
BETTER SUPPLIER MANAGEMENT FOR SUPERMARKET CHAINS IN CHINA

Case study of Beiguo Supermarket




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ABSTRACT

The aim of this thesis is to search for reasonable solutions of supplier management for Beiguo Supermarket, a typical local supermarket chain located in Hebei, China.

In order to give recommendations at the end of this thesis, the related theory is analyzed including purchasing process and organization and supplier management. The supermarket chain is defined. Last but not least, the step of doing analytic hierarchy process which is used in the recommendation part to finalize the solution is introduced.

A part from the analytic hierarchy process, other research methods used are desk research, comparative analysis approach and interview. The resources of desk research were mostly related book and theses in Chinese language since the commissioning company is in China. In the comparative analysis approach, current situation of supplier management in Wal-Mart was analyzed to use as a benchmark for the commissioning company. Interviews were conducted to get to know more about the current situation in the commissioning company and knowledge in this particular field.

In the recommendation, the suggestions provided set up the platform for supplier information management, establishing the process of supplier selection and building a system for supplier assessment. Details are planned for the commissioning company.

Keywords Supplier management, SRM, AHP, supermarket chain

Pages 37 p.

ABBREVIATIONS

AHP	Analytic Hierarchy Process
CNY	China Yuan
CSR	Corporate Social Responsibility
ECRS	Eliminate, Combine, Re-organize and Simplify
ERP	Enterprise Resources Planning
MRO	Maintenance, Repair and Operation
SRM	Supplier Relationship Management

CONTENTS

1	INTRODUCTION	1
1.1	Purpose	1
1.2	The commissioning company	2
1.3	Research method	3
2	THEORY	4
2.1	Purchasing procedure	4
2.1.1	Design of purchasing procedure	4
2.1.2	Optimization of purchasing procedure	5
2.2	Purchasing organization	6
2.2.1	Purchasing structure	6
2.2.2	Purchasing job profiles	8
2.3	Supplier Management	9
2.3.1	The selection of suppliers	10
2.3.2	The evaluation of suppliers	12
2.3.3	Supplier relationship strategy	13
2.4	Supermarket Chains	15
2.4.1	Features of supermarket chains	16
2.4.2	Means of cooperation between supermarket and suppliers	16
2.5	Analytic hierarchy process	17
3	CURRENT SITUATIONS	18
3.1	Wal-Mart as a benchmarking company	18
3.1.1	Supplier evaluation and selection in Wal-Mart	18
3.1.2	Supplier Relationship Management of Wal-Mart	19
3.2	Current situation of the commissioning company	20
3.2.1	Purchasing in the commissioning company	20
3.2.2	Supplier management in the commissioning company	22
3.2.3	Analysis of the problems	22
4	ANALYSIS AND RECOMMENDATIONS	24
4.1	Set up the platform for supplier information management	24
4.1.1	Supplier information management	24
4.1.2	Function of supplier information management module	25
4.2	Establish the process of supplier selection	25
4.2.1	Determine the products mix	26
4.2.2	Supplier information collection	27
4.2.3	Establish supplier evaluation team	28
4.2.4	Develop supplier evaluation system	28
4.3	Supplier performance assessment	33
4.4	Other suggestions	34
4.4.1	Consolidate corporation with agricultural products base	34
4.4.2	Establishing self-own brand with suppliers	35
4.4.3	Decrease the proportion of joint suppliers	35
5	CONCLUSION	36

SOURCES	38
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1 INTRODUCTION

As early as 1982, the father of modern management, Peter Drucker had already mentioned about the importance of the correlation between the producer and the supplier. (Importance of purchasing management, 2012). Until the 90s, the theory of purchasing came up as a new field that was recognized by the top managers. Purchasing takes up 30% to 90% of the business turnover. With a 2% lower of the raw materials' price, the profit would raise up as 15%.

Since retail companies do not add much value to the products, the margin in retail is relatively low. Thus, purchasing performance in retail business should receive more attention from the management team. More and more retail companies came to notice the importance of strategic cooperation with their suppliers, and the cooperation determines the success of the company at some level. The competition among companies has been transitioned from the conventional sense to the supply chain level of companies.

Supermarket chains, as an advanced mode of operation in retail, are very close to people's lives. The class of suppliers and the ability of coordinate the supplier relationship directly determine the quality of service and managerial expertise of supermarket chains. However, the supermarket chains' ability of supplier management is still less developed in China. This will definitely curb the long-term development of supermarket chains and also retail market in China.

1.1 Purpose

In this paper, the author tries to answer the research question of how can the commissioning company, as supermarket chain, get better supplier management. With this question, the thesis is conducted in the following parts to solve the problem.

The first part is to introduce the related theories used in this thesis. The theories include purchasing procedure, purchasing organization, supplier management, retailing industry and Analytical hierarchy process. In the purchasing procedure, How to design and optimize a purchasing procedure is introduced. The purchasing organization demonstrates the purchasing structure and purchasing related jobs' profile. In the supplier management sub-title, the theories are used to finalize the recommendations. The selection and evaluations of suppliers are all introduced in this sub-title. In the part of supermarket chain, the meaning is defined. The features of supermarket chain and the means of cooperation with suppliers are introduced.

Last but not least, Analytical hierarchy process (AHP) is presented to show the benefits and procedure of this process. AHP is used in the recommendation part about how to establish the process of supplier selection.

The second part is to analyse the current situation in the field of supplier management. Both the cases of Wal-Mart and the commissioning company are analysed. The case of Wal-Mart is used as a successful module to compare and as a reference for the commissioning company. In the analysis of current situation of the commissioning company, purchasing situation and supplier management are examined accordingly. Finally the analysis of the problems is carried out to simplify the work for the final objective.

The final part is to provide feasible solutions for the commissioning company based on the previous studies. Each problem of the supplier management listed on the previous chapter can find a corresponding solution.

1.2 The commissioning company

Beiguo Supermarket is affiliated to Beiren Group. Beiren Group was formed by Beiguo commercial building merging with Xinbai Shopping center on 4th of July, 2000 in Shijiazhuang, Hebei Province, China. It is a commercial enterprise with multi-form market chains. There are more than 50 stores with different types and function all over Hebei Province with more than 30 000 employees. The Group recently has 12 department stores, 20 supermarkets, 21 electrical stores and more than 30 jewellery stores. It ranked among the top ten commercial retail enterprises of China in 2003. For ten consecutive years, Beiren Group got more than 35% and 15% of the growth rate respectively for annual sale and profits. (Introduction of Beiren Group, 2013) In the year 2009, Beiren Group achieved the annual sales of 11.6 billion CNY and became the first enterprise to reach 10 billion sales in Hebei Province. On the next year, the sales reached up to 16.1 billion CNY and became one of the top 500 enterprises in China. (SCM system of Beiguo, 2011) The Figure below shows the Future mall (one of the shopping centres of Beiren Group) at the night time.



Figure 1 Future mall

As one of a branch of Beiren Group, Beiguo Supermarket (Beiguo) is founded in 2000. It has developed a unique business mode that also suits the local market in Shijiazhuang city. Beiguo has 19 branch stores throughout the city that covers more than 480 residential communities. At present, Beiguo owns the stores with a total 100 000 square metres. It takes more than 70% of the market share in Shijiazhuang city and it is the supermarket chain with the largest area, the highest sale and the most powerful competitiveness. With a business philosophy of “Beiguo Supermarket for your interest”, Beiguo is the first choice with no doubt for the local customers. At now, Beiguo is also preparing to develop convenience stores. (Beiguo Supermarket, 2013)

1.3 Research method

Several research methods are used in this paper including desk research, comparative analysis approach, interview and analytic hierarchy process.

Desk research is the most used method throughout the whole paper. In desk research, several sources are used namely books, journals, dissertations and web pages. Some of the sources are in Chinese due to the commissioning company is in China.

The comparative analysis approach is utilized in order to get better solution for the commissioning company. The Wal-Mart case stands as a benchmark company since its outstanding performance in the field of supplier management. The successful solution of Wal-Mart’s supplier management is demonstrated in this paper and the solutions for the commissioning company are carried out accordingly.

Analytical hierarchy process (AHP) is applied to determine the weight of the supplier evaluating index. It is a technique based on mathematics and psychology that analyse complex decisions.

Two interviews are conducted. The interviewees are respectively the purchasing director from the commission company and one expert in this area. The aim of the interview is to reveal the current situation of supplier management in the commissioning company and get deeper understanding and advices in this particular field.

2 THEORY

2.1 Purchasing procedure

2.1.1 Design of purchasing procedure

A purchasing procedure acts as a safeguard of standardized purchasing. There are two common ways of purchasing which are bidding and negotiation. In other words, when there are needs of purchasing, the purchasing department normally purchases through bidding or negotiation. Therefore, a standardized procedure is set up. (Zhou 2011, 24.)

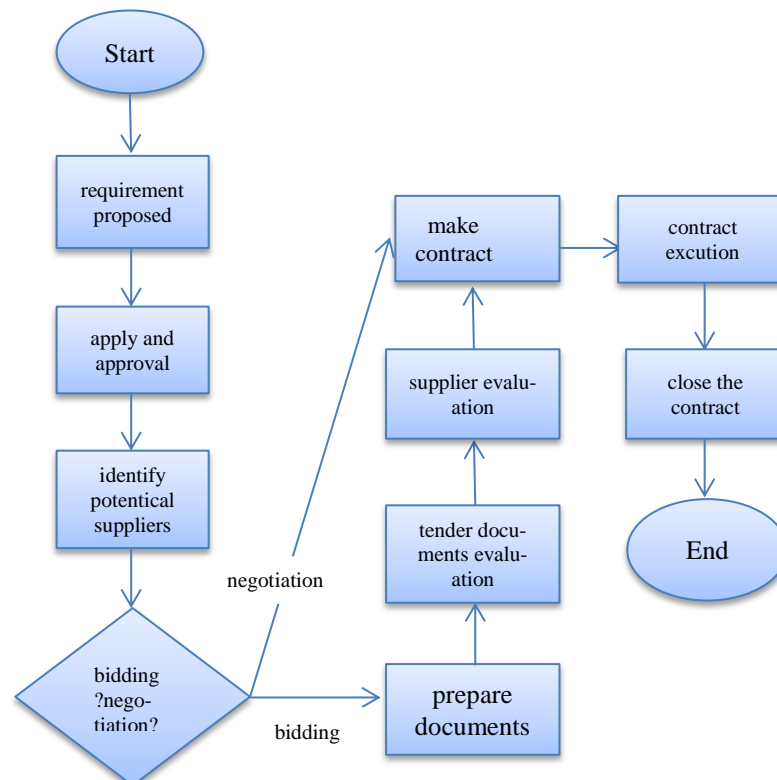


Figure 2 The basic purchasing procedure

Except the basic purchasing procedure, there are many sub-procedures, including internal application/approval procedure, order or contract forming/approval procedure, acceptance and payment procedure, procedure of the documents, external investigation procedure etc. Whether it is the main procedure or the sub-procedure, there are four elements that are taking into consideration. The four elements are what, who, when and which standards. (Figure 3) (Zhou 2011, 26.)

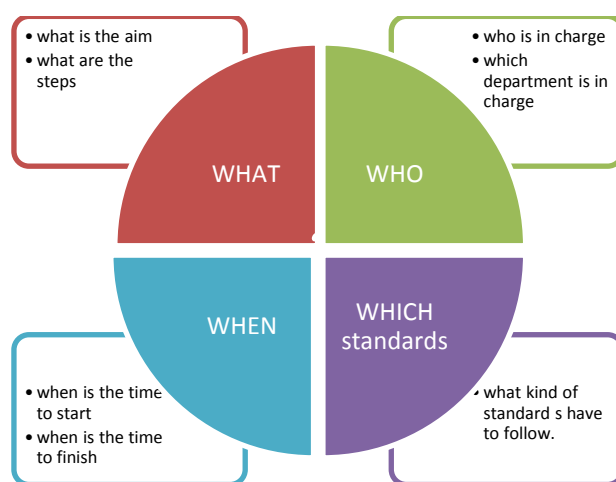


Figure 3 Four elements of purchasing procedure design

2.1.2 Optimization of purchasing procedure

The importance of optimization is the same as designing the procedure. The purpose of optimization is to satisfy the requirements of the application, control the cost, ensure the quality, and improve the efficiency and so on. The optimization of procedure can be based on separation of duty, four elements and ECRS.

Utilizing the separation of duty (Figure 4) is a very essential step of the optimization. Literally, separation of duty means the responsibilities should be assigned to relevant persons. The working tasks are too much for one person who is responsible for all the duties, and the corruption may happen due to the power of execution of this person. If it is impossible to distribute all the duties, assign the jobs to two at least. (Tang 2012, 49-50.)

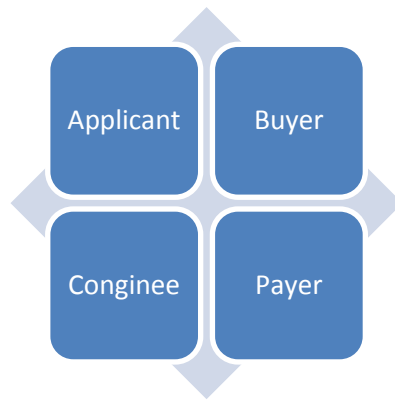


Figure 4 Separation of duty

After checking the separation of duty, the next step is to check if all the four elements are included which are what, who, when and which standards.

ECRS is respectively short for eliminate, combine, re-organize and simplify. When using ECRS to optimize a procedure, it is essential to use it with the order. The first step is to confirm if there are any procedures can be cancelled. The second step is to check the procedures which are possible to be combined together, which in other words means any procedures can be combined into one. If it is not feasible, check the timing, because maybe the procedures can take place at the same time. In the end, consider if the procedure can be simplified. (Tang 2012, 51.)

ECRS for optimization purchasing procedure	
E	Eliminate
C	Combine
R	Re-Organize
S	Simplify

2.2 Purchasing organization

2.2.1 Purchasing structure

This part introduces some organizational structures on which to organize the purchasing function within companies (Weele 2009, 283). This can be separated into two parts, multi-unit and single-unit companies. Since the commissioning company is a single-unit company, the theories are concentrating on single-unit companies.

The determination of the different purchasing is based on the question as to what extent purchases need to be made through the purchasing department and the some variables. The first variable is management's view towards purchasing. This variable affects the tasks, responsibilities and the rights of purchasing department. The second variable is information technology. The implementation of ERP system affects the possibilities of coordinating all material-related activities within the company. The next variable is called personal relationships. The last one is total cost approach. The purchasing decisions can become more cost oriented than price oriented by a better understanding of some parameters like inventory turnover, supplier delivery reliability, the supplier reject rate, etc. (Weele 2009, 291-292)

There are also some important changes that affect the role and position of the purchasing department. The changes are divided into internal changes and external changes that the internal changes mean the changes within the company and external changes are the changes outside of the company. All the changes influence the structure of the purchasing department. (Figure 5)

(a)



(b)

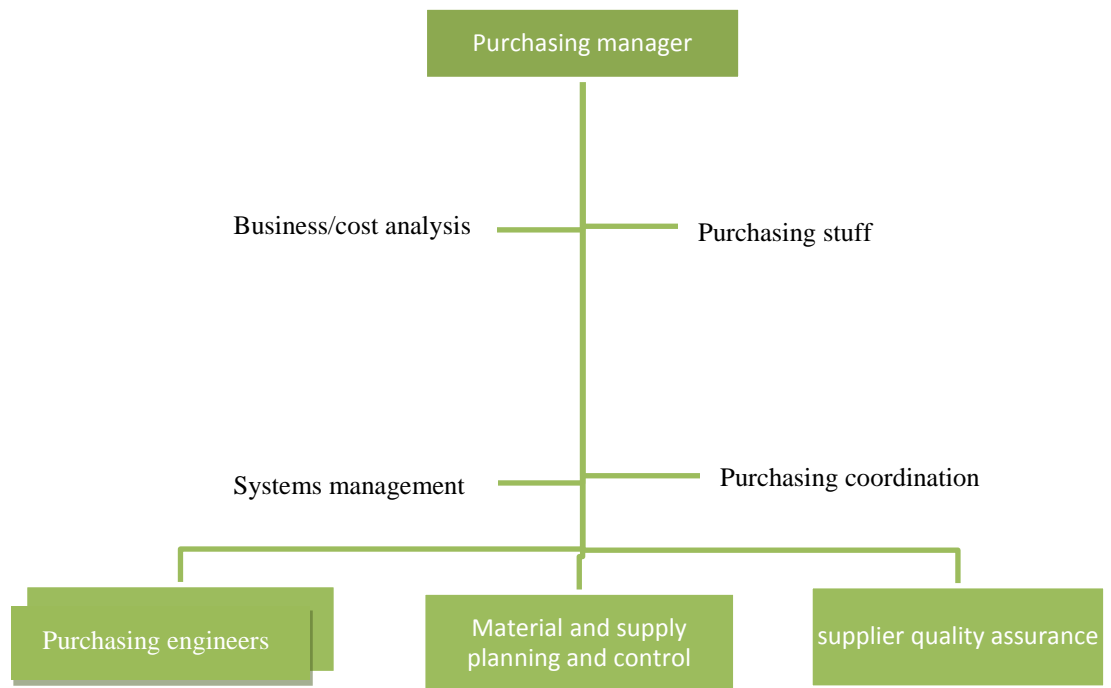


Figure 5 External and internal changes may lead to significant changes in purchasing's organization structure in business unit: (a) traditional structure, (b) revised structure. (Weele 2009, 294)

It is important to allocate the jobs within the purchasing department. There are normally three ways to allocate, by product, by function and by projects. The allocation by product is the one mostly used that since the buyer gets familiar with a certain product, it helps to improve the speciality. The allocation by function means all the work distributed by the purchasing procedures, and each step has one to take responsible. The allocation by projects normally used to the situation like large equipment production, projects, real estate industries and so on. The purchasing team restructure after one project. (Zhou 2010, 22-23)

2.2.2 Purchasing job profiles

In this chapter, the jobs in the purchasing department with their skills and abilities required are introduced. Corporate procurement officer is the one responsible for the management and co-ordination of key purchasing and supply processes throughout the corporate organization. (Weele 2009, 294) This job is a senior executive in some large organizations. 'Corporate buyers' means buyers work at the corporate level with global sourcing responsibilities for key products. They are responsible for negotiation with supplier for large volume of products. Purchasing engineers are working for discussing specifications, conducting supply market research, selection of suppliers and preparing and conducting contract negotiations with suppli-

ers. Purchasing engineers are required to have both technical and commercial background. Project buyers are similar with purchasing engineers, besides they deal with investment goods while purchasing engineers deal with production materials. Material planners are responsible for material planning and ordering. Material planners focus on calling off the materials required against the prearranged framework agreements. They also take responsibilities of monitoring and controlling suppliers on their quality and delivery performance. The last job title about purchasing is NPR buyers. NPR is short for non-product-related goods and services. (Weele 2009, 295)

Table 1 Buyer profile and their most important responsibilities and skills(Weele 2009, 296)

Function	responsibilities	Skills required
Chief procurement officer	Developing corporate sourcing strategies, systems and reporting	General management skills Leadership Communication skills
Corporate buyer	Strategic commodities	Commercial skills Long-term planning horizon Broad business orientation Communication skills
Category buyer	New materials and components New suppliers	All-around technical education Medium planning horizon Commercial skills Communication skills
Project buyer	Investment goods and maintenance goods and services	Project management skills Technical education
NPR buyer	General and facility goods and services	Generalist Business administration Communication skills
Operational buyer/ Materials planner	Materials planning Order handling Troubleshooting Vendor rating	All-around Pragmatic Customer driven Stress resistant

2.3 Supplier Management

Supplier management is a new concept that derives from the supply chain management. As the rapid development of economy, the competition is no longer the traditional competition between companies, instead is between

the supply chains. How to ensure the connection of the companies in the supply, and further the strategic alliance and cooperation are the key topics. The concept of supplier management is from the operation of supply chain management, and it is important for maximize the overall performance of the supply chain. (Lin, 2006) The supplier management are mainly divided into two parts, the selection and evaluation of suppliers and supplier relationship management (SRM).

2.3.1 The selection of suppliers

The development and selection of suppliers are the basic duties of purchasing management. The aim is at finding the suppliers of partnership with the appropriate quality, price and delivery. The decisions of suppliers are made based on several factors. There are basically three ways of determination, namely three-factor theory, six-factor theory and seven factor theory. (Zhou, 2001, 198)

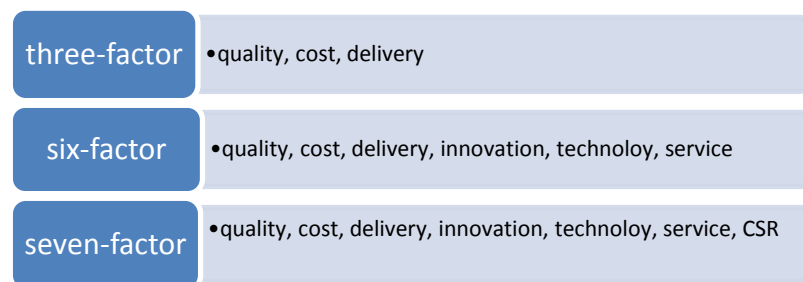


Figure 6 The factors of supplier selection theory

In the factor of quality, it requires the suppliers meet or exceed the quality standard. It includes the product specification, technical indicators and process route. It is also necessary to investigate the quality of the samples and the stability of the product quality etc. The cost means the suppliers have the price advantage and this requires the comparison of suppliers with price structure analysis and price trend analysis. Delivery requires the suppliers have suitable, smooth and fast logistic system to ensure the rapid and on-time delivery. (Selecting suppliers, 2013)

With the rapid development, the three-factor theory is no longer enough for investigating qualified suppliers. The six-factor theory is the mostly used in the enterprises. On top of three-factor theory, six-factor theory adds three more factors which are innovation, technology and service. Innovation here is indicating the innovation of the management system and other information system. This is able to check if a supplier has the same information system and management philosophy with its suppliers and it will be easier for the later on transactions. With the needs of business development, companies have to introduce new technology such as ISO

quality management system, Total Productive Maintenance system, 5S, Just-in-Time, etc. In order to balance the growth of production, at the same time, it is necessary to require the suppliers have updated management systems to guarantee the same level production and achieve a long-term co-operation. With a large scope of production, an advanced ERP system is needed. This requires the suppliers have the similar system in order to reach e-purchasing. Technology has the need for the capacity of the product development and supporting. In the development process, suppliers must be able to support companies constantly upgrading. So investigating the supplier's technical reserves, technology platform, human resource and technical support are needed. The service is the response speed of the customer needs, after-sale services and value-added services. (Zhou, 2011, 200)

The seven-factor theory is the most completed one so far. The factor of Corporate Social Responsibility (CSR) is added. CSR means the responsibilities the corporate has to take for its stakeholders including the employees, shareholders, customers, consumers, suppliers, and partners and so on. Some trans-national enterprises promote their suppliers to work on CRS while they are doing it in order to reach the green supply chain. CRS is not only a trend but also necessary that it improve the corporate brand and image.

After deciding the selection factors, the next is to establish the selection template. This process is conducted in the following four steps:

- 1) Determine the main factors. The main factor is the aspects from which to choose the suppliers. Using three, six or seven-factor theory has to be decided. In practice, it is also possible to use four or five factor.
- 2) Determine the sub-factors. The sub-factors mean the indicators of the main factors. No matter how many main factors to choose, the sub-factors decide each of the main factor's measurements.
- 3) Assign weights. Assigning weights are usually using secondary distribution. The main factors are assigned weight first, then the factor's weight assigned to specific indicators.
- 4) Calculation by weight average. Using weight average to calculate the overall performance of each candidate suppliers. The one gets the highest score get the priority to be selected.

It is wise to set up a frame for supplier selection. Normally there is just one frame in one company but it is better to have different frames for different types of suppliers.

2.3.2 The evaluation of suppliers

The performance assessment is conducive to manage supplier with different levels. A supplier evaluation process often performs with purchasing departments and constitutes a part of pre-qualification step. It is designed to reduce costs and minimize risks. The most common supplier assessment takes the form of a questionnaire, and it covers several crucial evaluation of a company, it usually contains supplier's business production capacity and research and development, financial ability, quality management system, production process control, structure and performance of the organization. Behind these procedures, five methods can be applied for supplier assessment. These are spreadsheets, qualitative assessments, vendor rating, supplier audits and cost modelling. (Zhai, 2009, 59)

Spread sheets are used to systematically compare and assess quotations obtained from suppliers, it is matrix fields filled with quotations from each supplier in a certain period, therefore buyers are illuminated with the well-structured quotations and which will also make it easier for suppliers to submit their quotations.

Qualitative assessment refers to some special backgrounds to a supplier assessment, such as quality control, production planning and purchasing, moreover, it requires valid certification of quality management, like CCC for China, and CE for Europe.

Vendor rating is based on historic data. It entails measuring the aspects of price, quality and delivery reliability per supplier. Quality is measured in a way of the rejection percentage or the result of ragged materials, delivery reliability is measure by the late registration of the deliveries. The amount of administrative data processing is factual and computerized in an economical way.

Supplier audit is done by a periodically visited specialist from the customer; their objects are mainly to exam production process and quality organization thoroughly. Production process is a process of auditing product and service of suppliers as part of quality assurance system. Its orientation is focusing on the future about the extent progress against targets has been made. Supplier audits can be extremely time-consuming particularly for companies connected with multiple suppliers, communication and teamwork helps to improve the work of complexity of audit process, and automation helps to remove audit errors with standard process among enterprises.

Since some specialists form buyers have insight about costs suppliers made out, they simply delve into the situation and develop all kinds of

costs into should-costs analysis, based on what they consider to be the most advanced production technologies and structure, what a price particular component suppliers cost is calculated. The use of cost models and should-cost techniques always deepens the relationship between both suppliers and buyers. However, the issue of developing trust in the relationships actually takes a lot of time. (Zhai, 2009, 61)

2.3.3 Supplier relationship strategy

Supplier management aims to do the selection, recognition, evaluation and excitation. All of that requires a concrete foundation of supplier relationship.

The classic 20-80 rule applied also in the supplier management that 20% of the suppliers represent about 80% of purchasing turnover. This implies that small amount of suppliers are responsible for 80% of the company's internal handling cost. This reveals the necessity of categorizing suppliers. The supplier portfolio-approach is widely used to categorize suppliers. In this approach, the suppliers are analysed on the basis of two variables, which are impact on financial result and supply risk. "The impact on financial" means the value that is purchased from a particular supplier. The higher the money purchased, the higher the impact. (Weele, 2009, 195) The supply risk generally includes 5 factors which are the reliability of the quality, the ability of the technology supporting, protection of capacity, the match of management philosophy and capital strength. (Zhou, 2010, 193) According to these variables yields a two-dimensional matrix with four quadrants. And the quadrants are representing four different types of suppliers: leverage, strategic, non-critical and bottleneck. (Figure 7)

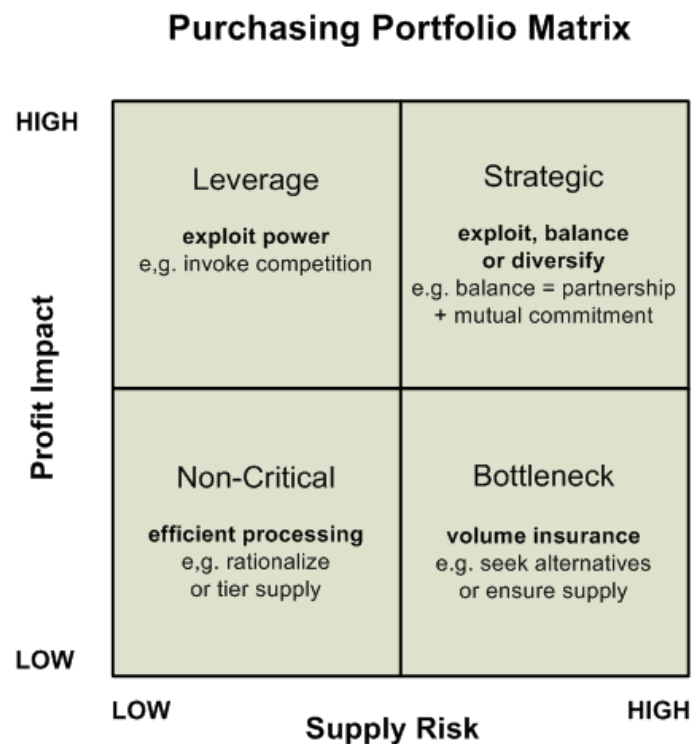


Figure 7 Supplier portfolio matrix (How to select strategic supplier, 2012)

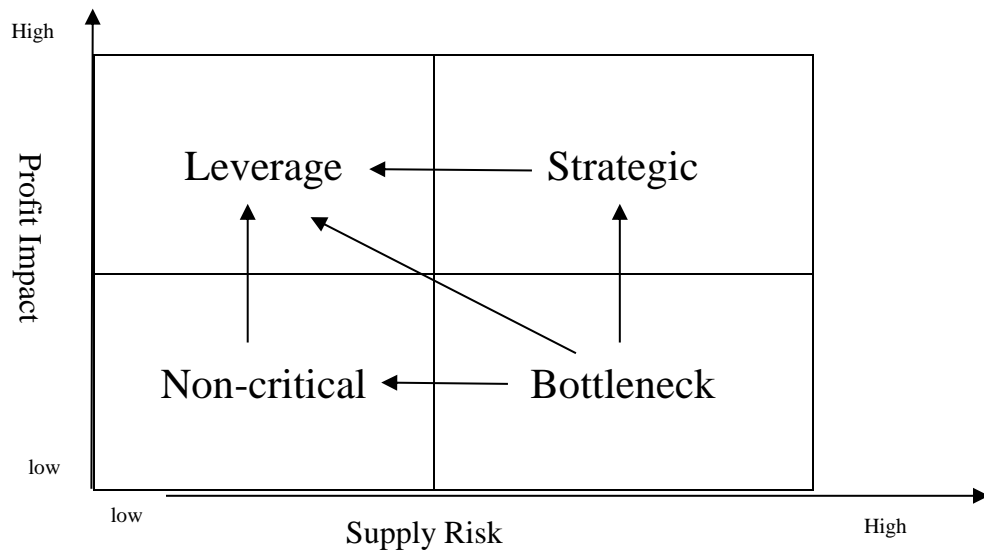
The category of non-critical indicates those suppliers with low purchasing amount and low supply risk. Normally they provide MRO products like office products and equipment, spare parts, laboratory instruments and reagents and low-value consumables. For non-critical suppliers, the way of management is simplify the internal process and use the easiest way to purchase.

Strategic suppliers stand for the suppliers with a high purchasing amount and high supply risk. They offer the strategic products, which have a huge impact on the product quality, cost and delivery time. The strategic suppliers may scarify its short-term interests and have low profit or even negative profit in order to obtain a long-term win-win situation. The management guideline of strategic suppliers is build partnership and focus on long-term development.

Leverage suppliers are the suppliers with high purchasing amount and low supply risk. There are three main features of leverage suppliers, those are standardized, homogenization and competitive. That means the products that the leverage suppliers provide are standardized ones with high homogenization and the supply market is highly competitive. In other words, there are many choices in the market for purchaser and the products are almost the same. For the leverage supplier, it is important to use the leverage to get the best price.

The last type is bottleneck that the suppliers with low amount but high risk. There are also three features of bottleneck supplier that opposite of leverage suppliers. The three features are non-standardized, custom made and monopolized. The suppliers offer customized products or products with special requirement. The supply market is monopoly no matter the technique, the policy or the industry drove. This mean the purchaser does not have many choices. For this kind of supplier, it is wise to lower the risk and secure the supply.

The category of a certain supplier may change from time to time. The dynamic management is required. The need of the company and the products are changing and the type and quantity of purchased product is changing accordingly. As a result, the profit impact and supply risk vary and the supplier may be placed in the wrong category. This is required to determine the category of supplier once a year. (Figure 7)



2.4 Supermarket Chains

A supermarket is a self-service shop offering a wide variety of products which are mainly food and household products. The aim of supermarkets is to meet the customer demand for one-stop purchasing of household necessities. (Lin, 2006) Supermarket chains operate many supermarkets together and use centralized purchasing, centralized delivery and centralized management to utilize from chain operating. In this way, the supermarket has more competitiveness and it is a common form of supermarket nowadays. (Chain supermarkets, 2013)

2.4.1 Features of supermarket chains

- A supermarket has the driving position. Supermarkets as a retail format are in the bottom of a supply chain which means closest to the end customer. They directly provide goods and services. Therefore, the requirements of a supermarket represent the consumer demand. In the buyer's market, most of the products are in a situation of oversupply. Besides, supermarkets have wide customer range and distribution coverage. So compare with suppliers, supermarket has an advantage of bargain and an initiative position in negotiations.
- Supermarket chains are using centralized purchasing. Since the purchasing is centralized, purchasing with a large quantity can get lower price. In this way, both the purchasing and logistic costs are lower and the profit goes higher.
- The diversity of the products leads to the complexity of management. Because supermarkets provide one-stop shopping service, the products are numerous with wide varies. The range of the products is between as big as the household appliances and as tiny as a needle or any other daily supplies. So, one supermarket might have a thousand suppliers. This determines the complexity of managing a supermarket.
- Supermarkets are highly dependent on suppliers. The quality, property and popularity of the products provided in a supermarket determine the level of the service in the supermarket. So only if the products provided by the suppliers are good, the supermarket is able to provide high quality supply and first-class service. (Zhu, 2005)

2.4.2 Means of cooperation between supermarket and suppliers

- Direct purchase. The supermarket makes an order from a supplier, and pay for the cost according to the terms of the contract regardless of whether the supermarket sells the goods out. In some situation, the supplier may have compensation for loss and damaged goods. In this mode, the supermarket has higher risk and higher profit.
- Consignment. The supermarket sells the product for the supplier, but the sales and inventory are all managed by the supermarket. The profit for supermarket is to get the corresponding percentage from the sales. This mode is suitable for new product that the market is unknown. In this way, the supermarket has lower risk and if the sales are good, the profit is also high.
- Joint. The supplier pays the cost of rent and the supermarket provides the space and shelves. The salesman is also sent by the supplier, but managed by the supermarket to response for the selling. The ordering, sales, inventories are all done by the supplier, and the supermarket just

takes the monthly rental from the supplier. In fact, it is equivalent to the supermarket rent the shelves to suppliers. This mode is suitable for non-brand products or relatively weak suppliers. The risk of the supermarket is low in this way but very steadily. (Zhu, 2005)

2.5 Analytic hierarchy process

The analytic hierarchy process (AHP) is a technical analysis method developed by Thomas L. Saaty in the 1970s. It is used for forming, organizing and examining complicated decisions depending on mathematics and psychology. (AHP, 2013)

The biggest benefit of AHP is solving complex problems in a simple and clear way which not only analysed problems with logical estimation but also with hierarchy process. In such solution, decisions that best suit the goal and understanding the purpose can be found. AHP provides a complete and rational framework to shape a decision problem, to represent and quantify its elements, to relate those elements to the goals, and to evaluate substitute solutions. (AHP, 2013)

There are four steps to use AHP. First is to establish the hierarchy model. In the basement of applying the real problems into practice, AHP firstly requires decomposing problems into a hierarchy of more easily understood sub-problems, each of which can be examined independently. The components of the hierarchy can be measured carefully or roughly, easily or poorly-understood, tangible or intangible, which means anything that applies to the decision at hand.

After the hierarchy is built, the decision makers compare and evaluate its numerous elements thoroughly. In making the comparisons, the real data can be used about the elements, but usually the relative meaning and importance about the elements are used. Because it is important to note that the role of AHP is to help people make judgments, not just make a final decision.

Thirdly, these evaluations that AHP made are transformed to arithmetic values, which can be managed and compared over the whole variety of the problem. A numerical weight or priority is derived for each element of the hierarchy, allowing diverse and incommensurable elements to be compared to others in a rational and consistent way.

In the last step of the process, numerical weights are calculated for each of the substitute decision. These numbers characterize the substitutes' rela-

tive capabilities to realize the decision, as well as present a straightforward weight of how it concern about the decision.

3 CURRENT SITUATIONS

3.1 Wal-Mart as a benchmarking company

Wal-Mart was founded in 1962 by Sam Walton in Arkansas, America (Frank, 2006). With the development of many decades, Wal-Mart has been the largest retailing chain for years. As the new information states, there are more than 200 million customers visiting 10700 Wal-Mart stores under 69 banners in 27 countries each week. In the fiscal year 2013, Wal-Mart employs 2.2 million worldwide with the sales of approximately 466 billion USD. (Walmart, 2013)

3.1.1 Supplier evaluation and selection in Wal-Mart

Wal-Mart has set up a global procurement office with 1500 employees worldwide. This office does not have the actual buying behaviour going on, and its major work is to search for new products and suppliers all over the world. Later on gathering all the suppliers with their products and let the buyers do the final approval. For one certain product, a procurement team is formed to collect the information first. After organizing the information, the team communicate with the buyers about the products. After that, a meeting is hold by the team to show the samples with only price and standard (without name of the supplier). The buyers decide the final products. The team do the follow up work like contacting the suppliers and negotiation. (Wu, 2012, 204-205)

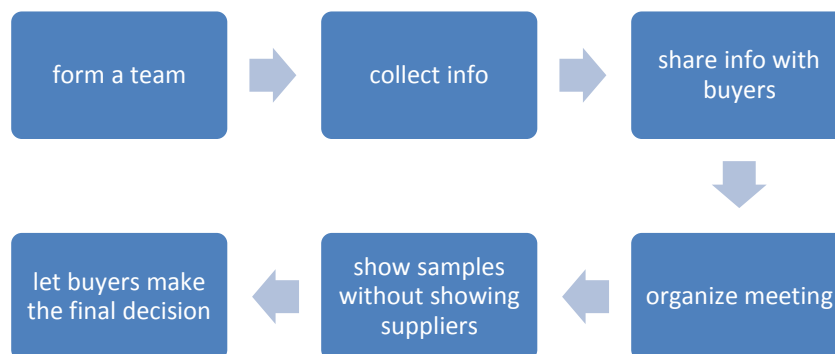


Figure 8 Supplier selection process in Wal-Mart

3.1.2 Supplier Relationship Management of Wal-Mart

Performance assessment

Wal-Mart set the following indicator for performance assessment of suppliers:

1. Display unit sales. This means the sales of each rack per day. This requires very precise measurements about every meter of the rack, the daily sales, the gross profit to the retailer, etc.
2. The rate of return on capital, which has the maximum weight.
3. Non-operating income.
4. Financial income. It means the creation of interests by the different date between settlement date and date of stock in the inventory.
5. Promotional support frequency. In general, there are at least two campaigns each month. Therefore, the number of the promotion items the supplier is willing to support means the factor that assesses.
6. The scale of promotion. Referring to the ratio of discount the supplier is willing to offer.
7. The complaints of quality.

The categorizing of suppliers

According to the scores the suppliers get, Wal-Mart classifies them into 4 different categories. Those get more than 80 belong to the A class. The point between 60 and 80 means B class. C class refers to the suppliers with 50-60 points. The suppliers are unqualified (D class) if they got under 50 points.

For the A class suppliers, Wal-Mart provides a series of favourable policies, for instance, give priority to the placement of the supplier's products, give discount of the payment of aisle placement, take more orders properly and provide priority for returning and exchanging. This also aims to encourage more suppliers to improve. Everything stays the same for B class suppliers. For the suppliers in the class C, Wal-Mart may even higher the price of aisle placement and reducing the number of orders. Special trainings are held for this type of suppliers too. There are very high possibilities that the suppliers with D class are eliminated.

The information sharing platform

Wal-Mart established an internal information sharing platform to guarantee the cooperation of suppliers, distributors and manufacturers. The platform enables the rapid flow of sales and improves marketing efficiency, which are important for the logistic system too. When the sales happened,

the information about the sale flows not only to the Headquarter but also the suppliers. The suppliers are able to prepare shipment to the store when there are not much stock. In this way, it also helps Wal-Mart to reduce its inventory cost.

The development of its own brand

Wal-Mart cooperated with some outstanding suppliers to produce products with its own brand. The own-brand products eliminate the part of distributors and increase the profit substantially. Own-brand products take 20% to 25% of the total goods

3.2 Current situation of the commissioning company

3.2.1 Purchasing in the commissioning company

At the beginning of the purchasing process, the Headquarter of Beiguo is in charge of all the procurement and the payment. Which means the sourcing for the suppliers like investigation and negotiation with the suppliers is done by the Headquarter. The first order is also sent by Purchasing Department of the Headquarter and the follow-up orders may be managed by the branch. Since the follow-up orders are not involved in the trading conditions (like price, promotion, terms of payment, packaging, transporting condition, etc.), the manager of purchasing department of the Headquarter will try to let the branch order accordingly. The procedure of purchasing is shown in the chart below.

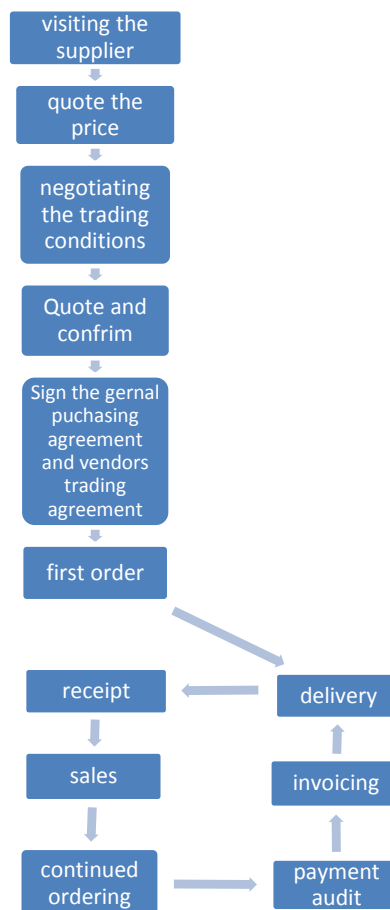


Figure 9 Current purchasing process in Beiguo

From the chart above, Supplier Management in Beiguo is not a separated and dedicated process, and it is just part of the purchasing procedure. The supplier selection, performance assessment and the monitoring are carried out by the purchasing related staffs. The functions of the purchasing department of the Headquarter are listed below:

- a. Choose the suppliers
- b. Select the appropriate products
- c. Negotiation with the supplier to get the optimum conditions
- d. Set the most competitive price with the most reasonable profit
- e. Communicate effectively with the warehouse to ensure every product sell well
- f. Collect information to grasp the needs of the market and the trends

From the list above, the core functions of purchasing department are sourcing, pricing and setting the promotion. The chart below demonstrates the organizational structure of the purchasing department (including the personals from both the Headquarter and the branches).

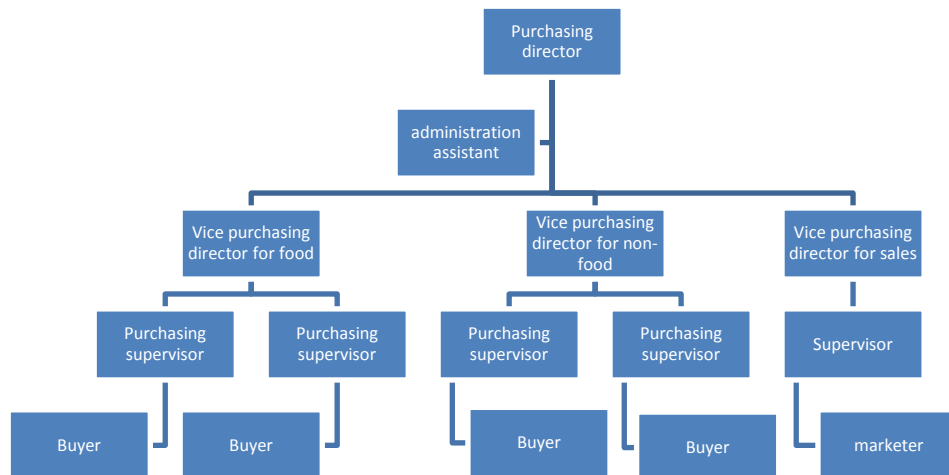


Figure 10 Current purchasing organization in Beiguo

3.2.2 Supplier management in the commissioning company

Selection and evaluation of the suppliers

The selection is mainly carried out by headquarters. The process is still quite traditional and subjective. Firstly, the staff from the purchasing department does the market research to search for the suitable new products. The new founding is based on the experience and feelings. After finding the suitable new products, the department will contact the manufacturer or reseller.

Supplier relationship management (SRM)

One part is about managing the affairs with the supplier like ordering and inspection. The changing or return of the products is carried out by the store with the suppliers. Another part is the annually performance assessment. The Headquarter sign the new contract with the suppliers according to the result of the performance assessment. The suppliers with good performance in the previous year will receive certain preference.

3.2.3 Analysis of the problems

From the current situation above, the level of the supplier management of Beiguo Supermarket is very traditional. From the selection to the perfor-

mance assessment are mainly completed manually. It will definitely affect its competitiveness in the market.

1. No supplier information management platform. The ERP system used by Beiguo Supermarket includes purchasing management, sales management, inventory management and financial management. There is no certain section specifically for supplier management. The SRM have to finish by the stores, purchasing department and financial department together. The ERP system is also not utilized that not all the details are inputted into the system on time. The important data about the exact delivery time, exact number of defectives and movement of refunding are not recorded on time. Therefore, the accuracy of performance assessment of the supplier will be affected.
2. The evaluation and selection of the suppliers are based on the personal experience. Therefore the risk of introduce new suppliers are very high. A team for supplier management with experts from different departments should take the responsibilities of selecting the perspective suppliers. The aspects for examine the suppliers are mainly about the brand, but for the aspects like delivery, production scale, quality and comprehensive abilities do not take much into the consideration. Meanwhile, it gives an individual too much right that corruption is commonly happen.
3. Lack of information sharing with the suppliers. Retailing companies like supermarkets have the closest relationship with customers that it can get the information about customer preference at first place. Like most of retailing companies in China, Beiguo rarely share information with its suppliers, on the contrary it uses this advantage to bargain with the suppliers. In this kind of situation, the suppliers cannot get information about the sales and the stock. And this leads them to block their information from the retailing companies too. The lack of information sharing cost more for the information searching, thereby increases the cost of products.
4. The share of joint with suppliers took about 10% which is too much. Joint with suppliers are only suitable for those suppliers with low fame or new products. The supermarket rents the shelves to suppliers, and the suppliers can decide the category, the stock level and price of the products. The only thing Beiguo can take part in is collecting the rent regularly. In this way, the risk will be low but it is also hard for Beiguo to manage. Since the suppliers decide the price, it makes affect Beiguo to be competitive in the market.

5. Did not differentiate the market demand in different areas. Beiguo is located in different areas in Shijiazhuang, and some of them are in the centre and others are in the suburbs. The demand of different areas is way different. The Headquarter is sourcing for all the stores, so the percentage of product similarity is much more than it should be. Un-suitable products cause the long turnover.
6. The admission allowance took a large part of the income. Charging for the admission allowance is very common for the local market chains in China, and even for some of retailing companies, this in the only way to get profits. The replacement of the supplier might be frequent in order to charge the admission allowance.

4 ANALYSIS AND RECOMMENDATIONS

From the analyses in the last chapter, there are two main problems of the supplier management in Beiguo. One is in the selecting stage that the evaluation is too simple. Another problem is about how to keep the relationship with the suppliers which means SRM. The suggestions for Beiguo to get better supplier management are listed below. These will help Beiguo to get sustainable development and win-win situation with suppliers.

4.1 Set up the platform for supplier information management

In this era with information technology, it is hard to deal with the problem like supplier information management without the help of technology. With the help of platform, Beiguo is able to achieve information sharing, rapid response and flexible cooperation with its suppliers and in the end accomplish the partnership with suppliers.

4.1.1 Supplier information management

The module should include the following data:

1. Database of existing suppliers: name, address, phone number, e-mail address, category of the products, specific products, bank of the supplier's account, bank account, financial situation of the supplier, credibility, rate of the qualified products, price, delivery, after-sales service, etc.
2. Database of the alternative suppliers: name, address, phone number, e-mail address, category of the products, specific products, bank of the supplier's account, bank account, financial situation of the supplier, credibility, rate of the qualified products, price, delivery, after-sales service, etc.

3. The database of supplier classification.
4. The database of supplier performance assessment. This function should be able to assess the supplier automatically. The result will be announced to corresponding suppliers and those with a negative result should be warned.

4.1.2 Function of supplier information management module

The supplier management module should be functioned like the following:

- Supplier query
- Adding and deleting suppliers
- Switching between existing suppliers and alternative suppliers
- Evaluating suppliers
- Automatic supplier categorizing
- Performance assessment
- Setting different permission for different suppliers
- Prompting for key suppliers and unqualified suppliers

4.2 Establish the process of supplier selection

Selecting products with low price and good quality is the main responsibility for supermarkets, and meanwhile it brings more profits. It is crucial to find the suppliers with the best products. However, the process of selecting supplier in Beiguo is very simple and subjective. A new standardized process is carried out for Beiguo. The process goes as follow:

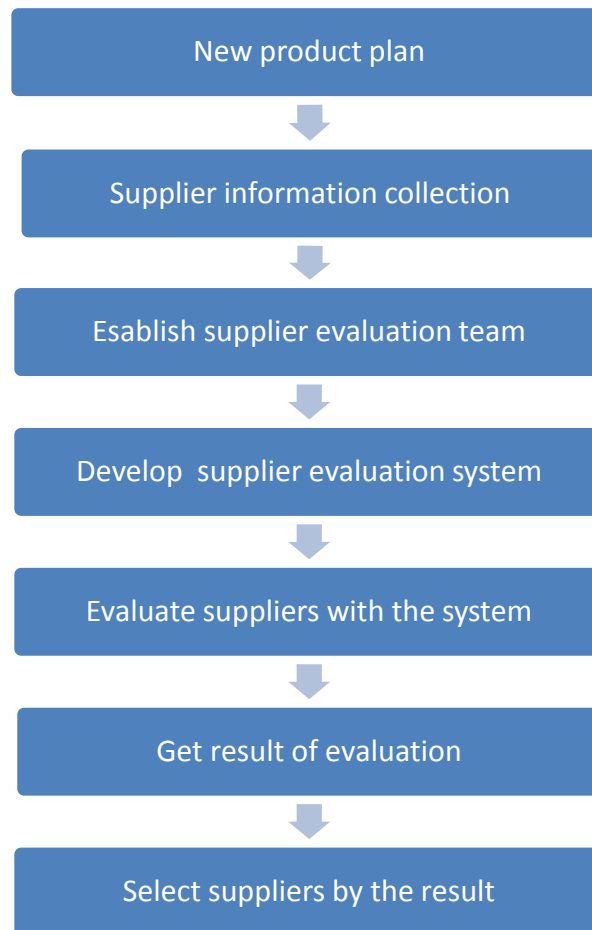


Figure 11 Supplier selection process

4.2.1 Determine the products mix

According to the supplier evaluation process, the primary step is to set up a plan for new products which mean the product mix. With the product mix, it is able to confirm the category, model and price rang etc. The product mix requires having the information of the number of existing products and required products. The table of product combination for Beiguo is done referring the table of product combination in the book “Manual of managing commodity in hypermarket”. This table used the information from cleaning supplies department in Beiguo and it is an example for all the product combination.

Table 2 Table of product combination

Better supplier management for supermarket chains in China

serial number	name of the product category	Estimate number of product				Actual number of product				Gap				Supplier number
		Total	high	medium	low	Total	high	medium	low	Total	high	medium	low	
521	washing powder	73				62				11				6
522	Washing liquid	35				29				6				4
523	Softener	20				15				5				4
524	Soap	38	>10	5-10	<5	30	>10	5-10	<5	8	>10	5-10	<5	7
			5	18	15		2	13	15		3	5		

According to the table, the category of washing powder lacks of 11 types of product, washing liquid lacks of 6 and softener lacks of 5. For the soap, the higher grade requires 3 more types and medium needs 5 more types.

4.2.2 Supplier information collection

From figures in table 2, information of type and price range about the new products if listed. According to this information, the buyer can start the market research. Several suppliers can be contacted. If the suppliers have interests to supply, they have to fill in the basic information form (table 3). The basic information form includes the information such as name, address, production capacity, product, market share etc.

Table 3 Supplier's basic information form

Basic Info	Name					
	Address					
	Business license number				Registered capital	
	Contact person				Position	
	Telephone				Fax	
	E-mail address				Creditability	
Product Info	Product name	standard	price	quality	Consumption	market share
Logistic Info		delivery time			Logistic cost	
Others						

Managing this information form is very basic work for supplier management. This form helps to check information of existing suppliers and also

the potential suppliers. It is important to update the form also. For Beiguo, since it has its own information system, the information is input to the database.

4.2.3 Establish supplier evaluation team

A supplier evaluation team has to be set up for implementing and controlling the evaluation process. Employees from different field have to be gathered in order to get the decision from different perspective. The team members have to from variety departments like purchasing, quality control, sales, logistics and management team who are experienced in the certain field. Expect that, teamwork spirit is also very important. The main responsibility of this evaluation team is to build the evaluation system for selecting the suppliers. They determine the factors and sub-factors together and give opinions of assigning the weight.

4.2.4 Develop supplier evaluation system

As the theory part (2.3.1 the selection of supplier) states, the procedure of design the supplier selection template has four steps. The steps are respectively determining the main factor, determining the sub-factor, assigning weight and calculation. The first three steps are carried out by the supplier evaluation team together.

For a systematic and comprehensive evaluation result, a completed, scientific and integrated evaluation frame is required. All the factors in the evaluation frame have to be determined by the supplier evaluation team with discussion. Since the factors are agreed by the expert from various fields, the result can be regard as scientific and objective one. Concerning about the time limitation, the author build up an evaluation frame for Beiguo by referring various researches. The aim is to show how this AHP works for determination of the right suppliers. In reality, the evaluation team can design a new frame based on this for Beiguo. The frame used in this thesis includes seven main factors and few sub-factors. (Figure 12)

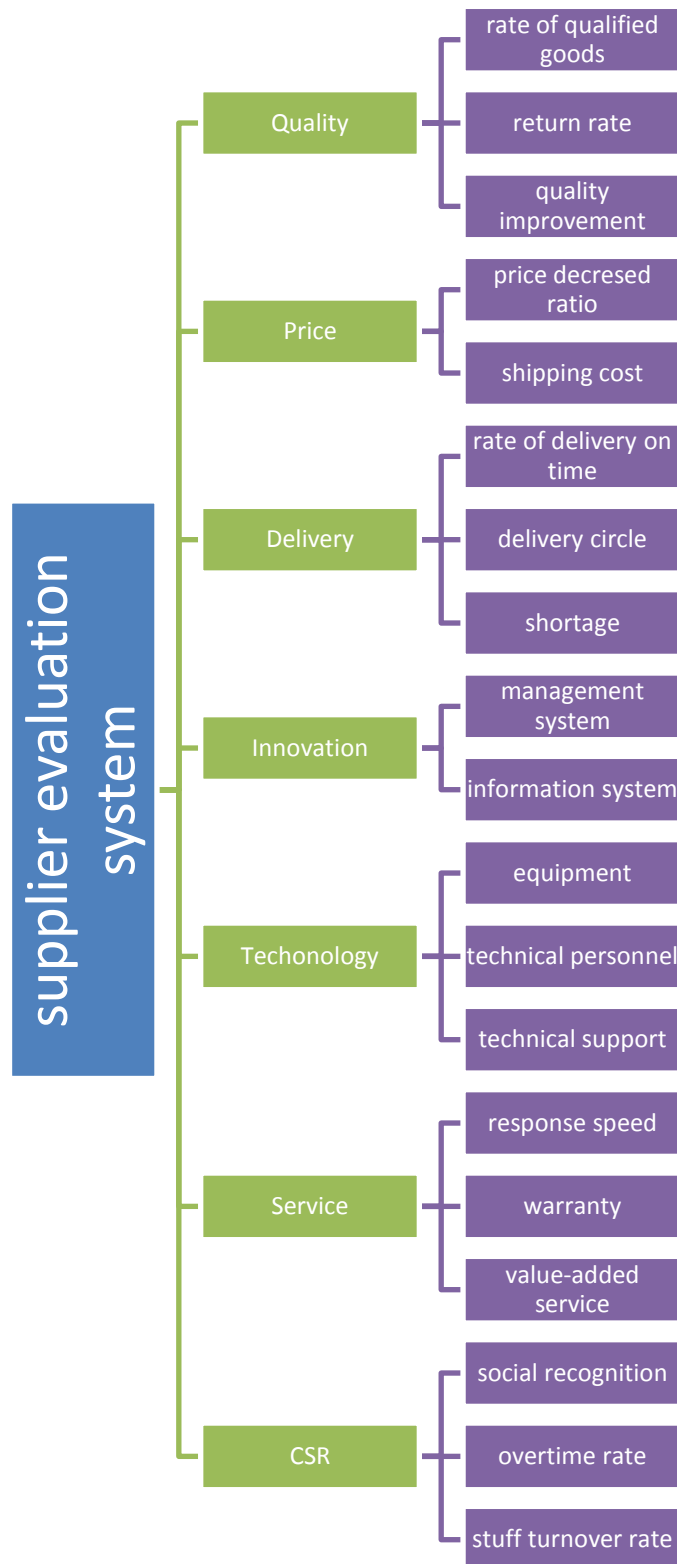


Figure 12 The supplier evaluation frame

The next step is to assign weights to each factor. Since Beiguo has diverse product categories, different requirements have to be raised when assigning the weights. For instance, the daily necessities is more price sensitive that the weight for it should be higher compare to other products. The fact about fresh food is that the suppliers have to do good preservation to guar-

antee the freshness, so the suppliers of fresh food have to have good performance on the delivery. For the household appliances, the technology and service have to receive more weight.

The process of assigning the weight is carried out by the evaluation team together. The process goes in the following steps:

- 1) List a form with all the main factors for determination. (Table 4)
- 2) List forms with all the sub-factors for determination. Each factor has one form for sub-factors' determination. (Table 5)
- 3) Distribute all the forms to the team member and let them decide the grade according to table 6.
- 4) Each member verifies their finished form.
- 5) Collect the form together and input into the AHP software for the calculation.

Table 4 Form of main factors

	Quality	Price	Delivery	Innovation	Technology	Service	CSR
Quality							
Price							
Delivery							
Innovation							
Technology							
Service							
CSR							

Table 5 Form of quality's sub-factors

Quality	Rate of qualified goods	Return rate	Quality improvement
Rate of qualified goods			
Return rate			
Quality improvement			

Table 6 Meaning of the grades

Grade	Meaning
1	The two factors are equally important
3	One factor is slightly important than another
5	One factor is relatively important than another
7	One factor is very important than another
9	One factor is significantly important than another
2,4,6,8	The importance is in the middle

A simulation of developing the supplier evaluation system is carried out in below. The example category is the dairy product suppliers in this case. And the evaluation frame used is the example frame (Figure 12). The weight of assigning process is carried out by the AHP software Yaahp which is developed by Foreology Software. The grading of the importance for the factors is done by Mr Ma, an expert in sourcing from Beiguo and the author.

Firstly, the frame is structured in the software, and the interface in the software is shown in below (Figure 13). The software is in Chinese so it is not English oriented that it is not so clear about the detail.

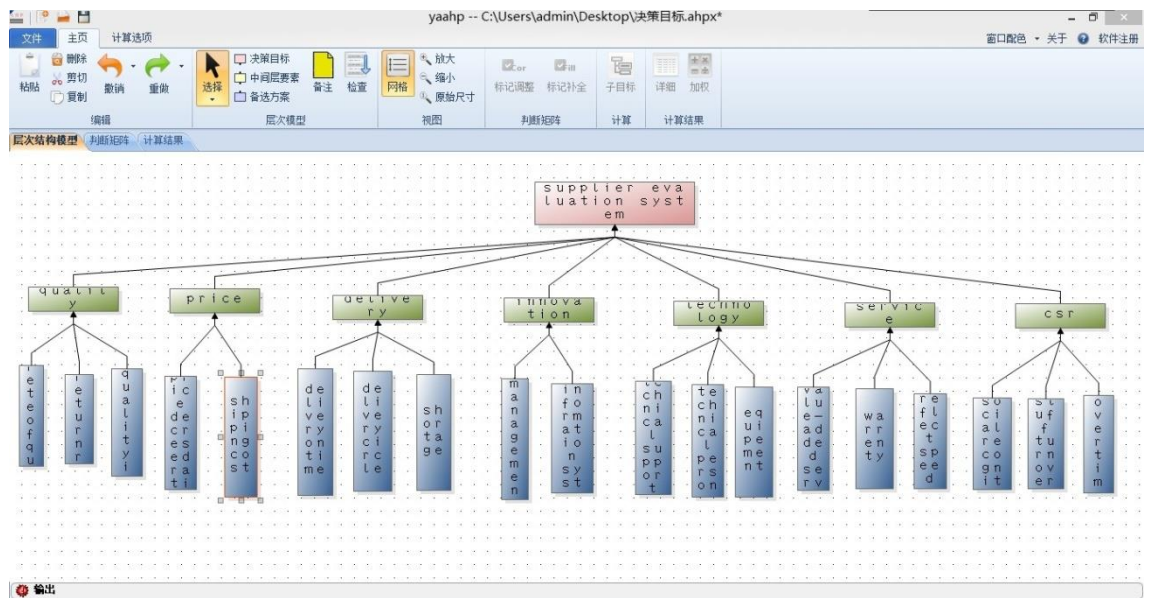


Figure 13 Frame build in Yaahp software

The second step is to compare the importance of each factor and input the corresponding numbers into the software. The result of the main factors is shown in the figure 14. The comparisons for the sub-factors in each main factor are processed afterwards with the same interface. It is important to know that the automatic uniformity text is built in the software (highlighted in the red frame in figure 14). After all input all the corresponding number, the result of uniformity should be lower than 0.10. Otherwise the number should be adjusted.

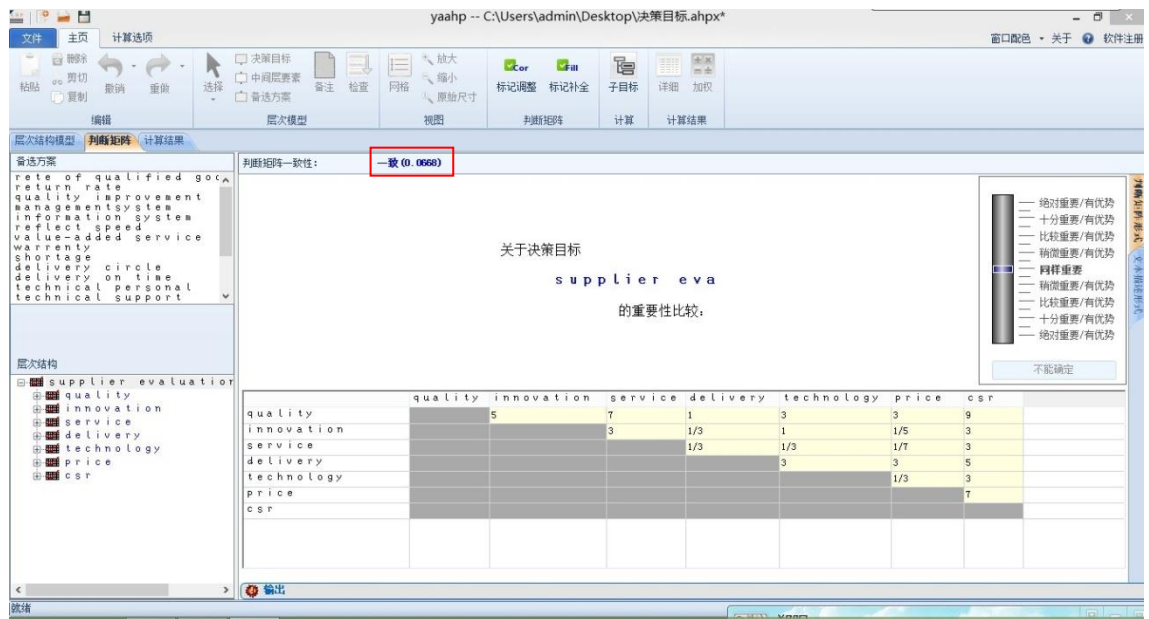


Figure 14 Result of main factors in Yaahp software

After inputting all the numbers for degree of importance and checking the uniformity, the system calculates the weight for each factor automatically. The result is shown in the table 7.

Table 7 The weight of all the factors

	Quality	Price	Delivery	Innovation	Technology	Service	CRS	Total weight
	0.32	0.19	0.244	0.0767	0.0887	0.043	0.028	
	32	47	7			5	5	
qualified goods	0.4545							0.1469
return rate	0.4545							0.1469
quality improvement	0.0909							0.0294
price decreased		0.8750						0.1704
Shipping cost		0.1250						0.0243
shortage			0.1884					0.0461
delivery circle			0.0810					0.0198
delivery on time			0.7306					0.1788
management				0.5000				0.0383
information				0.5000				0.0383
personal					0.4545			0.0403
support equipment					0.0909			0.0081
Reflect speed					0.4545			0.0403
value-added						0.4443		0.0193
warranty						0.0836		0.0036
recognition						0.4721		0.0205
							0.7778	0.0222

overtime rate							0.1111	0.0032
stuff turnover							0.1111	0.0032

In reality, this system needs to create differently for different categories. After that it can be save like a template to use for every supplier.

This is a combination of quantitative and qualitative research. This method combined the expert grading method and AHP, so it overcomes the subjectivity but still convincing. Even though the results are purely statics, it is came out from the opinion of experts and shown in a demonstrative way. The preparation work is a bit time-consuming. But after the system is ready, it is very easy to apply to different cases.

4.3 Supplier performance assessment

All the control and excitation of suppliers are based on the result of supplier performance assessment. A fair and reasonable performance assessment leads to the possibility of development partnership with suppliers. The performance assessment for suppliers are very much based on personal experience and a systematic way of assess is missing. It is very important for Beiguo to build up a supplier performance assessment system.

To optimize the assessment system, based on the existing factors like price, quality, distribution capabilities and return service, few more factors are added. ABC-analysis is utilized. As a result, the performance assessment table is showed in below. (Table 4)

Table 8 Performance assessment table

Factor	Evaluation level				Grade
	A (excellent)	B (good)	C (satisfactory)	D (poor)	
price	20 (lower than competitor)	10 (same as competitor)	8 (a bit higher)	2 (much higher)	
quality	10	8	6	2	
defective rate	10 (<2%)	8 (2%-5%)	7 (5%-10%)	5 (5%)	
distribution capabilities	15	10	5	2	
popularity	10	8	6	2	
promotion coordination	15	10	5	2	
return service	10	8	6	2	
business potential	10	8	6	4	
Total grade					

If the total grade is higher than 70, the supplier is a class A supplier. With a grade of 60-70, the supplier is class B. 50-60 means class C. With a grade lower than 50, the supplier concern as a class D supplier which is unqualified.

For the A class suppliers, Beiguo can give appropriate policy incentive. Some benefits can be provided like increase procurement and shorten the payment period. These enable the supplier to continually increase the strength and depth co-operation with Beiguo. For the B class suppliers, it is possible to streamline the purchasing processes, reduce trading activities and reduce transaction cost. For the C class suppliers, Beiguo should communicate actively with the suppliers to help with the improvement. With the help, the suppliers may improve their sales and co-operate more with Beiguo. The D class supplier can be considered to replace by other suppliers.

The annually assessment is such a long circle. More frequent assessments are suggested, like two or more times a year. More frequent assessments enable to find more suppliers with excellent performance and meanwhile to reveal the unqualified ones. The problems which are derived from the suppliers can be solved on time. In this way, it also helps to stimulate suppliers develop themselves.

4.4 Other suggestions

4.4.1 Consolidate corporation with agricultural products base

It is an inevitable trend for retail industry to sell agricultural products, and in the future it will become the main channel. There are quite advantages can be listed in achieving “agri-market” integration.

- 1) Bring more customers. Because of fresh vegetables and fruits are staples for people, it has a large market potential.
- 2) To achieve “agri-market” splice will make new increase in supermarket revenue. However, the agricultural product only takes up 20% in magnitude of gross product that is sold at Beiguo Supermarket.
- 3) Enhance the core competition of super market. It is a trend for agricultural product to sell and label as brand, since Beiguo Supermarket has achieved “agri-market” splice strategy and has been under this kind of operation mode, it could then make cooperation with local agricultural bases to establish its own brand-selling mode. Afterwards, the development of this own brand-selling mode would in large enhance the competition of the supermarket.

However, in the background of widening the agricultural species and increasing its magnitude, several considerations should be reasonably taken into account:

- 1) How is the cooperation organization modality with agricultural base? In which selling mode to sell. The means of cooperation should be direct purchase, joint venture, or consignment? If it is of direct purchase, there could be a larger risk for market, but big profit possibly. If it is of joint venture or on commission, the party responsible for the charge of default slot fee in supermarket has to be determined. What is the way for peasants to deal with big super market directly?
- 2) How to enrich the agricultural product's species in the super market. The manager of supermarket should take to consider how many agricultural bases they should work with, because of the difference of territoriality and ripe season of agricultural species. So there are different agricultural products with different characteristics at different time. For catering to the need of consumer, the supermarket must provide rich agricultural products.
- 3) The retaining of freshness of agricultural products should be taken as a primary concern. Thus, high quality standards for retaining, sealing, storage, transportation are required.

4.4.2 Establishing self-own brand with suppliers

Beiguo Supermarket is already familiar with the need of the consumer and the movement of the market. Under good conditions, it can directly consult with A-class suppliers about cooperation issues, develop new products with suppliers; utilize the redundant productivity of suppliers, and to streamline its own-branded products. This can be regarded as a win-win decision, due to the expansion of productivity, the strategy itself hence reduces the cost of production of each unit. For Beiguo, selling its own-brand products in its own supermarket can induce an increase of the profit up to 20% and even more. Self-own brand strategy has generally been operated in international supermarket such as Wal-Mart, its self-own brand products has become a series. Self-own brand products have a profit up to 20 percent. Beiguo shall, in a way, try to set up its self-own brand products initially, in order to increase its profit.

4.4.3 Decrease the proportion of joint suppliers

Nowadays, in the cooperation between Beiguo Supermarkets and suppliers, joint marketing has taken a large portion, almost up to 10%, Beiguo Su-

permarket just rent storage rack to its suppliers, and suppliers take all the responsibility of purchasing, delivering, selling, storage and so on, however, Beiguo only get rental income out of them.

When observed from a shallow view, Beiguo would get profit steadily and without any risks under this selling mode. But this is not a sustainable way for long-term benefits:

- 1) As a result of adopting joint selling mode, there is a redundancy of small-brand goods. Yet the space of each Beiguo is limited, in such way, it turns out that the suppliers in the form of direct purchase has been reduced. In other words, high-class brand products have been reduced.
- 2) The proportion of goods that are sold in supermarket is, however, not determined by the demand of consumers, but determined by the suppliers. This is against the rules of marketing. It definitely will damage the reputation of Beiguo.
- 3) Beiguo may confront a situation with the loss of customers and the decrease of sales.

Therefore, it is highly recommended that Beiguo supermarket shall have a long-term view of profit and try to eliminate or at least decrease the percentage of joint suppliers.

5 CONCLUSION

The commissioning company, Beiguo Supermarket has a relatively poor supplier management system that there is not a specific organization responsible for the process from supplier selection to the supplier performance assessment. Currently the supplier selection and supplier assessment are still carried out based on mainly personal experience. However, it is crucial to set up a standardized process for selection and performance assessment of suppliers for Beiguo.

After observation from the researches and comparison with the benchmark company Wal-Mart, recommendations are presented to Beiguo. The first step is to set up supplier information platform for information sharing. The data included in the module and the functions are designed for Beiguo and listed in the recommendation part. The second step is to establish a supplier selection process. As the aim is getting an objective selection process, a team with experts from different areas has been suggested to build. The evaluation system has had to set up by the selection team. A frame of determination factor and a system of grading the suppliers are plotted for

Beiguo. Supplier performance assessment shall be carried out more frequently with a new standardized grading system.

In order to answer the research question about how can Beiguo Supermarket get better supplier management, more suggestions are mentioned including consolidate cooperation with agriculture products, establish self-owned brand with suppliers and decreasing the proportion of joint suppliers. Unfortunately, deep analyses of those topics are not done in this thesis. It does not mean that it is not as important as the other suggestions. However, they may bring more benefits. But at this moment, the essential step of Beiguo to develop its supplier management is to set the fundamental part like supplier selection stage and performance assessment. The other suggestions should be achieved after the fundamental part.

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