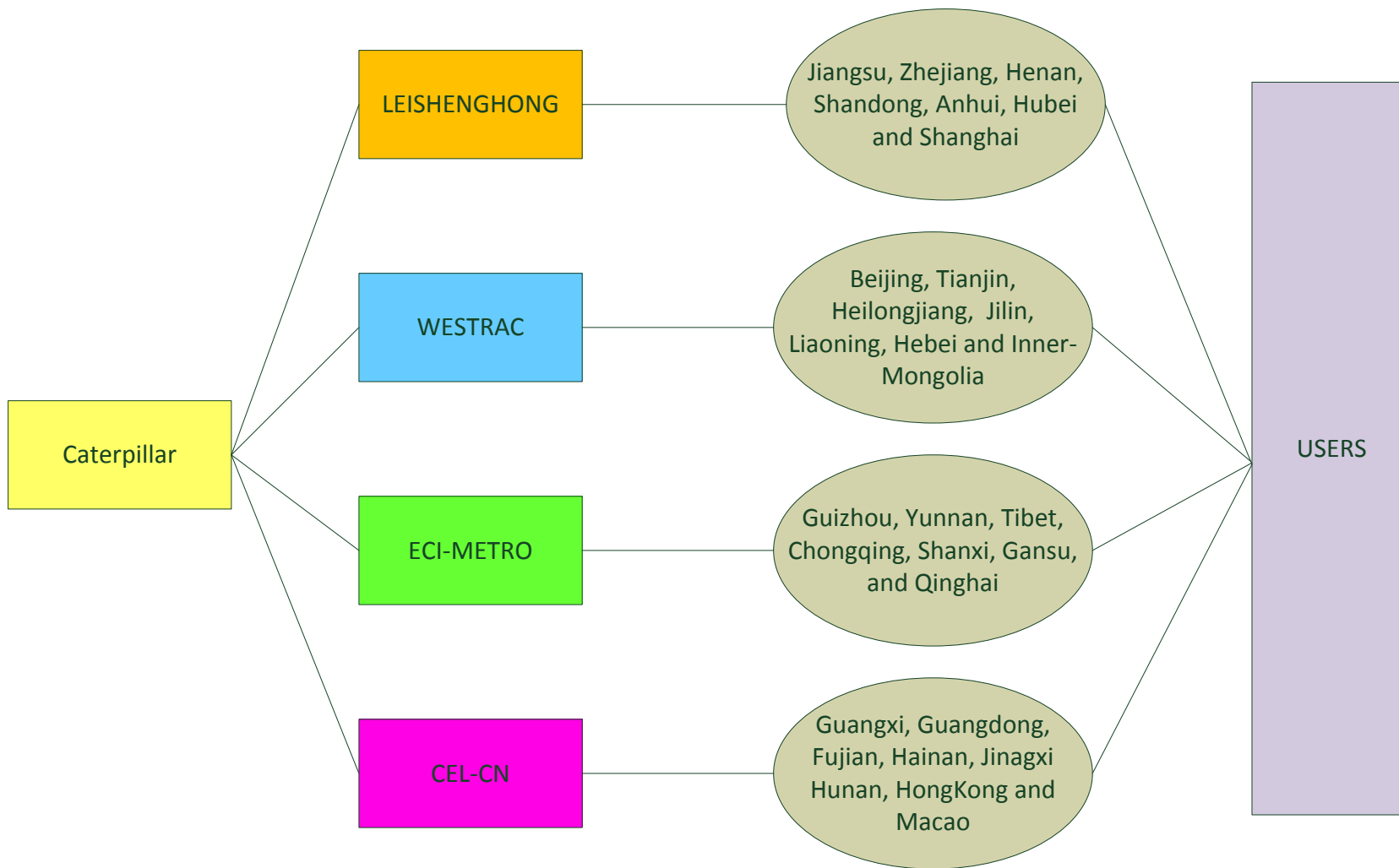


Figure 3-1 Structure of Caterpillar's Distribution Channel

In the figure above, the WESTRC is an Australian dealer; LEISHINGHONG is from Malaysia, CEL-CN enrolled in Hong Kong. ECI-METRO is from Thailand. Appendix A Caterpillar's four main Dealers in China shows the details.

When Caterpillar made the decision that they wanted to build the factory in China mainland, it was happening to organize and analyze the distribution channel in Chinese market. After evaluation of the existed Chinese market, Caterpillar decided to use foreign dealers instead of Chinese domestic dealers because of the professional experiences. Caterpillar has set very strict rule on to the dealers which is shown as below:

- The dealers should have enough investment in China
- The dealers must guarantee the whole machine sales, the parts inventory and the customer service for end-users.
- The hardware should meet the criteria, which includes the exhibition area, working area, stock area, and the maintenance factory.
- The dealers should have training center.
- The dealers should hand in the reservation plan and sales plan to Caterpillar monthly and yearly.
- The dealer should make a plan on the sales of the district in order to guarantee the sales capacity.
- The dealers should make a plan that can estimate the market needs and the cash flow to Caterpillar to buy the products monthly and yearly.
- The dealers should guarantee that the loan could return in time.

Caterpillar thinks that the dealers are not only the channels that can explore more users and make relationships with them, but also need to play an important role of presales consulting and post-sales service. Also, the distribution channel provides the customers' service should include how to select the type of the machine, how to use the machine, finance, insurance, training, maintenance, and how to help users to utilize the machines fully and efficiently. As a result, Caterpillar can only choose some mature foreign dealers instead of domestic dealers, which means that the Chinese domestic dealers made Caterpillar disappointed in the services. Considering the specification of the engineering equipment, the dealers should provide very good service that can help the users decrease the loss as much as possible. No matter the area, the complicated natural condition, different consume habit, and the bad transportation, it is also the big challenge that Caterpillar and its dealers provide good services to the Chinese users. As the famous brand, Caterpillar insists its distribution model to give the good impression on the users as the "Yellow Giant".

After the process of selecting the dealers in China, Caterpillar had decided that LEISHINGHONG, CEL-CN, ECI-METRO as the dealers of Caterpillar in Chinese market. In China, Caterpillar sold its products by itself. Until 2000, Caterpillar had chosen WESTRAC as its dealer for its China sales, at that time, Caterpillar left the direct sales, and only provide products for its 4 dealers in Chinese domestic market.

3.3 Dealer as the partner

When we consider the development of Caterpillar, we always find that the dealers accompany with Caterpillar to enlarge their global market. Especially in 1970s-1980s, when Komatsu developed very quickly in global market, Caterpillar lost quite a lot of market share. Between 1982 and 1984, Caterpillar had lost 953 million dollars and the increasing profits had been terminated. Considering rescuing itself, Caterpillar had to fire workers and staffs, so as to decrease the loss of 1 million dollars per day. However, even in this deteriorated situation, Caterpillar didn't decrease its dealers in both global market and American market. Caterpillar thinks: although we think we have owned more excellent engineers and factories, we make sure that the high efficient distribution channel and customer service is the superior which we can overpass our competitors. In fact, after some dark period, Caterpillar has beaten Komatsu in Global market and caught most of the market share because of its distribution channel, customer service and the good relationship with customers.

When we visited Caterpillar's manager, he thought that although Caterpillar's product was not always in fashion in the world, we had good distribution channels that can catch up with our competitors so as to keep the top leaders in the world. For instance, in the middle of 1980s, Caterpillar had over passed Komatsu as the leader of excavator in the world because of the distribution channel. As a result, we can find that Caterpillar focuses mostly on the benefit of the dealers, and do not use distribution channel wrongly. (E.g. Caterpillar thinks that the manufactures should not design and make the products firstly and then ask the dealers to force them to sell to the market.) Table 3-1 as below shows the function between Caterpillar and its dealers.

Caterpillar and its dealers' function			
Main responsibility	Caterpillar	Dealers	Explanations
Make the objectives of distribution channels	Organize	Attend	Caterpillar needs to organize the meeting and make the objective of sales on condition of different dealers attending the meeting.
Assign products	Organize	Attend	Caterpillar needs to coordinate the inventory and the stocks to help the dealers assign their products.
Inventory management	Attend	Organize	Caterpillar pursues the lowest cost of distribution, but the dealers should implement the distribution independently.
Provide credits	Attend	Organize	The dealers need to afford the risk of the credits, and Caterpillar's financial division should provide help.
Sales promotion design	Attend	Organize	Dealers should design the sales promotion activities and Caterpillar can attend and give some suggestions.

Maintenance service	Attend	Organize	Caterpillar provides all of the parts and maintenance to the dealers and dealers can provide maintenance services to customer independently.
Post-sales service	Attend	Organize	The dealers have the responsibility to provide the customer service, and give feedback to Caterpillar in order to get the voice from the ender-users

Table 3-1 Caterpillar and its dealers' function

3.4 Commitment between dealer and Caterpillar

Before we analyze the commitment between dealer and Caterpillar, we should find the “relationship in channels”. It is described that the manufacture and dealers can provide the service, which includes low cost and different products and service by good collaboration and distribution channel, in order to decrease the transaction cost, which is owing to uncertain environment, by establishing good relationship between different members in order to assign the limited resources properly, to increase the efficiency of the distribution channel.

There are three fields in commitment: (Martin Greg. S., 2002)

- *Desirability commitment*: the party involved can keep good relationship with each other and have confidence that this kind of commitment is beneficial to each other.
- *Behavior commitment*: the parties will notice the needs between each other, and take care of different objectives between each other, and create a win-win situation, although sometimes one party can drop some benefits at certain time, such as Caterpillar and its dealer in 1980s.
- *Continuity commitment*: The parties involved can continue this relationship in the future. For example, Caterpillar can select the dealers and keep this collaboration relationship for a long time even in the future.

After we consider the factors of commitment in distribution channel between Caterpillar and dealers, we will understand why Caterpillar emphasizes to build the good relationship with dealers in Chinese market. There are three factors that can show the intensity of commitment in distribution channel among members involved: (Frazier, Gary L., Summers, John O, 2001)

- *Uncertain environment*: This is the complexity degree of the dynamic environment. The uncertainty decides the possibility of collaboration. If there is high uncertainty, Caterpillar needs to add more cost to get more information from different members in distribution channel, and keep intensively relationships between each other, and make decision together. Consequently, Caterpillar needs to keep the “old” dealers, which have stable relationship with Caterpillar and good commitment as the members in distribution channel. As we all known, the Chinese market has been just established after the economic reform since 1978, the laws and necessary rules are not enough to restrict the manufacturers and dealers. Also, the marketing custom has not been

admitted by most of the business partners. Adding the economic crisis, the purchasing power decrease sharply and quickly, Caterpillar should face this uncertain situation. Besides, the different culture, different communications and different business models are also uncertain to Caterpillar in Chinese market.

- *Added –value in distribution channel:* The distribution channel should add more value by transaction between dealers and end-users. So the added value is important to all of the members involved in the channel. The basic function of the distribution channel is to build a bridge from the manufacture to end-users by adding products' and service value. However, the added value is not only focused in financial field, for Caterpillar, the social value, the enterprise value, the company culture are all very important for Caterpillar to enlarge the Chinese market. If this kind of added value is increasing, Caterpillar will strengthen the relationship with dealers.
- *Substitution of the manufacture:* As the leader of the engineering and construction equipment manufacture, Caterpillar obviously plays a very important role in the whole distribution channel, so it is not possible to be substituted in this field.

3.5 Channel flow function of Caterpillar's view: "Dealers are partners"

Caterpillar consistently uses its special distribution channel mode and wants to spread it all over the world. The "old partners" also accompany with Caterpillar to go to the Chinese market. To keep this kind of relationship as a kind of friendship, Caterpillar and its dealers have invested a lot in the distribution channel, which is based on confidence, dependence, and the mechanism of sharing benefit. Caterpillar and the dealers all know each other's benefits and also know how to get the most profit from the collaboration investment. Figure 3-2 shows the function of distribution channel in Caterpillar.

3.5.1 Functional flow: From Caterpillar to end-users

Form the figure 3-2; we should find that the distribution channel is from Caterpillar to dealer and then to the end users. Depending on the dealer's large capacity of distribution sales, and Caterpillar's good quality of the products, this distribution channel can be better implemented in practice. The stable relationship between Caterpillar and dealers guarantee this distribution channel.

3.5.2 Two-way functional flow in distribution channel

The negotiation, finance and risk are two-way functional flow between Caterpillar and its end-users. Because of the good relationship and collaboration between Caterpillar and its dealers, Caterpillar and dealers can attend the negotiations in some huge project together. Based on the statistics of Caterpillar, the important users of Caterpillar and its dealers lays 70% of the global users, which means that Caterpillar need to coordinate with the dealers to negotiate with this kind of large users in order to share the profits with each other.

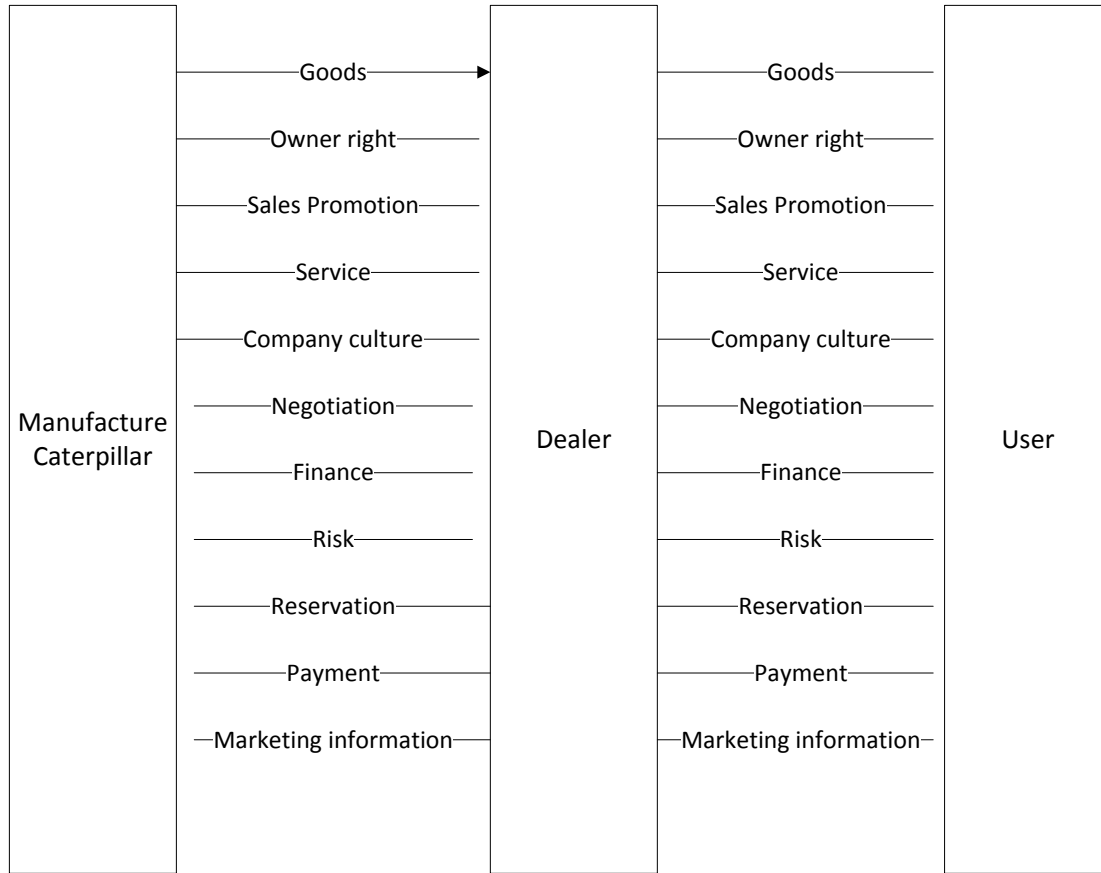


Figure 3-2 **Function of distribution channel in Caterpillar**

The international company always has the financial risks which accompanies with the estimation of investment, especially for Chinese developing market, it is too difficult to estimate and control the financial risk cost. Caterpillar hopes that the industrial capital and commercial capital should be separated in order to give Caterpillar more focus on the manufactures. As a result, Caterpillar needs to choose the strong dealers which have the ability of operating the commercial capital, to implement the function of sharing and controlling the financial risks.

For Caterpillar's culture, it is also provided for Caterpillar to add more value to end-users. With high efficiency, good credit, Caterpillar has made a very good impression on the end-users, which can add more loyalty on the clients.

3.5.3 **Conversed functional flow in distribution channel**

Caterpillar needs to hear from the end-users in order to get more information from them to improve the products, customer service and maintenance. Distribution channel is the "transshipment station" that can transfer the feedback to Caterpillar. In fact, the dealers can also provide good suggestions to Caterpillar which are about how to redesign the equipment, how to make the suitable machine for different customer's need. Caterpillar

listens to the customers and dealers carefully so that it can follow the market and face the dynamic condition easily and profitably.

3.6 Case story: Caterpillar's main competitor Komatsu distribution channel analysis⁶

3.6.1 Introduction

Komatsu was founded in May 13, 1921 in Japan. It is the second largest engineering and construction equipment manufacturers in the world. Komatsu China was founded in February 2001 in Shanghai. Its marketing strategy divides into four steps: (RobbertL.Cuffs, 2000)

1. Komatsu attended the Japanese industrial products exhibition in Shanghai and Beijing in 1956. It was the beginning for Komatsu to export industrial products to China.
2. In 1979, Komatsu had the technical collaboration with China Contract Factory, Shanghai PengPu machinery factory, Huanghe engineering factory and Shandong bulldozer factory.
3. In 1995, Komatsu-ShanTui Engineering Company, Komatsu (ChangZhou) Engineering Company, and Komatsu (ChangZhou) Foundry Company were founded in China.
4. Komatsu Investment Corporation was founded in Shanghai in 2001.

The marketing distributions channel as part of Komatsu's whole distribution plan plays a very important role in Komatsu, which should be suitable for product design, product price, information system, etc. In Komatsu's global distribution channel, Komatsu set different strategies for different market, especially for Chinese market. Komatsu has improved the traditional distribution channel and form a structure of managing distribution channel, which also added Sumitomo's channel and direct marketing channel. The Figure 3-3 below shows Komatsu's structure of marketing distribution channel.

The characteristics of Komatsu's dealers:

1. Komatsu's dealers can operate independently in the Komatsu's authorized district.
2. Komatsu's dealers can buy the products from manufactures in amortization. As a result, these dealers cannot control or own these products.
3. The dealers are not allowed to sell the same functional product as Komatsu's, but they can operate other types of products.
4. The dealers can participate into parts of the distribution activities.
5. The dealers should follow the rules that the Komatsu should choose and decide the end user then the dealers can do business with them.
6. The dealers don't need to set inventories. The products should be sent to end-users directly by Komatsu.

After considering the criteria of evaluating Komatsu's marketing distribution channel, it is found that the sale capability, sale-experience in local market, the enterprise's credits,

⁶ The author had chance to interview Komatsu's sales man and manager. However, because of the business scret, the market leader Doosan's case cannot be caught by theauthor.

the ability of communication with manufactures, identification, scale and strength, and management are mostly important factors which can influence the distribution channel.

In fact, when the Komatsu came to China firstly, it was uncertain and unclear to explore the strange Chinese market. Consequently, Komatsu chose the Chinese domestic distributors as their dealers so that they could build the distribution channel in the short term in order to catch the larger market share quickly. However, because of the weakness of the finance in these dealers, they couldn't afford so many financial risks and lacked enough funds. So the Japanese bank Sumitomo became Komatsu's partner to guarantee the funds. Sumitomo can buy all of the products from Komatsu's factory, and follow the needs of dealers to sell these products to them. As a result, the dealers can pay for Sumitomo within 3 months, sometimes, even be prolonged to 1-3 years.

These dealers are very familiar with their own-control districts so as to spread the relationship with the local distributors. They can know the different need from different users in different districts, and also can get the potential user's information some new projects from the government, and respond to the market frequently and quickly. These advantages make Komatsu become the top3 manufactures and providers in Chinese market very quickly. Until 2008, Komatsu's market share comes to 15.9% that lays the second place below Doosan Ltd. (16.6%).

Komatsu's marketing distribution channel shows some disadvantages: the higher loosen network, e.g. the manufactures, the distributors and the dealers are loosely connected among each other, and they even can negotiate with each other when the business happens. They also can compete in the market although Komatsu's products serve them all. As a result, the marketing distribution channel of Komatsu has become so loose and the members of the distribution channel lack enough loyalty, lack the same objectives, and lack the stability. That means these members can entry or quit the distribution channel easily, which brings high risk to Komatsu.

3.6.2 The improvement of distribution channel in Komatsu: from traditional level to managerial level

3.6.2.1 Objective of the channel

The distribution channel of Komatsu is professionally managed and integrally implemented as a network so as to achieve the goal of operation and the effect of the market. Komatsu has made the marketing rate, sales, and main activities as the objectives of the distribution channel.

- (1) Enlarge the quantity of the main products and increase the profits
 - Object-oriented end-user promotion
 - Strengthen the main market in some important provinces
 - Use the market information as much as possible
 - Catch the old clients
 - Promote export

- Sell the machines from import
- Expand the early market for new products
- Focus on the rental service

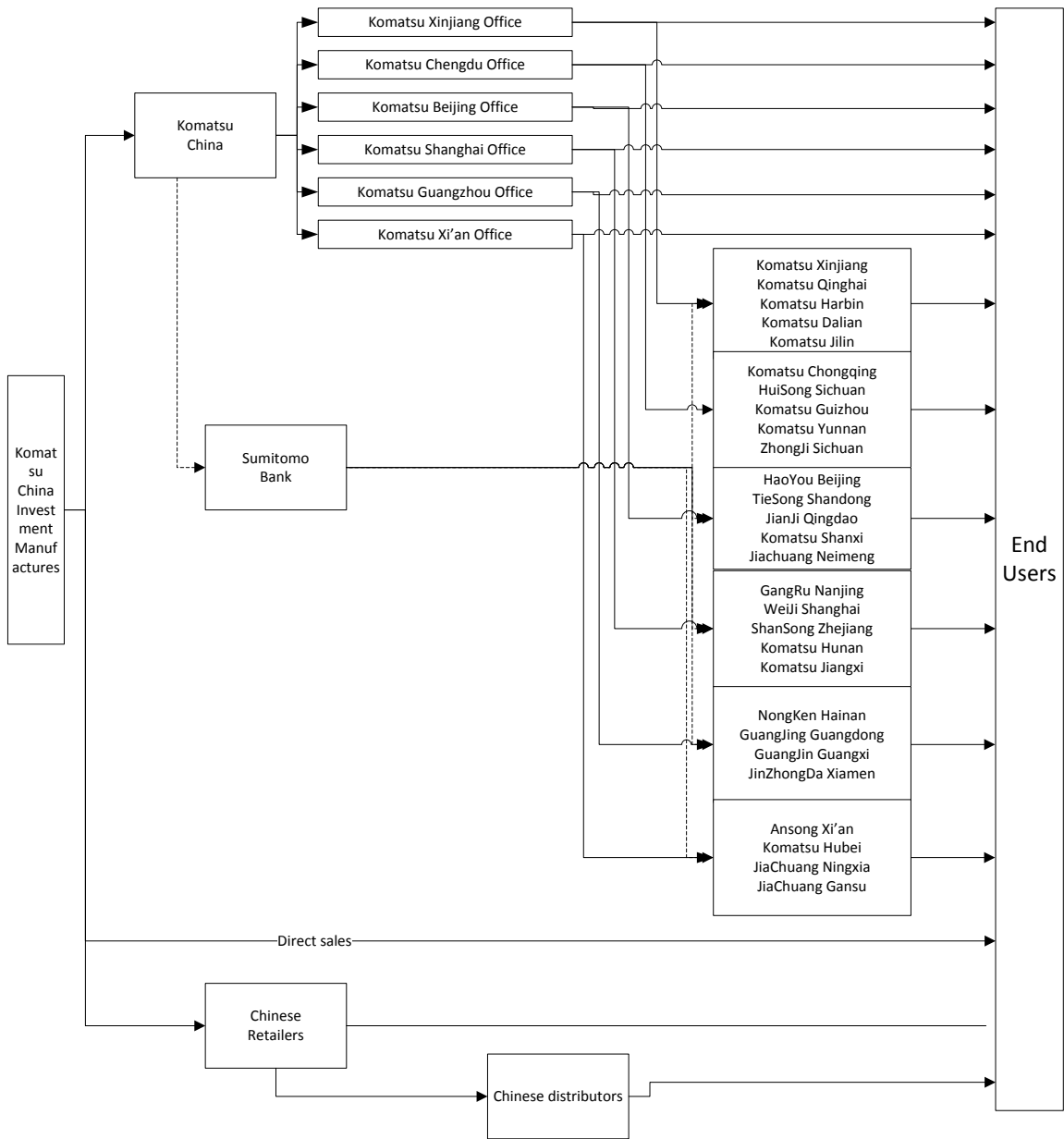


Figure 3-3 Structure of Komatsu's marketing distribution channel

(2) Sales promotion activities

- Sales stimulus policy
- Attract the clients in the sales districts
 - Visit factories
 - Visit the job site
 - Hold an exhibition
- Advertisement
 - Komatsu ChangZhou and Komatsu China
- Sales Promotion
 - Enough documents
 - Attend the national exhibition
 - Arrange the model for dealers.

(3) Improve the users' satisfaction

- Make the special products and accessories for Chinese users
 - Make the strategic plan
 - Digging the market and find the path of market entry
- User-related activities
 - Boss visits some big users
 - Technical communication
 - Technological training
- Quality improvement
 - Keep high quality of the product
 - Trace of the users
- Improve the ability of responding to emergency

(4) Master and strengthen the dealers

- Open new dealers
- Motivate dealers
- Whole payment & amortization
- Keep confidence

(5) Improve the system

- Organizational structure
- High efficiency
- Improve the sales skills
- Feedback
- Information update
- Research

3.6.2.2 Control the distribution channel

(1) Encouragement

In order to encourage the sales of the products, and enlarge the market share, the Komatsu has made some rules depend on the quantity of the sales for the dealers. Within the increasing quantity of the sales, the encouragement will be increased to the dealers.

Simultaneously, Komatsu stimulate the dealers to focus on the reclaiming the deposit from Sumitomo. After that goal, Komatsu will pay these rewards to dealers.

(2) Force

Depending on the market share and the sales, Komatsu also set some rules on the dealers. If one dealer hasn't achieve the goal in its district, or decrease the market share in one period, it will be punished by Komatsu, if severity, the level of this dealer will be declined in next season.

(3) Price

The price should be suggested my Komatsu, but in practice, most dealers will decide its own price in their own districts.

(4) Legal right

Komatsu will impact all dealers under the legal rights, which depends on its products and the word power.

3.6.2.3 Distribution channel support

Although Komatsu has built its own distribution channel, and in certain time Komatsu keep the necessary service and fulfill the customers' need, in order to implement the necessary and make the distribution channel more efficient, Komatsu has to support the distribution channel, especially for the small dealers who has not enough knowledge to increase the customs' loyalty, weak techniques support, low financial support, small scales, and to keep the quality of the products. As a result, Komatsu has made three strategies to complement the disadvantage of the dealers, which are shown as technical service training, promotion sales, marketing analysis, stock, transportation, and management.

(1) Technical support and Training plan

Any manufactures should be proud of its superior of technique and prestige. Komatsu has used its famous claim: "quality you can rely on" in the global market. In order to guarantee the distribution channel for Chinese market, Komatsu mostly focuses on the training program for dealers, and the technical support. As a result, Komatsu has built a training center in ChangZhou, Jiangsu province, which can make more users to know the maintenance, structure of the machine, how to use the machine correctly, and how to work on it more efficiently. In fact, this training center, which is built in 1994, promotes and supports the distribution channel. In this training center, Komatsu can provide the engineering and mechanical knowledge, engineering structures, maintenance, how to sell the new type of machine, how to deal with the stocks and inventories, and how to use the distribution systems via email, database and information systems. These kind of activities also encourage the dealers to increase the sales and also let them learn more technical and

sales skills, in order to make them more depend on Komatsu's product, have an understandable idea of Komatsu's product, and more loyalties in Komatsu.

Komatsu has assign 1-2 technical engineer to each dealer, provides technique support, also attend the distribution channel. With the appealing to learn more knowledge, Komatsu has sent more teachers to the dealers to train their workers. Simultaneously, Komatsu has developed a series of collaboration with some technical universities to store the potential Komatsu's engineers.

(2) Marketing promotion support

Komatsu has made the decision that to enlarge the profit of main product, so as to strengthen the sales in some important provinces with higher market share. Komatsu will make the plan with its dealers to decide which district they need to implement. If the dealers think that certain district or area need to be strengthen in some time, then Komatsu will help the dealer to invite users within this district to visit Komatsu's factory, understand Komatsu's culture, and invite them to some scene that they can use Komatsu's products successfully. Also, Komatsu will attend the national; exhibition, so that some important information will be shared by Komatsu's dealers and distributors. At the same time, Sumitomo also provides some fund to support Komatsu's dealers and subsidies them in a period.

(3) Information support

Information has become very important in distribution channels in global market. Komatsu mostly focus on the collecting information from global market, which can be shared by its Chinese dealers, distributors and end-users. Also, Komatsu can collect some information from some developing countries such as India so that Komatsu can transfer some successful experience from these countries to Chinese market.

3.6.2.4 Direct sale

Komatsu's direct sale plays a very special role in its whole distribution channel. The Komatsu's factory can sell their products directly to the end user although they can also provide the products to the dealers. After checking the information, it is found that the Komatsu's direct sale is the same as the dealer's sale. As a result, the dealers always complain about Komatsu's distribution channel.

After analyzing the distribution channel theories, we have found the reason why Komatsu prefer to insist the direct sales mode. Komatsu thinks that the conflict between Komatsu and dealers will not become deteriorated gradually, because Komatsu and its dealers have their own channels and different objective customers, also they provide different services. The important factors that can insight the strategy in Table 3-2:

Table 3-2 Actor analysis on channels between direct sale and distribution

User's need	Degree of user's need	
Understand the information of the product	High	Low
Make the product	High	Low
Keep the quality	Important	Not important
Set the quantity	Large	Small
Fulfill all of the types	Strong	Weak
Provide the products stably	Strong	Weak
Logistics service	Complicated	Simple
Customer service	Strong	Weak
Suitable distribution channel	Direct sale	Distribution sale

For Komatsu, to understand the information of the product is very important. Because of the complicated technique of the large machine such as excavator, the end-user looks forward to knowing the information of the products systematically and fully. So it is suitable for Komatsu to set this direct sale mode in order to meet the user's need.

Based on the different project which the customers attended, the difference of the product should be considered as a very important factor for the sellers. So that is why Komatsu prefers to set direct sale mode to fulfill these special users' need.

To keep the quality of the product is also attractive to the clients. Most of the customers, especially the Chinese customers, prefer to buy the products from the manufactures directly, which means they lack some confidence from the dealers. That is why Komatsu choose direct sale and get better profits from that.

Depending on the cost of the machines, most of the users can not afford extra fees from dealers, so they choose Komatsu as the best suitable business partner and buy its product directly.

The engineering users do not mostly focus on the type of the machines. The engineering equipment is very standardized by Komatsu, so it is not suitable for dealers to sell them differently.

For construction equipment users, obviously they will not buy the machines continually, so, the stable provision belt from the dealers will not attractive to the customers.

The logistics is also very completed to the end-users, so they expect to get the machine directly, and don't hope to make some trouble during the period of the transportation from the dealer.

The manufacture will not set all of the offices in each city, so Komatsu needs the dealers to enlarge the customer service that can make a stable network to fulfill the customers' need and maintenance.

3.7 Comparative analysis on distribution channel between Komatsu and Caterpillar

3.7.1 Main difference between Caterpillar and Komatsu on marketing distribution channel

Caterpillar and Komatsu are both international company that just come into Chinese market. For marketing distribution channel, these kinds of international companies should find a suitable mode to involve in the Chinese market, which owns different rules, marketing structure, and concerned politics. For Caterpillar and Komatsu, they have explored different marketing distribution channel that can face the big challenge in Chinese market. In this chapter, we explore these two different modes and try to analyze the difference between Komatsu and Caterpillar, and give comparative analysis on the distribution channel.

3.7.1.1 Different distribution channel length

In the marketing distribution channel, the first policy design is the distribution channel length. Distribution channel length is that how many mediate-distributors in the process of distribution. When the product come from enterprise to the end users, in the long supply chain, there are different distributors that can be on responsible for the transportation, sales service, and the ownership, etc. for each distributors, we called them “a level in the distribution channel”. In fact, if there are more levels, which means the distribution channel length is long, if there are less levels, which means the distribution channel is short. Considering the characteristics of the equipment, we have found that the short distribution length is better suitable for this field.

For Caterpillar and Komatsu, they are both international company that can provide the high quality service to customers in distribution channels in Chinese market. However, Caterpillar and Komatsu have different standards on selecting the dealers, so the dealers and manufactures have different trust degree, financial ability, and sales. As a result, Komatsu has longer distribution channel than Caterpillar. From the tables above we could see that Komatsu has a amount of small dealers which cannot afford high financial risk so that the manufacture have doubt about the dealers, which impacts the collaboration between manufactures and dealers although they have long distribution channel.

3.7.1.2 Different distribution width

The distribution width means how many dealers the enterprise can use in the distribution channel. Because of the character of the engineering and construction equipment, the end-users prefer to choose some dealers to provide customer service and maintenance. In order to have the agreement on the price, sales promotion credits and service, both Caterpillar and Komatsu prefer the dealers, which cannot allow selling the same type of the products from other manufactures. However, we could see that in Chinese market, Caterpillar has only 4 dealers, and Komatsu has more than 30 dealers. So Komatsu has wider distribution than Caterpillar. Komatsu hopes that they can get more distribution

cover in all over China by enlarging the distribution channel width. In other aspect, Komatsu also can use direct sale as another mode to strengthen the sales ability in some further areas, although they have some conflicts between each other among the dealers and Komatsu. As a result, Komatsu has more market share than Caterpillar.

3.7.1.3 Distribution collision

The members of the distribution channel have their own pursuing benefits, so they have inevitably collision between each other. The factors of the successful sale show in Table 3-3:

Table 3-3 Factors of successful sale

Manufactures	Dealers	End-users
Product quality	Service quality	Service quality

The distribution collision between different dealers is concern about the influence of distribution efficiency, how to control the distribution collision, and the reason why the collision happens. Since Caterpillar pursues “Dealers are partners”, the dealers also have some small collision, which can be coordinated by dealers themselves.

However, there are also some *horizontal collisions* between members which are on the same level in distribution channel. Because of the wide distribution channel, Komatsu has stronger collision than Caterpillar, so as to decrease the distribution efficiency. The Chinese market is not only simply divided into different districts, in fact, there are also some big organizations, industrial sectors and larger projects which are over pass specific districts. Their concerned sales are more than one single provincial dealer’s sale. However, they only focus on the sales competition, ignore the service and post-service, even buck-passing. For example, the revenue rate of Komatsu’s dealers’ sale is only 10% of Caterpillar.

More seriously, the Komatsu’s *vertical collision* happens in Chinese market. Komatsu has met some difficulties in communicating with the dealers because these dealers are most in short-term collaboration. Comparing with Caterpillar’s long-term agreement with dealers, Komatsu forces the dealers to sign the contract every year. The way of choosing the dealers in Komatsu is very subjective. All depends on the Komatsu’s managers’ decision. As a result, after one year temporary contract, whether to stop the contract or keep it is to discuss and comprise between Komatsu and dealers. Comparatively, Caterpillar asks the dealers have no less than 100 million investment in Chinese market which can make long-term strategy in Chinese market. So Komatsu only focus on the short-term market share, but Caterpillar focus more on the long-term development in Chinese market.

3.7.1.4 Distribution channel control

The distribution control is defined as “the ability of influence other members in distribution channel”. Distribution channel is actually how to assign the power to

different members in the channel, in order to get the balance that can make the distribution channel has good collaboration among different members so as to meet the need of the objective market. Considering Komatsu and Caterpillar's coordination with dealers, they have the same policy on prizing the dealers by stimulation. However, Caterpillar prefers the stability and the standardization in distribution channel. Caterpillar will not increase or decrease the prize of the dealers sharply and immediately. On the other hand, Komatsu changes the bonus stimulation policy very frequently which depends on the changing market share, in order to change the sales ability of the dealer. Caterpillar has this intensive relationship with dealers, so it is not necessary to force the dealers or control them with power. But for Komatsu, they need to use power or strengthen the dealers to change or improve the distribution channel, or adjust the objective of the sales. For Caterpillar, it is good for keeping this relationship in the long term so as to keep increasing market. In contrast, Komatsu can adjust the sales objective very quickly in the short term so as to catch large market share.

The information power is also very important for distribution channel. The member of the distribution channel can increase the power of the distribution channel by collecting the information and giving explanations. Caterpillar's dealers are all foreign companies; as a result, they are not very familiar with Chinese market information. Komatsu can get more help from the local dealers, which can provide Komatsu enough information. So, Komatsu can own more power in the market information. In the short term, obviously, Komatsu can control most of the market with the help of local dealers, but the risk is to decrease the amount of the small dealers, which can broke the relationship between Komatsu and domestic dealers. However, in the long term, Caterpillar has already kept the stable relationship with dealers, with similar company culture and objective in Chinese market.

3.1.7.5 Distribution efficiency

After searching the data from the engineering and construction equipment industry, we have analyzed the market, and find the different types of the machines and the different market share, which can show the distribution efficiency.






Although Caterpillar is the world's top manufacture in engineering and construction equipment, in Chinese market, Caterpillar has fallen behind the others' competitors: such as Komatsu, Doosan, etc. The Table 3-4 below shows the Chinese market share in 2008:

Table 3-4 Engineering and construction equipment sales in Chinese market

Manufacture	Total	Pins
DOOSAN INFRACORE AMERICA CORP.	11774	16.57%
KOMATSU LTD.	11278	15.87%
HITACHI	10285	14.47%
HYUNDAI	8006	11.27%
KOBELCO / KOBE STEEL LTD	5224	7.35%
CATERPILLAR	5218	7.34%
YUCHAI	3059	4.30%

SANY HEAVY INDUSTRY COMPANY, LTD.	2703	3.80%
VOLVO CONST. EQUIP. NA, INC.	2535	3.57%
FOTON	2225	3.13%
LIUGONG	2075	2.92%
SUNWARD	1983	2.79%
SUMITOMO	1056	1.49%
KYM-CHINA	754	1.06%
SHANDONG	612	0.86%
CARTER	596	0.84%
XIAGONG	515	0.72%
XCG	469	0.66%
LISHIDE MACHINERY	239	0.34%
PENGPU	189	0.27%
ATLAS-WEYHAUSEN	160	0.23%
LIEBHERR	113	0.16%
BOBCAT CONSTRUCTION EQUIPMENT	1	0.00%
Grand Total	71069	

After checking the Engineering and construction equipment sales in Chinese market, we find that Caterpillar's market share lays only 7.34%, which is behind

Doosan (16.57%),  Komatsu (15.87%), 
 Hitachi (14.47%),  Hyundai (11.27%), , and Kobelco (7.35%). 

All of the successful competitors are Asian manufactures, which means they are very familiar with the Chinese market, and have a good way to increase the sales and have good relationships with the dealers which can help them to enlarge the developing Chinese market.

For Caterpillar's managers, they also need to notice the Chinese domestic competitors such as YuChai (4.30%), Sany Heavy (3.80%), etc. Because these Chinese manufactures have very good relationship with the local dealers and local government, considering the special Chinese politics and society, in some fields, the Chinese government supports the domestic manufactures and gives some positive policies to them, which can help them to get more reservations and projects. Caterpillar should make policy on the special situation that this American company should afford some risks to avoid potential changed and dynamic policy.

As a result, considering the product sales, we can find that Caterpillar's distribution efficiency is not good enough, which shows as culture, policy, relationships and distribution mode. For Komatsu, it is more successful in Chinese market than Caterpillar, although it is over passed by Doosan, which means Komatsu focus only on the short term development, and ignores the development in the long term in the future.

3.1.7.6 Distribution negotiation

When we analyze the engineering and construction equipment market, we have found that Komatsu has used the strategy “Relationship distribution” which is dependent on the degree of familiarity of Chinese market. Komatsu and its dealers can find the entry point to go into the market, with the help of dealers’ good negotiation skills. However, because of the profit share of different dealers, including Komatsu, all of the dealers pursue the most profit so as to decreasing the price gradually in Chinese market. With the competitive price, Komatsu has got larger market share in Chinese domestic market, but the profit of the dealers are decreasing lower and lower. By contrast, the dealers of Caterpillar are not flexible enough, and less negotiation skills, so that is why Caterpillar’s market share in China is less than Komatsu because of the weak distribution negotiation.

However, Caterpillar has very good credits and the good quality. Because of its distribution channel, the enterprise culture and influence can impact the end-users, which mean “Caterpillar” brand can give itself added value. In the long term, Caterpillar will own amount of loyal users, which should make Caterpillar’s market share increasing stably and quickly.

3.1.7.7 Financial service

In the distribution channel of engineering and construction equipment, the negotiation function can promote the price or the contract in order to transfer the ownership. However, because of the special Chinese market and the character of the engineering and construction equipment, the ownership transfer should be implemented by financial service.

The price of the engineering and construction equipment is always big. As a result, the end-users often meet the restriction of the funds when they want to purchase the equipments. They hope to pay for the equipments step by step, not immediately at once, which is suitable for their schedule of the project. First of all, the Japanese company Hitachi used this strategy firstly, so as to enlarge the market share in Chinese market. Not more than one season, Hitachi’s sales are further more than Caterpillar and Komatsu. At that time, Komatsu responded this new competitive strategy immediately. Komatsu collaborate with Sumitomo in the distribution channel, which sets the highest rate of market share as its main objective. Simultaneously, the other competitors all changed the strategy, such as Hyundai, Kobelco, etc. They set very low price as the payment in the first period, and catch the market share. In this situation, Caterpillar and its dealers have to catch up with other competitors.

This kind of financial service for sales has enlarged the Chinese market; however, owing to the specification and uncertainty in Chinese market, this can also give manufactures and dealers more risks than what they expected.

For caterpillar’s dealers, they have bought the ownership from Caterpillar, so if they implement the installment policy, the Caterpillar’s dealers should implement the function

of the finance in distribution channel, also they need to afford the financial risks. Because the Chinese bank cannot provide the service that guarantees the installment policy, Caterpillar and its dealers must evaluate the users who want to pay with installment. However, in Chinese market, there are a lot of feasible revenue and potential risks, and also the market cannot be controlled by Caterpillar, so Caterpillar and its dealers should check and control the amount of users who can use installment policy, which depends on the credits, feasibility of the user's projects, location of the project, etc.

For Komatsu, they have a different way to implement the financial service function in the distribution channel, which is showed as its market strategy in distribution channel. The dealers of Komatsu haven't got the ownership of the equipments from Komatsu and Sumitomo, so in the distribution channel, the cash flow is not at the same pace as the logistics. The dealers get the products from Sumitomo, which gets machines from Komatsu, and give installment to Sumitomo. When the dealers get the payment back from the users, they can pay Sumitomo. However, because of this relaxation of the distribution channel, some dealers use this time step to invest other financial products when the sales are increasing immediately and quickly. This is another kind of financial risks. In the long term, the financial risks will become the financial crisis that can decrease the efficiency of the whole distribution channel, so as to disturb the sales order, be harmful for the members of the channel, even broke up the whole distribution channel.

3.1.7.8 External investment capital involved in Komatsu

Sumitomo is a Japanese bank that can provide enough loans to Komatsu's dealers so as to help them to solve the lack of the funds. Komatsu needs Sumitomo to implement the function of cash flow and the familiarity of the trade and sales channel, in order to enlarge the market share. Sumitomo lies in between Komatsu and dealers, which can prolong the Komatsu's distribution channel. Sumitomo provides the loan to more than 30 dealers of Komatsu in Chinese market, and make relationship with each dealer, so as to improve the management. As a result, Sumitomo decreases the uncertainty of Komatsu's distribution channel.

However, Sumitomo has already afforded the financial risks, so that they only focus on the dealers' operation and payment back. For Komatsu, they more focus on the sales and market share. So this situation increases the risk of vertical conflict in the distribution channel. Sumitomo also involved in some management in the whole distribution channel so that the distribution power will be shared by Komatsu and Sumitomo, by checking and choosing the end user.

3.7.2 Different operation objectives is the main reason for the difference between Caterpillar and Komatsu's distribution channel

3.7.2.1 Standardized or differentiation strategy in global market

Global international distribution is the process that from one enterprise (manufacture) to the foreign end users or consumers. It is the necessary intermediaries which can transfer

the ownership. International marketing distribution is a cross-boundary activity which can attract the businessmen from different countries, different culture and different life styles. The most different point from domestic distribution is the changed external environment. As a result, international companies should face different politics, laws, social structures, culture, education, art, language, character, religions, and value, especially for China. So Caterpillar and Komatsu must face this different market, with different background. How to build and choose a high efficient distribution channel is the most important strategy in Caterpillar and Komatsu.

The distribution channel system is a crucial external resource for both Caterpillar and Komatsu. It is founded for a lot of time, not immediately, or in a short time. Not like the price or sales promotion, which are the changeable tools to influence the market share frequently, distribution channel should be stable and not be changed in the short period. In Chinese market, distribution channel represent the promise that the enterprises can provide to their long term policy and practice. These policies and practice will compose a very big relationship network, which may cost a lot of money, and get very high risk, even lose the whole market. As a result, when to build or choose the distribution channel, Caterpillar and Komatsu should consider the environment of distribution and the tendency in the future, in order to make the distribution channel more suitable for the dynamic future in Chinese market.

Komatsu and Caterpillar represent two kinds of international company with different culture: Japanese mode and Anglo Saxon mode, which can be explained as differentiation and standardization. Komatsu focus on the differentiation in the distribution channel in Chinese market, and has made the distribution channel strategy which are suitable for Chinese customers' consumption level, and the level of Chinese market development. However, Caterpillar more focuses on the standardization in the global market, which can influence the Chinese customers so as to catch up with the quality level of Caterpillar, and the special culture.

Above all, there are different objectives between Caterpillar and Komatsu in Chinese market. Caterpillar considered China as a very huge and potential strategic market, which equal to American and European market. So Caterpillar has made the strategic distribution channel which will bring profits in the future. Comparatively, Komatsu only set Chinese market as the basic production transformation from Japan to China. So Komatsu more focuses on the benefit or market share in the short term.

3.7.2.2 Comparison between Caterpillar and Komatsu's operation objective

After considering the operation objective of Caterpillar and Komatsu, we have found the comparison between them, which is shown in Figure 3-4:

Figure 3-4 Comparison between Caterpillar and Komatsu's operation objective

	Komatsu	Caterpillar
Market share	1	4
New product & service	2	5
Rate of return (ROR)	3	1

Social influence	4	6
Employees' salaries	5	7
Shareholder's ROR	6	2
Internationalization strategy	7	3

From this comparison, we have found that Caterpillar more focus on the rate of investment, and shareholder's rate of return on investment. Also, Caterpillar set internationalization as a very important strategy in the future. By contrast, Komatsu more focus on the market share and develop the market. That is why Komatsu has got much larger market share than Caterpillar in current situation.

Caterpillar is a typical American shareholder-structure company. The shareholders control the CEO or operators by the board. If the operation efficiency become low or the board cannot supervise the operator, the shareholders will drop the stocks to the stock market so that the company has the risk for being purchased by competitors. And at time same time, the stock price will decrease, the bank will stop loan to the company. As a result, this mature mechanism can supervise the operators automatically and effectively. That is why Caterpillar more focuses on the rate of return on investment.

Komatsu's management structure is non-shareholder style. The stable shareholders of Komatsu will keep the stocks although Komatsu has lower rate of return on investment in one certain period. So Komatsu's stock price will keep stable. On the other hand, Sumitomo is the second largest shareholder in Komatsu, but Sumitomo didn't focus on the financial situation of Komatsu, so Komatsu hasn't received more pressure from capital market. Owing to this mechanism, Komatsu has made the strategy that can promote to enlarge the market share and sales in Chinese market rather than rate of return on investment.

Different operation objectives make different distribution channel strategies. For Caterpillar, because of the profit and rate of return, Caterpillar should response the dynamic market as soon as possible, even change the CEO if necessary. But for Komatsu, because they most focus on the market share rather than profits, so they tend to keep the existed distribution channel and make it stable to operate in the future.

3.8 Summary

In this chapter, we have analyzed the Caterpillar's distribution channel, Komatsu's distribution channel and the comparison between Caterpillar and Komatsu, in order to find the different modes between Asian-mode and American-mode, so as to find the advantage which is from Komatsu to transplant or use for reference by Caterpillar.

Also, we have analyzed the structure of the whole distribution channel in engineering and construction equipment industry in China. As a result, we can find the tendency that how Caterpillar can rebuild or improve the distribution channel in this special market. It is a basement that can be ready for rebuilding distribution channel which will be shown in chapter 4.

Chapter 4 The adaptive and innovative distribution channel mode of Caterpillar in Chinese domestic market

4.1 Distribution channel design

4.1.1 Segmentation for marketing channel design

4.1.1.1 End-user channel preferences

End-users (both business to business buyers and individual consumers) purchase products and services of every sort. Yet it seems that more than just the product itself is important to the buyer. Considering the specialty of the engineering and construction machines, it is better for end-user to come to the service point of Caterpillar to listen to the engineers and service staffs to explain the function and the superior of Caterpillar's machine, why not to choose other brand, and what is the added value of Caterpillar's machine if the customers buy it. As a result, Caterpillar should more service points in China. Table 4-1 shows in South China, which the area is controlled by Caterpillar's dealer: CEL-CN, compare with Komatsu's service points. We should find the differences between them.

4.1.1.2 Service outputs

Service outputs is to describe how the end-user wants to buy a particular product, which is explained in details by *Bucklin*. He specifies six generic service outputs: (1) bulk-breaking, (2) spatial convenience, (3) waiting or delivery time, (4) product variety, (5) customer service, (6) information provision.

Bulk-breaking refers to the end-users' ability to buy their desired (possibly small) number of units of a product or service even though they may be originally produced in large, batch-production lot sizes, some disparity between purchasing and consumption patterns will emerge, burdening end-users with product handling and storage costs. Consequently, the more bulk-breaking the channel does, the smaller the lot size end-users can buy and the higher the channel's service output level to them (Bucklin, Lous P, 1966). This, in turn, can lead to a higher price for the end-user to cover the costs of providing small lot sizes. Caterpillar should consider that the excavator for example a very large machine so that they can only sell one by one rather than amount. So at this point, Caterpillar can continue using their service points, but should add more than before in order to provide more service conveniently.

Spatial convenience provided by market decentralization of wholesale and/or retail outlets increases consumers' satisfaction by reducing transportation requirements and search costs. Caterpillar has four dealers which can cover the whole China. The dealers can arrange the transportation and logistics to the end-users; however, because the dealers are not Chinese domestic distributors, they are not more familiar with the local market in different districts. As a result, Caterpillar should help the dealers and send the market representatives to inquiry the local market. And find the good way to provide spatial convenience to the clients.

Waiting time is the time period that the end-user must wait between ordering and receiving goods or post sale service. The longer the waiting time, the more inconvenient it is for the end-user, who is required to plan or predict consumption far in advance. Usually, the longer end-users are willing to wait, the more compensation they receive. Caterpillar's dealers have their own office in different districts, which can help them to transport the machines from the local factories. However, Caterpillar can also have the strategy that invest or purchase the local producers or competitors such as ShanGong and XiaGong so that they can use their own distribution channels to help clients to save waiting time.

Considering the product variety, we have found that the wider the breadth of variety or the greater the depth of product assortment available to the end-user, the higher the output of the marketing channel system and the higher the overall distribution costs, because offering greater assortment and variety typically means carrying more inventory. Variety describes generically different classes of goods making up the product offering, that is, the breadth of product lines. The term assortment, on the other hand, refers to the depth of product brands or models offered within each generic product category. In excavator market, Caterpillar provides different types of excavators, which are shown in Appendix B Excavator Market Analysis in China. From these data, we should find that Caterpillar only focus on certain types such as 320D, 307C, 330D, 324D and 305.5DL. We can also find that Caterpillar's main competitors have got more market share than Caterpillar on some types. As a result, Caterpillar should strengthen its original types that they produced and increase the market share, rather than increase the number of types of the products. Considering the cost of inventory, Caterpillar can also consider to decrease some types which have less market share.

Customer service refers to all aspects of easing the shopping and purchase process for end-users as they interact with commercial suppliers or retailers. With the help of the dealers, Caterpillar has built a very large network of post service, which can provide the

customer enough technical and training service. In the future, Caterpillar should send more engineers to the dealers to help them deal with the customer service.

Finally, the information provision refers to education of end users about product attributes or usage capabilities, or pre-purchase and post-purchase services. Caterpillar has built the product information system which can be shared with its dealers. Also, Caterpillar should build more information database to provide more details about the machines and provide training courses to the end-users in the future.

4.1.1.3 Segmenting the market by service output demands

Service outputs clearly differentiate the offerings of different marketing channels, and the success and persistence of multiple marketing channels at any time suggests that different groups of end users value service outputs differently. Thus, to effectively apply the concept of service outputs to channel design, we must consider the issue of channel segmentation according to service output demands. This means segmenting the market into groups of end-users who differ not in the products they want to buy but also in how they want to buy them.

The Figure 4-1 shows the proposed channel structure. The full service segment is best served through two possible channels, one including value-added resellers (VARs) and one including dealers as intermediaries. These intermediaries are capable of providing the specific and high levels of service outputs demanded by the full service segment. At the other end of the spectrum, the lowest total cost segment can be served suitably through a third-party supply channel that outsources most functions. This low-cost, low service output channel provides precisely the combination these customers desire. The responsive support segment and the reference/credentials segment can be served through similar channels, but the latter segments' desire for validation of the seller makes the additional use of associations, events, and awareness efforts a valuable addition to the channel offering.

For Caterpillar, it is suggested that Caterpillar should get more support from third-party supply outsource such as Sumitomo did for Komatsu. Because of the expensive price of the machine, more Chinese clients cannot afford this price in the short term or immediately, so that they need the financial associations to support them or guarantee the credits.

FUJIAN	Komatsu	Caterpillar	GUANGDONG	Komatsu	Caterpillar	GUANGXI	Komatsu	Caterpillar	HUNAN	Komatsu	Caterpillar
FUZHOU	PHQ	PHQ	GUANGZHOU	PHQ	SC	NANNING	PHQ	PHQ	CHANGSHA	PHQ	PHQ
QUANZHOU	SC	SC	SHENZHEN	SC	SC	GUILIN	SC	SC	HENGYANG	SC	SC
LONGYAN	SC		DONGGUAN	SC	SC	BAISE	SC	SC	CHENZHOU	SC	SC
NANPING	SC		HUIZHOU	SC		WUZHOU	SC		HUAIHUA	SC	SC
SANMING	SC		ZHUHAI	SC		LIUZHOU	SC		JISHOU	SC	SC
NINGDE	SC		ZHONGSHAN	SC		HECHI	SC	SC	XIANGTAN	SC	
PUTIAN	TC		JIANGMEN	SC		QINZHOU	SC		ZHUZHOU	SC	
XIAMEN	SC	SC	HEYUAN	SC		CENXI	SC		LOUDI	SC	
ZHANGZHOU	SC		MEIZHOU	SC		GUIGANG	SC		SHAOYANG	SC	SC
FUQING	SC		SHANTOU	SC	SC	HEZHOU	SC		CHANGDE	SC	SC
SHANGHANG	SC	SC	SHANWEI	SC		Total Point	11	4	ZHANGJIAJIE	SC	
DATIAN	SC		CHAOZHOU	SC		HAINAN	Komatsu	Caterpillar	YIYANG	SC	
YONGTAI	SC		JIEYANG	SC		HAIKOU	1	1	YUEYANG	SC	
YONGAN		SC	MAOMING	SC	SC	Total Points	1	1	Total Point	13	8
JIANYANG		SC	ZHANJIANG	SC		JIANGXI	Komatsu	Caterpillar	XINJIANG	Komatsu	Caterpillar
Total points	13	7	YANGJIANG	SC		WULUMUQI	PHQ	PHQ	KUERLE	SC	PHQ & TC
			YUNFU	SC		NANCHANG	PHQ	PHQ	AKESU	SC	SC
			SHAOGUAN	SC	SC	JI'AN	SC		KASHI	SC	SC
			QINGYUAN	SC		SHANGYAO	SC	SC	SHIHEZI	SC	SC
			ZHAOQING	SC		PINGXIANG	SC	SC	BEITUN	SC	
			FOSHAN	SC	PHQ	JINGDEZHEN	SC		YINING	SC	
			Total Points	20	7	JIUJIANG	SC		HAMI	SC	
						GANZHOU	SC	SC	HETIAN	SC	
						XINYU		SC	Total Point	8	4
						Total Point	7	5			

PHQ=Provincial Headquarter

SC=Service Center

TC=Technical Center

Table 4-1 CEL-CN & Komatsu Service Points in South China

4.1.2 Supply side channel analysis

4.1.2.1 Channel flows defined

It is necessary to analyze the supply side channel, which can be divided into eight generic channel flows as Figure 4-2 shows below. Specific channel members may specialize in performing one or more flows and may not participate at all in the performance of other flows. It may be tempting to remove a particular channel member from the channel, but the flows performed by that channel member cannot be eliminated. When a channel member is removed from the channel, its functions need to be shifted to some other channel member to preserve service output provision in the channel. The only exception to this rule would occur if the eliminated channel member were performing flows that were already being performed elsewhere in the channel, so that its contributions to service output provision were independent distributor sales representative might call on the same customer, resulting in wasted effort and cost. The channel is better off using one or the other, but not both.

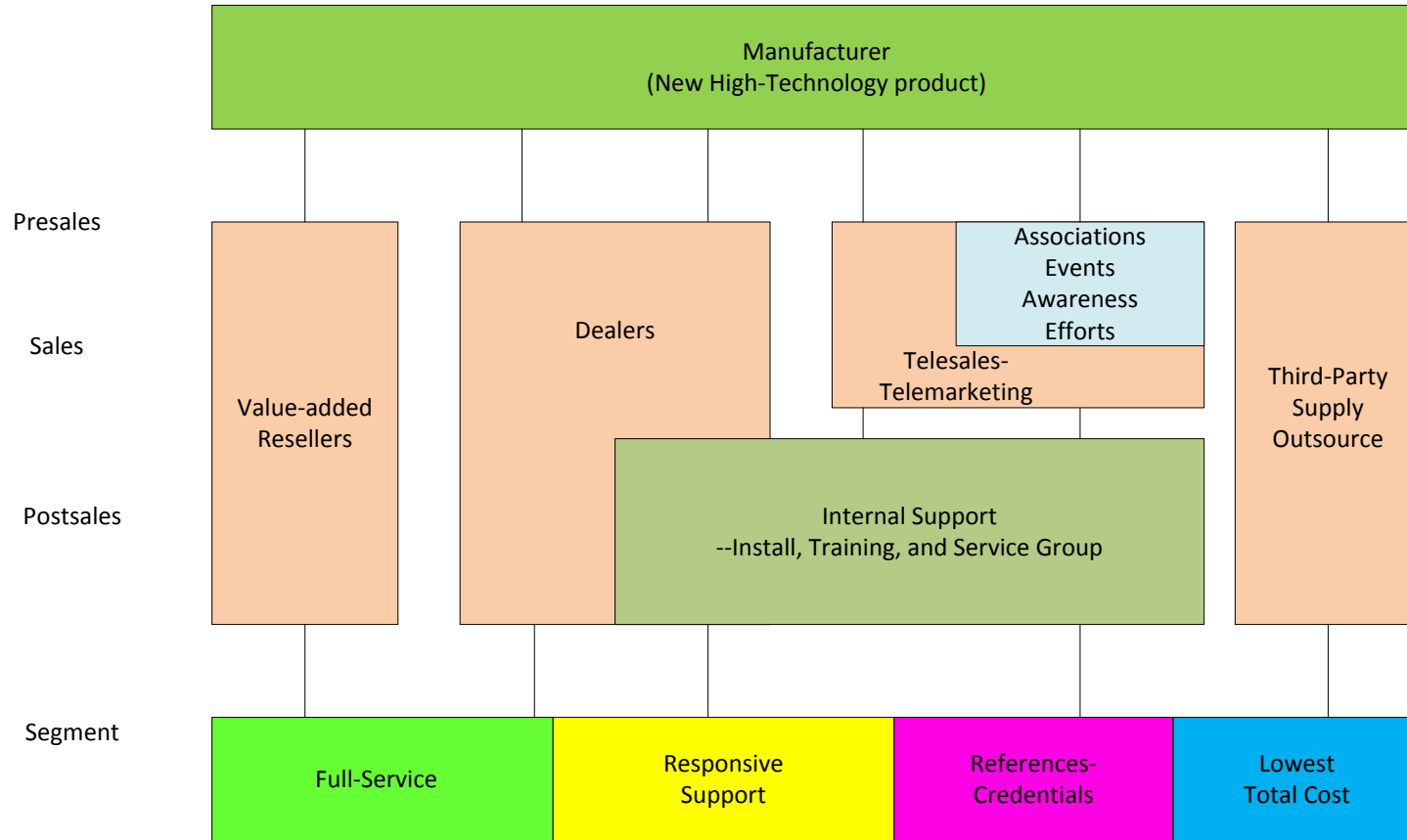


Figure 4-1 Ideal channel systems for business-to-business segments buying a new high technology product⁷

⁷ Source: Reprinted with permission of Rick Wilson, Chicago Strategy Associates, copyright, 2000

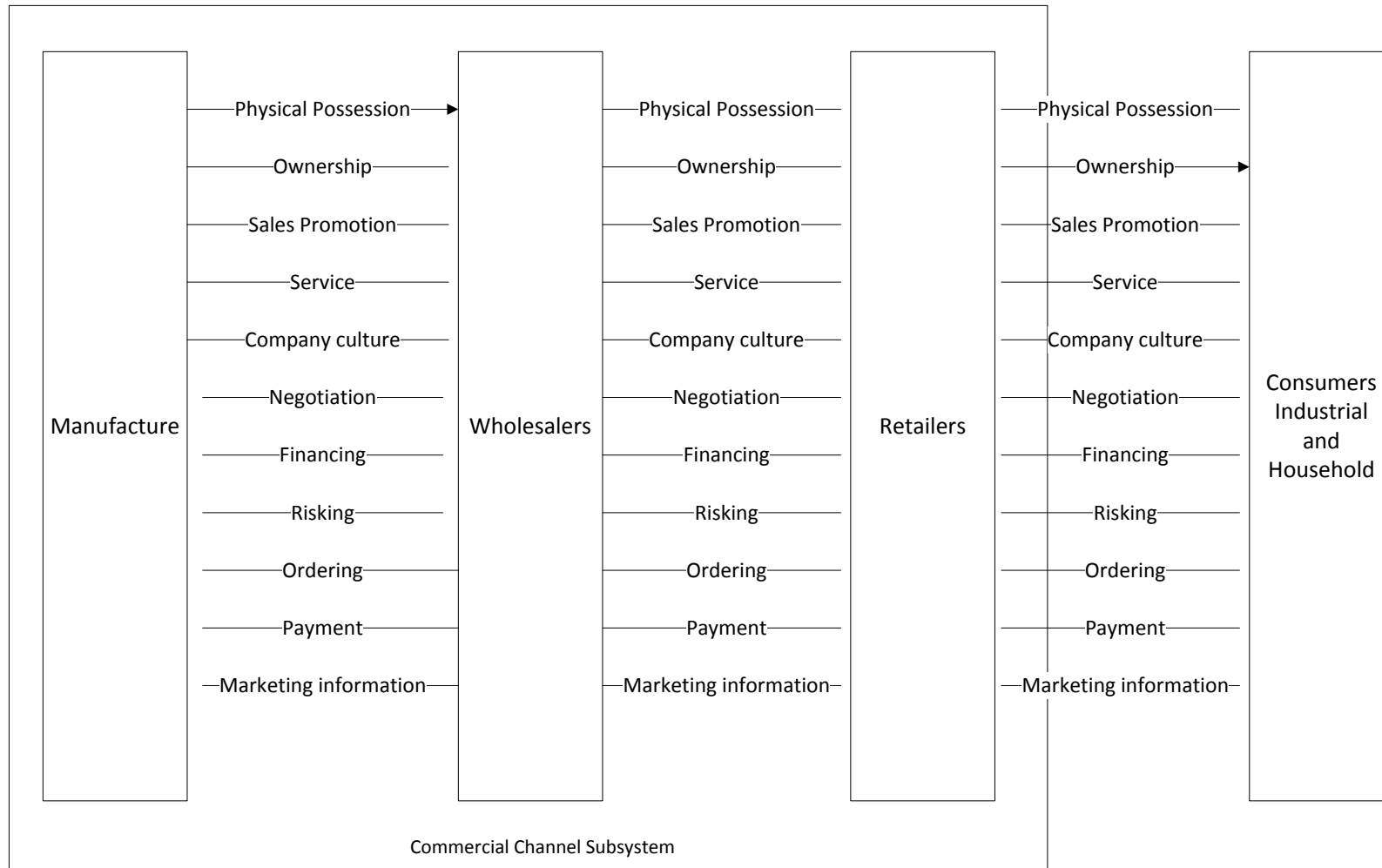


Figure 4-2 Marketing flows in channels

4.1.2.2 Reverse logistics

Product returns generate a whole host of costs that are often ill-understood (or completely ignored) by the manufacturers, distributors, or retailers accepting the returned goods. Furthermore, returns are very significant in many industries, especially in engineering and construction equipments industry. Given the high cost of handling returns, some retailers have put tighter controls on consumers seeking to return merchandise (Van Ryzin, Garrett, 1997). Managing returns well becomes even more imperative for firms at all levels of the channel. Figure 4-3 shows when an end-user returns a product, that unit can end up in one of many places. In general, retailers appear to have invested more heavily in reverse logistics management technologies than have manufacturers using automated handling equipment (31% vs. 16%), bar codes (63% vs. 49%), computerized returns tracking (60% vs. 19%) and entry (32% vs. 19%)⁸. More generally, a third-party independent specialist in reverse logistics can engage in a 360 degree management process combining state-of-the-art flow management both for outbound initial shipments and subsequent returns.

4.1.3 Gap analysis

Gaps in channel design can come about simply because management has not thought carefully about target end-users' demands for service outputs or about managing the cost of running their channel. The advice in this situation is simple: Channel managers must pay attention to both the demand side and the supply side in designing their channel to avoid these gaps. However, gaps also can arise because of bounds placed on the best-intentioned channel manager. That is, managers seeking to design a zero-based channel for the company's product may face certain constraints on their actions that prevent the establishment of the best channel design. Before diagnosing the types of gaps, then, it is useful to discuss the bounds that create these gaps. After identifying the gaps (supply-side and demand-side), the gaps should be managed through multiple means: changing the roles of current channel members, investing in new distribution technologies to reduce cost, or bringing in new distribution function specialists to improve the functioning of the channel. Figure 4-4 shows that how Caterpillar should implement gap analysis.

⁸ Chopra, Sunil and Peter Meindl, Supply chain management, 2nd edition, 2003

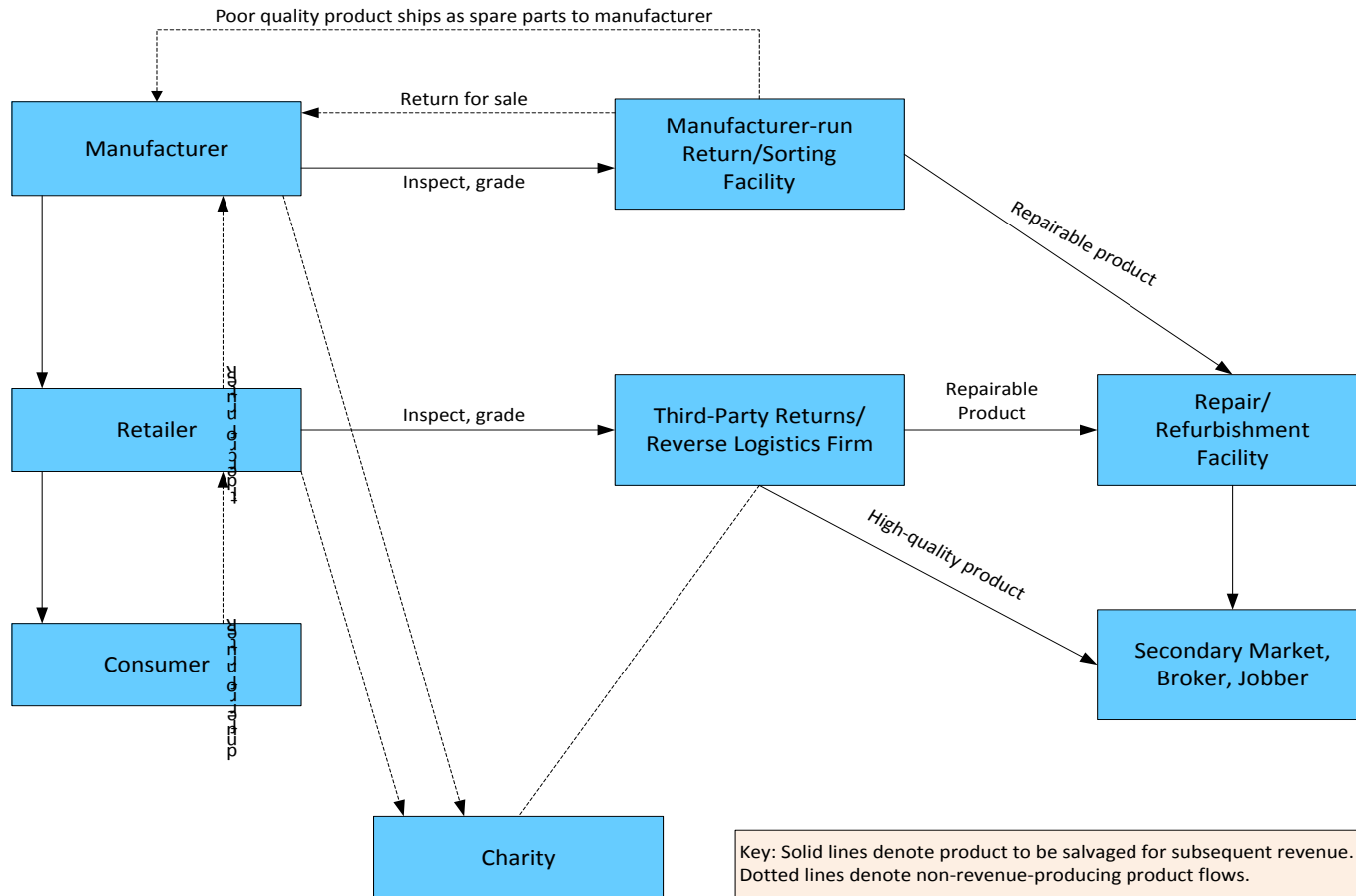


Figure 4-3 Possible pathways for returned product⁹

⁹ Anne T. Coughlan, Erin Anderson, Louis W. Stern, Adel I. El-Ansary, Marketing channels, 7th edition, p85, 2005

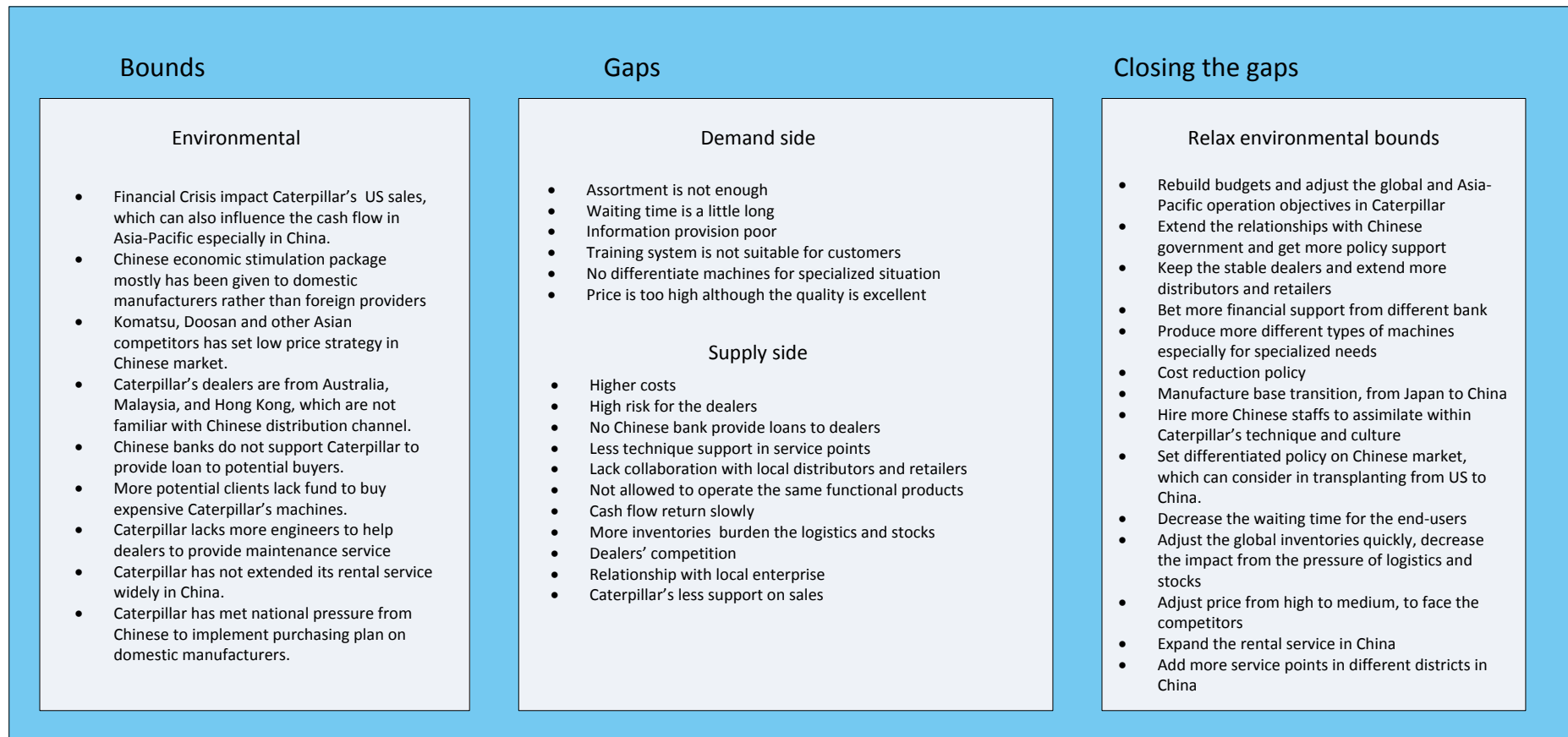


Figure 4-4 Gap analysis

4.2 Technology Dynamics view: Transition management from existed distribution channel to innovative mechanism

4.2.1 Technology dynamics

Technology dynamics is a study of technology development from a societal perspective and the possibilities or impossibilities to steer; determinants and mechanisms of technological variation and social selection (actors and factors). Technology dynamics are concerned technology and society, which involved socio-technical systems (hardware) and technological regimes (software). Socio-technical systems include technology, relevant actors, and institutions. Technological regimes include technology, engineering knowledge and values. There are three steps to implement technology dynamics: technology assessment, technology forecasting, and transition management.

In our case, it is about the improvement of Caterpillar's distribution channel mode. In the technology dynamics view, we should use transition management as our methodology to fulfill the innovation in marketing distribution channel field. Because of the existed mature technology in engineering and construction machines field in Chinese market, which can meet the end-user's need, we should focus on the transition management to find the advantages and disadvantages of the existed distribution channel model, and to improve it to make it suitable for the special Chinese market which lies in the different social structure and culture (social regimes).

4.2.2 Socio-technical system analysis

In this case, the main problem is "*How can Caterpillar increase the distribution efficiency in Chinese market during financial crisis and its aftermath?*" It is redefined as "*How can Caterpillar improve the distribution channel in Chinese market during financial crisis and its aftermath?*" Considering this situation, we should use socio-technical system analysis to make it clear about the system boundary, actor involved, criteria to evaluate, and the external factors. In this system model, we can find the implementation of Caterpillar: Add local distributors, decrease price, stimulate dealers by sharing benefits and reduce the cost. The external factors show that the threat from financial crisis, competitors' pressure and declining market needs; the opportunity from Chinese economic stimulation package, and Chinese policy oriented in engineering machine market. It is clear to show the actor involved in this distribution channel improvement and it is also useful to make SWOT analysis later to find the details about the system improvement. Figure 4-5 shows the system analysis as below.

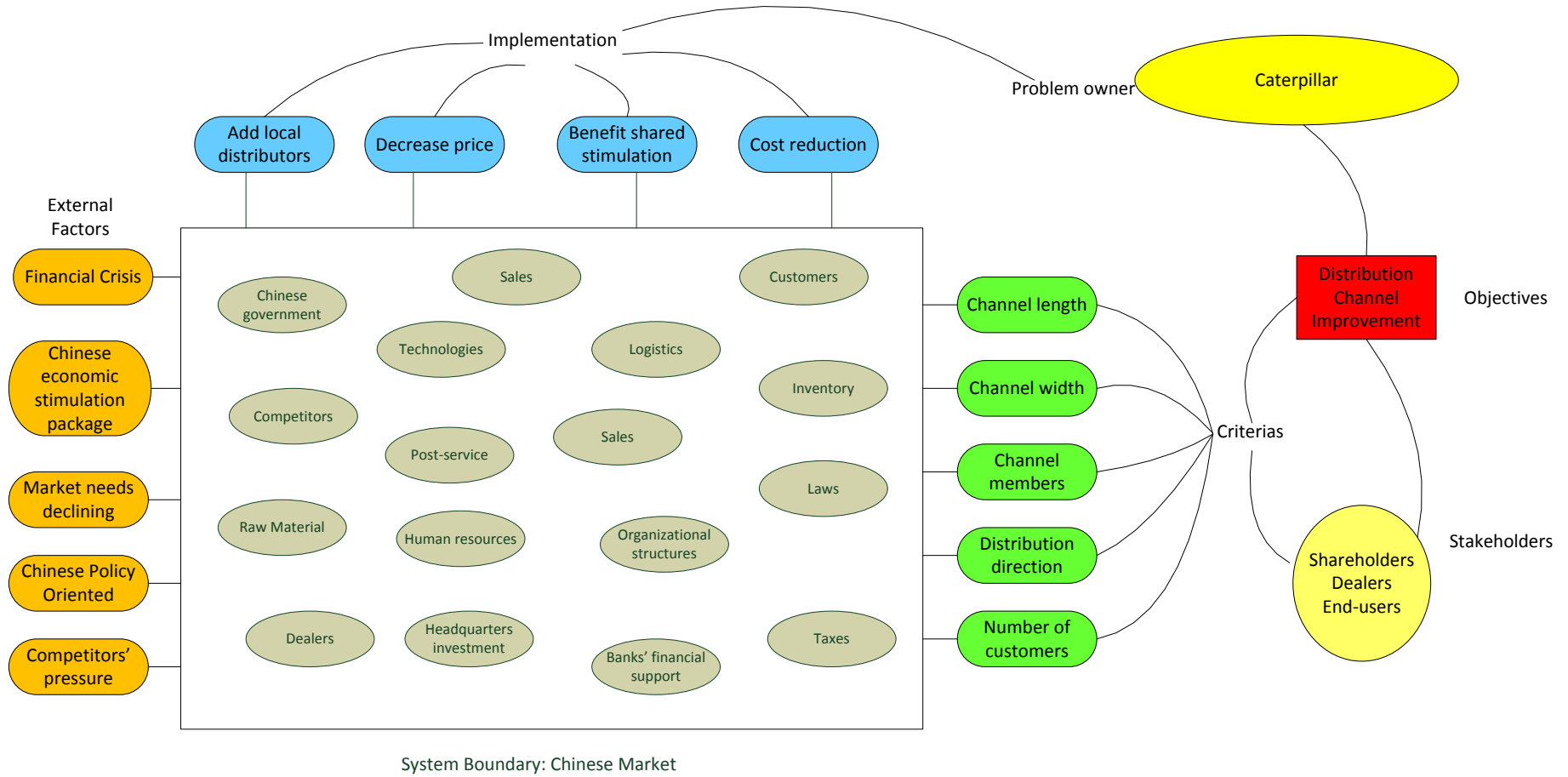


Figure 4-5 Socio-technical System Analysis

4.2.3 SWOT analysis

After we analyze the social-technical system in Caterpillar's case, we should use SWOT analysis to find the Strength, Weakness, Opportunity and Threat. Figure 4-6 shows the SWOT analysis.

The Caterpillar's strength in Chinese market is its product, stable dealers, culture & credit and long-term development strategy. The engineering machines such as excavators of Caterpillar have excellent quality. Because of this quality, the end users are very dependent on Caterpillar's machine. The stable dealers are also very important to Caterpillar. Caterpillar has four stable dealers which are operating in the whole China region. These four dealers (WESTRAC, LEISHINGHONG, CEL-CN and ECI-METRO) are chosen very strictly by Caterpillar, which are dependent on its channel chain, company culture, credits, and steady clients. Caterpillar's managers also need to set a long-term strategy in Chinese market, which means they set Chinese market as the same importance as North America and Europe market. However, the weakness of Caterpillar is the low market share, strong competitors, less distributors and expensive pricing. The competitors such as Komatsu, Doosan, and Volvo are very strong and have higher market share than Caterpillar. Also, the number of Caterpillar's dealer is not enough to enlarge the big Chinese market. Because of the excellent quality, the price of Caterpillar's products are always high, which also hider Caterpillar to catch more Chinese users.

In this special period, we have faced the world financial crisis. So the threats are even more severe: the financial crisis which impacts Caterpillar's North American market, the uncertain Chinese policy which only supports national domestic manufacturers, domestic competitors' wider distribution channel, and more dealers of competitors. However, Caterpillar can also catch the opportunities such as the huge need for engineering machine in China, advanced technology support, and more local governments' collaboration. Caterpillar has made a manufacture base transition from Japan to China, and open more institute centers to support technologies. Also, Caterpillar has been starting to extend the relationships with local government so as to get more policy support from them. At the same time, Caterpillar tries to invest or purchase the local manufactures such as ShanGong, and XiaGong, also attend the stocks in XuGong, and LiuGong. In order to enlarge the dealer's network, Caterpillar still need to extend the network not only depends on the four dealers' support, but also gets more domestic service points to complement the sales network in Chinese market.

Internal capacity	Strength	Weakness
	<ol style="list-style-type: none"> 1. Excellent quality of product 2. Steady dealers support 3. Good company credit and culture 4. Long-term development strategy in Chinese market 	<ol style="list-style-type: none"> 1. Low market share in China 2. Strong competitors (foreign & domestic) 3. Less distributors & dealers 4. Expensive pricing
External factor		
Opportunities	SO	WO
<ol style="list-style-type: none"> 1. Huge need for engineering machine in China 2. Advanced technology support 3. More local governments' collaboration 	<ol style="list-style-type: none"> 1. Master stable partnership with retailers 2. Enlarge distribution channels 3. Collaboration with domestic competitors 	<ol style="list-style-type: none"> 1. Market share oriented 2. Build more service points 3. Attract more distributors
Threats	ST	WT
<ol style="list-style-type: none"> 1. Competitors have more dealers and wider distribution channels 2. Chinese policy uncertainty 3. Domestic competitors' wider sales channel 4. Financial crisis influence 	<ol style="list-style-type: none"> 1. Increase number of steady dealers 2. District sales management in details 3. Strategic collaboration or purchase channel 4. Investment transition from US to China 	<ol style="list-style-type: none"> 1. Keep stable market share during financial crisis 2. Estimate Chinese dynamic policy 3. Rate of return oriented 4. Cost reduction policy during financial crisis

Figure 4-6 SWOT Analysis for Caterpillar's situation on distribution channel

4.2.4 Actor analysis

In Caterpillar's distribution channel, we have found that the Caterpillar Asia-Pacific headquarter, Chinese local government, banks, dealers, service collaboration partners, end-users and the competitors are the concerned actors involved. Caterpillar Asia-Pacific headquarter is responsible for making strategic policy and arrange the distribution channel. It also needs to report the decision to US, in order to get the authorization of the Caterpillar headquarters. The Chinese local government also plays a very important role in the distribution channel. The local government can make policy to influence the Caterpillar's dealers and end-users on sales. For example, in Guangxi province, because of the existed domestic competitor LiuGong, the local government has given pressure on the local potential clients in order to only buy the products from LiuGong, not from other manufacturers such as Caterpillar.

The banks are also needed to support the small buyers to provide loans and guarantees to help them afford the expensive engineering machines. Like Sumitomo did with Komatsu, the Chinese banks can also provide loans to Chinese enterprises especially during this financial crisis; the Chinese banks have enough funds to support them. However, because of the protection policy, Chinese banks are authorized not to be allowed to provide loans for foreign manufacturers' clients. So Caterpillar should find other path to get support not only from banks but also from other financial institutes.

The service collaboration partners can provide maintenance and parts changing service. So they are the channel members, too. Caterpillar should extend the sales network by supporting these service partners in the future. Table 4-2 shows the actors.

Actor involved	Function
Caterpillar Asia-Pacific Headquarter	Make decisions and strategies on distribution channels
Chinese local government	Make policies on the engineering machine market
Banks	Provide financial support to Caterpillar
Dealers	Buy the products from Caterpillar and sell them to end-users
Service collaboration partners	Provide maintenance services with the technical support from Caterpillar

End-users	Buy the machines from dealers and get to be trained by Caterpillar's engineers
Competitors	Provide the engineering machines with the same function of Caterpillar's products

Table 4-2 **Actor analysis**

4.2.5 Transition management

After analyzing the socio-technical system, and SWOT, we have found that the Caterpillar's original distribution channel should be improved because of the changed Chinese market. From American market to Chinese market, Caterpillar needs to have a very clear outlook in different market, especially focusing on the policy, culture and market structure. Although the technology mostly has become mature, with facing the different users' need, Caterpillar still need to produce the differentiate machines for different special users.

Figure 4-7 shows the transition management structure of the Caterpillar's distribution channel.

Caterpillar has set the global distribution channel mode, which we have talked about in Chapter 3. We have found that there are five transitions in Caterpillar's new challenge:

- **Differentiation in Chinese market**

When we consider the distribution channel, the Chinese market is a mixture which is composed of geographical market, product market and customer market. The differentiation becomes very obvious in Chinese market. In East china, there are very intensive logistics in network, which can transport the Caterpillar's products directly or spending less time to the end-users. By contrast, in the middle of China, the transportation infrastructure, distribution systems, and logistics cannot catch up with the development of the market, which means the products entry the market with high cost. In West China, the needs are less than East China, and also the service cost is very high. Considering these different distribution environment, Caterpillar's unified distribution model is obviously not suitable. As a result, standing by the transition management view, Caterpillar should change the channel into differentiation, for example, give more profits to ECI-Metro in West China, and also loosen the fixed price in order to give the flexible price to catch big market share.

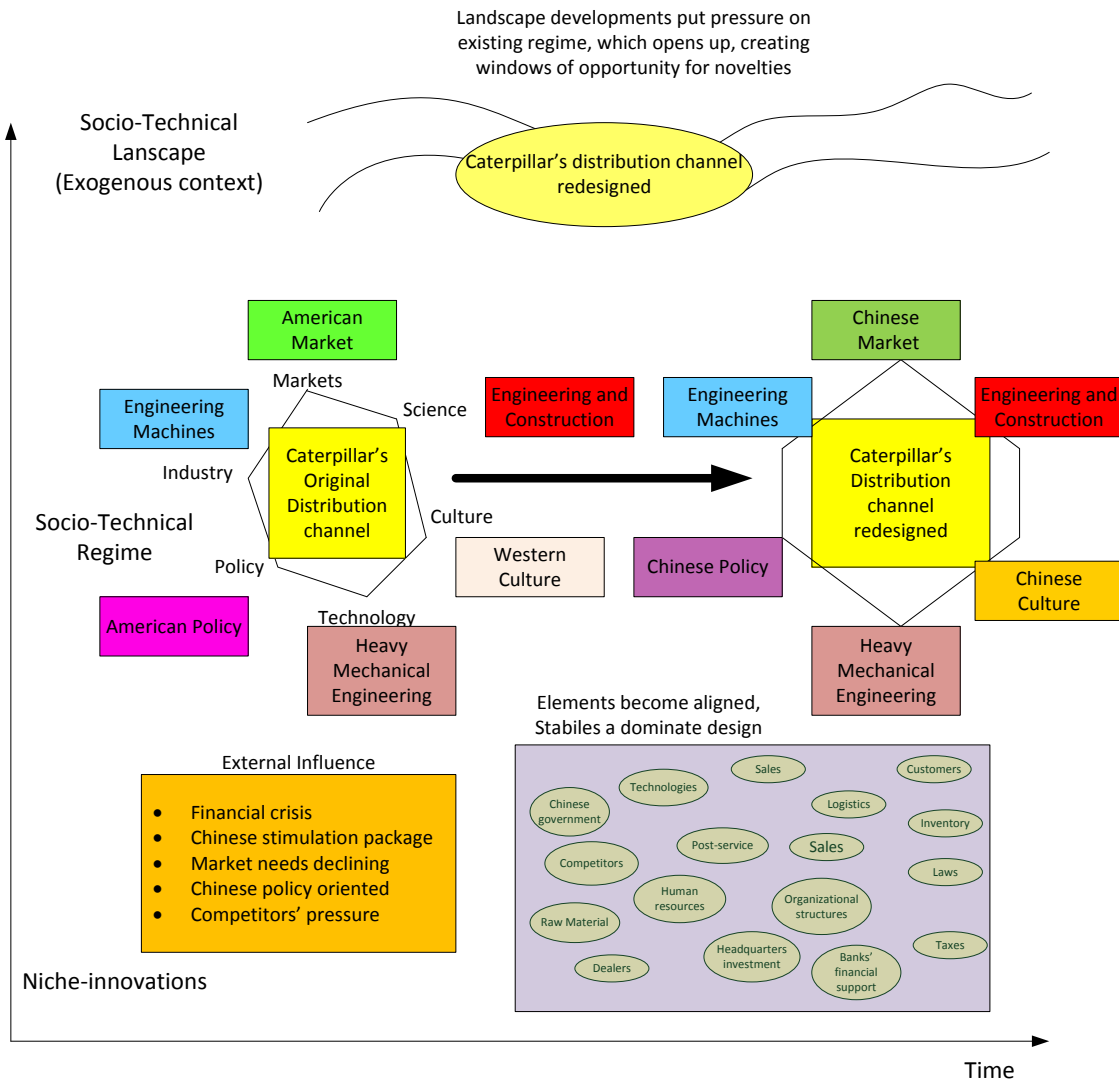


Figure 4-7 Transition management structure

● **Differentiation in customers**

Caterpillar’s customers are divided into very specific types, which means Caterpillar more focus on the high-level users and the most profits are from them. However, although Caterpillar has very high rate of profits in Chinese market, it has very low market share. Simultaneously, Caterpillar mostly focuses on the financial risks especially in the financial crisis. As a result, Caterpillar has set the standardization on the Chinese users, which means Caterpillar almost ignored the low-level user, and lost most of the market share. In the future, Caterpillar should make decisions on differentiation of the customers so that attract other potential users in the market.

- **Enlarge the cover of the distribution channel**

The Chinese market has the geographical characteristics, so that the geographical and transportation situation will impact the customers to search for the products, and also influence the users to get the maintenance and accessories changing service. In different districts of China, the transportation fee is very different. As a result, Caterpillar needs to enlarge the cover of the distribution channel. Considering the educational level of the customers in different districts, most of the Chinese users need engineers to provide technical service.

- **Use Chinese special distribution system effectively**

In China, the local governments have their own policy to develop their district economy, which means in different provinces or cities; they have their own distribution systems rather than national distribution system. The price of the national transportation tools such as railway, airline, highway, and inventory are relatively high. As a result, the national or local enterprise will more suit for this special situation other than foreign companies such as Caterpillar. So Caterpillar should change the distribution system strategy, and set district distribution system.

- **Attach importance to localization**

Caterpillar should attach importance to localization in Chinese market. Compared with Komatsu, Caterpillar and its distribution channel is like a “foreign company”. Besides Caterpillar, the dealers Westrac, ECI-Metro, Leishinghong, and CEL-CN are all foreign companies, and with most foreign managers and staffs. Caterpillar’s operation division center lies in Hong Kong, not in China mainland, which means there is no global logistics center in China, it is obviously not enough to enlarge and explore Chinese market in the future. So Caterpillar should switch the operation center to China mainland, and rebuild different logistics in different districts, also hire more local managers and staffs to manage the Chinese market.

4.3 Summary

Chapter 4 analyzed the possible establishment of Caterpillar’s distribution channel in the future, which is based on the theory of marketing distribution channel. Also, we use technology dynamics to stand at the different point in order to provide actor and factor analysis, system analysis, and SWOT analysis so as to find the advantage and disadvantage of the reestablishment of Caterpillar’s distribution channel. In the end, we use transition management to provide the crucial steps which need to improve the existed Caterpillar’s distribution channel model.

Chapter 5 Conclusion and recommendation

In this chapter, the author will give the final conclusion and recommendation. As it is said before in Chapter 1, this chapter will divide into two parts: conclusion and recommendation. In the conclusion part, there are two parts of final conclusion: the possible strategies of improvement in the existed distribution channel for Caterpillar, and the transplantation policy from the special Chinese distribution mode. In the recommendation part, we will provide four recommendations which are for Caterpillar specifically, for American & European companies, for Asian companies and for Chinese domestic companies, which are concerned about the distribution channel establishment in the Chinese market.

5.1 Conclusion

5.1.1 Caterpillar's possible strategies of improvement in the existed distribution channel

In the situation of declining engineering and construction equipment market, Caterpillar should adjust its long term strategy and switch to focus more on the short term objectives which can help itself survive in the Chinese market during the financial crisis. Caterpillar should differentiate the Chinese market from other mature US or EU markets. Caterpillar should change the channel into differentiation, give more profits to its local dealers in China, and also loosen the fixed price in order to give the flexible price to catch big market share. In addition, Caterpillar should make policy on the flexible pricing, which can attract the most Chinese low-level users, in order to master their loyalty and Caterpillar's brand in the future. In the future, Caterpillar should enlarge the cover of the distribution channel; add more offices in second-level or third-level cities in China. Caterpillar should use the local resources to build the whole service chain so as to provide not only the whole machine maintenance service but also the accessories service even if these service points not only Caterpillar's service. Also, Caterpillar should try to get the support from the local government and local financial institutions in order to provide loans for local end-users which cannot afford the expensive machines.

In one hand, Caterpillar's culture is to choose the suitable and creditable clients and prefer them to establish a long term collaboration relationship. On the other hand, this culture will hinder most of the small users which are not high educated, and has less funds or loans. Caterpillar should make flexible user policy in order to attract more users and also need a kind of mechanism to guarantee these users have enough credits, which can get help from local law and local governments. Figure 5-1 shows the possible Caterpillar's strategies of improvement in the existed distribution channel.

5.1.2 Transplantation policy from the special Chinese distribution mode

In Chinese market, Caterpillar should learn from other competitors which are more familiar with than Caterpillar itself. After analysis of Caterpillar's distribution channel, we can find the transportation policy from the special Chinese distribution mode, which can be divided into two aspects: policy level, and technology level.

In the policy level, Caterpillar should know how to keep relationship with local Chinese government, and how to confluence in Chinese style. It is a necessary path to follow the dynamic Chinese political situation and try to enlarge business in Chinese style in order to get the agreement from Chinese stakeholders. Also, Caterpillar should make differentiation policy on the Chinese market so as to fulfill the characteristics of Chinese marketing distribution channels.

In the technology level, the information collection, logistics and operations management are the necessary factors which Caterpillar should clarify and set different scenarios from the United States. Caterpillar should make sure the different channel of collecting information in China, even from Chinese domestic governmental sectors, and know the basic structure of logistics and operation management in China, so as to improve the compatibility in Chinese market.

When the policy transplantation has been used, the traditional way and the innovative way have their own different results. If the direct sales, adding the amount of dealers, marketing sales oriented policy, lower pricing policy and blindness expansion policy are implemented; the results should be unsuccessful, because of the special Chinese market, and the long-term strategy of Caterpillar. By contrast, we suggest that Caterpillar should master loyal dealers, keep supervision on dealers, set profits oriented policy, make flexible pricing policy, and keep balance between market share and long term development, which can pursue Caterpillar to develop sustainably and healthily. On the other hand, to involve Caterpillar's global development strategy, Caterpillar should transit the Asia pacific manufacture center to China, in order to strengthen the marketing sales and keep stable marketing channel so as to get steady increasing profits in the future. Figure 5-2 shows the policy transplantation in Caterpillar in the future.

Figure 5-1 Caterpillar’s possible strategies of improvement in the existed distribution channel

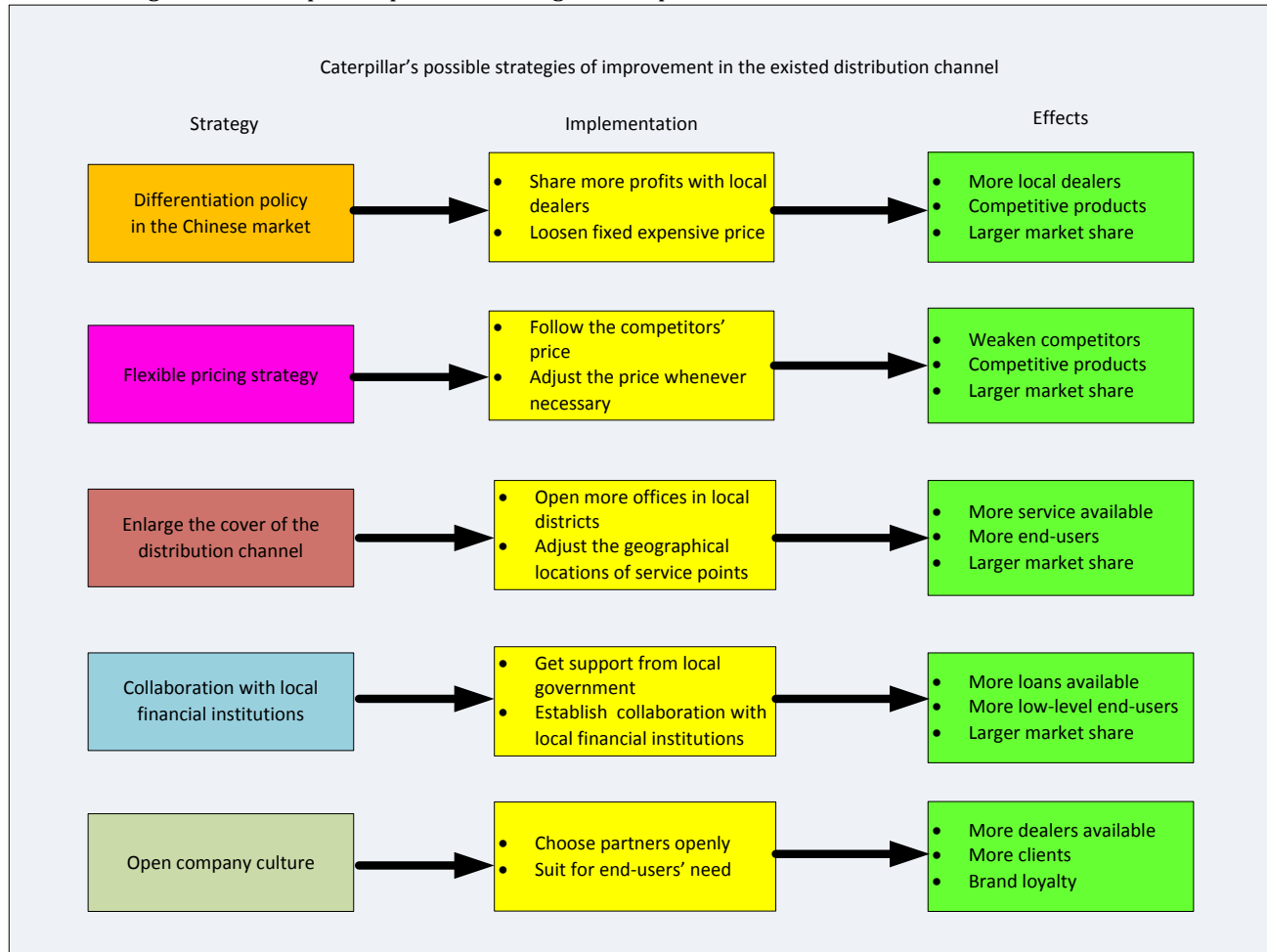
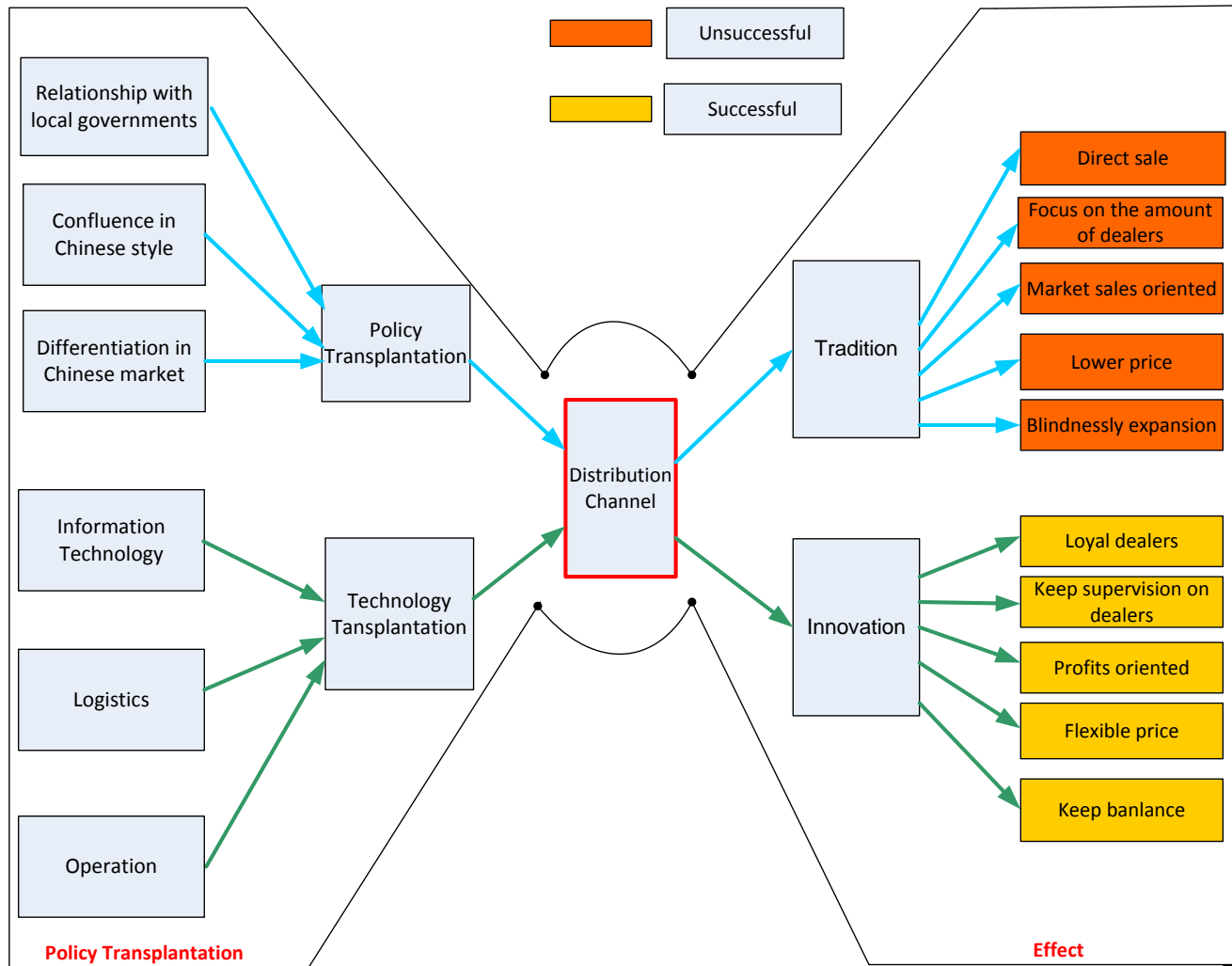


Figure 5-2 transplantation policy in Caterpillar



5.2 Recommendations

5.2.1 Recommendations for Caterpillar and other European and American international companies

For Caterpillar and other European & American companies, they should more focus on the marketing sales. In order to explore in the Chinese market, they must firstly consider the market share and the brand loyalty in order to grasp the stable group of clients. It will spend a lot of time to build a strong distribution channel, but it is necessary to build. Simultaneously, they should use the local resources to expand the market so that the market share will be increased. Most of the European and American companies only focus on the long-term strategy, and pay attention to build the strong distribution channel but ignore the market share, so that the Chinese users cannot afford the high cost of the product which adds the cost of building the distribution channels. As a result, they should firstly get the guarantee the market share and at the same time, to build the strong channel to keep sustainability.

5.2.2 Recommendation for Asian international companies and Chinese domestic companies

For Asian international companies and Chinese domestic companies, the common weak point is that they only focus on the market sales and the profits in the short term; ignore the importance of the distribution channel and the brand loyalty. They should strengthen the distribution channel construction, and set long-term strategy for the sustainability. As a result, the distribution channel is the guarantee of the future, and they should use the advantage of familiarity of Chinese culture, Chinese custom and Chinese market structure to build the distribution channel quickly and directly. In the long run, they should survive in Chinese market not only dependent on the quality of the product, but also on the stable distribution channels.

5.2.3 Contradiction between US-EU companies and Asian-Chinese companies' strategy

In the Chinese market, there is a dynamic environment that can provide both opportunities and challenges. Considering the characteristics of US-EU and Asian-Chinese companies, it is concluded that there should be a contradiction of strategy between them. The US-EU companies have their own culture, rules and existing methods, but they must survive firstly in the Chinese market and need to compensate their loss in other parts of the world market. As a result, they need to survive in the Chinese market depending on the market share firstly. After they have grasped enough market shares, they can permeate in the whole Chinese market which can use their own methods.

The Asian-Chinese companies have special superior in the Chinese market: culture, potential rules and more service points. However, because they mostly focus on the profits in short-term period, they haven't built the whole development plan for long-term. Also, because of the management mechanism, Asian-Chinese companies always play a follower role in the market, not an explorer, so they need to increase the innovation and long-term oriented slight, in order to improve the competency of themselves.

References

Abel I. El-Ansary and M. Bixby Cooper , "An Exploratory Framework for Examining Distribution Channel Performance" , unpublished paper , Louisiana State University , 1976 , pp. 8-9.

Anne T. Coughlan, Erin Anderson, Louis W. Stern, Adel I.El-Ansary, Marketing channels, 7th edition, 2005

Bucklin, Louis P, A Theory of Distribution Channel Structure, Berkeley, CA: IBER Special Publications, 1966

Bucklin, Louis P, Competition and Evolution in the Distributive Trades, Englewood Cliffs, NJ, Prentice Hall, 1972

Bucklin, Louis P, Productivity in Marketing, Chicago: American Marketing Association, 1978

C. Glen Walters, Marketing Channels (Santa Monica, CA.: Goodyear Publishing Company , Inc. , 1997) p. 4.

C. Glen Walters, Marketing Channels, Goodyear Publishing, Santa Monica California , 1987, p. 18.

Donald F. Bowersox, Logistical Management (New York: MacMillan Publishing Co. , Inc. , 1988) p. 28.

David A. Revzan, "Marketing Organization Through the Channel", in Bruce E. Mallen , The Marketing Channel (New York: John Wiley & Sons , Inc. , 1987) p.4.

Donald J. Bowersox , M. Bixby Cooper , Douglas M. Lambert, and Donald A. Taylor , Management in Marketing Channels (New York: McGraw-Hill Book Company, 1980) p. 9.

Douglas M. Lambert, The Distribution Channels Decision (New York: National Association of Accountants and The Society of Management Accountants of Canada, 1996) p. 102.

Douglas M. Lambert , The Development of an Inventory Costing Methodology A Study of the Costs Associated with Holding Inventory (Chicago: National Council of Physical Distribution Management, 1996) , p.7.

Frazier, Gary L., Summers, John O. Interfirm Influence Strategies and Their Application Within Distribution Channels. Journal of Marketing, 2001

George Wadinambiaratchi , "Channels of Distribution in Developing Countries , in Bruce E. Mallen , The Marketing Channel (New York: John Wiley & Sons , Inc., 1967) , p. 44.

Mallen, Bruce E., "Interaction of Channel Selection policies in the Marketing System" in Bruce Mallen, The Marketing Channel (New York: John Wiley & Sons , Inc., 1997) p. 259.

Martin Greg. S. The Concept of Trust in Channel Relationships American Marketing Association, Chicago, IL, 2002.

Philip R. Cateora , international Marketing (Homewood, I11. Richard D. Irwin, Inc., 2003) p. 579.

Phillip McVey, "Are Channels of Distribution What the Textbooks Say?", in Bruce E. Mallen, The Marketing Channel (New York: John Wiley & Sons, Inc.,1987), p.28.

Peter F. Drucker , "Marketing and Economic Development" , Journal of Marketing, 1998 , p. 253.

Paul L. Oritt and Alfred J Hagan, "Channels of Distribution and Economic Development" , Atlanta Economic Review, Jul-Aug 1997 , p. 41.

Philip R. Cateora, International Marketing, (Homewood, I11 , Richard D. Irwin Inc. , 1993) p. 7.

Richard D. Robinson , International Business Management (Hinsdale , I11.: The Dryden Press , 2008) , p. 69.

Robert Bartels , Global Development and Marketing , (Grid Publishing , Inc. Columbus, Ohio , 1991) , p. 19.

R. Gray and G. Davies, "Decision Making in International Physical Distribution" , international Logistics Journal , Vol. 11 , No. 5/6 , (1991) , p. 22.

RobbertL.Cuffs. Capitalism in Japan: Cartels and Keiretsu Journal of Japanese Studies , 2000

Thomas L. Berg, "Designing the Distribution System" in Bruce E. Mallen , The Marketing Channel (New York: John Wiley & Sons , Inc. , 1997) p. 259.

Virgil Salera , Multinational Business (Boston: Boughton Mifflin Company, 1999) , p.421.

Van Ryzin, Garrett, Analyzing Inventory Cost and service in Supply Chains, Technical note, Columbia business School, New York, 1997

Website

<http://china.cat.com/>
<http://www.westrac.com.cn/>
<http://cel-cat.com/chinese/index.asp>
<http://www.lsh-cat.com/>
<http://www.eci-metro.cn/>
<http://www.komatsu.com.cn/>
<http://cn.doosaninfracore.co.kr/>
<http://www.kobelco.com/>
<http://www.hyundaicorp.com/>
<http://www.sunward.com.cn/china/>
<http://www.hitachi.com.cn/>
<http://www.volvo.com/group/china/zh-cn>
<http://www.sei.co.jp/index.cn.html>
<http://www.sany.com.cn/>
<http://www.liugong.cn/>
<http://www.yuchai.com/>
<http://www.foton.com.cn/>
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Appendix A Caterpillar's four main Dealers in China



Appendix B Excavator Market Analysis in China

Caterpillar has 4 dealers, which are Lei Shing Hong, Westrac China, ECI-Metro and CEL-CN sales. In this report, the excavator market analysis is shown comparatively in China domestic market.

Leishinghong



Leishinghong is a Caterpillar dealer within the market in AnHui, HeNan, HuBei, JiangSu, ShanDong, Shanghai, and Zhejiang. In these districts, we analyze the competitor of Caterpillar that can show the market sales.

CATERPILLAR LEI SHI HONG

TYPE	ANHUI	HENAN	HUBEI	JIANGSU	SHANDONG	SHANGHAI	ZHEJIANG	Total
320D	242	171	149	256	264	33	119	1234
307C	89	53	70	80	44	10	32	378
330D	15	26	7	35	38	6	15	142
320DL	6	11	25	20	24	1	15	102
305.5	23	7	11	23	10	6	1	81

Table 1.1 Top 5 Type sales

Model	Manufacturer	ANHUI	HENAN	HUBEI	JIANGSU	SHANDONG	SHANGHAI	ZHEJIANG	Total	Percentage
320D	CATERPILLAR	242	171	149	256	264	33	119	1234	16.78%
PC200-8	KOMATSU LTD.	241	85	114	252	199	30	120	1041	14.16%
DH220LC	DOOSAN INFRACORE AMERICA CORP.	382	64	82	265	192	15	15	1015	13.80%
ZX200-3	HITACHI	192	58	79	262	145	26	84	846	11.50%
R215-7	HYUNDAI	101	19	31	442	48	66	89	796	10.82%
SK200-8	KOBELCO / KOBE STEEL LTD	142	20	106	320	77	37	47	749	10.18%
SY215C-8	SANY HEAVY INDUSTRY COMPANY, LTD.	89	25	27	79	62	1	25	308	4.19%
R215-7C	HYUNDAI	64	19	61	96	15	12	2	269	3.66%
EC210BLC	VOLVO CONST. EQUIP. NA, INC.	50	37	22	11	52	1	30	203	2.76%
SY205C-8	SANY HEAVY INDUSTRY COMPANY, LTD.	29	9	18	59	21	0	10	146	1.99%
SH210-5	SUMITOMO	40	45	19	11	10	0	13	138	1.88%
ZX210LC-3	HITACHI	18	39	16	11	25	0	2	111	1.51%
320DL	CATERPILLAR	6	11	25	20	24	1	15	102	1.39%
SY210C	SANY HEAVY INDUSTRY COMPANY, LTD.	12	6	7	23	13	2	12	75	1.02%

Table 1.2 320D&320DL-Main Competitors

Model	Manufacturer	SHAN SHANG ZHEJIA							Total	Percentage
		ANHUI	HENAN	HUBEI	JIANGSU	DONG	HAI	NG		
ZX70	HITACHI	283	81	98	114	84	3	65	728	16.43%
ZX60	HITACHI	155	60	89	202	120	3	67	696	15.70%
PC60-7	KOMATSU LTD.	201	58	111	141	101	7	50	669	15.09%
R60-7	HYUNDAI	196	35	17	181	26	43	16	514	11.60%
307C	CATERPILLAR	89	53	70	80	44	10	32	378	8.53%
SWE70	SUNWARD	109	34	26	72	71	8	27	347	7.83%
FR65-7	FOTON	39	34	29	43	32	13	29	219	4.94%
CLG907	LIUGONG	40	46	21	23	41	1	6	178	4.02%
SY75	SANY HEAVY INDUSTRY COMPANY, LTD.	89	9	1	18	8	0	2	127	2.87%
DH80-7	DOOSAN INFRACORE AMERICA CORP.	40	3	40	18	10	4	7	122	2.75%

Table 1.3 307C-Main Competitors

Model	Manufacturer	SHANDONG SHANGHAI ZHEJIANG							Total	Percentage
		ANHUI	HENAN	HUBEI	JIANGSU	SHANDONG	SHANGHAI	ZHEJIANG		
PC360-7	KOMATSU LTD.	24	106	10	23	85	2	30	280	27.08%
ZX330-3	HITACHI	14	48	1	5	70	2	11	151	14.60%
SK350LC-8	KOBELCO / KOBE STEEL LTD	8	85	6	12	18	5	8	142	13.73%
330D	CATERPILLAR	15	26	7	35	38	6	15	142	13.73%
ZX360H-3	HITACHI	14	16	0	3	57	0	9	99	9.57%

Table 1.4 330D-Main Competitors

Model	Manufacturer	SHANDONG SHANGHAI ZHEJIANG							Total	Percentage
		ANHU I	HENA N	HUBE I	JIANGS U	SHANDON G	SHANGHA I	ZHEJIAN G		
DH55-5	DOOSAN INFRACORE AMERICA CORP.	177	38	75	389	174	81	65	999	20.64%
R55-7	HYUNDAI	63	27	21	476	172	62	17	838	17.31%
DH60-7	DOOSAN INFRACORE AMERICA CORP.	134	35	75	395	39	28	52	758	15.66%
YC60	YUCHAI	62	59	115	120	111	64	156	687	14.19%
FR60-7	FOTON	51	49	47	53	55	17	49	321	6.63%
PC55MR-2	KOMATSU LTD. VOLVO CONST. EQUIP. NA, INC.	12	19	20	99	51	8	9	218	4.50%
EC55B	INC.	19	24	19	30	42	9	17	160	3.31%
PC56-7	KOMATSU LTD.	29	13	21	51	20	12	8	154	3.18%
KY60-7	KYM-CHINA	32	14	18	32	4	0	30	130	2.69%
SY60C	SANY HEAVY INDUSTRY COMPANY, LTD.	35	6	12	31	13	4	17	118	2.44%
305.5	CATERPILLAR	23	7	11	23	10	6	1	81	1.67%
CT60-6B	CARTER	13	13	24	1	14	0	6	71	1.47%
SK55-C	KOBELCO / KOBE STEEL LTD	2	0	3	45	4	3	4	61	1.26%

Table 1.5 305.5-Main Competitors

WESTRAC

WesTrac 威斯特



WESTRAC is a Caterpillar dealer within the market in Beijing, HeBei, Heilongjiang, Jilin, Liaoning, Nei Mongol, and Shanxi. In these districts, we analyze the competitor of Caterpillar that can show the market sales.

TYPE	WESTRAC CHINA								
	BEIJING	HEBEI	HEILONGJIANG	JILIN	LIAONING	MONGOL	SHANXI	TIANJIN	Total
320D	53	73	12	31	78	42	85	17	391
330D	9	29	6	12	37	169	41	6	309
320DL	28	32	26	7	55	26	9	17	200
325D	9	11	4	6	11	41	15	2	99
330DL	0	5	2	1	16	58	1	0	83

Table 2.1 Top 5 Type sales

Model	Manufacturer	NEI								Total	Percent age
		BEIJING	HEBEI	HEILONGJIANG	JILIN	LIAONING	MONGOL	SHANXI	TIANJIN		
320D	CATERPILLAR	53	73	12	31	78	42	85	17	391	16.82%
ZX200-3	HITACHI	24	128	29	13	27	16	21	44	302	12.99%
DH220LC	DOOSAN INFRACORE AMERICA CORP.	14	88	10	14	0	64	50	3	243	10.46%
PC200-8	KOMATSU LTD.	11	115	14	6	2	7	13	36	204	8.78%
320DL	CATERPILLAR	28	32	26	7	55	26	9	17	200	8.61%
SH210-5	SUMITOMO	18	70	15	0	11	1	37	26	178	7.66%
EC210BLC	VOLVO CONST. EQUIP. NA, INC.	1	47	5	6	24	0	42	13	138	5.94%
SK200-8	KOBELCO / KOBE STEEL LTD	3	70	4	2	5	1	1	46	132	5.68%
SY215C-8	SANY HEAVY INDUSTRY COMPANY, LTD.	2	41	8	11	20	14	30	3	129	5.55%

Table 2.2 320D&320DL-Main Competitors

Model	Manufacturer	NEI								Total	Percent age
		BEIJING	HEBEI	HEILONGJIANG	JILIN	LIAONING	MONGOL	SHANXI	TIANJIN		
PC360-7	KOMATSU LTD.	5	41	48	11	74	373	117	3	672	24.30%
ZX330-3	HITACHI	65	73	38	35	79	173	126	9	598	21.63%
330D	CATERPILLAR	9	29	6	12	37	169	41	6	309	11.18%
ZX360H-3	HITACHI	17	25	8	6	33	100	27	4	220	7.96%
SK350LC-8	KOBELCO / KOBE STEEL LTD	13	4	15	5	74	69	28	0	208	7.52%
DH370-7	DOOSAN INFRACORE AMERICA CORP.	2	27	3	5	2	105	26	1	171	6.18%
R335LC-7	HYUNDAI	33	15	7	4	13	21	10	0	103	3.73%
330DL	CATERPILLAR	0	5	2	1	16	58	1	0	83	3.00%

Table 2.3 330D&330DL-Main Competitors

Model	Manufacturer	NEI								Total	Percentage
		BEIJING	HEBEI	HEILONGJIANG	JILIN	LIAONING	MONGOL	SHANXI	TIANJIN		
DH300LC-7	DOOSAN INFRACORE AMERICA CORP.	26	167	38	36	187	343	89	6	892	44.09%
PC300-7	KOMATSU LTD.	57	73	22	4	37	127	50	5	375	18.54%
R305LC-7	HYUNDAI	31	20	19	10	70	59	3	55	267	13.20%
DX300LC	DOOSAN INFRACORE AMERICA CORP.	0	1	16	3	33	51	1	0	105	5.19%
325D	CATERPILLAR	9	11	4	6	11	41	15	2	99	4.89%
EC360B	VOLVO CONST. EQUIP. NA, INC.	2	12	2	2	14	28	28	0	88	4.35%

Table 2.4 325D-Main Competitors

ECI-METRO



ECI-METRO is a Caterpillar dealer within the market in Chongqing, Gansu, Guizhou, Ningxia, Qinghai, Shanxi, Sichuan, Xizang, and Yunnan. In these districts, we analyze the competitor of Caterpillar that can show the market sales.

CATERPILLAR ECI-METRO

TYPE	CHONGQING	GANSU	GUIZHOU	NINGXIA	QINGHAI	SHAANXI	SICHUAN	XIZANG	YUNNAN	Total
320D	30	48	62	18	26	66	128	31	128	537
330D	13	30	1	76	20	15	41	2	63	261
325D	45	2	2	1	0	1	6	0	2	59
307C	7	2	9	1	0	5	10	0	6	40
324D	6	3	2	1	0	4	4	0	16	36

Table 3.1 Top 5 Type sales

Model	Manufacturer	CHO NGQI										Total	Percentage
		NG GANSU	GUIZHOU	NINGXIA	QINGHAI	SHAANXI	SICHUAN	XIZANG	YUNNAN	YUNNAN			
320D	CATERPILLAR	30	48	62	18	26	66	128	31	128	537	24.78%	
DH220LC	DOOSAN INFRACORE AMERICA CORP.	26	51	15	1	31	43	23	0	69	259	11.95%	
PC200-8	KOMATSU LTD.	20	2	52	1	24	55	64	3	27	248	11.44%	
ZX200-3	HITACHI	16	14	17	2	13	38	39	13	48	200	9.23%	
EC210BLC	VOLVO CONST. EQUIP. NA, INC.	9	0	2	0	0	60	46	0	24	141	6.51%	
SY215C-8	SANY HEAVY INDUSTRY COMPANY, LTD.	18	13	3	4	2	21	37	0	27	125	5.77%	
ZX210LC-3	HITACHI	7	18	8	0	6	18	30	0	34	121	5.58%	
R215-7C	HYUNDAI	18	17	19	0	0	15	29	0	18	116	5.35%	
SK200-8	KOBELCO / KOBE STEEL LTD	3	3	21	0	0	1	11	0	71	110	5.08%	

Table 3.2 320D-Main Competitors

Model	Manufacturer	CHONGQING	GANSU	GUIZHO U	NINGXI A	QINGH AI	SHAAN XI	SICHUA N	XIZA NG	YUNNA N	Total	Percentage
PC360-7	KOMATSU LTD.	7	21	2	70	24	59	39	0	89	311	24.37%
330D	CATERPILLAR	13	30	1	76	20	15	41	2	63	261	20.45%
ZX330-3	HITACHI	22	10	1	27	17	15	10	0	101	203	15.91%
SK350LC-8	KOBELCO / KOBE STEEL LTD	7	8	2	70	1	24	57	0	9	178	13.95%
ZX360H-3	HITACHI	7	3	0	32	7	4	29	2	34	118	9.25%
SH350-3B	SUMITOMO	14	2	0	3	0	1	12	0	17	49	3.84%

Table 3.3 330D-Main Competitors

Model	Manufacturer	CHONGQIN G	NINGXI GANSU	GUIZH OU	NINGXI A	QINGH AI	SHAAN XI	SICHUA N	XIZA NG	YUNNA N	Total	Percentage
DH300LC-7	DOOSAN INFRACORE AMERICA CORP.	9	16	4	36	23	71	15	0	17	191	35.97%
PC300-7	KOMATSU LTD.	77	4	1	1	0	5	35	0	6	129	24.29%
R305LC-7	HYUNDAI	3	9	0	5	0	5	29	0	18	69	12.99%
325D	CATERPILLAR VOLVO CONST. EQUIP. NA, INC.	45	2	2	1	0	1	6	0	2	59	11.11%
EC360B	EQUIP. NA, INC.	3	1	1	0	0	11	3	0	6	25	4.71%

Table 3.4 325D-Main Competitors

Model	Manufacturer	CHONGQIN G	NINGXI GANSU	GUIZH OU	NINGXI A	QINGH AI	SHAAN XI	SICHUA N	XIZA NG	YUNNA N	Total	Percentage
R60-7	HYUNDAI	35	2	51	5	0	22	261	0	40	416	14.57%
ZX60	HITACHI	20	5	44	2	2	8	232	1	59	373	13.06%
PC60-7	KOMATSU LTD.	62	3	36	0	0	23	171	0	78	373	13.06%
ZX70	HITACHI	52	7	50	6	0	31	107	1	75	329	11.52%
SWE70	SUNWARD	87	88	2	38	0	2	26	4	1	248	8.69%
CLG907	LIUGONG	29	6	36	4	0	29	66	0	43	213	7.46%
FR65-7	FOTON	26	0	38	36	0	12	37	0	25	174	6.09%
R80-7	HYUNDAI	43	7	20	0	0	15	41	0	10	136	4.76%
DH80G	DOOSAN INFRACORE AMERICA CORP.	17	2	13	6	0	3	41	0	12	94	3.29%
PC60-7B	KOMATSU LTD.	1	0	28	9	0	3	37	0	7	85	2.98%
DH80-7	DOOSAN INFRACORE AMERICA CORP.	19	3	9	2	0	1	23	0	12	69	2.42%
SY75	SANY HEAVY INDUSTRY COMPANY, LTD.	13	3	1	1	0	8	15	0	10	51	1.79%
SWE80H	SUNWARD	20	4	0	9	2	0	8	0	0	43	1.51%
307C	CATERPILLAR	7	2	9	1	0	5	10	0	6	40	1.40%
JCM907	SHANDONG	5	4	5	2	3	3	4	3	0	29	1.02%

Table 3.5 307-Main Competitors

Model	Manufacturer	CHONGQIN		GUIZH NINGXI		QINGH		SHAAN SICHUA		XIZA YUNNA		Total	Percentage
		G	GANSU	OU	A	AI	XI	N	NG	N			
PC240LC-8	KOMATSU LTD.	57	36	26	24	5	35	272	0	39	494	27.35%	
SK260LC-8	KOBELCO / KOBE STEEL LTD	39	21	2	46	4	16	215	0	38	381	21.10%	
SK250-8	KOBELCO / KOBE STEEL LTD	13	26	9	19	5	39	188	0	45	344	19.05%	
ZX250LC-3	HITACHI	5	7	0	10	2	25	91	0	19	159	8.80%	
DH258LC-7	DOOSAN INFRACORE AMERICA CORP.	8	9	0	5	0	14	66	0	0	102	5.65%	
R265LC-7	HYUNDAI	10	1	0	0	0	2	54	0	3	70	3.88%	
ZX250H-3	HITACHI	3	3	0	7	4	3	1	1	28	50	2.77%	
SK330-8	KOBELCO / KOBE STEEL LTD	5	0	0	0	0	0	6	0	36	47	2.60%	
EC290B	VOLVO CONST. EQUIP. NA, INC.	14	1	1	0	0	6	18	0	6	46	2.55%	
ZX270-3	HITACHI	9	0	0	5	2	7	9	0	6	38	2.10%	
324D	CATERPILLAR	6	3	2	1	0	4	4	0	16	36	1.99%	
PC270-7	KOMATSU LTD.	2	7	0	6	2	1	0	0	1	19	1.05%	

Table 3.6 324D-Main Competitors

CEL-CN



CEL-CN is a Caterpillar dealer within the market in Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangxi, and Xinjiang. In these districts, we analyze the competitor of Caterpillar that can show the market sales.

CATERPILLAR CEL-CN

TYPE	FUJIAN	GUANGDONG	GUANGXI	HAINAN	HUNAN	JIANGXI	XINJIANG	Total
320D	27	33	83	19	59	57	98	376
330D	22	14	26	1	13	15	27	118
307C	6	1	12	0	21	5	2	47
325D	7	10	3	0	7	4	10	41
305.5	1	4	5	2	22	2	3	39

Table 4.1 Top 5 Type sales

Model	Manufacturer	GUANG GUANG				JIANGX I	XINJIA NG	Total	Percentage	
		FUJIAN	DONG	XI HAINAN	HUNAN					
PC200-8	KOMATSU LTD.	79	31	83	81	89	55	10	428	18.46%
320D	CATERPILLAR	27	33	83	19	59	57	98	376	16.21%
ZX200-3	HITACHI	48	34	69	26	31	59	9	276	11.90%
R215-7C	HYUNDAI	28	3	48	0	63	113	9	264	11.38%
SK200-8	KOBELCO / KOBE STEEL LTD	14	4	32	15	32	32	2	131	5.65%
EC210BLCNA, INC.	VOLVO CONST. EQUIP.	24	4	59	2	13	12	14	128	5.52%
DH220LC	DOOSAN INFRACORE AMERICA CORP.	2	4	26	6	17	65	1	121	5.22%
SY215C-8	SANY HEAVY INDUSTRY COMPANY, LTD.	15	10	15	7	42	29	3	121	5.22%
R215-7	HYUNDAI	1	10	8	0	12	43	11	85	3.67%

Table 4.2 320D-Main Competitors

Model	Manufacturer	GUANG GUANG				JIANGX I	XINJIA NG	Total	Percentage	
		FUJIAN	DONG	XI HAINAN	HUNAN					
PC360-7	KOMATSU LTD.	76	45	23	0	29	10	69	252	33.60%
330D	CATERPILLAR	22	14	26	1	13	15	27	118	15.73%
ZX330-3	HITACHI	25	18	24	1	10	10	18	106	14.13%
ZX360H-3	HITACHI	17	4	16	1	9	9	23	79	10.53%
SK350LC-8	KOBELCO / KOBE STEEL LTD	17	11	6	0	6	9	16	65	8.67%
FR39-7	FOTON	4	0	4	0	3	9	3	23	3.07%
SH350-3B	SUMITOMO	14	0	0	0	3	1	0	18	2.40%

Table 4.3 330D-Main Competitors

Model	Manufacturer	GUANG GUANG				JIANGX I	XINJIA NG	Total	Percentage	
		FUJIAN	DONG	XI HAINAN	HUNAN					
R60-7	HYUNDAI	10	0	56	0	155	65	0	286	15.71%
ZX60	HITACHI	13	6	69	4	53	89	10	244	13.41%
PC60-7	KOMATSU LTD.	9	4	67	3	66	67	6	222	12.20%
SWE70	SUNWARD	28	3	27	0	24	114	14	210	11.54%
ZX70	HITACHI	7	6	59	8	43	73	4	200	10.99%
FR65-7	FOTON	20	0	36	0	35	35	19	145	7.97%
CLG907	LIUGONG	2	3	39	2	34	44	1	125	6.87%
PC60-7B	KOMATSU LTD.	4	0	23	0	56	2	6	91	5.00%
DH80-7	DOOSAN INFRACORE AMERICA CORP.	5	6	28	0	16	8	0	63	3.46%
DH80G	DOOSAN INFRACORE AMERICA CORP.	3	0	22	0	14	5	5	49	2.69%

307C	CATERPILLAR	6	1	12	0	21	5	2	47	2.58%
JCM907	SHANDONG	11	2	0	0	7	4	1	25	1.37%

Table 4.4 307C-Main Competitors

Model	Manufacturer	GUANG GUANG				JIANGX I	XINJIA NG	Total	Percentage	
		FUJIAN	DONG	XI HAINAN	HUNAN					
PC300-7	KOMATSU LTD. VOLVO CONST. EQUIP.	16	32	1	0	5	0	9	63	25.51%
EC360B	NA, INC.	17	5	16	0	3	1	11	53	21.46%
325D	CATERPILLAR	7	10	3	0	7	4	10	41	16.60%
DH300LC-7	DOOSAN INFRACORE AMERICA CORP.	2	3	6	0	1	6	17	35	14.17%
R305LC-7	HYUNDAI	1	5	3	0	2	1	4	16	6.48%

Table 4.5 325D-Main Competitors

Model	Manufacturer	GUANG GUANG				JIANGX I	XINJIA NG	Total	Percentage	
		FUJIAN	DONG	XI HAINAN	HUNAN					
YC60	YUCHAI	44	50	69	10	76	56	50	355	21.75%
DH60-7	DOOSAN INFRACORE AMERICA CORP.	64	20	42	0	91	53	4	274	16.79%
DH55-5	DOOSAN INFRACORE AMERICA CORP.	8	8	42	1	74	82	4	219	13.42%
R55-7	HYUNDAI	0	0	9	0	88	100	0	197	12.07%
FR60-7	FOTON	30	0	26	0	42	39	34	171	10.48%
KY60-7	KYM-CHINA VOLVO CONST. EQUIP.	10	17	25	0	18	16	0	86	5.27%
EC55B	NA, INC.	4	0	19	6	10	14	7	60	3.68%
PC55MR-2	KOMATSU LTD. SANY HEAVY INDUSTRY COMPANY, LTD.	6	0	23	1	14	10	2	56	3.43%
SY60C	COMPANY, LTD.	9	8	4	0	12	11	0	44	2.70%
305.5	CATERPILLAR	1	4	5	2	22	2	3	39	2.39%
PC56-7	KOMATSU LTD. DOOSAN INFRACORE AMERICA CORP.	3	0	10	2	10	13	1	39	2.39%
DX60	AMERICA CORP. KOBELCO / KOBE STEEL LTD	5	5	8	1	5	4	2	30	1.84%
SK55-C	LTD	0	1	2	0	12	1	0	16	0.98%

Table 4.6 305.5D-Main Competitors