

Saimaa University of Applied Sciences
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**DEVELOPMENT OF A STRATEGIC PLANNING
MODEL FOR DETERMINATION AND
IMPLEMENTATION OF A SOURCING GROUP
STRATEGY FOR CAST IRON MATERIAL
GROUP INSIDE THE MAN NUTZFAHRZEUGE**

Bachelor`s Thesis 2010

ABSTRACT

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Development of a Strategic Planning Model for Determination and Implementation of a Sourcing Group Strategy for Cast Iron Material Group inside the MAN Nutzfahrzeuge, 100 pages, 3 appendices

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Unit of Business Administration, Degree Programme in International Business
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Purchasing is an integral component of the value chain of every enterprise. Its value adding extent not just reflects the monetary value, but also the critical availability of the purchased products for achieving of concrete corporate goals. In the last decade, driven by increased importance of globalization, increased raw material prices, scarcity of resources and increased competition, altered market structures, purchasing is getting visible again from the back-office and is now viewed in large corporations as a strategic function, centrally due to the immense amount of money that it is responsible for.

As the professional requirements on purchasers are changing, a need for a strategic planning model emerges, that could help to make the process of strategy determination much easier and serve as a guideline.

The purpose of this thesis is to develop a strategic planning model assisting the purchaser during the sourcing group strategy determination and implementation process, and to apply developed model for design of Cast Iron sourcing group strategy for the next year period within the MAN Nutzfahrzeuge and its Purchasing Department.

The utilized data was collected during the practical training from 1st of June to 1st November in the Central Purchasing Department of MAN Nutzfahrzeuge, especially in the Cast Iron sourcing group. The paper consists of two empirical parts. The first one involves gathering information about the problem existence (need for a strategic planning model) and theoretical framework needed for the model development. The second part handles data collecting for the testing of the developed model such as corporate vision and goals through visiting of internal information fairs and interviewing, analysing of the sourcing group's recent performance and activities. At this point must be mentioned that most of the figures and names related to Cast Iron performance and suppliers have been modified for the reason of internal data confidence.

Finally practical testing of the developed model shows evidence, that the model could be established as a strategic planning tool for the sourcing group strategy determination and implementation process within the Purchasing Department.

Keywords: Purchasing and Supply Management, Supply Chain, Strategic Purchasing, Strategic Planning Model.

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ABBREVIATIONS

PSM – Purchasing and Supply Management
BRIC – Brazil, Russia, India, China
DIP – Determination and Implementation Process
EPCO – Engineering Purchasing Components
ML – MAN Latin America
MN – MAN Nutzfahrzeuge
TQM – Total Quality Management
CFT – Cross Functional Team
ROI – Return on Investment
RFP – Request for Proposal
EU – European Union
AG – Aktiengesellschaft
IT – Information Technology
GmbH – Gesellschaft mit beschränkter Haftung
JIT – Just In Time
TCO – Total Cost of Ownership
EDI – Electronic Data Interchange
R&D – Research & Development
DIN – Deutsches Institut für Normung eV

1 INTRODUCTION

1.1 Background

In an era of globalization, the perspective of purchasing function is gaining new relevance. In a struggle over the market shares, the pressure on exploitation of performance improvement and cost effectiveness raises dramatically.

Purchasing and its strategic direction represent a key success factor in that case: only if purchasing strategic action areas are professionally developed geared to company and market environment, performance and material costs can be optimized.

As a part of trimming and the relevant concentration on core activities, the manufacturing penetration inside the companies is declining and the input's proportion on the revenue increases: so far self made goods become more outsourced. The amazing juxtaposition of the ultra-modern with the traditional is the basic for modified procurement personnel professional capabilities. Modified capabilities composed of analytical and strategical thinking during performing routine functions.

The instable economical and environmental circumstances bring forth the need for regularly reviewing of the organizational goals and needs in order to adjust the direction the company is going into. The sourcing group strategy, as a part of such direction supervision, and rightly so, firstly will in all probability consist of corporate, divisional, and functional strategies which have assured their position as a strategic framework within the sourcing strategy determination and implementation process. In this connection, the mentioned process continues with the development of a strategic action plan, including two general considerations: the analysis of existing situation within the sourcing group,

aimed to overview the current performance and underperformance, and consequently derivation of new goals from the analysis results.

A constant feature of the sourcing strategy is the incorporation of the commodity and supplier management.

As is customary, any strategy answers inter alia to the question how to get there where you wish to be. The implementation process of the strategy is on no condition less difficult than the analysis and goals setting, to all intents and purposes is the most important process part. At this stage, the actions and tactics for achieving the determined goals are to be described in detail. It is the question about a sophisticated and integrated process, which needs some guidance, such as a strategic planning model tailored for the special purpose, in particular for sourcing group strategy DIP.

This thesis concentrates on the automotive supply chains, especially on the commercial vehicles business area. Although the past economic crisis has left just in the freight industry strong slowdown marks, but the long-term trend, at least in Europe - shows that the industry is growing. The fact is, that especially in the commercial vehicles manufacturing the huge amount of semi-finished components are outsourced. Consequently, the suppliers' performance has at any case a bearing on organizational performance.

1.2 Purpose and research questions

Recent developments in strategic purchasing and Supply Management have heightened the need for a regular update of strategic plans within an organization, especially within sourcing groups. This paper aims to develop a strategic planning model for DIP of a sourcing group strategy. It also discusses the reasons why the process has become more important in recent years, consequently, the changing nature of PSM. More especially, the paper seeks to explore the most important concepts regarding the purchasing area, including the changing nature of the purchasing function and modified capabilities of purchasing professionals. A further research question is about the character of a strategy and strategic planning in general. The developed model is finally

approved by determination of a sourcing group strategy for Cast Iron sourcing group.

1.3 Structure of the thesis

The paper consists of 6 chapters, beginning with the topic introduction, research scope and questions presentation, empirical data sources and methodology discussion. The second chapter provides an overview of the conceptual framework, defining appropriate concepts such as Supply and Value Chains, Supply Chain Management, Purchasing, Supply Management, PSM and furthermore of the evolution stages of PSM, including changing requirements on the purchasing professional capabilities. Chapter 3 begins by laying out the need for strategic planning model for sourcing group strategy DIP. The next chapter provides an overview of the MAN Group as well as the Purchasing Department, within the introduced planning model is proven. The fifth chapter reports testing results through strategy development and implementation for Cast Iron sourcing group. The final chapter summarizes the main findings of the research and proposes some ideas for the future trends of purchasing function development.

1.4 Research methodology and data sources

This chapter exposes the research methods and process as well as data collection methods applicable to elucidate the research questions.

In this paper the constructive research came into consideration. This type of methodology aims to develop a construct based on the theory framework, in this case a sourcing strategy development model, and to test it in practice.

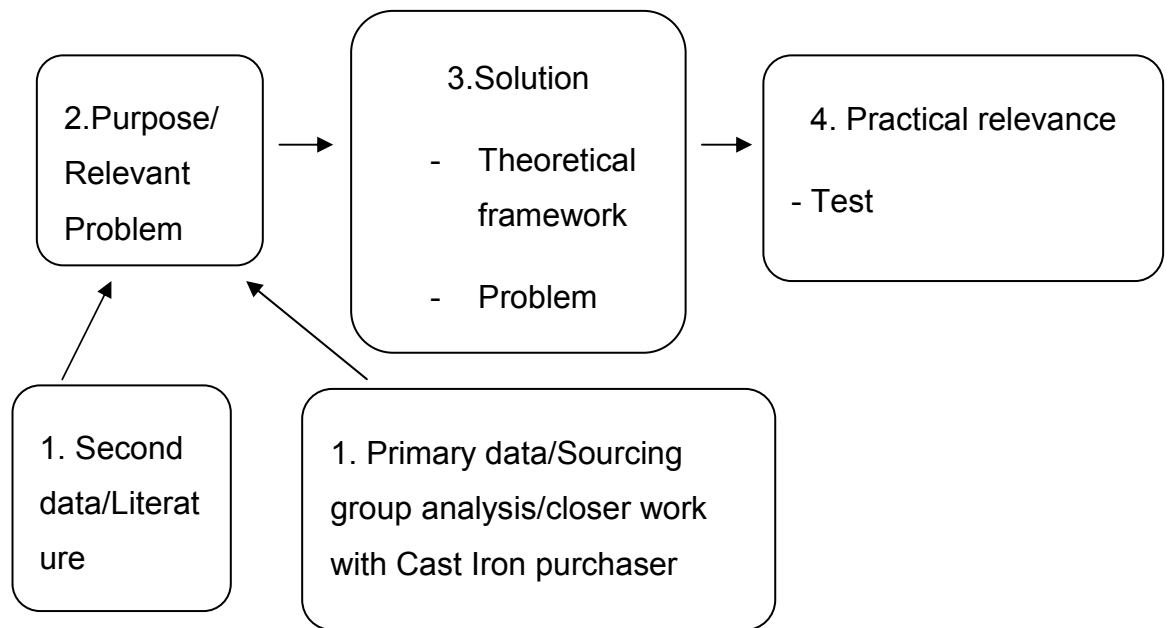


Figure 1.1 Research structure of the thesis (own illustration)

1. Refers to info sources such as books, articles, processes, and company`s internal information sources such as presentations, information trade fairs, interviews as well as enforced analyzes.
2. Purpose/Relevant problem: explains the need for the model development within the company but also in the literature.
3. Solution: is based on the theoretical framework (definition of concepts and strategy) and problem solution (development of sourcing group strategy model).
4. Practical relevance: at this stage the developed model`s applicability on the certain sourcing group is proved.

During the process of data collection, the primary research seemed to be more applicable, regarding to data collection that does not already exist. This kind of research is applicable after the researcher got an overview about the issue by collecting secondary data, done through interviews with the sourcing group responsible and department manager, but also through visiting of internal information trade fair.

The main advantages of the primary research used in this paper are:

- The specific research issues are addressed because the researcher could control the search design and adjust the direction to the arisen needs and changes.
- Derived from above argument, the control is spreading to decide about the time frame and project extent.
- The most important advantage is that the collected data is individual and owned.

Following disadvantages come level with the advantages and could be summarized as follows:

- Primary data collecting process can be very complicated and time-consuming.
- The researcher sometimes avoided her duties during the research.

2 INTRODUCTION TO PURCHASING AND SUPPLY MANAGEMENT

2.1 Definition of concepts

Terms are often a stumbling block when attempting to interpret issues connected with purchasing. As relatively inexperienced scope of activities, many are unclear what the commonly used concept PSM involves. Definitions within these functions are sometimes somewhat hazy. But essentially, anyone who has ever been involved in purchasing and supply chain management characterized the terminology related to the concepts somehow. In which way the supply management differs from purchasing? What are value and supply chains? And what does SCM mean? It seems to be necessary to go through the concepts with a fine-tooth comb before starting with the thesis so as to avoid misunderstanding and confusion as many purchasing professionals have to

understand what the concepts mean, because they form a part of supply chains.

2.1.1 Supply and value chains

Supply chains were traditionally considered as a network providing activities for the coordination and management of inventory, storage and transportation, customer service and order management, materials management and purchasing added later (Cavinato 2006, p. 9). Alternatively, a supply chain can be defined as a bundle of organizations, which are systematically linked directly or indirectly in order to transform resources, information, finance, and components into a finished products for the end consumer. The goal of supply chain is generation of competitive advantages through resources transformation and consequently customer satisfaction and monetary value. It is important to note that supply chains involve internal and external activities based on the product strategies, so cross-boundary effort is required. Such strategies encompass the product objectives needed to meet customer requirements and to outdo the competitors. Other kind of corporate strategies which are named differentiated; organization may follow, considering the differentiated performance in cost, time, quality and innovation, claim special demands on the supply chain. These demands are the key designer and developer of the structure and infrastructure of the supply chain. (Ketchen et al., 2004.)

Supply chains refer to a strategic thinking which seeks to explain all the organizational links within in an integrated but flexible manner, so that the links can transact in unison to achieve an optimum result for the organization. The supply chains serve as connection between the value chains.

According to Michael Porter (1987), value chains consist of chains of functions, activities and processes a company is operating in a specific branch in order to perform in producing and delivering a product. The value chain is comparable with a symphony where a number of links (interrelated strings) are collected, performing to add value. As the products passed through all activities of the chain, they gained some value. Hence, Porter claimed that the chain of

activities gives the products more added value as the sum of added values of all activities. An important feature of the value chain concept is the focus on internal participants, whereas the supply chains are both focused. A well-managed value chain can help to reduce product's final selling price due to greater trust and communication level along the internal participants as well as to enhance on work and on time delivery throughout the value chain.

2.1.2 Supply Chain Management

Due to increasing demand, competition nowadays is no more between organizations, but rather progressive between the supply chains of the organizations. Those companies that form the best and more agile supply chains will gain the competitive advantages and be the market winners. (Monczka et al., 2009, p.7)

In a nutshell, the concept manages all business activities, especially the purchasing, logistics, production, marketing needed to meet the ultimate consumer's requirements. The concept is arguably an integrative philosophy, because it requires a holistic approach starting with the extraction of raw materials and extending to the ultimate users (Quyale 2006).

The supply chains' structure is rapidly transforming particularly through pressures for higher quality standards and lower prices. The changing of the SCM happens for following reasons (Quyale 2006):

- Pressure arising from within the system itself, including increased intelligence of computing technologies for information control, improved demand forecasts and planning. Finally, the importance of the tradeoffs within the system requires a consideration of the total cost concepts and management accounting.
- Pressures from the wider economy consist of changed market structures and fast-growing global and high-technology markets; shorten product's life cycles; flexible manufacturing systems; increased buying power; lean production; competitive pressures in markets;

Because of mentioned changes, the conventional thinking about supply chain management is undergoing a great deal of change, forcing the manufacturers, retailers, distributors to look beyond their traditional logistics boundaries for improving lead times and achieve greater cost efficiencies (Giunipero 2006).

The main obstacle for establishing and maintaining a well-managed supply chain is to link the distribution activities and the market place with the purchasing and manufacturing operations in order to create competitive advantage. Secondly, the agile supply chain aims to enable organizations to keep ahead of market and economical changes.

In essence, managing of supply chain is the art; perhaps, the purchasers need to apply a consistent approach to supplier development, further, to improve their performance. A supply chain contributes to resolving the problem areas such as: cost reduction and adding value; sustaining the quality standards; improving of customer service among others. (Quyale 2006.)

2.1.3 Purchasing

Purchasing function plays an essential role in most companies, yet many still recognize its influence and importance. The increasing reputation of the supply chain management constrains the companies to chew over the purchasing position within. Viktor Pooler et al. (2004, p.20) noticed that purchasing operates as the vital intersection between seller and buyer, where supply and demand forces meet, thus its scope is wide and encompasses internal and external elements of supply interaction. Furthermore, purchasing is concerned with long-term purchasing decisions which are unique by their nature and a mistake can have huge damaging effects (Dooley 1995, pp. 21-25).

Thus, purchasing is a prime link with suppliers who have a great impact on a company`s total cost. The main influential factors of purchasing function on organizational competitive advantages are summarized below:

- Contribution to cost position. Christopher Barrat and Mark Whitehead (2004) explain the purchasing impact on organizational costs. Of the various ways in which purchasing can contribute to improving organizational performance, the most hackneyed is cost reduction. The argument goes like this: in many industries the real net output ratio accounts just 30 – 50 % of the turnover, 50-70 % are the purchased products and services. Consequently, driven down variable and fixed costs of purchases benefit the operating results considerably. Suppose, the purchasing price can be cut by 15 per cent, the disparity between the previous price and the new are savings which have an immediate impact on organizational profits and usually are reinvested in quality improvement actions or the final selling price. Hence, the savings directly sharp company's competitive edge. There are two possibilities to cut the purchasing costs: reduce the spending with suppliers or cut the transaction costs. Driving down the spending with suppliers means attempts to obtain lower prices through purchases aggregation: putting all the purchasing orders into one big order and hopefully negotiate discounts through large volume. Or maybe simply search the supply market for suppliers offering better price and conditions for the product; or renegotiate the price with existing suppliers arguing with information about competitor's better offering. As mentioned, transaction costs can also be reduced. These are cost accruing throughout the whole purchasing process. It follows, that these can be reduced if the costs involved in running the goods obtaining operations can be driven down.
- Contribution to performance diversification. At this point the supplier integration plays a great role. A performance diversification mostly means the ability to perform the customized requirements such as short delivery time, infinite diversity of variants, increased service levels and innovations (Heß, 2010).
- Contribution to decreasing of operating assets. Purchasing activities can help to decrease the operating assets of a company through investment

and risk relocating and as result to increase the shareholder value (Heß 2010).

- Enhancing of product quality and innovation generating. Purchasing is not merely about the cost reduction, it is an important issue in current competitive markets. In a slightly less immediate and direct way, a well-managed purchasing process can bring huge quality improvements. Purchasers are in the best position to make sure, that they buy the right qualitative product to right price and at right supplier. There is the question what the purchasers believe the quality to be and consider whether the final user is satisfied with lower quality or pays for top-quality products. It is possible to purchase the components for lower price, but quality is in general costs more. Hence, important though is to find the balance between the cost and quality. Commonly known, if paid more, one is likely to receive higher-quality products. But as everyone knows, paying more does not mean that the products are of higher-quality. It is the buyer's task to understand the dilemma and to reach the best possible deal in terms of cost and quality. Another factor gaining recognition is the innovations brought by suppliers as they are generally competing with one another. An astute buyer will try to take a full advantage of this competition. (Barrat et al., 2004.)
- Image and reputation. An even bigger consideration the purchaser is dealing with, is the impact of the way of managing the supplier's relationships on the organizational image and reputation. Nowadays, one important question is about the right source, concerning where to buy and what to buy, that will affect organizational profitability. Hence, most organizations want to be seen as responsible enterprises. (Barrat et al., 2004.)

In order to perform successfully, any function must set up clear and measurable objectives to achieve them. And purchasing as the influencer of the organizational revenue inflow is no exception. (Pooler et al., 2004, p. 23.)

The main objective of the purchasing function is the supply continuity meaning performing to satisfy the operational requirements of internal customers such as

obtaining of raw materials, components and after sales services, supporting in delivering of replacement parts to end customers, and supporting in engineering of new-product and so on. Not less important is the management of the purchasing process in an efficient and effective way such as continuously improvement of available resources (e.g. employees, systems). Purchasing must keep pace with changing conditions in supply market, hence manage the supply base. The management of the supply base includes competitive supplier selection, new supplier identification, improving of existing suppliers. This objective suggests working directly with suppliers in order to develop new capabilities and to improve the existing capabilities. (Monczka et al., 2009, pp. 37-41.)

Monczka et al. (2009) stated that purchasing should communicate with its internal customers: other functional groups like manufacturing, finance, technology and marketing in order to achieve the agreed goals. Another important objective of the purchasing function is to support organizational goals and objectives. It is assumed that purchasing can directly influence the overall performance, resulting in recognizing of purchasing as a strategic asset, providing a competitive advantage in the marketplace. To develop integrated purchasing strategies that could support organizational strategies is not the easiest hurdle to overcome. This objective requires the purchasing personnel participation in the senior-level meetings and increased executive management's attention to purchasing performing. If the purchasing department is involved in the corporate planning process, it can provide supply market intelligence including supply markets trends, development of contingency plans supporting company plans, and covering the organization's need for competitive supply base.

The position of the purchasing within the organization causes a need for an integrated rejecting of organization's supply. As mentioned above a supply chain is commonly used to describe a concept of a string of organizations along which items, information and finance are passed through while transforming. However, the chain is acting as the exchange medium between suppliers and

end consumers. Hence, there is an obvious connection between the chain links and it is shown in the Figure 2.1 below.

The prime chain link in every supply chain is purchasing and it plays the role of value driver, driver for risk and innovation management.

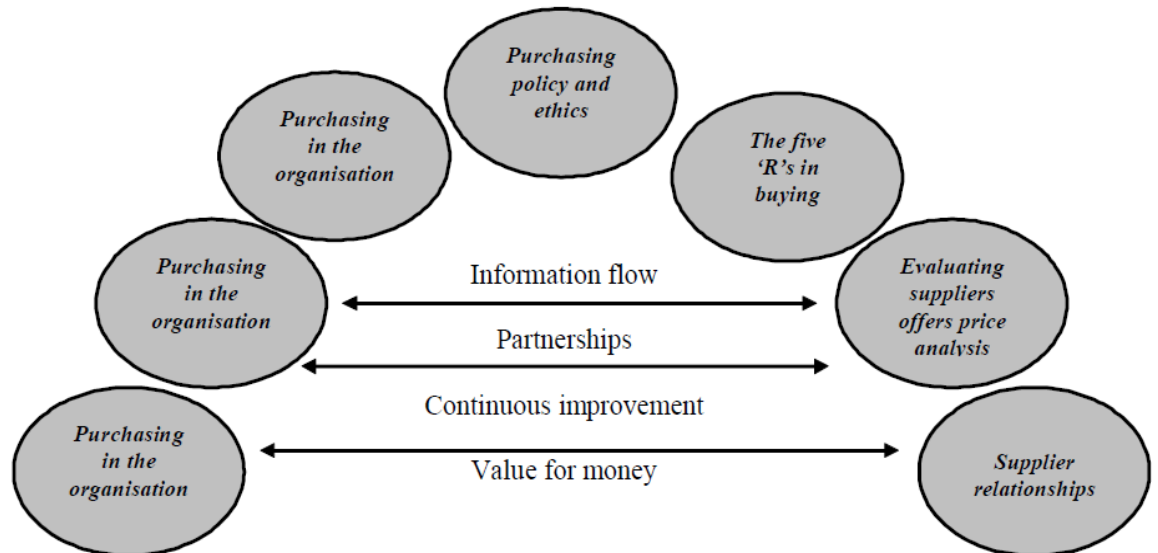


Figure 2.1 Buying links in the supply chain (Quayle 2006)

2.1.4 Supply management

Joseph Cavinato (2006) suggested that Supply Management concerns with the identification, acquisition, access, positioning and management of resources the organisation needs in the attainment of its strategic objectives.

Identification applies to capturing of opportunities in the marketplace, new materials and technologies, but also unknown suppliers. The term acquisition means the obtaining, including identifying and creating strategies for seeking and using sources in order to increase the leadership role in organization-to-organization interactions and to increase the process's efficiency and effectiveness. Access refers to gaining potential use of resources not available but needed through search-and-development approach of potential suppliers and supply methods. The key strategic activity is the positioning of the organization for competitive advantage in the marketplace. The proactive role in

handling the strategic objectives within the company mean the developing of the supply chain management's influence and reaching throughout the organization. (Cavinato 2006, p. 7.)

Supply Management emphasizes the integrated consideration of the organization's supply and is viewed not yet as a discipline, but as a subject area. The integration performance comprises five directions summarized below (Heß 2010):

1. Integration of individual projects: all the planned projects have to be synchronized because to achieve a sustainable optimization due to reciprocal correlation.
2. Cross-functional integration of supply processes: supply management aims to consider and to optimize the sub-processes of the supply. If there is no possibility to pool several organizational functions, a cross-functional team approach has to be used. Furthermore, the connection to important interfaces such as R&D, production, marketing, etc. should be established.
3. Integration of organizational units: serves to integrate the supply of all affected business units of an enterprise. The question of decentralization or centralization plays an important role, because it influences the synergy potentials through pooling.
4. Supplier integration: the first challenge is to develop and to optimize the networks and data interchange systems. The most important one is the management of the supplier relationships. Sound supplier relationships discover cost reduction possibilities and increase the supply chain performance for example through a flexible and faster supply.
5. Integration of corporate and competitive strategy: the sourcing strategy has to be aligned with the mentioned strategies.

All the significant changes in purchasing and in supply chains constrain to transform the traditional view of managing the supply chain into sophisticated management process including managing across functional barriers in the organization in order to meet particular goals and objectives. The key to

implementation of this managerial culture in the organization reposes on a strategic management approach informed on supply chain issues.

There is an obvious need to differentiate Purchasing and Supply management. Purchasing function is performing those activities that ensure maximum value to the company such as supplier identification and selection, improvement and measurement, negotiating, contracting, market research. Supply management is a more inclusive concept of strategic approach for acquiring and planning of the organizational current and future needs through effective supply base management in conjunction with cross-functional teams. (Monczka et al.,2009, p.9.)

2.1.5 Purchasing and Supply Chain Management

Victor Pooler et al. (2004) declared that the main reason for the increased importance of Supply Management are the increased customer focus with strategic and global view, greater value of purchases, focus on total cost rather than on price, increased importance of supplier's relationships in order to achieve higher performance, more sophisticated information technology. By combining the concepts Purchasing and Supply Management, the main focus is on the emphasizing of management of supplier base. Purchasing and Supply Management aims to concentrate on the strategic outlook rather than on the tactical, which concerns with long-term decisions of the organization. (Pooler, et al., 2004, p. 58.) A strategy can be defined as a plan of activities determined to achieve set goals. Any strategy has to be tailored to the purchased product, nature of the supply environment, and the organization, considering its purchasing policies and resources. Hence, the supply strategy can be seen as an archetype of sub-strategies about the supplier, purchasing subject, area and time and reflects the corporate strategic decisions.

2.1.6 Outsourcing

Several years ago, outsourcing was a buzzword. In the last two decades outsourcing has become more important. Any outsourcing decision creates debate about the tradeoffs within the organization. Tradeoffs, for instance, between the finance and other departments who are responsible for longer-term value. Buyers have a unique opportunity to provide solution for the conflicting interests. Like many business terms, outsourcing is open to interpretation. The basic question in all kinds of business is whether to make an item by you or buy it from a third-party. Outsourcing describes a decision to give up doing something in-house in favour of paying someone else to do it. In reality, it is an umbrella term describing different relationships between some companies in which some activities have been transferred. (Barrat et al., 2004, pp. 174-175.) The make- or-buy decision is easily illustrated in the manufacturing industry. Car manufacturers typically supply ready-made components to put them at the final production stage. The big challenge for purchaser is to decide whether to buy or to provide in-house that should throw light on the make-or-buy continuum.

As with most strategic decisions there are pluses to the outsourcing option summarized by Barrat and Whitehead (2004):

- The main reason for outsourcing is the giving away of some management responsibilities that will save time and energy.
- It will loosen facilities, equipment, people and resources for more important work.
- An outside supplier can provide the item at lower cost, because he has specialist knowledge unavailable in-house.
- The demand for the item is discontinuous and can cause uneconomic investment in skills and equipment.
- Shifting of risks onto suppliers.

The main reasons for not outsourcing decision are:

- Less management control over the operation.
- It is more economical to produce in-house.

- The company has capacity available and wants to develop in-house expertise.
- If the supplier can fulfil the demand only in short-term.
- The company will lose the control over supply chain and supplier base.

When estimating the make-or-buy decision, the mentioned criteria should be weighted up in order to calculate the total equation. The main question is, however, to ask whether the component wished to be outsourced is central to corporate core business or not. The peripheral parts are appropriate for outsourcing, as they are not critical to business performance. On the other hand, strategic components - critical for manufacturing – should be kept in-house. The outsourcing decisions must bring advantages for all participants. Alongside advantages, the partners have to accept some risks. Therefore, before signing the deal, the risks and benefits should be analyzed. Prices may usually go down as well as up, affecting the outsourcing decision. The supplier provides components to lower price initially, when the prices go up; supplier has to adjust the prices and will attempt to renegotiate. Conversely, if the price decreases, the organization will regret the outsourcing decision. Other risk concerns the lower prices based on the aggregated spending at the same supplier. The supplier's market power will grow and it will probably monopolize essential knowledge, and the outsourcing decision becomes uneconomic. A big issue in outsourcing decision is the managing of intellectual property, as needed knowledge is developed jointly by both organizations. Mostly, an outsourcing agreement should cover the property rights and duties issues, but nevertheless, some misunderstandings can emerge. By creating outsourcing ventures, the parties should be clear about what relationships are established and what are the mutual expectations as well as consider the benefits and risks sharing. The term outsourcing can replace the PSM concept in the sense that combines strategic and tactical purchasing activities. Axelsson et al. (2005) defines outsourcing as a process that aims to manage, develop, and integrate supplier capabilities in order to achieve competitive advantage, involving supplier performance management and market research, and also cross functional

teams and human resource development. The term strategic sourcing is used in this thesis to summarize the concepts discussed above and to avoid the confusion. A strategic acting is about the long-term preservation of the business. Strategic sourcing decisions serve to realize and hedge the competitive edge: to strengthen the company's potential for success. Therefore, the main goals of strategic sourcing are to analyze and to design relevant internal and external factors aimed to discover and to realize, also to hedge long-term supply potentials. The most important strategic elements of the outsourcing seem to be the long-term direction, setting of goals, and discovery of potentials such as sourcing potential and capabilities.

2.2 Evolution of Purchasing and Supply Chain Management

Even in ancient times people bought objects, the process was just called exchange. People searched for supply sources, they negotiated and exchanged goods, keeping a contact ongoing for the future.

Rapidly changing economical and environmental circumstances permanently influence and even accelerate the transformation of PSM. Monczka et al. (2009) gives a broad overview of the evolution of the PSM synocopated below.

Stage A: The Early 1900s

The first purchasing book was published in 1832 emphasizing importance of purchasing functions. The greatest development of purchasing occurred after 1850s due to growth of American railroads industry. During this period the purchasing process' contribution to overall company's profitability was recognized. The end of 17th century is marked as the start point of separating purchasing as a corporate function needing specialized expertise.

Stage B: Growth of Purchasing Fundamentals (1900-1939)

During these years some not railroad related books were released addressing the industrial purchasing function. In the World War I period purchasing function was paid greater attention because of its role in procurement of war materials.

Stage C: The World War II years (1940-1946)

The war time was a new phase in purchasing history because of the introduction of colleges offering purchasing courses. Hence, the role of purchasing agents in selecting supply sources within a company was recognized.

Stage C: The Quiet Years (1947 – Mid- 1960s)

At this stage, the purchasing function had not received attention it deserves. Furthermore, purchasing was regarded as negative function because it was not able to mainstream problems. Some articles about best purchasing practices of various companies were published in these years. Despite the growing competition firms faced during the post-war years, purchasing function was not given greater importance.

Stage D: Increased Importance of Materials Management (Mid- 1960s – Late 1970s)

The materials management concept combined purchasing, inventory control, receiving and stores of goods. During the 1970s, organizations faced materials problems related to oil “shortages” and embargoes. As a result, the materials management gained on importance particularly because of the need of materials control. Purchasing managers began to maintain arm’s – length relationships with suppliers parallel to the price competition trend.

Stage E: The Global Era (Late 1970s – 1999)

Due to rapidly changing economical and technological circumstances the purchasing behaviour, structure, and importance were affected. The period emphasizes on the growth of supply chain management. Managers viewed the concept as a cost improver.

Stage F: Integrated SCM (Beyond 2000)

Today, the concept of PSM increasingly accents the importance of suppliers and supplier relationships, latest are shifting to a more cooperative approach.

Three main conclusions can be reached about this period: the rethinking of the purchasing role in the global economy is increasing; the overall importance of the function is increasing; purchasing begins to become more integrated with other organizational functions.

2.3 Competencies required from purchasing professionals

Purchasing function represents the heart and soul of any supply chain.

Purchasing must be strategic to increase the effectiveness of the supply chain.

Most of the business people are faced with the dilemma everyday.

The truth is that most enterprises are not really familiar with the facts how much money they spend with suppliers for obtaining the goods, furthermore, who is spending the coins and for what reason. The reason is that in the current business and academic environment the functions of finance, marketing and sales appear to be more celebrated. In any bookstore you will find a dozen of books relating to mentioned functions, but just few purchasing books.

As identifiable from the Figure 2.2 below, purchasing function has traditionally been a humble-profile function. The life in purchasing department was unglamorous and passed uneventfully. In the traditional scenario the board did not pay any attention to what purchasing is, because it was not respected that much.

Past	Future
Purchasing: operational function <ul style="list-style-type: none"> • Purchasing = expense factor • Poor estimation 	Purchasing: strategic function <ul style="list-style-type: none"> • Sourcing = Value driver
Inefficiency <ul style="list-style-type: none"> • Complex structures • Poor IT assistance 	Efficiency <ul style="list-style-type: none"> • Concentration on core competency • IT integration
One-way relationships <ul style="list-style-type: none"> • Commodity price is the most important criterion • Antagonistic approach • Short-term and antitrust 	Cooperation <ul style="list-style-type: none"> • Overall performance is important • Partnership approach • Long-term and trust

Figure 2.2 Changed view of purchasing (own illustration)

Nowadays, purchasing is increasingly distinguished as a strategic weapon based on activities such as: supplier coordination, supplier development, supplier market research, cost analysis, sourcing, strategy formulation, benchmarking, outsourcing decisions (Giunipero et al., 2006).

Everyone is buyer, spending money every day one way or another. So, everyone must be quite good at it.

The same situation seems to be in the companies. Most business people are involved in spending company's on some. And it is not the biggest challenge to pick up the telephone and to call a company you prefer to buy from and put in a purchase order. Most of the buyers do not really achieve real value for the spent money. This is the reason why a lot of budget spending within the firms is wasted. These days, everyone is a buyer, but not a specialist.

What can be said about changed requirements on the buying profession? The need of a bigger vision increases. Some authors identify following propositions for PSM professionals:

1. They should have a comprehensive knowledge of their company in order to understand and interact between internal departments.
2. The knowledge of the supply base is important. The professionals must have knowledge base about supplier's capabilities, limitations, changes, processes.
3. It is necessary to understand the industrial scope of the company including understanding economic and business trends and factors.
4. It is important to have knowledge about common analytical instruments and processes in cost reduction, quality, and early supplier involvement processes.
5. The professionals must have management and leadership and interpersonal skills to influence, promote, and negotiate.
6. They must be able to evaluate the performance of suppliers and to audit the processes.

There is no need to busy oneself with statistical and complex formulas. More important is to understand the basic ideas of where to go. The new roles and activities emphasize the strategic role of the purchasing within an organization. The main implications for the professionals are increasingly the ability to find and understand the corporate strategy and to align the sourcing strategy to it and demonstrate how one's strategy can respond to the organizational goals. A systematical evaluation of the contribution of the one's sourcing strategy to the corporate is very important in order to seeking for improvements.

The superiors want to control whether the purchasing and supply mission is done well or whether there are some lacks to be fulfilled. Hence, periodically sourcing strategy review performs the control function in order to prevent wrong directions.

3 STRATEGIC PLANNING MODEL FOR SOURCING GROUP STRATEGY DIP

Anyway, changes will only take root with a strategic process in order to meet particular organizational aims, sometimes called as a mission approach. Buyers have to know that to survive in current competitive environment they must establish systematic approach for creation of priorities, resources allocation and market research. It is more common, that the purchaser is involved in the corporate strategic planning phases and basically is a key figure at the strategy formulation stage. Strategic planning can be described as the procedure of formulating long-term action plans. Strategic plans are not the success guarantee; in general, they provide a frame against which the internal and external transformation within the organization can be evaluated. Strategies are the means by which the planned initiatives are achieved. Performance measure is a monitoring tool of the objective achievement progress.

Purchasing is one of the most important areas within the corporate planning. This kind of planning summarizes the long-term strategies and objectives for the organization as whole entity. Purchasing is an essential integral part of corporate plan, as it provides information about the supply markets and resources availability to support organizational objectives. Due to dynamic changes in communication technologies, manufacturing processes and product's life cycles, companies have recognized the necessity to adaption to these changes by drawing up the plans. Recently, many purchasing professionals have seen the need for constructing a strategic purchasing plan. In order to effectively contribute to the corporate strategic planning, it is necessary to assess the existing supply situation as well as trends, opportunities and then derive purchasing strategies to ensure the resources supply. The strategies help to exploit the chances and to overcome the threats. "If your house is ablaze, no one strategy will help anymore" (Heß 2010). This picture characterizes the deficiency of strategic thinking in organizations

resulting in a critical economical situation within the company. Most of purchasing professionals become caught up in routine purchasing activities and do not pay any attention to how the function should perform in the near future. Globally changing economical, technological, environmental and political circumstances have a great impact on the resources availability and their costs. Hence, all the changes affect purchasing short and long-term roles within an organization.

But, is purchasing really strategic? How much strategy does it tolerate? What is the consistence of the “strategic”?

Much has been and can be discussed about a strategy. However, a strategy should give answer to main questions: what is the destination and how to get there? The mission of a strategy is to create suppositions for the future success of the company in good time and hence, to prevent economical critical situation. The question is: what we have to do today to enable a good operational performance in 2-5 years? A good strategy is capable to fulfill the desired need or goal, and must be appropriate to the external environment and internal resources, furthermore, it should be sustainable and dynamic, flexible and be able to adapt to changing circumstances.

Strategic planning can be defined as a strategy development process within an organization, including the direction on allocating of resources to follow the strategy. In short, it clarifies the senior management aspirations. A strategic planning model serves as a frame for strategy development process. Strategic planning may be at a disadvantage in so far as it is very time-consuming, if done properly. Various models are used in strategic planning intended to ease and guide the process, depending on several factors as size of organization, subject or purpose. There is no common strategic planning model for each subject. The evidence is that a strategic planning model can be developed and modified for a special purpose, for example for a sourcing group strategy. The model developed for sourcing group strategy determination and implementation in this thesis is based on two main steps.

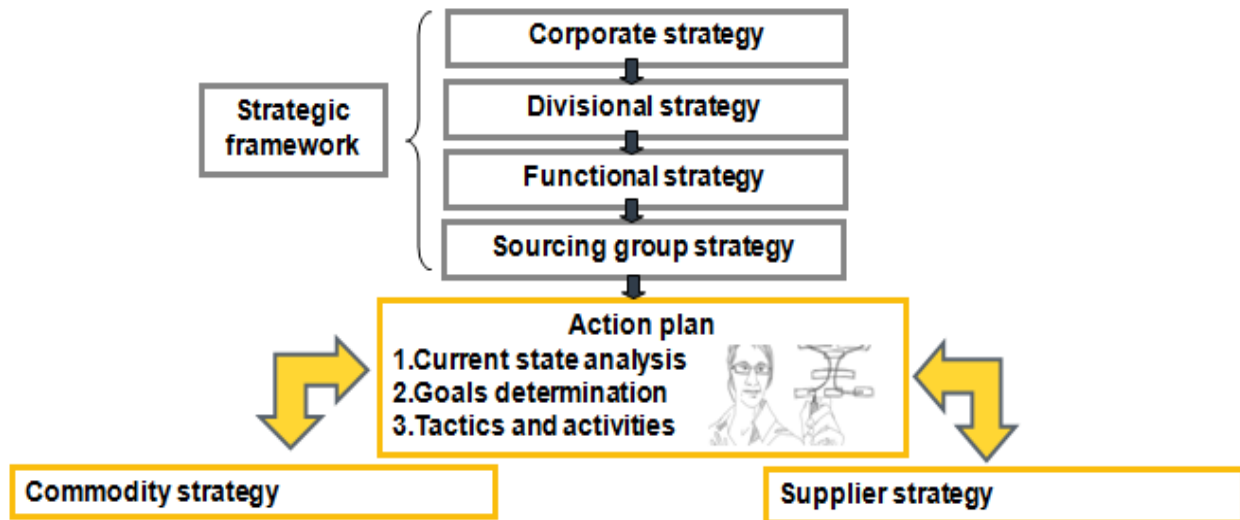


Figure 3.1 Strategic planning model for sourcing group strategy DIP (own illustration)

3.1 Development of a strategic framework: determination of sourcing group strategy

The strategic framework aims to give a general picture of the organization's strategy. It clarifies how the sourcing group strategy can contribute to organizational goals' achievement. The framework focuses on the corporate, divisional and functional strategies and finally reflects in determination of a sourcing group strategy. The first step in developing of a framework is to ask critical questions about the organizational goals and reflect them in sourcing group strategic goals. Goals are often described as statements of the result that the company intends to achieve in the future.

Michael Porter in his main book about competitive strategy and competitive advantages in 1987 suggests three forms of competitive advantage: cost leadership, differentiation and focus. The idea of cost leadership is based on the brilliant cost position compared to the competitors, which enables superior profits to offer lower prices. Sourcing contributes to the idea due to the optimization of organizational costs. The differentiation strategy targets to offer

exclusive products and services to the customers for extra charge. Here, sourcing contributes in terms of above-average supplier performance. Focus defines being a specialist in particular activities or processes that are precious. Accordingly to Porter, the intentions of a corporate, divisional and functional strategy are the development, refining, defending and exploiting of competitive advantage from sources mentioned above.

A strategy can be developed at different levels:

- **Corporate level strategy** – reflects overall decisions and goals of an organization.
- **Business unit or divisional strategy** – reflects decisions and goals at divisional level.
- **Functional strategy** – defines strategies at departmental level, such as purchasing strategies.
- **Sourcing group strategy** - is derived from functional strategy, from purchasing departmental strategy and focuses on the sourcing group goals aligned with the functional goals.
- **Commodity strategy** – concentrates on decisions regarding the purchasing portfolio management among others.
- **Supplier strategy** – concerns supply base management, risk and quality management.

An enterprise should have a set of goals (mission) and its future achievement and position (vision) that have to be understood by everyone within the company. Mission can be defined as a summary of activities necessary to fulfil the vision which aimed to describe the future state of the benefits as a result of activities. Only when these goals and needs are understood, the employees are able to generate strategies in order to achieve these objectives.

3.2 Action plan: implementation of the sourcing group strategy

Existing sourcing groups must have an appropriate sourcing strategy, including review of internal and external factors such as departmental strategy changes, globalization or new market discovering.

An action plan is a set of decisions aimed to answer questions about the current situation (Where are we now?), about future needs and goals (Where are we going?), and about certain tactics and actions (How will we get there?).

1. Situation analysis: In strategy development process, an analysis of the internal and external environment at the moment and its development trends in future is important. The analysis includes internal assessment, external scanning, assessment of the current situation by using instruments such as Purchasing and Supplier Portfolio, Global Footprint, supply market analysis, material input matrix and so on.

2. Goals: determining of future needs and objectives in the commodity and supplier management areas. The deficiency defines the difference between the current situation and the future state. Goals are about the elimination of this gap. A goal congruency covers the compatibility of goals with each other, answering the question if the goals are fitting together in order to fulfil the strategy. Consequently, the corporate goals must be coordinated with the sourcing group goals.

3. Tactics and action: set of concrete activities (programs, projects, actions) aimed to improve the current situation and achieve the set goals.

Generally, the strategic plan can fail due to an inappropriate strategy or poor implementation. Inappropriate strategies are caused by inaccurate information; misunderstanding of the nature of the problem, or infeasibility. A coordination failure, time underestimation, resources' over-estimation are the main reasons for poor implementation. When the strategic plans are done well, it allows managers to monitor progress and remove impediments to goal accomplishment.

4 INTRODUCTION TO MAN GROUP

4.1 MAN Group - The global challenge: transport markets in motion

Globalising markets have generated a new economic dynamism in the industrial nations and many regions in the world. A dynamism, which puts high demand on logistics and transportation industry, because rapid developments require flexible and highly efficient goods traffic to ensure that buyers, consumers and markets are reliably supplied. In the European zone in particular, the transnational exchange of goods has achieved new dimensions. An enormous market that is also invariably: transportation market.

International goods traffic ensures supply throughout Europe. It is road transport in particular that sustains the industrial and commercial economic cycle and supplies private households. MAN plays an important part in contributing to the success of this great endeavour.

The MAN Group is a historically grown company that dates back to 1758.

In year 1758, the iron mill named „St. Antony“commences operations as heavy industry enterprise the first company ever to be. In 1897, Rudolf Diesel introduced world`s first Diesel engine.

In 1908 the iron mill was renamed to M.A.N. standing for „Maschinenfabrik Augsburg – Nürnberg AG“. Two decades later, the majority of M.A.N. was obtained by „Gutehoffnungshütte Aktienverein für Bergbau und Hüttenbetrieb, Sterkrade“.

Since 1986 the MAN Group exists in its present form. During this time the group was conglomerated and company`s headquarters were moved to Munich.

The group is one of European leading manufacturers of commercial vehicles, engines and mechanical engineering equipment with an annual turnover of € 13 billion and approximately 50,000 employees worldwide. The manufacturer produces trucks, buses, diesel engines, turbo machinery and has a leading market positions in all its business areas.

The MAN Group is divided into 2 business areas: Commercial Vehicles and Power Engineering.

As identifiable from the Figure 4.1, MAN Nutzfahrzeuge is one of the largest divisions in the Commercial Vehicles business area.

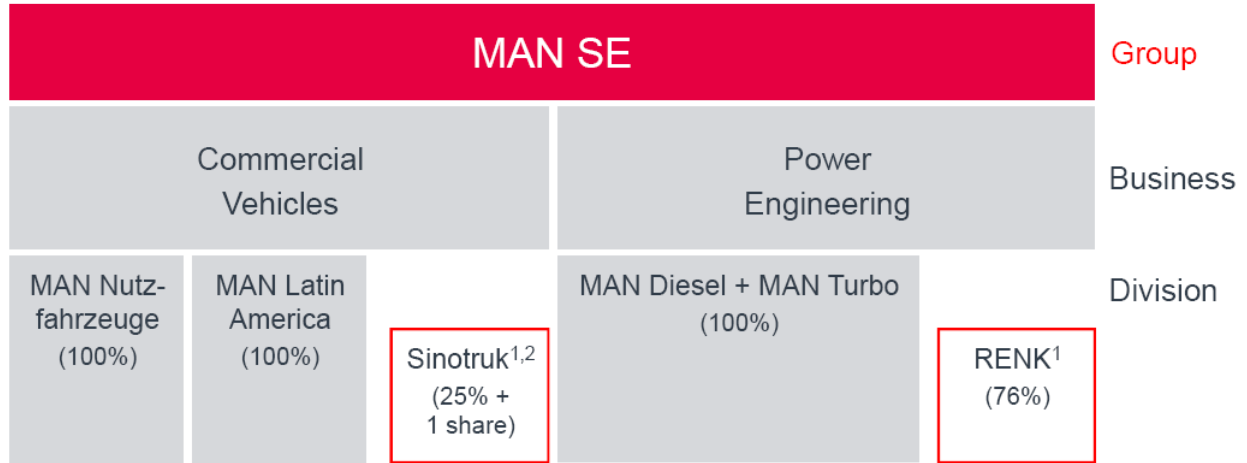


Figure 4.1 MAN Group`s corporate structure (internal database)

4.2 MAN Commercial Vehicles and MAN Nutzfahrzeuge

MAN Commercial Vehicles is a top-ranking international supplier of commercial vehicles and transport solutions. The business area Commercial Vehicles includes two companies: MAN Nutzfahrzeuge and MAN Latin America as well as investments on Chinese Sinotruk (25.0 % + 1%) and Swedish Scania (17.4%). It is important to mention agreed goals between the MAN Nutzfahrzeuge at this point, because those have to be considered during the sourcing strategy DIP.

4.2.1 MAN Nutzfahrzeuge and Sinotruk cooperation

The partnership with Sinotruk provides MAN with a prominent and continuous presence in a truck market that is still one of the fastest-growing and largest in

the world. MAN will license several technologies to Sinotruk as a basis for the production of new heavy truck series which will be manufactured at Sinotruk's plants and will set new standards in the Chinese industry and export.

Summarized, the main goals of MAN are to take a part on Sinteruk's inhouse production, to discover new Chinese suppliers and to use the Sinteruk's supplier base. On this account, the employees' commitment and contribution to the common projects are required and are to incorporate into the sourcing group strategy.

4.2.2 MAN Nutzfahrzeuge and Scania cooperation

The cooperation between both companies aims to realize purchasing synergies through pulled purchasing of raw materials such as steel and supplied parts.

MAN Nutzfahrzeuge manufactures worldwide (Table 4.1) trucks in weight categories from 7, 49 to 44 tonnes, and heavy-duty special-purpose vehicles of up to 250 tonnes gross vehicle weight, bus chassis, city and intercity busses and tourist coaches plus highly efficient diesel and natural gas engines.

Table 4.1 Production network

Country	Production location	Products
Germany	Munich	Heavy trucks, cabs, driven axles
	Salzgitter	Heavy trucks, bus chassis and components
	Nuremberg	Engines
	Plauen	Premium coaches, double-decker buses and coaches
Poland	Cracow	Heavy trucks
	Poznan	City buses, components
	Starachowice	City buses in white
Turkey	Ankara	Standard coaches, city and intercity buses
Austria	Steyr	Light and medium trucks, cabs
	Vienna	Special-purpose vehicles
Mexico	Querétaro	Bus assembly
South Africa	Olifantsfontein	City and intercity buses
	Pinetown	Heavy, medium and light trucks, bus chassis

4.2.3 MAN Latin America

The company in Resende (Brazil) is the largest truck manufacturer and leads the Latin America's and Africa's markets. MAN Group acquired the VW Truck & Bus Resende from Volkswagen AG. The company was integrated into the group as the second pillar in the division of Commercial Vehicles. The main common project of MAN Nutzfahrzeuge and MAN Latin America is the localization of the engine on the South American markets. Because of barriers to market entry, like costs for customs and logistics, it is essential to procure parts locally. But, until the parts are localized in Brazil, the MAN Nutzfahrzeuge will support the ML with purchase of additional volumes from current suppliers. Consequently, the additional purchasing volume is to be considered in the sourcing group strategy.

4.3 Purchasing department inside the MAN Nutzfahrzeuge

During the twentieth century, the tendency in organizational design was the co-location of function on one site, including the purchasing function. Hence, the satellite plants could be managed from the central division, where the main power and expertise are concentrated. Whether a department is centralized or decentralized depends on several factors such as location of the plants, products and processes type and management preference (Pooler et al., 2004, p. 26). The advantages of centralized purchasing division are the greater control over the total purchasing volumes and procedures; better human resources allocation, financial control; auditing; common systems and standardization. But the most obvious advantage is the amalgamation of organization`s needs and requirements, meaning purchases in large quantities and consequently negotiating for low prices. (Pooler, et al., 2004, p.43.)

The purchasing central division inside the MAN Nutzfahrzeuge bears operative, strategic, and functional responsibilities of business units. The affiliates (see Chapter 4.2. for production locations) transfer their extensive authorities to the central division. Ideally, all strategic decisions like supplier selection, contract negotiations and sourcing controlling, proceed at the central division level. The central authority is responsible especially for such sourcing groups that are related to several affiliates and have larger purchasing volume. The responsibility for small volume sourcing groups remains by the decentralized departments. The purpose for the central organization of purchasing division is creating of sufficient scope for realization of division and company specific pooling activities. Hence, this model enables an interlocking between central and decentral resources. Furthermore, the speed of implementation of commonly agreed measures is very high, especially if the purchasing controlling, supported systems and purchasing function coordination are installed at the central level.

The central division is built of five departments such as Cabin/Electronics/

Components, Powertrain, Rolling Chassis, Bus, Quality Suppliers and Strategy. During the thesis completion process, special attention was paid to the Engineering Purchasing Components and Cast Iron sourcing group. Cast Iron sourcing group is responsible for the largest purchasing volume (€ 133 million in 2010) within the EPCO and takes care of 3 product categories, involving about 2600 product types. The components are supplied from 38 suppliers located Europe-wide. Most of the components are manufactured from scrap metal.

5 SOURCING STRATEGY FOR CAST IRON

5.1 Strategic framework: development of a sourcing group strategy

As mentioned earlier, a strategic framework describes the general direction of the sourcing strategy. It is important to know how the values, goals and strategies of the organization influence sourcing decisions.

5.1.1 Corporate strategy: MAN SE's goals

The MAN Group's strategy is based on the vision as to be number one in Commercial Vehicles and Power Engineering businesses and to achieve continuous value enhancement in core areas. The vision only can be fulfilled if employing best people, being customer-oriented, and having superior technology and services.

Every happening in an organization is driven by its values, which define goals for the staff in its interaction with each other.

Additionally, the commitment with the business vision and mission is based on the adherence to basic values such as reliability, innovation, dynamic strength, openness. Reliability means to fulfill expectations and keep promises.

Innovation stands for creating new solutions by creative and competent thinking approach. Dynamic strength defines discovering of potentials and acting in a

solution-oriented manner and flexibly. At least, the openness means close cooperation within the Group and sound information and new ideas flow in order to create a prerequisite for dynamic action. The main six overall business objectives are summarized as follows:

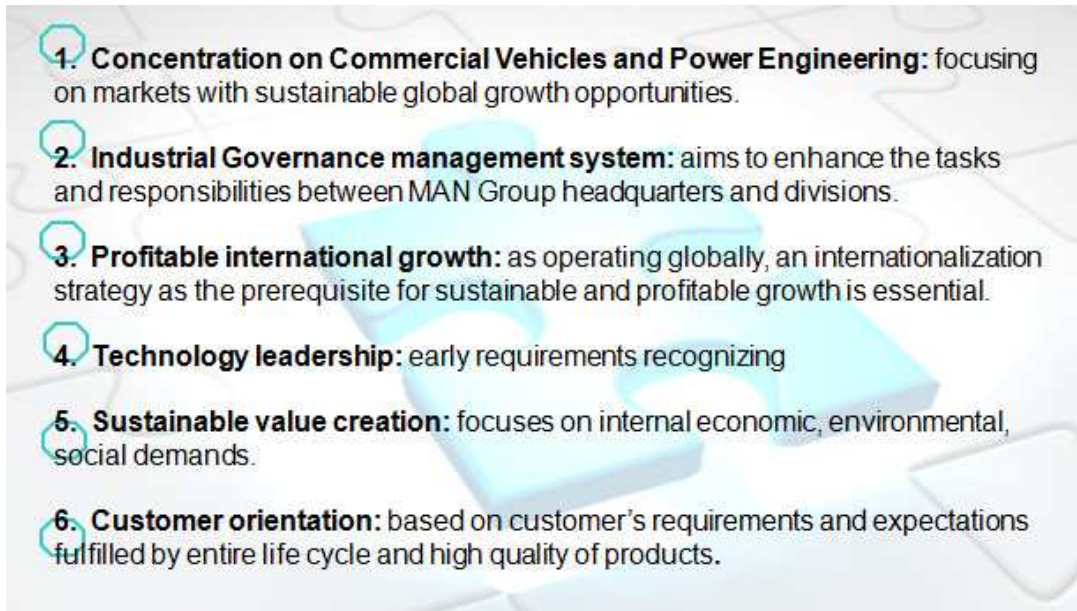
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- 1. Concentration on Commercial Vehicles and Power Engineering:** focusing on markets with sustainable global growth opportunities.
 - 2. Industrial Governance management system:** aims to enhance the tasks and responsibilities between MAN Group headquarters and divisions.
 - 3. Profitable international growth:** as operating globally, an internationalization strategy as the prerequisite for sustainable and profitable growth is essential.
 - 4. Technology leadership:** early requirements recognizing
 - 5. Sustainable value creation:** focuses on internal economic, environmental, social demands.
 - 6. Customer orientation:** based on customer's requirements and expectations fulfilled by entire life cycle and high quality of products.

Figure 5.1 Corporate goals (internal information fair)

5.1.2. Divisional strategy: MAN Nutzfahrzeuge`s goals

Next step in determination of the sourcing group strategy is the derivation of divisional goals from abovementioned corporate goals, demonstrated in the Figure 5.2.



Figure 5.2 Divisional goals (internal database)

5.1.3 Functional strategy: Purchasing Department's goals

Functional strategy is a sub-strategy of the corporate one and aims to pass forward the purchasing department to fulfil required demands.

The strategic objectives at the departmental level are determined as follows:

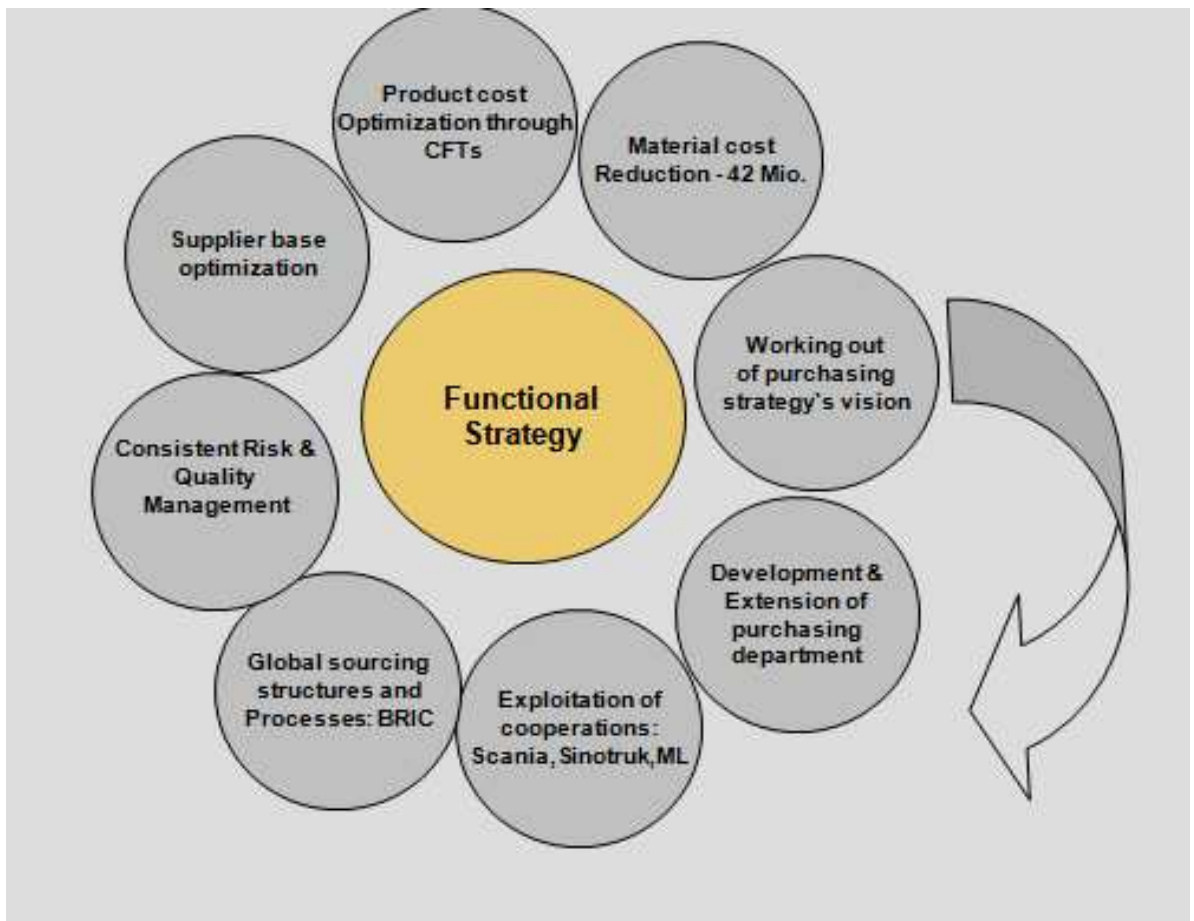


Figure 5.3 Departmental goals (internal database)

5.1.4 Sourcing group strategy: commodity and supplier management related goals

Sourcing decisions of certain sourcing group are crucial for long-term planning of future activities aimed to discover potential savings and contribute to capturing of corporate competitive advantage. The preset of main objectives and goals to be fulfilled in the near future is an essential part in the sourcing strategy development process, because they have to be aligned with the corporate, divisional and departmental strategies.

The sourcing group strategic goals are divided into two areas; first one is related to the commodity management, second to the supplier management, summarized in the Figures 5.4 and 5.5 below:

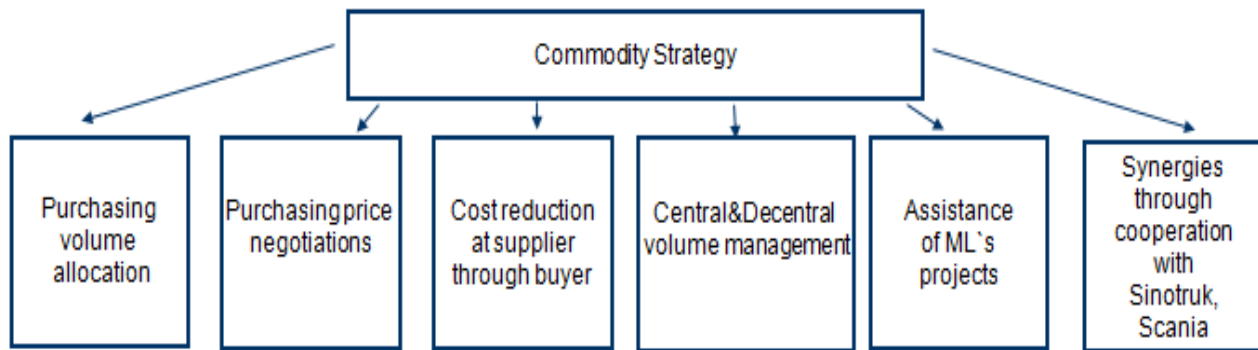


Figure 5.4 Commodity management goals (own illustration)



Figure 5.5 Supplier management goals (own illustration)

5.2 Strategic action plan: implementation of a sourcing strategy

Strategic action plan is about the instruments for the implementation of determined strategy. The question is about how the set goals and projects can be arrived describing certain activities and tools needed during the implementation process.

5.2.1 Current situation analysis

The implementation process of the sourcing group strategy starts with the analysis of group`s recent performance as well as problematical fields. Analysis realized at initial stage of the process enables the identification of weaknesses of the sourcing group performance in order to take corrective actions.

5.2.1.1 Performance analysis

The purpose of a performance analysis is to give an overview of the recent activities done for achieving of preset goals, and so, of the overall performance of the sourcing group. The elements of the analysis are the review of monthly contribution to purchased cost reduction actions in relation to preset target, and the degree of completed/uncompleted agreements with suppliers. Furthermore, the sum of activities aimed to realize the potentials and, as a result of savings realized during particular time period can be shown particularly. Additionally, the problematic area affecting the group performance could be reviewed.

Volume		€132,131,291
Target	-1.21%	€ -1,598,789

Performance [€]

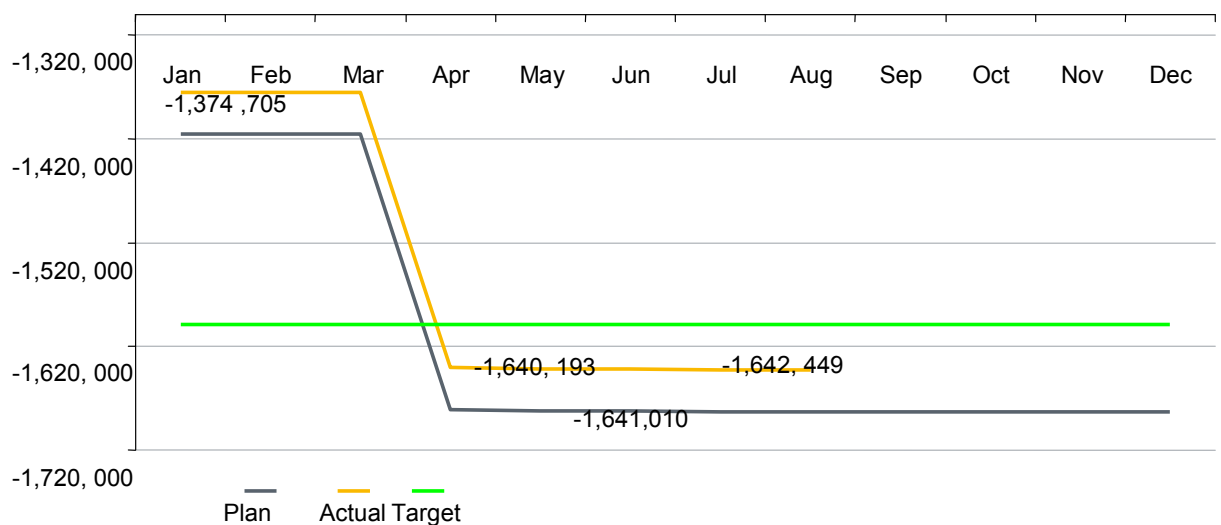


Chart 5.1 Cast Iron performance during 2010 (internal database)

Material cost reduction as a goal implies to discover potential savings due to specific activities such as product design or price negotiation and cost analysis. It is very important to show how much on euros was saved during the year in order to improve the future performance. The purchaser of Cast Iron could save certain expenses due to following activities:

Table 5.1 Savings overview (own illustration)

Activities in 2010	Realized savings in 2010 (€)	Potential savings 2010-2011
(Palm to Betsaide): Supplier change	37,500	
Infun sa: one-off demand; changing of batch size (5 parts/ €105 to 200 parts / €20.60)	16,800	
Daimler Chrysler: Development of additional supplier of cylinder head	325,000	
Fritz Winter: Cost-Break-Down analysis	?	?
Hundhausen Walter: take on the cost for new parts		40,000
Von Roll casting: change-over of exhaust manifold		245,000
VBG Ringfeder: Project bonus (trailer hitch)	34,600	

Shifting of exhaust manifold from MAN to Harz Guss Zorge		700,000
Hundhausen Walter: Modelling cost reduction for differential gear		9,500
Hundhausen Walter: Modelling cost reduction for spring hanger		7,000
Fritz Winter: term of payment change-over		14,500
Burkhardt Gmbh: change-over of payment condition		1,500

As the Cast Iron group is responsible for purchasing of high valued and complex components, the manufacturing costs of suppliers are to be observed regularly. The cast iron components' input consists of 35-50 per cent of iron scrap and ferro-manganese, ferro-silicon, ferro-magnesium as direct input, as well as of indirect input presented in Table 5.2 below.

Table 5.2 Material input matrix (own illustration)

	Component A (%)
Direct material (scrap)	35-50
Labor and non-wage labor cost	35
Energy	8-10
Further ingredients:	10

After analyzing internal and external factors affecting the manufacturing costs at supplier's side and as consequence increased asking price, following problematical area could be identified:

Permanent increasing:

- Cost of energy (coke, electricity, gas, oil)
- Costs for casting auxiliary material (ferro-manganese, ferro-silicon, ferro-magnesium)

According to several web-based researches, the scrap metal prices have gone up since beginning of 2010 by 40%. In 2 half-year periods the prices seem to be stable due to decreasing steel production. Consequently, the price of one ton of scrap will decrease by 5% or 20 Euros.

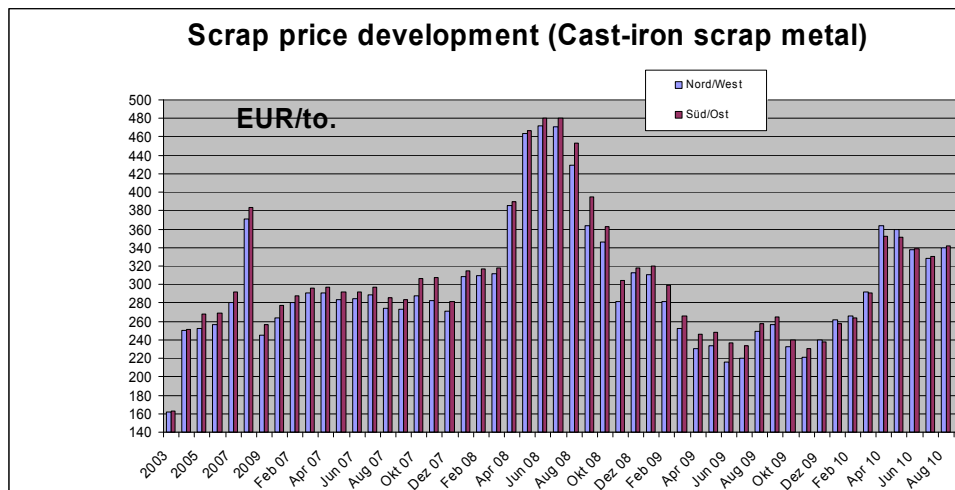


Chart 5.2 Scrap price development (internal database)

5.2.1.2 Purchasing Portfolio

Some experts on the purchasing subject viewed the purchasing staff as a routine clerk having no bearing on the business strategy. After considerable time, the traditional consideration of purchasing function is revised and the last comes under the new reality: it has the chance to affect certain aspects of the business.

But some traditional practices are still necessary, the purchasing portfolio approach among others. An Italian economist Vilfredo Pareto was the originator of the “pareto law” that could be applied in many different situations. The law states that 80 per cent of the total effects come from 20 per cent of the causes. Transferred to the purchasing portfolio it involves that different parts have to be treated differently.

The main issue is to create a general picture of purchased products and their suppliers. This sounds easy to do, but the fact is, that just in few organizations, the data is available in the form useful for the proper analysis. The analysis of the items at different levels of significance is based on the famous ABC analysis, derived from the Pareto analysis. The aim of such an analytical approach is to deliver a general picture of purchasing volume by classifying the purchased items into three categories (Viale et al., 1996, p. 46):

A - Items are very important, requiring great purchaser's attention (80 per cent of the total spending)

B – Items are important, warrant less attention and are serviced accordingly (15 per cent of the total spending)

C – Items are marginally important, warrant less attention and are serviced accordingly (5 per cent of the total spending)

The analyzing process includes three parts (Appendix 1):

- Data collection
- Data sorting
- Data evaluation
- Classification

Peter Kraljic (1983) created 2*2 matrix dividing the purchasing portfolio into 4 different types according to supply market risk and purchasing impact on financial results, the purchasing portfolio of the Cast Iron sourcing group compiled as follows:

Purchasing's impact on financial results	High	<u>Leverage Products</u> Example: Engine bearer, spring base, stub axle carrier, oil pump cover, belt pulley, flywheel, exhaust pipe, exhaust manifold, bearing shell, planetary wheel	<u>Strategic Products</u> Example: Crankcase, cylinder head, axle housing, fifth wheel, axle support, trailer coupling, supporting block
	Low	<u>Routine Products</u> Example: Suction unit, bearing cover, front wheel hub, oil pump housing, coupling ball, spring seat, steering bracket, front flange, selector fork	<u>Bottleneck Products</u>
		Low	High

Supply risk

Chart 5.3 Purchasing portfolio (own illustration)

Routine products

The purchased products represent 80 per cent of overall purchasing volume, but they are of low value and their total spending is 20 per cent. The rules of the market apply in this quadrant and there are many suppliers in the market, consequently, the prices are at the lowest level since easy competitors' benchmarking and low switching cost between the suppliers. The routine products are mostly standardized products (DIN parts) supplied from local, multilocal, preferential, single sources. The main strategies in managing that kind of products is to increase the supplier concentration, to establish a pooling system, or Kanban practices in order to decrease the administrative and logistics costs.

Leverage products

The items are of the valued nature but are available from many sources, because of low technical complexity and there are many alternatives, and a substitution is possible. The most appropriate sourcing concept is global sourcing because it offers competitive bidding and benchmarking opportunities among equally qualified suppliers.

Bottleneck products

In this quadrant, problematic products are placed. Problematic in the fact, that they are not significant in value terms, but represent significant supply risk to the business if the supply is interrupted. The items mainly are purchased in monopolistic markets, having bearing on the purchasing prices. The probable strategy in dealing with those products is to find some suitable alternative or standardize the items.

Strategic products

The most important 20 per cent of items are concentrated in this quadrant and are of great importance for the organizational business, and can be supplied from single, global & local, parallel or preferential sources. The items are critical affecting product costs and have high supplier's switching costs. In this

quadrant, the possible strategic approach is the long-term strategic partnership in order to reduce supply risk, secure sound supply terms and exploit of supplier`s know-how.

5.2.2 Commodity strategy

5.2.2.1 Purchasing volume allocation

Generally, most businesses strive for success and increasing of market share, depending on common factors such as reliable products, and competitive prices. Despite the recent economical crisis, the demand of commercial vehicles tends to rise; hence, companies operating in that business area have to adapt their manufacturing capacities in order to meet the global increased demand. As MAN Nutzfahrzeuge consequently forecasts its higher demand, the capacities at supplier`s side should be secured and adjusted to the required. Sometimes, the only method to prove the soundness of existing suppliers is to make a formal visit at their facilities. It may uncover big problems like low utilization of capacity, low levels of raw materials and inventories, or additional investments needed. Furthermore, it is necessary to discuss supply chain of supplier and possible identifiable uncertainty within. In case of some vulnerabilities are discovered, the supplier must provide an alternative action plan to avoid the disruption in mutual supply chains. Moreover, every supplier visit should incorporate a quality and financial figures assessment.

If suppliers are working on common continuous improvement such as cost reduction programs, or innovation development, supplier visits are the most appropriate way to prove if the collaborative relationship with the supplier works out. Hence, the most strategic suppliers need monitoring, compliance, and greater attention. Supplier visits are the vital elements of the process of evolving integrated, leanest and competitive supply chains that could present competitive advantage.

The typical approach in supplier`s capacity securing is the contractual capacity backup, made most often through visiting supplier plant and mutual contractual

agreements on the required production capacity's expansion. The supplier's visiting date in year 2011 for Cast Iron sourcing group are planned in advance and summarized as follows:

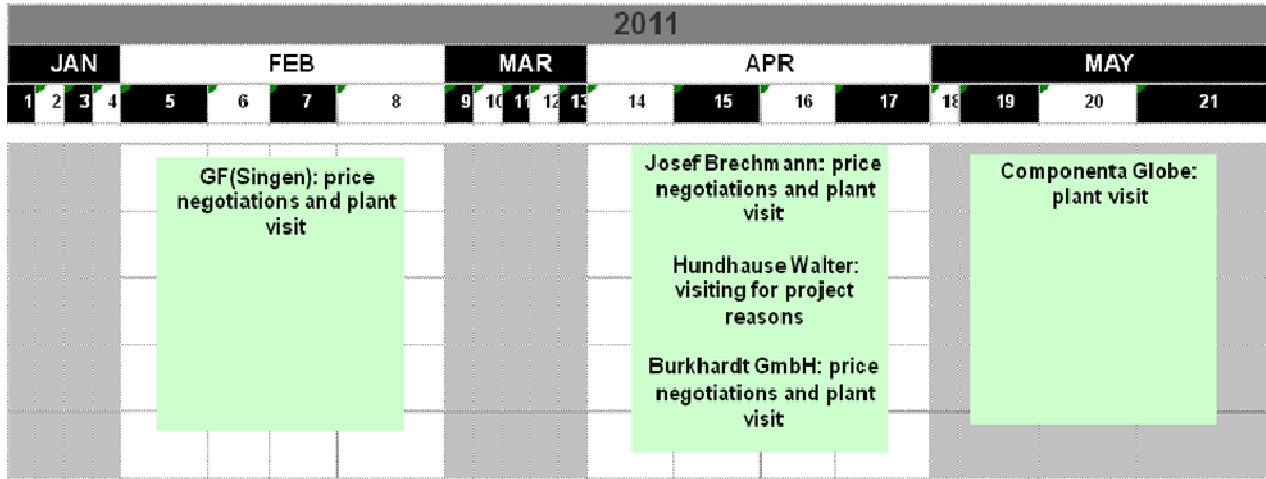


Figure 5.6 Planned supplier visits (own illustration)

5.2.2.2 Purchasing price negotiations

Until the end of each year, lots of purchasers are reviewing their recent performance, negotiated agreements, and outstanding contracts for completeness. It is possible to achieve a win-win situation in negotiation process and create true business value. It sounds very simple but is not an easy task. As the supply management changes rapidly, it is time that buyers accelerate their negotiation skills by integrating a more strategic approach in order to add incremental business value. Within the Cast Iron still two agreements, requiring complex price negotiations are uncompleted:

1) Tupy (Europe): the supplier requires increasing the current price by 45 per cent for the currency fluctuations in Brazil.

Possible solution: Every currency with adaptable exchange rates implies a potential risk. Within the EU these variations could be eliminated through fixed exchange rates and common currency. However, the risk of currency

fluctuations remains, especially in economically unstable countries. Thus, it must be decided in which currency to enter into an agreement and which party is carrying the currency risk. However, the business climate could be adversely affected as the underprivileged enterprise views the business relationship as not lucrative.

Possible solutions for this problem are the "risk sharing contracts" aimed to include the price increase within a certain fluctuation band and to share the profits and losses between both parties. The best way to find a compromise is firstly to analyze the currency market in Brazil in order to observe the impacts of fluctuations on production costs at supplier. If the asking price can not be taken back, the consequences are to rectitude the agreement and shift related parts to another supplier.

2) Infun sa: the price negotiations with the supplier are affected and led by long-time non-compliance with MAN`s requirements and consequent issues such as additional logistics and administrative expenses, as well as delivery disruption and quality issues. The situation at the supplier`s site was double-checked, even so the issues are irremovable.

An accomplished fact is that in order to minimise additional expense the agreement restitution is generally undertaken. A restitution mutually agreed between the both parties covers the obligations of the supplier to delivery continuation until the regarded purchased parts are shifted to alternative supplier. The prices for the year 2010 are based on the zero-raise assumption, which means that the prices stay steady. The whole shifting process of the parts is already proceeding, continuing during 2011, including the adjustment of the prices based on the volume allocation. All the equipment capitalized by MAN is and will remain the MAN`s possession. Otherwise, the concluding discussion about the transition of property right will be launched in 2011.

5.2.2.3 Cost reduction at supplier through buyer

1. Cost-Break-Down analysis: Of numerous activities occurring in a company's diurnal performance, purchasing is an unavoidable function that is responsible for material input transferred from suppliers to manufacturing plants. By one estimate, about 70 per cent of corporate value added is in purchased products, it makes more than half of every sales dollar. Thus, the potential profit of an organization consists of its purchased input to a larger extent, and purchasing function performs as a key driver for a corporate growth and even existence. Therefore, purchasing plays an important role in implementing ideas for potential savings that consequently lead to purchasing effectiveness as well as efficiency. Additionally to a possible low negotiated price, another way to reduce the material cost of a purchased item is to search for cost reduction opportunities at supplier's site, especially due to special cost-break-down analysis.

A cost break down analysis aims to understand the elements of product cost. As known, the price is built up of the cost and margin. Therefore, analyzing the price structure is an essential component in the breakdown analysis. The main purpose of the analysis of the caster Fritz Winter is to check the opportunities for product cost decreasing. The analysis process is done gradually:

1. Discuss the possible areas of cost reduction: common idea collecting about the appropriate product and evaluation between the buyer and supplier. The identified product is the crankcase that is the most expensive item cast iron buyer is responsible for.
2. After agreement on probable cost reduction potential, the external consultant is mandated for detailed analysis of the cost reduction program implementation. The consultant analyses the product structure and related costs and concludes if the supplier is able to go ahead with the cost reduction program through examining supplier's resources and capabilities. It needs to be added that external advice causes high costs, which are shared between the buyer and seller by 50%-50%.

3. The final discussion following during buyer's visit at supplier, covers results summarizing and negotiation about benefits taking, which can be shared by 50- 80 % for MAN and the leftover for the supplier. The used approach of shared benefits serves as a motivator for cost breakdown analysis and expenses sharing for the consultant at supplier.

2. Increased contracting of multiannual agreements, incl. routine suppliers

A further approach to decrease the material cost practiced within the cast iron sourcing group, is to convert the annual agreements dealing with small volume purchase orders into the larger. The advantage of such tactic in general, is the leveraging of purchasing price through larger volumes and supplier base reduction as an additional effect.

3. Global sourcing activities

As MAN searches for potential competitive advantages, global sourcing concept is on the minds of purchasing managers. Global sourcing is the worldwide performing of organizational functions such as procurement, logistics, engineering, marketing, operations. The first experiences in global sourcing are characterized by purchases from domestic markets which partly incorporated some offshore components. The second step in conceptual evolution was the practice to test the global markets through brokers. In case some benefits in quality, price and delivery were identified, the broker was "cutting" and the purchasers negotiated directly with the suppliers. (Scannel, 2000.)

A genuine global economy is coming up. Over the last decades, the business world noted a sequence of revolutionary global changes that are especially caused by formation of the EU and Eastern bloc countries' economic and social development.

Notwithstanding the company's location, the management face the aftermath of these changes. Organizations facing the push of competition from companies located worldwide must differ and adapt pursue strategies from previous. Firstly, the purchasing managers have to rethink the global strategies the company is

implementing and comply their purchasing global activities with them. Thus, the global sourcing activities are the part of corporate global strategy. In short, to achieve this aim, the buyers increasingly search for new overseas supply sources with objectives of cost reduction, innovations and risk spreading. However, it is crucial to select proper sourcing strategy based on fundamental conditions to achieve the competitive advantage, which should result in lower purchasing costs and enhanced financial performance.

Mary Alguire et al. (1994) notes that the motivating factors for global sourcing fall under following categories: comparative and competitive advantages, as well as internal corporate motivators. First, global sourcing activities enable an organization to gain a comparative advantage by capturing of the low factor costs advantages. Hence, the factor costs are varying from one country to the other; the organization must view its production in global terms and spread their activities to a country that enjoys the low factor costs advantages. Performing the purchasing function abroad may ensure access to higher quality or better processes, which allows the company to gain and sustain its competitive advantages. The global sourcing decision reflects the corporate global operational scope and attitudes. A vision to sustain the world-class competitor status means focusing on building of a global supplier base that commits to serving a global customer network. At this point should be mentioned that MAN Nutzfahrzeuge increasingly focuses on the development of customer and production networks in the BRIC countries in order to foster the gaining of market shares.

Myriad factors can hinder the global sourcing activities. The internal barriers include the risk of losing proprietary products and processes; low-volume orders; cultural and language barriers. The external barriers cover the protectionist governmental actions such as import quotas or tariffs; customs practices and legislation, currency fluctuations.

Even if the global sourcing is considered as a boardroom fashion trend, the evidence is that some potential benefits can be realized during the going global process. Christopher Barrat et al. (2006, p. 199) suggests looking at concept

named “Four Ls”: Level playing field, Leverage, Learning and Logistics in terms to identify the benefits.

a) Level playing field: the benefits lie in the presumption “of being supplied with the same thing at the same price from the same supplier.” The heart of this approach is about the detail of basic systems and accounts. The second requirement is the uniformity creation in purchasing processes allowing gaining the benefits. The need of the language skill arises at this stage, especially of the English language skills. The specifications creation in English is the first degree to the uniform approach. Even minor issues in operation and information flow (because of not unique processes due to lacked specification understanding) have impacts such as “bullwhip effect”.

b) Leverage: the most popular benefit. “Stack ’em high and sell ’em cheap” is a famous message, meaning the products can be sold cheaply if they are bought cheaply. The leverage concept is about the pooling of diverse purchases from worldwide business units in order to appear more attractive to a supplier and leans on the assumption that in order to get greater deal it is needed to aggregate the spending. In second, the more subtle niche for leverage is the lower-priced markets such as Russia, East Europe, Far East, and Asia.

c) Learning: the concept is about capturing advantages at different levels. To be more precise, the markets can be discovered in terms of high quality and low quality products that are still comply with the requirements and can generate significant savings. The next level is to learn about new suppliers, their cost bases and processes and consequently adapt or improve things in specific ways. The success in approaching of mutual sharing is often overlooked because there is often very little line management assistance of the process.

d) Logistics: the probable logistical benefits lie in cost reduction through shortening distance and increased security through wider stock points.

The abovementioned benefits always depend on the circumstances and situations. Furthermore, the benefits on global scale can be realized requiring a sound organizational structure and processes.

While there are several factors influencing the global sourcing decision, following are the basic points to consider when looking for sources worldwide.

Quality

Different countries have different views of quality. Thus, for example, the strict obedience of norms and standards in Germany differs from the foreign supplier's quality considerations. This can be caused by various technical norms or manufacturing methods. In order to avoid that supplied components do not meet the one's high-class standard, it must be guaranteed, that the quality of the components meets these standards. An intensified communication with the supplier can make the expectations clear. It is recommended to complete the quality assurance before the goods are supplied, assisted either by the external quality examiner or by establishment of sound quality control processes at supplier's site.

Socio-cultural field

The mutual respect of both parties has a big influence on a sound business climate between two enterprises. Along with the language barriers, the cultural differences play a serious role. It is important to recognize the different business concerns and business relationships, contract structures, and hierarchical organizational structures before build a relationship with the foreign partner.

Currency fluctuations

Even such minor issues as the currency fluctuations can create a fog to complicate the pricing process. It is of course, simple to understand that the suppliers will try to cheat the buyer by allocation of the currency fluctuation costs. The buyer then, has to decide to which price argue for. The fact is that the seller has exactly the same problem and it is more a "cock-up" rather than

“conspiracy”. The possible solution implies mutual share of currency fluctuation costs within a certain fluctuation broadband.

Technical and logistics infrastructure

The focus on the international procurement market demands new concepts such as sophisticated communication technology and a rethinking of established logistics processes. A prerequisite for the global cooperative relationships are the sufficient communication options such as the Internet. However, the communication infrastructure should be ensured at both sites: supplier`s and buyer`s. Interestingly, it is often the purchasing enterprise that invests the development of the infrastructure at supplier`s site (e.g. common basic communication software) to uniform the data and information flow. Commonly, international sourcing causes several logistics issues such as commodity damage, induced by long transport routes and insufficient infrastructure. Undoubtedly, the issues deem to constitute a risk of production interruption and further consequences. Hence, a proper choice of allocation and control instruments for the logistics infrastructure seems to be the crucial element.

Know-how

One of the most significant issues in the global sourcing decision process is the critical consideration of ensued know-how sharing with the supplier. On the one hand, the buying organization can profit from the supplier`s know-how and utilize the processes and production methods, or technical innovations. But, there is the rub in it. Not only the buying organization benefits from the know-how transfer, the supplier is also able to partake in the cross-board information sharing. The risk is that the know-how can be used to imitate the products and processes, and therefore the buying company runs into danger of losing the competitive advantage.

Competitiveness increasing

Through the supplier base extension due to additional foreign suppliers, the domestic suppliers can be pressurized as the buyer induces the competitive situation, resulting in adjustment to global market prices. Such behavior of the domestic supplier leads unfortunately to the reduction of planned R&D expenses, which affect the customer requirements.

Image and new market entry

As most enterprises intensely expose with the economical circumstances of the supplier`s country during the global sourcing activities, parallel to, the export and consequently the new market entry possibilities can be examined with demand increasing and sales potential discovery in the mind. Moreover, the overseas located competitors can be observed. The corporate image is also improving through the global sourcing for a reason of name and profile recognition.

Costs

Decisive arguments in favor of going global are the price and therewith the cost advantages: the raw materials and labor costs. Especially with the view to the high labor and associated employer outlay in Germany, global supply markets create cost advantages for buying company. The cost aspect is obviously the main motivator for establishing of global sourcing processes. But it should be noted, that there are additional cost accruing such as quality insurance costs, export related costs, and also required investments.

According to the recent study of Brain „Best Value Country Sourcing – A Paradigm Shift for Global Sourcing Approaches“, large corporations focus increasingly on China and India, whereas the smaller on Eastern Europe and Russia. The Figure 5.7 illustrates the survey findings about the related risks of global sourcing activities in several countries.

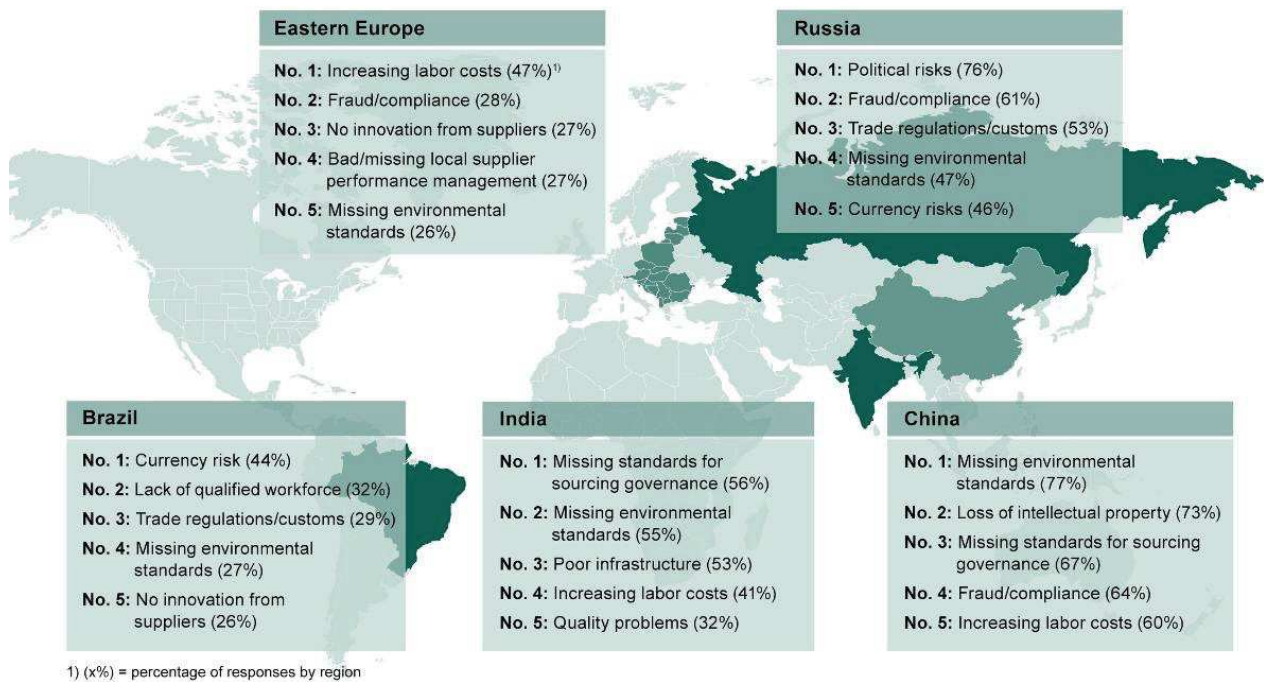


Figure 5.7 Risks of global sourcing activities

Furthermore, global sourcing activities mean long-term relationships with unfamiliar and unproven parties. Clearly, the global supplier selection is risky and complicated, as many influencing quantitative and qualitative factors are in conflict with one another. For instance, the chronic financial instability is offset by the low price of purchased goods. It is the question of an intricate global sourcing strategy adopting process, requiring a detailed and staged approach, illustrated below.

Stage 1 – Investigation. At this stage, the core and non-core activities and market requirements are analyzed in view of firm`s target markets and objectives. As the cast iron components are mostly complex elements and require high investments for the tailored equipment, it is crucial to consider if the cost advantages compensate the expenses. Furthermore, there are high transport costs accruing due to the weight of the components and long distances. For this reason, the main cast iron supplier located Europe-wide, less worldwide, is illustrated by the global footprint below. The yellow marks explain the current suppliers, the blue and green show the potential. Interestingly, there

is to this day a distrust regarding the product quality or corruption in China or Russia, despite changing economical circumstances in those countries. For that reason, the main purchasers hesitate to search for new sources in Eastern Europe and Asia, although the global strategic direction of MAN is aimed to discover the BRIC markets.

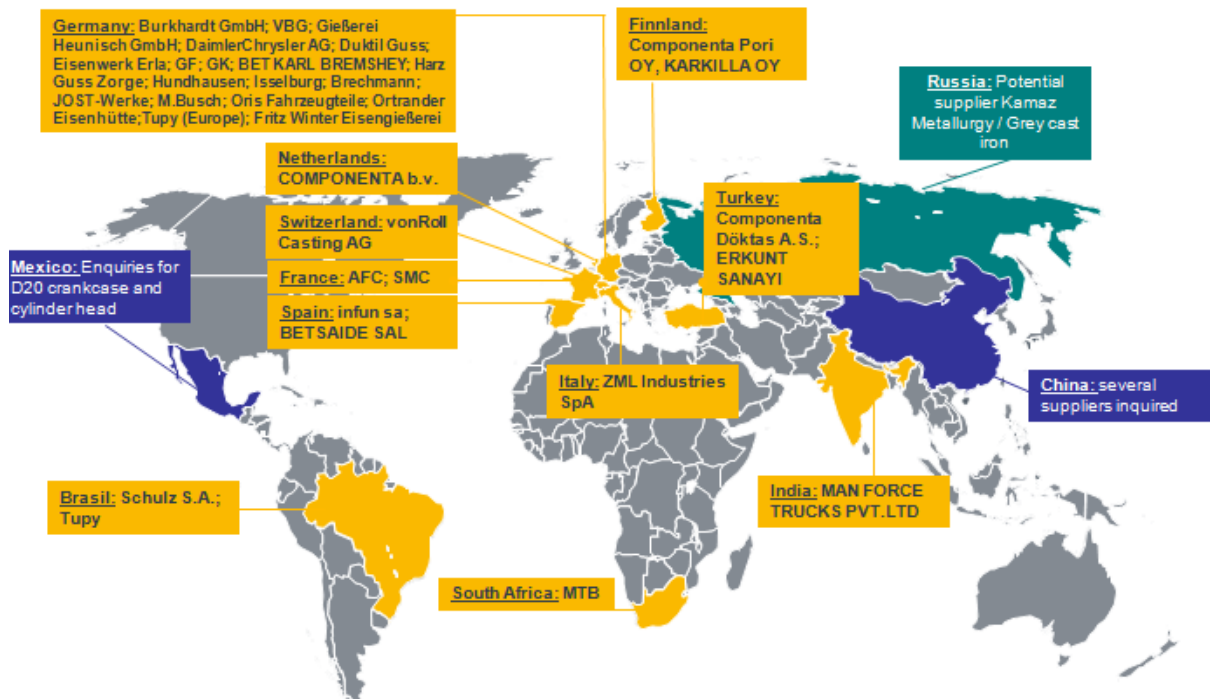


Figure 5.8 Global footprint of cast iron supplier (own illustration)

Stage 2 - Supply market analysis. The supply market analysis goes after the conditions that guide the quality, prices, and availability of purchased materials and aims to understand the current short and long term demand and supply trends. Further, the supply market analysis could include considerations such as:

1. *Economic circumstances:* as the world demand tends to increase, the price and production are rising.
2. *Industrial capacity potential:* Supply of raw materials in worst case can suffer under natural scarcity or barriers to bring to market, or prevented action through supplier cartels. Thus, the worldwide industrial production capacity is directly affected by the circumstances.

3. *Market structure*: It refers to the analysis of potential and existing suppliers, sources nature, locations, and competition levels. The two extremes of market forms are well known: perfect competition and pure monopoly. The perfect competition situation ensues when the demand and supply forces meet at the market, resulting in high number of suppliers and demanders. The price is affected through the forces. The price and the demand are in reciprocal relation: for instance, if the price increases, the demand decreases. Additionally, if the market price goes up, the supply volume increases also. Pure monopoly exists when the supplier has the most control over a demanded product and determines the terms on which the demander can access it, for instance the governmental owned productive resources influenced by antitrust legislation. Thus, the supplier on the monopoly markets has a relative position strength, and the purchaser's position strength decreases.

Stage 3 – Evaluation. At this point, a “short list” of potential suppliers can be made influenced by specific supplier selection criteria, because if the supplier selection is wrong, the consequences may be the litigation, quality issues, transport delays, production disruption – to name just some of the issues the company can encounter. As such, the decision about suppliers is not trivial because it consists of several closely interrelated decisions about the financial means, distribution solutions, quality assurance and price negotiations. It is possible to handle the global sourcing decision with an approach that divides the big global sourcing issue into sub-problems which are analyzed in details. The main criteria and attributes relevant to the supplier selection are summarized below (Min 1994, pp. 26-28):

a) Financial considerations: is the most meaningful criterion because directly affects the purchasing costs. The company must search for low-cost suppliers to minimize the purchasing price and related logistics costs. Additionally, the buyer must negotiate for good payment terms. Thirdly, the freight terms have to

be considered because they are usually high in global sourcing because of the lengthy distribution channel and transport & insurance costs.

b) Quality assurance considerations: at this point it is crucial to examine whether the potential supplier is certified for quality assurance and whether a supplier visit in view of assessment of technical capabilities and quality commitment is necessary.

c) Perceived risks: according to several experts` opinions, global sourcing supplier selection is riskier than the domestic selection and is affected by perceived risks such as legal claims, currency fluctuations, and so on. As these risks can accrue high costs, they should be incorporated into the selection decision.

d) Service: purchaser should evaluate the supplier`s ability for on-time delivery and supply chain`s length. Due to rapid changing technology, the components become more sophisticated. Hence, the supplier`s responsibility for prototype design and R&D activities increases, consequently the technical assistance ability is very important.

Stage 4 – Supplier development. After selection of a proper global supplier, an agreement is negotiated, resulting in savings identification and implementation schedule.

Stage 4 – Implementation: aims to establish sustainable global structures that are flexible and dynamic enough to adapt the changing conditions.

Stage 5 – Continuous supplier performance measurement and improvement. The supplier performance is monitored on the routine basis and in case of problem arises, an in-depth analysis and mutual discussion with the supplier is executed to develop appropriate improvement measures.

Generally, globalization by the nature is a market manipulator, an over-dominant force, as well as a desolater of local structures and culture. In many ways, global activities are not such a big idea. The focus needs to be on the good practices rather than on the boardroom concept of a global presence. This is the business mantra, what is the next to globalization?

5.2.2.4 Central & Decentral volume management

Absolutely any purchaser has already heard about the Lead Buyer concept. But what constitutes an optimal Lead Buyer concept generally?

The concept is about the leading purchasing approach for particular sourcing groups, the essential aim of which is to capture the potential savings through the purchasing bundling along the related affiliates, resulting directly in cost reduction by pooling the demand and indirectly by bundling transaction costs. The concept represents a synthesis of centralized and decentralized purchasing organizations and synergizes mentioned advantages. The Lead Buyer is responsible for the strategic purchasing within a sourcing group, whereby he is integrated in the central purchasing department. The Local Buyer within the decentralized department is responsible for purchasing from the suppliers, with whom the Lead Buyer has an agreement.

However, the assumptions such as purchasing volume should be higher than one million Euros, a uniform information basis and certain degree of transparency are necessary to achieve the above aims. On the other hand, the Lead Buyer should be able to convince through professionalism, background knowledge, and suitable soft skills. An integrative approach during the managing of the decentralized demands is very important.

Nevertheless, it is a twofold area. Apart from the advantages the following risks have to be considered during the practice of the Lead Buyer concept:

- Insufficient transparency about the purchasing volume
- Logistics costs, service level and delivery times could not be factored in.
- Insufficient TCO consideration

- Miscalculation of demanded purchasing volumes
- False estimation of Lead Buyer`s know-how and responsibility
- Missing IT structure and intelligent software

The purchaser of the Cast Iron sourcing group supervises the local purchaser in Vienna, Ankara, Steyr. The local buyers are allowed to negotiate the prices for related agreements, mostly low volume agreements. But, the results of the independent price negotiations are reported to the Lead Buyer in Munich, so that the misunderstanding is avoided. Furthermore, in a case of technical improvement or development of new components within the organization, the Lead and Local Buyers are obligated to discuss the supplier awarding and possible outcomes, communicated commonly via internet or phone conversation.

5.2.2.5 Assistance of ML projects by MAN

Once the MAN Group acquired the ML, it became a supportive function in the localization process of several engines in Latin American markets. The purchaser of the Cast Iron sourcing group is also participating in the common projects, as components he is responsible for are necessary for the engine assembly in ML.

The first common project is the localisation of the D08 engine, which aims to establish local procurement processes of necessary parts. The purchasing responsibilities on parts acquisition are the following:

1. ML is responsible for the whole localization project; MN provides support in the commercial issues with the EU suppliers.
2. MN must contact suppliers; ML decides the better way to follow.
3. Direct involvement of ML Purchasing in cases of problems with EU suppliers.
4. MWM International Motors is responsible for engine assembly, parts acquisition and testing.

It is crucial to know the purchasing supportive functions in order to incorporate them into the sourcing group strategy. Firstly, the cast iron parts are to be identified and secondly the current suppliers have to be contacted. The buyer has contacted several suppliers for ensuring the additional production capacity for leverage and routine parts at supplier`s site, most of which have confirmed the ML volume. The further discussion of the strategic components such as crankcase and cylinder head will continue in November as well as investments incurred. As next, the information is provided to ML Purchasing Department as it is able to decide on the supplier nomination. Probably, the price reduction at strategic suppliers is possible through larger volume.

The Figure 5.9 illustrates the types of necessary parts and guide on the proper identification and decision making, because each component type requires different strategic decision approach during the supplier selection.

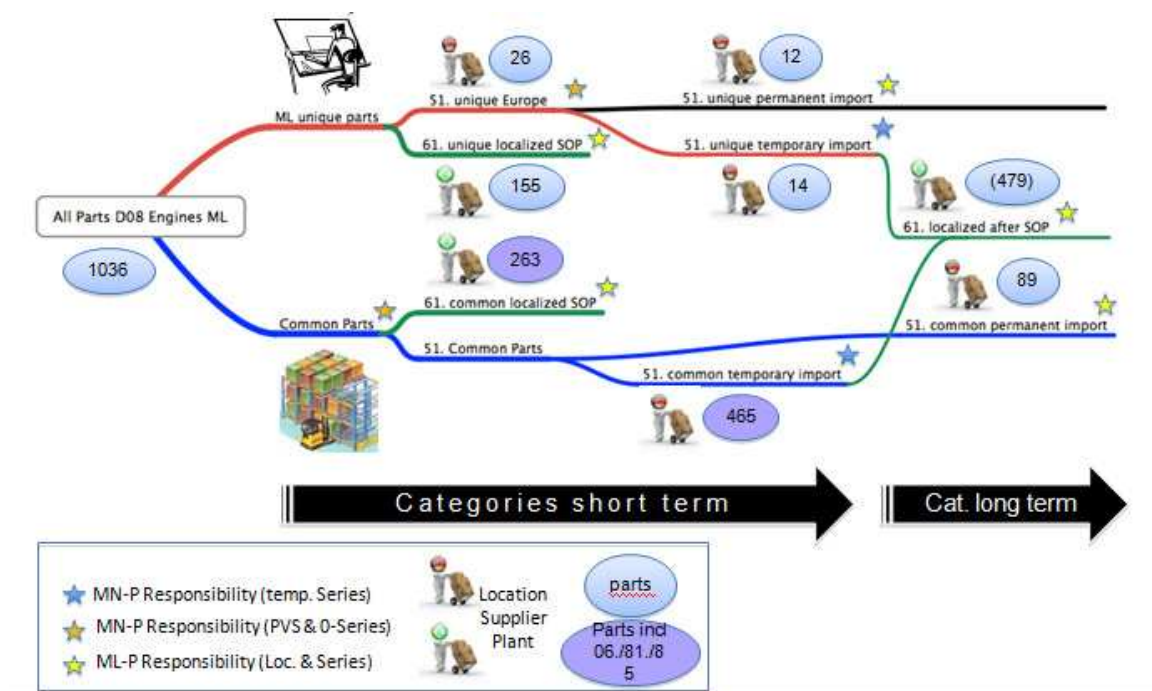


Figure 5.9 Categories of parts (internal database)

The sourcing group buyer indicates three potential sourcing sources of cast iron components, comprises of alternatives such as:

- a) *Imported items from Europe*: the components are delivered to Brazil from the European current supplier of MN. It implies that the supplier (Fritz

Winter) of the ML and MN for crankcase is the same, has the same production site, and a scale effect through larger volume is possible.

- b) *Same current source with local production in Brazil:* there are just some potential suppliers with the additional production site in Brazil, so that this alternative is still to be discussed.
- c) *New D08 source for Brazil:* the new suppliers located in Brazil were nominated for delivering, resulting in higher development cost, but low logistics and transportation costs.

Secondly, the TGS and TGX engines' localisation is assisted by MAN Nutzfahrzeuge. As the project started recently, the decision process of suppliers' selection and nomination is just ongoing. The main supportive activities made by the cast iron purchaser are the enquiries at the suppliers for delivering the truck-in the box parts to Brazil in 2011.

Generally, the supplier consolidation and the volume bundling synergies are imaginable. The first possibility is to identify common existing key suppliers from Brazil and Germany (e.g. JOST-Werke), further on, to bundle volumes for negotiations to accent the priorities, strategies and targets of both companies, and as result to negotiate price discounts or quick wins. The second approach is benchmarking of similar items of both organizations including the selection of most similar items and comparison of ML and MN prices, further, identification of price differences and set target prices, and finally the renegotiation of the price discounts. Additional synergy process is the global sourcing study aimed to obtain local offers for TGS' and D08's main components in Brazil, to compare their current prices in Germany and to re-negotiate or resource the item and maybe to extend the approach to other MN-Models and to constellation offers from Europe.

5.2.2.6 Cooperative synergy with Sinotruk

In year 2009, MAN Nutzfahrzeuge entered into a technology license agreement with the Chinese Sinotruk, a heavy truck manufacturer. The parties agree on the mutual use of intellectual property rights, patents, trade secrets, know-how and technology. The cooperation is geared towards capturing of advantages through possible purchasing synergies. Sinotruk seeks for higher in-house production volume through adapting of MAN's processes and technology; higher purchasing volume through bundling with MAN's demand and consequently better price level in cause of higher market power; as well as permanent quality feedback from MAN. The most important payoff of the cooperation for MAN is the entering into Chinese market, enabling discovering of new sales markets. Furthermore, the prices for components become more competitive.

The process of synergy realizing begins with the priority of Sinotruk in-house production, it means that it is necessary firstly to analyze, which MAN's parts can be produced by Sinotruk to capture the low production cost advantage. The question is, if the quality issues can be evaded in sufficient time. The second priority is to establish the supply process from the Sinotruk's suppliers, that enables to purchase the components at existing conditions and maybe to gain price advantages. A further priority is to find new Chinese suppliers, entitled to supply both companies. As the cast iron parts are very complex, it is very difficult to make the sourcing decisions in that direction. The first step done in the direction is the inquiries with related specifications of Sinotruk in-house manufacturing.

5.2.3 Supplier strategy

In order to manage the existing supplier base and to develop the strategic approach appropriate to specific supplier's strengths and weaknesses, it is

highly recommendable to use the portfolio approach. Alike set up of the purchasing portfolio, the supplier portfolio is based on the ABC analysis. The general picture of the existing cast iron suppliers with related volumes is represented in the portfolio below. Suppliers in each quadrant have different characters and so, require different management approaches. The approaches used by cast iron purchaser are summarized by Christian Schuh et al. (2010) and discussed as follows.

Purchasing's impact on financial results	High	<u>Leverage Suppliers</u> Example <ul style="list-style-type: none"> • Tupy (Europe): € 3.1 million • Betsaide SAL: € 2.6 million • Von Roll Casting: € 1.86 million • M. Busch GmbH: € 1.67 million • ZML Industries: € 1.09 million • Infun sa: € 1.00 million • Isselburg: € 1.00 million • Josef Brechmann: € 0.979 million • Gießerei Heunisch: € 0.78 million • Harz Guss Zorge: € 0.73 million • AFC: € 0.6 million 	<u>Strategic Suppliers</u> Example: <ul style="list-style-type: none"> • Fritz Winter: € 41 million • GF Automobilguss: € 21.5 million • Hundhasuen & GK: € 21.19 million • Georg Fischer: € 9.9 million • JOST-Werke: € 6.2 million • Componenta b. v.: € 6.2 million • Componenta Döktas: € 1.76 million • Componenta PORI OY: € 0.91 million • Daimler: € 3.1 million • VBG: € 2.3 million
	Low	<u>Routine Suppliers</u> Example: <ul style="list-style-type: none"> • SAF: € 0.75 million • Eisenwerk Eria: € 0.46 million • Burkhardt GmbH: € 0.4 million • BET KARL BREMSHEY: € 0.297 million • Ortrander Eisenhütte: € 0.246 million • GF Mettmann GmbH & Co. KG: € 0.15 million • Infun sa: € 0.13 million • Duktil Guss: € 0.26 million • SMC: € 0.59 million • Oris: € 0.046 million • Erkunt: € 0.02 million • Componenta Karkilla Oy: € 0.015 million 	<u>Bottleneck Suppliers</u>
		Low	High

Chart 5.4 Supplier portfolio (own illustration)

5.2.3.1 Supplier portfolio management

1. Leverage suppliers.

In this quadrant, the suppliers with material cost reduction potentials are placed. The purchasing volume varies from three to one million Euros. The most applicable strategic approaches used in managing the leverage suppliers are the following:

a) Global sourcing

As discussed in earlier chapter, establishing of global sourcing structures can bring some advantages. The global sourcing process starts with the supply market research, as well as using of internal information (Sinotruk). The second stage is to develop the international accepted enquiry documentation. The enquiries were sent to several casters in India, Russia, Mexico and China.

b) Linear Performance Pricing

Generally, in order to determine the target price, an adequate and objective basis is required. The Linear Performance Pricing is an approach for identification of the decisive technical cost driver affecting the product prices. The process sounds easy, but can only proceed by less complex products and initiates by identification of more or less important cost drivers. Secondly, the most significant drivers can be detected through a simple correlation analysis. Finally, the target price is determined by using rule of three. The fitting cast iron components for the Linear Performance Pricing are the wheel flange and hub due to less complexity and easier cost factors' identification, for instance, the weight.

c) MOB approach

The general rule is that the components which are the core competencies of an organization or take a sustainable cost advantage cannot be outsourced. The make or buy continuum implies the observation process of core competencies' identification and the competitive advantage comparison. Initially, it is to decide whether the component is a strategic one, or less strategic. The strategic are those containing a proprietary technology or enjoy higher value for customer. The second criterion is of the operative nature, namely, if the organization is capable to manufacture the product in-house better than the current suppliers do. This operative performance is evaluated in terms of quality, process reliability, and service. The competitiveness is assessed through considering if the in-house manufactured component can compete with the supplied ones, especially if it is cost efficient. The benchmarking of both, the supplier's cost

structure and capacity utilization and of the buying company has to be evaluated. The question arises, to what extent the cost position of in-house manufactured components can be improved. This issue requires an objective profitability assessment and in case of identifying a gap between the in-house production and outsourcing, an evaluation of how this gap has to be bridged. As the cast iron components are manufactured in two steps (manufacturing of the blanks and further handling and refining), it is possible to shift the handling and refining process to MAN's own small moulding plant in Nuremberg, because of sufficient capacity in the plant. But there are some disadvantages, such as accruing equipment and labour costs and concentration on less complex parts. The making in-house decision can result in more advantageous prices and further cost reduction.

d) Total Cost of Ownership

It is the financial estimate used by the cast iron purchaser helping to determine the direct and indirect costs of the components and providing a cost basis for evaluating the economic value of the products. The TCO approach incorporates a total cost of acquisition and operating costs analysis used as a comparison tool between some suppliers, and gives a big picture overview in order to develop the most appropriate and effective sourcing strategies. Beyond that, the used concept aims to eliminate the non-value added activities and forecasts the exact savings through strategic purchasing activities.

The line of action is simple and complies with comprehensible rules. First, all relevant costs have to be defined; secondly, the cost drivers and costs for each cost type are calculated. An early consideration of TCO activities enables to depict the basic costs of an enterprise and benchmark the RFPs. In general, a well-structured and disciplined TCO process is critical to focus on the influenceable components.

The TCO consideration within the cast iron sourcing group is used especially in following areas:

- Transportation: discusses the question about how the components can be shipped in a cost efficient way because of their weight and length, and if some additional negotiations are necessary to focus on the several freight cost sharing approaches.
- Logistics: deals with continuous improvement of logistics processes such as shortening lead time and decreasing the inventory costs. For instance, is it effective to build a new storage depot at supplier`s site to avoid the assembly downtime at buyer`s site caused by possible delivery shortages.
- Administration: aims to look for a more efficient interface between the ordering systems and contract administration.

Obviously, the incorporation of the TCO approach into the sourcing process enables an overall costs estimation, applies especially for purchasing of complex and expensive components.

2. Strategic suppliers.

In this quadrant, the suppliers are characterized through the great financial impact, great supply importance, and long-term relationships. In times of extreme competitiveness, companies are forced toward forming closer partnerships with limited number of suppliers, involving them in strategic and day-to-day company`s operations and based on long-term contracts, mutual information and risk sharing, support, cost reduction and optimization programs. Such partnership concepts, aimed to share responsibility between the buying and selling organizations in order to meet consumer`s needs, as well as indicating closer relationships for achievement of joint benefits. In this context, the related suppliers appear as an integral part of the component delivery process. Partnerships are not just to meet buyer`s immediate needs, but also to provide new components, technologies and methods, improved quality and low costs. In part, the firm`s ability of derive the joint benefits depends on the effectiveness of the supply function in leveraging of the relationships. To

maintain the long-term relationships and generate the joint benefits, a company must consider following attributes:

1. The financial instability of the supplier can weaken the relationship.
2. Frequency of negotiations in order to get acquainted with the supplier's negotiation flexibility.
3. Ensure and improve the negotiation and communication process through estimating the EDI, cultural barriers and ethics.
4. Obtain the quality measures and improvement programmes and TQM at supplier's site.
5. Consider geographical location, JIT philosophy and continuous improvement in logistics, reduced set-up and cycle times.
6. Problem solving capability is very important because of the necessary adequate expertise in process and product design problem solving.
7. Consider the capacity of the supplier to meet demand.
8. Environmental certificates.

The considerable contribution to the cost reduction and overall profitability can be seen in the benefits such as:

- Suppliers are early involved in the organizational processes resulting in novel technologies, products, and increased operating flexibility.
- Suppliers are an integral part of a firm's business allowing a better and more accurate resource planning.
- The long-term costs are lower for both because of effective processes and improved quality, or joint improvement programs

As expected, some problematical areas address both partners. One is the missing willingness to study partner's needs and willingness to change in order to help him. Another one is the failure to treat the partnership agreement, or to commit to joint design efforts looking for cost and quality optimization. However, a number of common preconditions emerge: trust, flexibility, dependence, mutual commitment, communication are crucial to meaningful relationships.

The main goal of the MAN in managing the long-term relationships is the joint growth, requiring commitment and initiation of necessary actions at suppliers to fulfill the MAN growth and globalization strategy; reliable supply of parts; adoption of production structures to changing requirements; fair partnership including cost transparency, support of necessary actions; active attendance and support of joint cost reduction programs.

As already mentioned, the company manages 7 cast iron suppliers gaining the strategic importance due to large purchasing volume and collaborative partnership nature. Each strategic supplier utilizes different strategic approach represented below:

a) Supplier development

There are no perfect suppliers, even after an extensive selection process. The suppliers named “strategic” in the supplier portfolio have been nurtured and developed for a long time, needed time and investments, quality training and process refinements, product development and energy to achieve the required level. Some of the main casters (FW and Hundhausen) are going to be developed in the near future because of the additional capacities needed through supporting ML`s projects and of financial insolvency of an another large supplier (Gusskomponenten). Fritz Winter Eisengießerei gains the most importance within the cast iron sourcing group through its production capabilities and cost position. First of all, the relationship conditions and Fritz Winter`s capacities and potential were evaluated, resulted in a necessity of an additional investment €1.8 million. Obviously, MAN will have a greater market power through the dependence of the supplier and consequently can negotiate more favorable prices. The supplier Hundhausen is compelled to be developed through the critical financial situation of another supplier. As the insolvent seller delivered very important components, it is quite difficult to switch the supplier because of additional equipment and training are necessary, which can take a long time. Nevertheless, Hundhausen will deliver the previous volume added to that of insolvent Gusskomponenten. Due to additional parts, MAN can achieve greater price and market power, but also has to invest circa €1.8 million.

b) Supplier fitness program

Fitness is also important for suppliers forming long-term relationships with the buyers and serves to eliminate the unnecessary “costs” and weak points and to get more competitive. The concept aims to identify the cost reduction potentials and to realize them including many direct and indirect measures developed in a holistic and structured program. Not all strategic suppliers can establish cost reduction activities. Thus, the first stage is to visit suppliers most able to commit the joint activities in order to create a big picture of product’s cost structure. The supplier visit at Fritz Winter commonly with a consultant has been resulted in cost reduction potential for crankcase and cylinder head for the D20 engine. Secondly, the break down analysis was established by the consultant in order to determine the cost drivers and to set the target price. Finally, the round off discussion with the supplier, consultant and buyer is necessary, because the implementation tools and potential realization opportunities require strategic decisions and considerations. The big disadvantage of such approach is the consulting expenses that are shared in this situation. The mutual benefit is the supplier’s improved cost position and MAN’s savings about 50-80 per cent.

c) Partner-like cost optimization

The process is based on utilization of the intellectual capital and experience of the supplier. In case of realizing cost savings, the last are shared between the buyer and supplier increasing supplier’s incentives for joint cost reduction. The process starts with the idea collection. For this purpose, an adequate form has to be filled in at supplier including information about the potential savings, timeframe, possible implementation, and required efforts. Such basic information makes the idea prioritization and selection process much easier. Next, the discussion with the quality, production and controlling departments is necessary for idea validation. Finally, the proper business case is created as well as an implementation plan reflecting the responsibilities and consequences. There are some common cost optimization programs ongoing with the suppliers as JOST-Werke, Georg Fischer and Hundhausen GmbH.

d) Strategic alliance

Strategic alliance between MAN and Daimler Chrysler is based on the agreement of reciprocal components delivery in order to exchange the complementary capabilities and avoid delivery bottlenecks. The point of the strategic alliance is that it is long-term and is not project-limited. Of course, such partnership is vulnerable through changing circumstances of organizational strategic directions. The established alliance reposes on the business agreement, determining mutual obligations and responsibilities and controlling. However, the alliance suffers under inflexibility, nondisclosure and insufficient supplier's commitment. Due to recent structural changes within the Daimler Chrysler, the alliance has to be reconsidered in order to identify whether it is still possible to develop a sound partnership or to cancel the agreement.

3. Routine suppliers.

Such kind of suppliers have minimum of supply risk and financial purchasing impact. The main targets in managing the routine supplier are to reduce the logistics administrative expenses and to force the supplier consolidation.

a) Purchasing pool

As mentioned above, MAN and Scania are willing to set up a buying syndicate for non-core components such as standardized and less complex parts. By using the pooling approach, the administrative and logistics costs can be cut down by 15-50 per cent. As there are still some key decisions to be made regarding the exact determination of what can be pooled and how, it is important to think about the geographical focus, roles and responsibilities, interest and strategies of the both organizations.

b) Supplier consolidation

A paradox that many enterprises supply successfully critical purchasing volumes at monopolistic markets, during supply standardized components at various suppliers. It has to be counter measured. As managing too many

suppliers increase the administrative costs and efforts, which are often not able to offer competitive prices. Supplier consolidation means the elimination of smart suppliers through switching them to the larger or strategic suppliers. The Italian cast iron supplier Infun sa is thus eliminated, and the volume is spreading to several suppliers. Consequently, savings through economies of scale, less data administration, and favorable prices are possible.

c) Over-location bundling

Using the Lead Buyer Concept, discussed earlier, enables the bundling of purchasing volumes over the related locations (Austria, Turkey, and Germany). The coordination is based on the dialogues about demanded volume and quality.

d) Closed loop spend management

This approach aims to optimize the purchasing expenses during the whole value chain and to create sustainable corporate value through avoidance of value destroyers such as incomplete expenses transparency, insufficient inventory and liability management.

4. Bottleneck suppliers.

These suppliers are characterized through their monopolistic position in the supply market and technological leading position. The cast iron suppliers are difficult to develop, because of the high equipment costs and components complexity, but it still possible. Thus, there are no monopolies in the cast iron supply market, because of existing alternative suppliers, which can be developed if necessary.

5.2.3.2 Supplier base optimization

The purchasing department cannot afford a large supplier base; there are not enough managerial and monetary resources. Thus, the major task is the maintenance of reliable supplier base to assure that funds are spent wisely and

it serves as a prerequisite for improved partnerships with remainder. Before going on with improving the existing supplier base, it is necessary to understand the present base and historical events, probably affecting the supplier elimination decisions. The objective is to bring the number of suppliers to a more manageable level. Furthermore, the remainder`s capabilities have to be assessed in order to switch the purchasing volume of the eliminated suppliers. Once it is evident that Infun sa can not contribute to required needs anymore, it has to be obliterated and the components it has delivered, have to be shifted step-by-step. The Brazilian supplier Tupy (Europe) can also be eliminated because of the high asking prices, but it has still to be discussed.

5.2.3.3 Sourcing concept strategy

Purchaser should consider whether to use multiple sources of a supply or just single. The implication of the dilemma is a controversial subject. Some purchasers argue that the risk is reduced during supplying from various sources, but the costs are increasing. At the same time, some buyers use single sources based on the premise to develop more collaborative partnerships with a supplier through long-term commitment. The most strategic cast iron components are supplied from dual sources, and less strategic from single sources.

Table 5.3 Practised sourcing concepts (own illustration)

Product	Sourcing concept	Strategy
Axle beam, crankcase, cylinder head, wheel flage, fifth wheel/hitch, brake disc, axle housing	Dual sourcing	No change planned
Brake drum	Single sourcing	No change planned

Arguments for dual sourcing are:

- Reasonable price levels through competitive supply
- Supply risk is decreased
- Greater flexibility in case of supplier`s quality, technology and delivery performance failure

A major impetus to use the single sourcing concept is the ability to work closely with the supplier and the possibility of an easier failure analysis. Furthermore, the operational activities like delivery schedules are easier to work out.

Sometimes, concentrating purchases on single supplier can provide advantages of economy of scale. Also, the communication process between buyer and seller is improved due to close relationship. In the event of failures, corrective activities can be taken sooner, as the defects may be determined sooner.

Moving toward the single sourcing means that the supplier should commit for the work stoppage and disaster recovery and especially for joint improvement programs.

Currently, it is impossible to spread the purchasing volume of the strategic components to more than two suppliers because special tools, setup charges, and casting molds are too expensive to duplicate.

5.2.3.4 Risk management

The optimization of supply chains as well as extending complexity of supply networks lead to efficiency decreasing within the supply chain. The information flows incessant through global channels; materials flow through digital systems up-to-the-minute, up-to-the-hour, up-to-the-day across the globe. The supply chains become ever longer.

Against the background of increased complexity of internal and external business environment, the significant aggravation of risks is marked.

On the one hand, the increasing complexity of business environment caused by becoming ever shorter product, market, and technology life cycles is obvious, and leads to shorten time-to-market under enormous pressure of the ROI. On the other, the organizations are facing more vulnerable global economic cycles associated with a market defragmentation. On this account, the future risk threatening requires not just the financial risk observation but also the performance related risks calculation and management.

The risk elimination or minimization activities must not concurrently exclude the potential business chances. Entrepreneurial actions are intrinsically related to the risk taking, and only the risk assumption makes the business growth possible. As discussed previously, purchasing function is estimated as a generator of competitive advantages. Thus, the supply management is facing various supply relevant risks, jeopardizing the overall organizational performance. Supply management often focuses on the cost and quality viewpoints, without explicit supply risks contemplation.

Globalization, centralization of the production and distribution sites, reduction of supplier base, outsourcing are viewed as main risk drivers. The supply risks are far-reaching and multifaceted. In this context, following supply risks gain in importance related to: price, quality, supplier`s bankruptcy, currency risks,

sovereign risks, economic cycles risks, technology and resources, company's take-over, dependence, supply, product, agreement, location, flexibility, capacity, inventory and complexity. A risk is the danger that the several events can inhibit the organizational goals achievement and strategies implementation. Hence, the supply risk management encompasses all the necessary measures for identification, evaluation and control of the risks. To manage the risks in time, they should be identified and evaluated early enough.

The identification tools used by the cast iron purchaser are primarily the financial figures reviewing using the internal established system which summarizes and updates the financial performance of the suppliers. The internal financial figure reviewing happens in two-week-interval, additionally to a web-search of suppliers' possible bankruptcy. The aim is, to pick up as early as possible the critical suppliers and to define appropriate strategies and measures. It was recently found out that a strategic cast iron supplier Gusskomponenten is becoming bankrupt.

The Management of Supplier's Bankruptcy focuses on maintenance of supply in case of supplier's bankruptcy under the aspects of efficiency. The supplier escalation process is a very complicated one, and obviously requires open collaboration, clear rules, clearly defined escalation steps, standardized procedure for taking agreed action, supervising fixed realization dates.

The escalation process of the insolvent supplier (Gusskomponenten GmbH) proceeds in five main steps (internal database):

1. Purchasing department and supplier discuss deviation and measures.
2. Department manager and supplier discuss deviation and measures.
3. Purchasing department and supplier discuss escalation.
4. Escalation workshop, process audit and award stop, search for alternative suppliers.
5. Coordination of supplier change for relevant scope of delivery.

5.2.3.5 CFT projects

Today's rapidly changing markets and technologies force the corporation to enter a new business area and to produce in a error-free and timely manner. In light of this, most of the organizations now are restructuring their rigid functional structures and place them with cross departmental collaborative structures. The embracement of teamwork is emerging instead of the individualism. Implementing teamwork concepts enables to look beyond the one's nose: beyond the functional and original corporate boundaries, and to focus on problem solving. The teams comprised of members, mostly from the quality, R&D, purchasing, controlling departments, are named cross functional teams, and are usually responsible for some segment of value creation process. Effective teams can be obtained by following most of the rules especially of (BNET staff, 2007):

- *Free information flow*: every member receives/has easy access to any information he needs to do the job.
- *Open communication*: Do not keep secrets
- *Frequent feedback*: People need to know how well they are doing and where improvements can be made.
- *A listening culture*: People should feel free to say what they think without fear or anger, and that they will be heard, even when they're voicing minority or unpopular views.

International acting companies as MAN have to decrease manufacturing cost while improve the quality and streamline processes. During the production process of heavy trucks or buses it is essential to work and communicate in cross functional team approach.

A CFT is working under the leadership of cast iron purchaser on the projects such as components refinement and redesign as well as searching and

selecting an alternative supplier for the insolvent Gusskomponenten GmbH.

5.2.3.6 Supplier evaluation

The issue which is continually under review is the supplier performance evaluation. Supplier evaluation is an important issue, but no rocket science – it is kept simple. The questions to consider are: why, how and what to measure. In considering the first question, the main accent is on the improvement process. The data needed for the evaluation process should be easy to collect mostly from internal sources. The how to measure question is then linked to the why issue. Supplier performance data is a critical piece: despite this, many purchasers shy away from collecting data, because it is the task investing real time in. So, they want to have it collated and automated, and delivered in summary form. What to evaluate depends on the thoughts of what is to improve. Every company invents their own supplier measurement approach, but in general, the process is kept simple, personal, providing clear conclusions and initiative impulses.

A proper continuous supplier evaluation enables to improve supplier's performance, increase corporate value, create transparency of supplier performance, identify improvement potentials and set objectives for purchasing activities on the operational and strategic levels. There are two possible performance evaluation processes established within the MAN's purchasing department. On the plus side of the ledger, the rating system developed by Euler Hermes is useful in assisting suppliers. A low supplier rating should motivate the supplier to better the position. The rating results are summarized in the table below and the critical points are marked.

The suppliers are evaluated regarding to purchasing, quality, technical, and logistics criteria. Purchasing scorecard criteria covers the supplier's compliance with the MAN norms & conditions; environmental management; payment and

purchasing conditions; QM systems; and cooperation, service & support levels; creditworthiness.

A quality criterion includes considerations about missed deadlines, audit results, initial sample quality, serial quality, failure quota. Technical department evaluates the suppliers in terms of product costs, product quality, and project management, problem solving ability, R&D contribution, change management, concept development, know-how, and competency. Logistics criterion includes delivery quality, sequence infraction, defect filling quantity, proactive action by delivery problems, flexibility, and accessibility among others. As identifiable from the tables below, there are some low ranked suppliers, reaching less than 50 per cent of possible score. The improvement programs related to those suppliers are developed and actions will take place in the near future.

Table 5.4 Supplier`s rating (Internal database, Appendix 2)

Criteria	Purchasing	Quality	Technics	Logistics	Total
AFC	C51	A100	AB80	B75	B77
Daimler Chrysler	B65	n.b.	n.b.	n.b.	B65
Fritz Winter	AB82	AB80	n.b.	A93	AB85
JOST-Werke	B64	A100	AB86	A94	AB86
BET KARL BREMSHEY	B65	A90	n.b.	AB85	AB80
BETSAIDE SAL	B64	B70	B74	AB83	B73
Burkhardt GmbH	C29	B70	n.b.	A92	B64
COMPONENTA b.v.	C50	B70	n.b.	A92	B71
Componenta Döktas A.S.	B60	C50	n.b.	AB88	B66
COMPONENTA KARKILLA OY	C44	B60	n.b.	n.b.	C44
COMPONENTA PORI OY	C48	B60	n.b.	A93	B67
Duktil Guss Fürstenwalde GmbH	B70	A100	n.b.	AB81	AB84
Eisenwerke Erla GmbH	C59	A90	n.b.	AB89	B79
ERKUNT SANAY A.S.	C54	B70	n.b.	AB82	B69
SAF-Holland	C59	A100	B75	A100	AB83

Table 5.5 Supplier`s rating (Internal database, Appendix 2)

Criteria	Purchasing	Quality	Technics	Logistics	Total
Isselburg	C59	AB80	n.b.	A95	B78
Oris Fahrzeugteile	C37	A100	B78	A92	B77
Ortrander Eisenhütte GmbH	B74	A90	n.b.	AB84	AB83
Schulz S.A.	n.b.	B60	n.b.	B75	B68
VBG	AB83	A90	B77	AB89	AB85
Tupy (Europe)	n.b.	B60	n.b.	AB88	B74
SMC	C34	n.b.	n.b.	B74	C54
MTB	B67	AB80	n.b.	B79	B75
MFT	n.b.	A100	n.b.	AB88	A94
M. Busch GmbH & Co. KG	AB83	AB80	n.b.	A100	AB88
Josef Brechmann	B72	B70	n.b.	AB82	B75
Georg Fischer	B63	B60	n.b.	AB89	B71
GF Automobilguss GmbH	B63	B70	AB81	A93	B77
GF GmbH & Co. KG	C55	A100	n.b.	A97	AB84
Gießerei Heunisch GmbH	C47	A100	n.b.	AB80	B76
Harz Guss Zorge GmbH	B72	AB80	n.b.	A94	AB82
Hundhausen Walter GmbH	B74	B70	B79	A91	B78
Infun sa	C55	C10	n.b.	A91	C52
Infun sa	C34	B60	n.b.	A94	B63

To evaluate the suppliers more in detail and use the information for strategic decisions, supplier`s price level, competitive position, initiative for cost reduction, transparency of calculating, product quality, compliance with the delivery and packaging requirements, know-how and expert experience, technical cooperativeness and positioning in the market, as well as the degree of dependence on the supplier can be analyzed using a simple matrix form, enabling an easier comparison of suppliers.

Table 5.6 and 5.7 Supplier`s analysis (own illustration)

Criteria	Daimler Chrysler AG	Fritz Winter Eisengießerei	JOST-Werke GmbH	BETSAIDE SAL
Price level	requieres + 35%	medial	low	low
Competitive position	FW, Tupy	Tupy, Daimler	SAF-Holland	others
Initiative for cost reduction	currently not possible	Cost reduction through optimization proposals in the range of cast production and material substitution	multiannual contract	supports design of new parts
Transparency of calculating	not available	partly available	not available	not available
Product quality	ok	poor quality	high	ok
Compliance with the delivery and packaging requirements	ok	D08 crankcase, poor supply performance	ok	ok
Know-how and expert experience in manufacturing	exists	An innovative company with high development competence	An innovative company with high development competence	ok
Technical cooperativeness	exists	exists	exists	exists
Positioning in the market	global	global	Global: China, India, South Africa; Brasil, USA	global
Dependence on suppliers	low	low	high	low

Criteria	COMPONENTA b.v.	Georg Fischer	Hundhausen Walter GmbH	Tupy
Price level	medial	medial	medial	requieres +45%
Competitive position	others	has a leader position in several component groups	others	FW, Daimler
Initiative for cost reduction	not available	supports design of new parts, materials substitution	supports design of new parts, materials substitution, refinement	not available
Transparency of calculating	not available	not available	not available	not available
Product quality	quality problem with axle housing	high quality	ok	poor quality
Compliance with the delivery and packaging requirements	ok	well supply performance	ok	ok
Know-how and expert experience in manufacturing	ok	limited compliance with MAN239	ok	ok
Technical cooperativeness	exists	Constructive and close technical cooperation	exists	exists
Positioning in the market	Europe-wide	Europe-wide	Europe-wide	global
Dependence on suppliers	low	low	low	low

6 CONCLUSIONS

The objective of this thesis was to create a strategic planning model and test it in practice through implementation of Cast Iron sourcing group strategy for the next year. The purpose of the developing of the model was to clarify that there is an obvious need on guidance for strategic planning process. The model is proved, and the evidence is that the internal data is sufficient for using the developed model. The purchasing managers can utilize the results of the strategic plan made by purchaser in broader sense, because it is giving more detailed information of the current and future situation within a sourcing group. More specifically, the paper aimed to explore the most famous concepts related to purchasing function as well as its changing nature. A number of conclusions can be drawn from the thesis.

1. Strategic purchasing considerations become more recognized within the MAN as evident from the need communicated from the Purchasing Department Manager for a regularly update of strategic plans of sourcing group. (Appendix 3)
2. The Department Manager found the developed model as an appropriate strategic planning tool giving detailed information to him (Appendix 3).
3. The strategic planning model can be a performance and underperformance demonstrator and enables an easier strategy development process, because it is a pattern by its nature.

As the purchasing role becomes more multidimensional, increasingly purchasers have to deal with both ends of the internal supply chain. It is imaginable, that purchasing function can become something like a supply chain management function in the near future. Professional purchasers develop in the years ahead and should understand that their role is altering. Organizations

must try to magnify the potential of purchasing staff. In doing so, buyers will become as individuals and companies will add value. It is a win-win situation.

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MAN`s internal databases/software:

SAP R/3

EZIS

E-Lief. DB

E-POD (interface)

MAN Host

Example of ABC analysis of Cast Iron suppliers

Article code	Article	Volume in 2010	in %	Accumulated	Classification
81.35701-3155	HINTERRADNABE ROHTEIL	3.057.295,98	15,29	15,29	A
81.35401-3175	ACHSSTUMMEL ROHTEIL	1.461.204,64	7,31	22,60	A
81.35701-3174	HINTERRADNABE ROHTEIL	1.382.383,38	6,91	29,51	A
81.35105-3060	AUSGLEICHGEHAEUSE ROHTEIL	1.341.522,00	6,71	36,22	A
81.35601-0040	RITZELGEHAEUSE HY-1350	1.024.374,68	5,12	41,35	A
81.35602-3027	DECKEL ROHTEIL	886.879,29	4,44	45,78	A
81.43640-0247	TRAGBOCK LINKS	867.810,24	4,34	50,12	A
81.43640-0248	TRAGBOCK RECHTS	788.054,32	3,94	54,07	A
81.44301-0191	VORDERRADFLANSCH	464.564,73	2,32	56,39	A
81.41301-6158	ZSB VORDERFEDERBOCK	437.742,54	2,19	58,58	A
81.43630-0202	BALGTRAEGER RE	387.842,65	1,94	60,52	A
81.43630-0203	BALGTRAEGER LI	386.816,82	1,93	62,45	A
81.35701-3169	HINTERRADNABE ROHTEIL	370.890,60	1,86	64,31	A
81.35105-3062	AUSGLEICHGEHAEUSE ROHT	359.697,10	1,80	66,11	A
51.41501-0149	MOTORTRAEGER RECHTS HINTEN	355.887,00	1,78	67,89	A
51.41501-0150	MOTORTRAEGER LINKS HINTEN	353.559,50	1,77	69,66	A
81.35114-3143	GLOCKENNABE ROHTEIL IP=4,0 GVZ	334.184,43	1,67	71,33	A
81.44301-0178	VORDERRADFLANSCH VO-09	317.799,53	1,59	72,92	A
81.35105-3191	AUSGLEICHGEHAEUSE	308.515,80	1,54	74,46	A
81.35302-3072	LAGERDECKEL RE ROHT	304.925,04	1,53	75,99	A
81.35114-3153	GLOCKENNABE ROHTEIL	282.690,00	1,41	77,40	A
81.35302-3071	LAGERDECKEL LI ROHT	269.082,52	1,35	78,75	A
81.35601-0038	RITZELGEHAEUSE	227.674,20	1,14	79,89	A

2 (3)

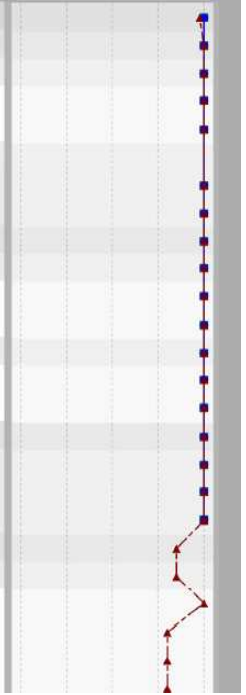
81.41650-0016	TRAGBOCK	218.336,12	1,09	80,98	B
81.43630-3188	BALGTRAEGER ROHTEIL	214.863,36	1,07	82,05	B
81.43630-3187	BALGTRAEGER ROHTEIL	209.744,40	1,05	83,10	B
81.43242-0058	STUETZPLATTE RE	189.347,15	0,95	84,05	B
81.43242-0059	STUETZPLATTE LI	189.347,15	0,95	85,00	B
81.44301-0185	VORDERRADFLANSCH VOK-08/07 NOL-07	183.041,70	0,92	85,91	B
81.43242-0056	STUETZPLATTE RE	171.838,94	0,86	86,77	B
81.43242-0057	STUETZPLATTE LI	169.187,90	0,85	87,62	B
81.35301-3105	ACHSGEHAEUSE ROHTEIL	168.215,04	0,84	88,46	B
81.35602-3026	DECKEL F DURCHTRIEBSACHSGEHAEUSE	164.692,08	0,82	89,28	B
81.43215-3050	LAENGSLENKERBOCK ROHTEIL	149.434,56	0,75	90,03	B
81.36501-0108	VORDERRADNABE VP-06	139.821,60	0,70	90,73	B
81.41301-6159	ZSB VORDERFEDERBOCK	139.812,48	0,70	91,43	B
81.35105-3195	DIFFERENTIALGEHAEUSE ROHTEIL	127.824,64	0,64	92,07	B
81.44301-0146	VORDERRADNABE 10 LOCH V9-75L	114.225,85	0,57	92,64	B
81.35105-3069	AUSGLEICHGEHAEUSE ROHTEIL	84.352,50	0,42	93,06	B
81.35601-0039	RITZELGEHAEUSE	83.491,00	0,42	93,48	B
81.35114-3137	GLOCKENNABE ROHTEIL	83.427,80	0,42	93,90	B
81.41650-0017	TRAGBOCK LI	82.272,44	0,41	94,31	B
81.35701-0172	HINTERRADNABE HP-0928	79.963,80	0,40	94,71	B

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81.41650-0018	TRAGBOCK RE	79.796,84	0,40	95,11	C
81.35114-3163	GLOCKENNABE ROHTEIL	78.000,72	0,39	95,50	C
81.43215-3053	LAENGSLENKERBOCK ROHTEIL	70.399,36	0,35	95,85	C
81.35701-0179	HINTERRADNABE HP-0728-E	68.365,44	0,34	96,19	C
51.19210-0120	MOTORTRAEGER VORNE AUSLSTG	63.297,92	0,32	96,51	C
82.41307-6001	ZSB HINTERFEDERBOCK HINTEN	55.143,54	0,28	96,78	C
82.41301-6037	ZSB VORDERFEDERBOCK HINTEN	54.024,56	0,27	97,05	C
81.35302-3077	LAGERDECKEL ROHTEIL	53.868,24	0,27	97,32	C
81.35302-3078	LAGERDECKEL ROHTEIL	48.245,40	0,24	97,56	C
85.41336-0029	FEDERUNTERLAGE	47.785,80	0,24	97,80	C
81.43240-0154	HALTER F ACHSLENKER	46.283,31	0,23	98,04	C
81.44301-0183	VORDERRADFLANSCH VOK-03	45.636,48	0,23	98,26	C
51.19210-0130	MOTORTRAEGER VORNE EINLSTG F TGM	44.882,04	0,22	98,49	C
51.19210-0129	MOTORTRAEGER VORNE AUSLSTG F TGM	42.920,32	0,21	98,70	C
81.71603-0011	SCHLUSSQUERTRAEGER	38.236,91	0,19	98,89	C
81.36501-3104	RADNABE ROHTEIL	27.402,20	0,14	99,03	C
81.35701-2043	HINTERRADNABE F RDRA	25.952,22	0,13	99,16	C
51.41501-0161	MOTORTRAEGER VORNE MITTIG	25.724,16	0,13	99,29	C
81.41650-0032	TRAGBOCK RE	20.428,80	0,10	99,39	C
81.41650-0031	TRAGBOCK LI	20.406,00	0,10	99,49	C
81.41501-0388	MOTORTRAEGER	18.444,16	0,09	99,59	C
81.41501-0389	MOTORTRAEGER	18.391,62	0,09	99,68	C
81.36501-2040	VORDERRADNABE F RDRA	15.474,24	0,08	99,76	C
81.36501-3105	VORDERRADNABE ROHTEIL	13.257,15	0,07	99,82	C
81.41650-0019	TRAGBOCK LI	9.915,30	0,05	99,87	C
81.41650-0020	TRAGBOCK RE	9.268,65	0,05	99,92	C
81.35114-0107	PLANETENTRAEGER IP=3,947	4.451,70	0,02	99,94	C
81.35105-3044	AUSGLEICHGEHAEUSE ROHT	3.396,96	0,02	99,96	C
81.50710-0140	HALTER F BREMSZYLINDER RE	3.082,56	0,02	99,97	C
82.43215-6003	ZSB LAENGSLENKERBOCK	2.307,96	0,01	99,98	C
81.35114-3152	GLOCKENNABE ROHTEIL	1.208,00	0,01	99,99	C
81.50710-0139	HALTER F BREMSZYLINDER LI	628,68	0,00	99,99	C
81.35114-3075	PLANETENTRAEGER ROHT	523,36	0,00	99,99	C
81.35105-3196	DIFFERENTIALGEHAEUSE ROHTEIL	356,40	0,00	99,99	C
81.41501-0414	MOTORTRAEGER RECHTS VORNE	26,43	0,00	99,99	C

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Logistik	Erfüllungsgrad Ranking	100 % A			
Kriterium			Vorj.	Ziel	Akt.
Scorecard Logistik			9,78	10,0	10,0
Versorgungsqualität			10,0	10,0	10,0
Fehlteile / Sequenzverletzungen			10,0	10,0	10,0
Fehlteil in der Produktion			10,0	10,0	10,0
Sequenzverletzung Modellmix			10,0	10,0	10,0
Erfüllungsgrad bei VMI-Teilen			n.b.	--	n.b.
Rückstand			10,0	10,0	10,0
Überlieferung			10,0	10,0	10,0
Logistische Anlieferqualität			10,0	10,0	10,0
Physische Anlieferqualität			10,0	10,0	10,0
Behälterfehler			10,0	10,0	10,0
Falsche Füllmengen			10,0	10,0	10,0
Informatorische Anlieferqualität			10,0	10,0	10,0
Anzahl unvollständiger / fehlerhafter DFÜ Avise			10,0	10,0	10,0
Anzahl Sendungen mit unvollständigen Papieren			10,0	10,0	10,0
EDI-Anbindung			10,0	10,0	10,0
Abruf DFÜ aktiv			10,0	10,0	10,0
Lieferschein DFÜ aktiv			10,0	10,0	10,0
Rechnungs DFÜ aktiv			10,0	10,0	10,0
Qualitatives Ranking			8,5	--	n.b.
Bewertung Materialmanagement			8,5	--	n.b.
Proaktives Verhalten bei Lieferproblemen			10,0	--	n.b.
Einhaltung von Absprachen / Maßnahmen			8,0	--	n.b.
Flexibilität bei kurzfristigen Bedarfen			8,0	--	n.b.
Erreichbarkeit			8,0	--	n.b.



Department Manager`s evaluation

MAN Nutzfahrzeuge Aktiengesellschaft



MAN Nutzfahrzeuge Aktiengesellschaft · Postfach 50 06 20 · 80976 München

Inna Fallhubert
Tarnowweg 9
23909 Ratzeburg

Kurzbrief
Information letter
Transmission
de documents

Ihre Zeichen / Nachricht vom
Your ref. / Your communication of
Votre ref. / Votre lettre du

Unsere Zeichen / Nachricht vom
Our ref. / Our communication of
Notre ref. / Notre lettre du

(0 89) 15 80 -01
bei Durchwahl

Unser Telefax
Our fax / Notre télex

Dachauer Straße 667
80995 München
Datum / Date

23.11.2010

1580 -

1580 -

24.11.10

Betrifft / Subject / Objet

Projekt-/Werk-Nr. / Proposal/Job No. /
No. De projet/d'affaire

Presentation of Ms. Fallhubert

Sehr geehrte Damen und Herren / Dear Ladies and Gentlemen / Mesdames et Messieurs
Als Anlage erhalten Sie / Enclosed please find / Veuillez trouver ci-joint

Dear Ladies and Gentlemen,

Ms. Fallhubert created a Presentation about the purchasing strategy of the cast iron commodity group. The reason for this task was the missing visualization of the main topics in this commodity group. The presentation helped us to get a better communication and many of the charts can be used as standard visualization tool also for the other commodity groups. Ms. Fallhubert shows in the presentation a model for strategy development. The model and the discussion about it helps us to optimise our processes. We were content with the work of Ms. Fallhubert.
If you have further questions do not hesitate to contact me: aiko.kleemann@man.eu

mit der Bitte um / for / pour

Kenntnisnahme
Information

Prüfung
Review
Examen

Stellungnahme
Comments
Prise de position

Rückgabe
Return requested
Retour

und / and / et

zum Verbleib
your records
Classement

Weiterleitung an
Transmission to
Transmission à

Mit freundlichen Grüßen / Yours faithfully / Salutations sincères

Form Z.0034.M-11.04 PC