

Capturing value in a commoditizing market



**How to approach the flexible packaging
market for food products?**

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“There is no market for drill bits. The market is for holes.”

-

General Manager of Black & Decker plant in Greenville, NC.

Understanding customer value. Moving from *asset based* to *market focused* value offerings

Preface

This thesis is written as a final requirement for my Master Business Administration at the University of Twente with the specialization Innovation and Entrepreneurship. I conducted this research for SABIC Europe in Sittard.

The main goal was to gain a better understanding for SABIC about the flexible packaging industry for food products. I used internal and external interviews for data collection. The internal interviews gave me, next to data for my research, a good picture of SABIC as an organization and its people. The informal and open culture made it a pleasant experience for me. The external interviews were equally pleasant and the helpful interviewees gave me the opportunity to explore this packaging market from raw material to final product.

I would like to use this opportunity to express my gratitude to those who contributed to the completion of this research. First of all, I would like to thank my parents for their unconditional support through my years of studying as well as for their hospitality during my internship at SABIC. Second, I would like to thank my girlfriend for her support and interest, and the relaxing moments we spent (which I certainly needed) during this final phase of my studies.

This research was mentored by Rolf Scherrenberg from SABIC who I would like to thank for his active involvement, guidance and good advice. I would also like to thank my supervisors from the University of Twente: Jeroen Kraaijenbrink and Roland ten Klooster. Jeroen provided me with constructive criticism throughout the entire research process which helped me to structure my thesis. And I would like to thank Roland for sharing his expertise and know-how of the packaging world with me. His experience contributed in connecting the theory to the everyday packaging practice.

Kind regards,

Bob Vincken

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1. Introduction and Research Design

This research explores how SABIC can capture more value out of the value chain for flexible packaging of food products in Europe. Chapter 1 will provide background information on SABIC and continues to relay the problem identification, the formulation of research questions and the structure of the thesis. In Chapter 2 the theoretical background needed for researching the problem will be provided. Chapter 3 will explain and justify the methods applied for collecting and processing the data. The results will be presented in Chapter 4 and in Chapter 5 the main research questions will be answered and recommendations will be given on how SABIC can capture maximum value out of the flexible packaging market for food products.

1.1 Background of the organization

The research is conducted for the SABIC Europe, a 100% subsidiary of SABIC (Saudi Basic Industries Corporation). SABIC Europe is responsible for all SABIC polyolefin activities in Europe. In 2007, SABIC Europe produced 8.7 million metric tons of petrochemicals and sold 10.9 million metric tons, mainly to the European market. The industries where the polymers of SABIC Europe (from now referred to as SABIC) are used are packaging, building & construction, automotive, electrical & electronic and several other applications. Their activities in the packaging industry represent the highest volumes and sales.

SABIC is active in four markets, being chemicals, fertilizers, plastics and metals, all of which are raw materials that are further processed by other companies before eventually sold to the end-consumer. Although SABIC's headquarter is in Riyadh, operations take place in the Middle East and Africa, Asia, America and Europe.

In 2002, SABIC acquired DSM Petrochemicals, thus gaining production plants in Geleen (the Netherlands) and Gelsenkirchen (Germany). This marked the first major acquisition of SABIC outside the Middle East. The head office of SABIC Europe was established in Sittard (the Netherlands). SABIC Europe's new head office building was officially opened in September 2006. Also in that year, SABIC acquired Huntsman's European Base Chemicals and Polymers business, with production facilities in North Tees and Wilton (United Kingdom). SABIC Europe produces and markets a wide range of polymers (mainly polyethylene (PE) and polypropylene (PP)), chemicals and intermediates. Part is own production and part is import material. SABIC Europe operates integrated sites in Europe which are complementary to SABIC's plants in Saudi Arabia. (SABIC corporate website, retrieved December 12th 2008).

1.2 Introduction to the problem

This research explores the question raised by SABIC of how they can capture more value out of the value chain for flexible packaging of food products in Europe. A value chain is considered as a long linked process where value is created by transforming inputs into products (Thompson, 1967). The product is considered as the medium for transferring value between a firm and its customers. Raw materials are converted into intermediate products which are finally sold to the end user; the consumer (Stabell and Fjeldstad, 1998). Flexible packaging is characterized by the fact that it does not retain its shape under influence of low forces. There is no well defined distinction between rigid, semi-rigid and flexible, there is some overlap. Rigid packaging retains its shape when a load is applied and semi-rigid fits between these two. With one kind of polymer one can make all three forms depending on the method of converting. Generally a thickness smaller than 150 μm is referred to as flexible (Zakboek Verpakkingen, 2008).

The main goal of this research is: ***Give recommendations on how to capture maximum value in the flexible packaging market for food products by means of a good understanding of the value chain of this market.***

The total plastics production in the world in 2007 was approximately 260 million metric tons. European production represents about 65 million metric tons (25%) of this global plastic production. About 18 million metric tons (37%) is used for packaging (PlasticEurope and AMI, 2008). Within this packaging market 70% is used for the food and drink industry, and the division of flexible and (semi-)rigid applications is respectively 42% - 58%. The distinction between primary- (holds the final product), secondary- (holds the primary packaging) and tertiary packaging (holds the secondary packaging) is respectively 75% - 7% - 18%.

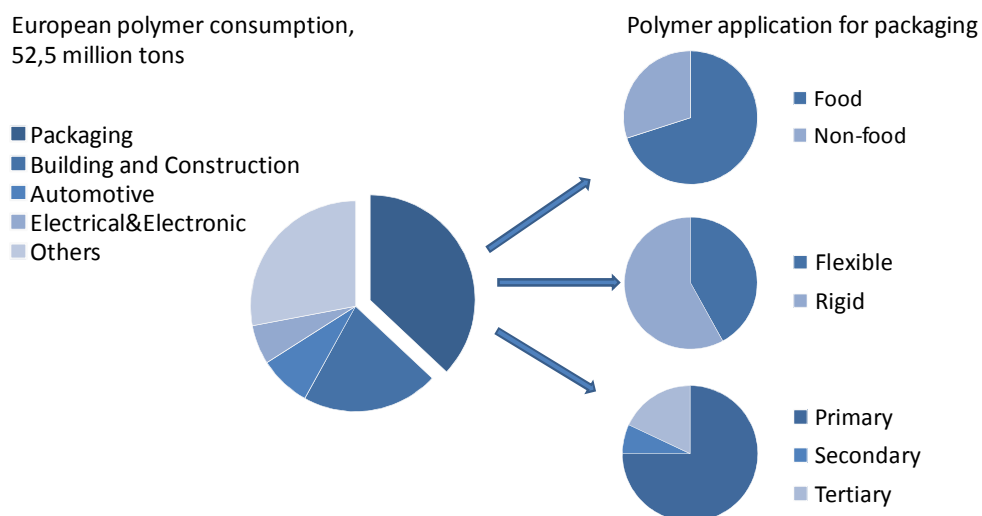


Figure 1: Overview of polymer application in Europe, AMI (2008)

The market, primary, secondary and tertiary packaging for food products in Europe, concerns about 13 million metric tons of polymers (AMI, *Plastics in packaging* (2008)). Reasons why SABIC wants a better understanding of this market mainly builds on five facts:

- The large size of the food packaging market.
- The food packaging market is less sensitive to the economic cycle.
- The majority of the products produced by SABIC-Europe end up in this market.
- The potential growth of this packaging market is considerable according to a SABIC market analysis (*Aggregate segment plan for PE film*, 2007).

Despite the considerable growth opportunities, the packaging market is under pressure. Especially SABIC as a raw material producer feels this pressure. The raw materials are in a mature phase of their product life cycle and have reached a commodity status. These kinds of products are characterized by a high degree of standardization, interchangeability and price driven markets. The commoditization of a market can be defined as “*a dynamic process that erodes the competitive differentiation potential and consequently deteriorates the financial position of any organization*” (Matthyssens and Vandenbempt, p. 317, 2008).

Matthyssens en Vandenbempt (2008) provide an easy to understand model to visualize the commoditization process (Figure 2).

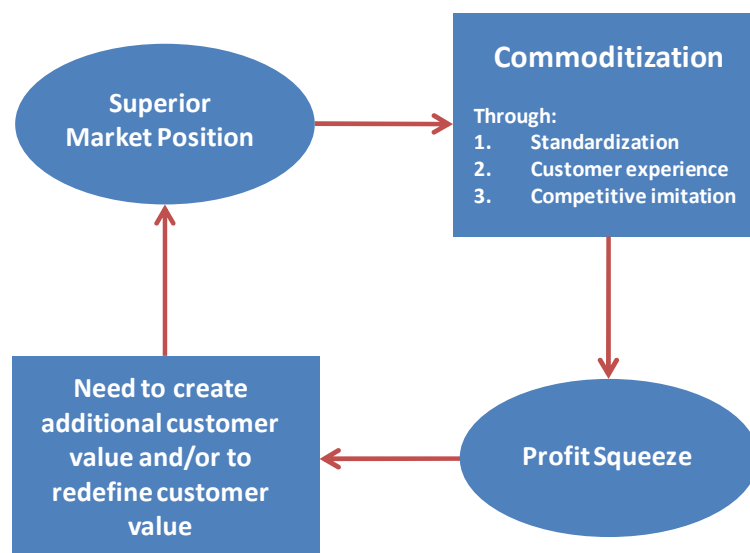


Figure 2: Commoditization: drivers and effects (Matthyssens and Vandenbempt, 2008)

Business organizations are faced with the phenomenon of commoditization in their mission to provide above normal value offerings. Sooner or later all products and services reach the commodity status. The product life cycle theory argues that product prices tend to drop as a market matures (Day, 1981). Two forces are the cause of this trend. The first one is the consequence of competitive

action. Equivalent products will be available in these mature markets at similar or lower prices. The second one is customer learning during the product life cycle. When a product matures, its customers have become familiar with the product's functions, characteristics, and features. They therefore don't need the same amount of product information that used to be provided by the supplier (Day, 1986).

The process starts with a firm being in a superior market position, market forces like standardization of products, the growing experience of customers with the existing market offerings and the imitation by competitors, will provoke commoditization. What follows is the that a firm is not able to differentiate in the market. Customers see the products and service as more or less the same as those from competitors which decreases a firms bargaining power. This will drive prices down which leads to a profit squeeze.

The plastics packaging market is sensitive to the commoditization process. The industry is price driven and soon products reach the mature phase of their product life cycle. The market has an average gross domestic growth and innovation is gradually shifting in the value chain from the polymer manufacturer to the plastic converters and processing machine manufacturers.

SABIC Europe is currently at a cross road concerning its strategy to realize its growth ambitions. The strategy chosen is to create additional value by being more market focused and have a better understanding of the value chain. SABIC wants to be more upfront with developments and establish closer contacts with influential parties further down the value chain. They want to have direct contacts with the customers customer to be able to provide better value offerings which have a positive effect on the total packaging chain. Only focusing on cost optimization of its European assets is a prerequisite/qualifier to stay in business although the products from European origin can never compete on price with overlapping products imported from the Middle East and Far East. So a service compression strategy will not be beneficial on the long term (Rangan and Bowman, 1992). The competition from the Middle- and Far Eastern resin producers will be too strong due to their favorable feedstock position. Focusing only on the high-end specialty products is not an option because these markets are too small. Consequently, SABIC Europe should constantly be at least one step ahead of the Middle- and Far East by providing additional value, complementary products, technologies and expertise and become a respected innovative partner. Alternatively, they will gradually evolve as a distributor of petrochemicals produced in the Middle and Far East.

1.3 Research goal

With this in mind, a clear mission, vision and strategy of SABIC on the realization of a sustainable growth in Europe are essential and should go much beyond *“Undisputed leader in the European petrochemical industry, based on cost leadership and uninterrupted processes”*. In an increasingly technical and environmental demanding region as Europe, it is obvious that its growth ambitions in cannot be realized by simply selling more of the same product or services at the lowest cost. SABIC needs to move away from its historically asset and technology driven approach towards a more value based marketing approach. In order to anticipate to the developments and trends in the market and increase its market effectiveness, SABIC needs to gain a better understanding of the value chain. By understanding the different parties and their needs, the trends in the market and the distribution of the power across the value chain, SABIC can more effectively and efficiently market its products across the value chain.

Now the main research question can be formulated: ***How to approach the flexible packaging market for food products in order to capture maximum value for SABIC out of the value chain?***

Anderson and Narus (1998) see value as the cornerstone in the process of business marketing. They describe value in business markets as the worth in monetary terms of the economic, technical, service and social benefits a customer firm receives in exchange for the price it pays for a market offering. Assessing value in the market place is critical to business market management. Anderson and Narus' definition of value can be captured in a fundamental value equation:

$$(Value_f - Price_f) > (Value_a - Price_a)$$

It is crucial that the offering of the firm (f) is better than the offering of the next best alternative (a). The value of an offering can only be estimated and changes over time (Anderson and Narus, 1998). There are two fundamental ways which can cause the value of an offering to change. The first one is that a market offering could provide the same functionality or performance while its cost to the customer changes. Note that cost is not only considered price, it involves the set of economic, technical, service, and social benefits a customer receives as described earlier. Consider for example the differences in conversion costs of material. The other change in value can occur when the functionality or performance provided changes, while cost remains the same. For example, a redesigned product packaging can have a lower failure rate for the customer's clients while the costs of production remain the same for the customer.

Bowman and Ambrosini (2000) describe the difference between creating new value and capturing existing value. First they distinct two kinds of value. The *perceived use value*, which is defined by customers, based on their perceptions of the usefulness of the product on offer. Total monetary value is the amount the customer is *prepared* to pay for the product. *Exchange value*, which is realized when the product is sold. It is the amount *paid* by the buyer to the producer for the perceived use value.

New use value is created by the actions of the organizational members who come together to transform the use value acquired earlier by the organization. This, however, does not mean that organizational members, when producing new use values, necessarily produce products that can realize added exchange value.

Capturing the exchange value is dependent on two things. First: the comparisons customers make between the firm's product, their needs, and feasible competing offerings from other firms. Second, the comparisons resource suppliers make between the deal they have struck with this firm and possible deals they could make with alternative buyers of their resource. This means that capturing value, the realization of exchange value, is determined by the bargaining relationships between buyers and sellers (Bowman and Ambrosini, 2000).

Now coming back to SABIC, in order to capture maximum value they need to identify these bargaining relations which determine the capturing of value by firms in the chain. So understanding the value chain is a necessity.

In the process of business-to-business marketing value was considered as the cornerstone. Anderson and Narus describe this as the process of understanding, creating and delivering value to the targeted business markets and customers (see Figure 3). At this point it is worth noting that there are definitional problems because of the term "create value". Anderson and Narus describe a process in which creating value is one out of three steps while Bowman and Ambrosini use the term to distinguish the different kinds of value a firm deals with.

Since the complexity of the complete business market process as described by Anderson and Narus and the limited time available for this research, the focus will be on the understanding phase of the business market process. This will identify the relationships in the value chain and provides the foundation for completing the second and third phase in the business market process as described by Anderson and Narus. So understanding value is the objective in this research and creates the foundation for future research on the following two phases that need to be studied.

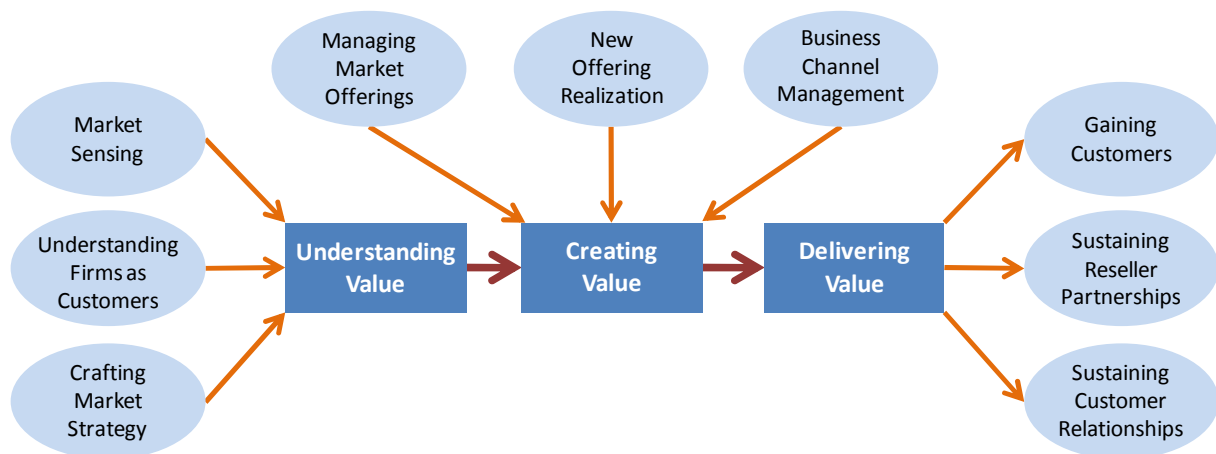


Figure 3: Business market process, Anderson and Narus (1998)

The understanding phase involves three steps: market sensing, understanding firms as customers and crafting market strategy. Market sensing concerns the generation of knowledge about the market place. This is considered a market driven process of learning about present and prospective customers and competitors, as well as about other actors that affect them and the firm, for example resellers and regulatory agencies. Understanding customers as firms is the process of learning how companies rely on a network of suppliers to add value to their offerings, integrate purchasing activities with those of other functional areas and outside firms and make purchase decisions. Crafting market strategy is the process of studying how to exploit a firm's resources to achieve short-term and long term marketplace success, deciding on a course of action to pursue and flexibly updating it as learning occurs during implementation (Anderson and Narus, 1998).

The business market processes of market sensing and understanding firms as customers provides an understanding of what particular markets and firms value. In the third step of understanding value (crafting market strategy), the market knowledge and the knowledge about the customers will be integrated with an understanding of the firms own resources. Decisions are made about how and where to create and capture value (Anderson and Narus, 1998). Researching market sensing and understanding firms as customers will be the empirical part of this study. For this research these topics are covered by researching the functional demands for a packaging product through the chain and the characteristics of the involved parties in the value chain. The focus is on the brand owner's position in the chain since SABIC has a good understanding of their direct customers (the converting industry) but wants to have a better understanding of the parties further along the chain.

In the last step, crafting market strategy, the information gathered is used for giving recommendations on how to approach the market in order to capture maximum value and how to proceed in the second and third phase of the business market process.

1.4 Research questions

As stated in paragraph 1.3 the main research question is:

How to approach the flexible packaging market for food products to capture maximum value for SABIC out of the value chain?

To answer this question several sub questions are defined. The method used to develop them is based on the business market process model of Anderson and Narus (1998). As explained in the previous paragraph, the aspects of market sensing and understanding firms as customers are used to study the involved parties in the value chain and the functional demands for food packaging products. The last step, crafting market strategy, uses the results to answer the main research question and gives recommendations for the best approach.

The value chain

1. Which link in this value chain is the most influential?
2. Which value attributes are responsible for creating value in the relationship with the brand owner?
3. How is the decision making process organized at the brand owner?

The packaging requirements

4. What are the functional needs for flexible packaging products in the food market?

Crafting market strategy

5. Considering the value chain and the market needs, which actions should SABIC take in order to capture maximum value in the market for the flexible packaging of food products?

1.5 Structure of the thesis

To find the answer to these questions both the value chain and the packaging supply chain were researched; the first for understanding the parties involved in the value creation process and the second for understanding the market needs for a packaging product. In total 25 semi-structured interviews were held with the involved parties along these chains (7 internal and 18 external interviews) and in addition a secondary literature research was used to generate input for aspects that could not be covered with the interviews.

The theoretical foundation for answering question 1 to 4 is explained in Chapter 2. The methods used for data collection and analysis can be found in Chapter 3. In Chapter 4 the results are presented and question 1 to 4 are answered. In Chapter 5 the last question is answered by drawing conclusions and giving recommendations on what actions SABIC should take in order to capture maximum value.

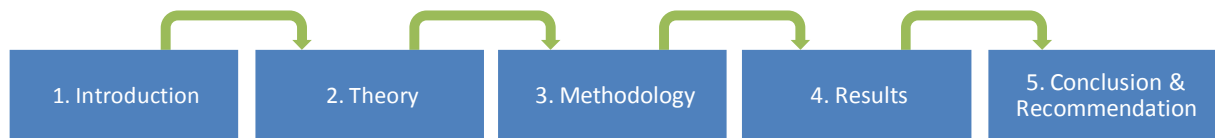


Figure 4: Thesis layout

2. Theoretical Framework

As mentioned in the previous chapter, this chapter introduces the theoretical framework for the rest of the report. Two main theories will be introduced which provide the basis to describe the market sensing and the understanding firms as customers aspects of the business market process as described by Anderson and Narus. The theories needed to describe the relationships in the packaging market will be explained (2.1) and the theories needed to describe the requirements of a packaging product will be clarified (2.2). Using these soft (relational) and hard (product) aspects to understand the needs in the market makes it possible to construct solid value propositions for the parties in the value chain.

2.1 The value chain

The first part of the business market process is understanding the firms in the value chain. Three aspects are important for creating a thorough understanding (Anderson and Narus, 1998):

- One needs to gain knowledge about the power distribution along the value chain (2.1.2)
- The value drivers a firm is looking for in a relation with its suppliers and customers when operating in a market segment (2.1.3)
- The customers purchase decision process (2.1.4)

The value chain consist in a simplified form of the following succeeding links: polymer feedstock, polymer suppliers, converting industry, brand owners, retailers and consumers (Figure 5).



Figure 5: Simplified value chain

It starts with the polymer feedstock, this link in the chain provides the raw material, the monomer, which the petrochemical industry processes into polymers. This petrochemical industry, referred to as polymer suppliers, produces resins which are used in all kind of applications ranging from garbage bags to automotive parts to artificial hips. Since this research focuses on the flexible food packaging market, the chain now continues with the converting industry. These turn the polymers (resin) into semi finished or finished packaging. But this industry is diverse. In some firms many processes are integrated while others focus only on one process. Because of this diversified character these firms are combined as one link in the chain for the ease of research and to keep an overview. The next link in the chain are the brand owners (e.g. Unilever, Sara Lee, Nestlé, Heinz), these can fill the packaging with a product but in some cases the filling is done by special filling companies. After the brand

owners there are the retailers (e.g. AHOLD, Walmart, Tesco, Carrefour, Metro group) which are responsible for selling the products. The influence of these companies is increasing lately. They are getting larger and are integrating backwards in the chain by selling products of their own brands, the private labels. With this development they acquired a stronger position in the market since the private labels are serious competition for the brand owners. The last party in the value chain is the consumer. Governmental influence will be present along the whole value chain and is also taken into account but this is not an focal point in the research.

2.1.1 Segmentation

In the process of business-to-business marketing, segmentation is seen as a critical marketing tools. Segmentation is the process of partitioning a market into groupings of firms that posses relatively similar requirements and preferences for market offerings (Anderson and Narus, 1998). It helps in understanding customers, allocating resources, adapting the product mix and developing and evaluating new approaches with respect to products and markets (Palmer and Millier, 2004). The literature offers a variety of ways in which markets can be segmented. For example using criteria such as market behavior (Dibb & Simkin, 1994), product usage (Nakip, 1999), understanding of customer needs (Albert, 2003) or segmenting by customers motivations, attitudes, and values (File & Prince, 1996).

In the industrial marketing literature, need-based segmentation has been suggested to increase marketing efficiency and effectiveness (Albert, 2003). For a complex commodity industry such as steel, chemicals, plastics and paper there can be even larger benefits. Because organizational buyers tend to categorize these products in a commoditization buying tactic and focus only on the price and not on long-term relationships or service support. With customized services packages, designed to address buyers' motives and their sought benefits, one can shift the buying tactic to the procurement orientation in which buyers seek quality improvements and overall cost reduction through collaborative relationships within the supply chain (Kotler, 2000). In the commodity type industry, like the plastics industry, a firm's competitive advantage can be increased if different segments could be identified based on customers buying motives. They can then offer the appropriate customized services packages valued for that market segment to the customers.

Using packaging for adding value to a product puts high demands on it functions. The food packaging business can be indicated as a fast moving business with short product lifecycles which are difficult to forecast (Adebanjo and Mann, 2000). Product innovations and packaging designs are introduced pretty often but are replaced within a short period of time. The BCG-matrix (see appendix A) explains

it as a process where a successful market introduction ,the rising star, with innovative and unique functionalities is being downgraded to a cash cow and finally a lazy dog, which means that the end of the product lifecycle is near.

Causes of this downgrading process are competitive imitation, customer experience and standardization (Matthyssens en Vandenbempt, 2008). For example the first brand owner that introduced the so called bottom-up bottle for ketchup. This packaging concept was a new introduction and offered unique functionality for the consumer since the ketchup is right next to the lid and no more fighting was required to get some on your plate. But this concept was copied by competitors which use it for other sauces and now the bottom-up bottle has reached a status where it is a standard and commonly used packaging. An other example is the introduction of the Senseo coffee, a new coffee packaging that when used in a special machine could make a fresh cup of coffee within seconds. At first this type of coffee packaging, called a cup, was unique but competition and customer experience with the system allowed imitation coffee cups to be successful as well.

The main driver for the downgrading process in the food packaging market is the focus on decreasing costs. In the fast moving consumer business for food products there is a high pressure on price. The consumer has become very rational and economy-minded (EHI, 2008) and is only willing to pay the appropriate price depending on the product and the brand's position.

In the packaging market the segmentation can be done in various ways, for example fresh or preserved packaging, vegetables, meat or dairy packaging etc. But related to the position of SABIC to serve the packaging market as a raw material producer the best applicable segmentation is the one based on the BCG matrix, segmentation of packaging as commodity packaging solutions or specialty packaging solutions. One can choose for a standard solution (commodity packaging) or upgrade a product to a premium product with use of a new unique packaging solution (specialty packaging).

This distinction between commodity and specialty packaging is the basis for the types of relations and collaborations between parties in the value chain and the value offerings a firm is interested in. To create a competitive advantage in this industry the characteristics of the two market segments need to be understood in order to offer the appropriate customized services packages which are valued by the customers in this market segment.

2.1.2 Power distribution

The ability of one firm (the source) to influence the intentions and actions of another firm (the target) can be defined as power (Emerson, 1962). For understanding how the value chain for flexible food packaging functions, the characteristics of the links in the chain need to be identified. So who has the influence to push through changes in the value chain and who specifies the packaging requirements.

Assessing these questions is different from the usually used definitions for power within a value chain. The focus is not on the buyer-seller relationship in terms of influence or dependency but on the power to influence the whole chain.

Stannack (1996) identified this as supply chain management power. This can be defined as the capacity to optimize the behavior of suppliers and subcontractors in accordance with desired performance objectives. For influencing the value chain a firm must have a wide spread influence throughout its network. To assess this influence Maloni and Benton (2000) examine the perceived reasons why one party may hold authority over another. They distinguish five bases of power:

- Reward (o)
- Coercive (-)
- Legitimate (-)
- Expert (+)
- Referent (+)

Reward and coercive remain the most obvious and widely recognized power bases, meaning the capability of the source to mediate dividends (i.e. as increased business or shared benefits from cost reductions) or punishment (for example as decreased business or dictated cost reductions) to the target. Another power base which has a major role is expert power, this refers to the perception that one firm holds information or expertise (such as product or process leadership) which can be valuable for another firm. Further referent power implies that one firm wishes identification with another firm for recognition by an association (such as being part of innovation programs of an influential firm). And finally, legitimate power, which infers that the target believes in the right of the source to have influence (this can be via a sales contract).

The results of Maloni's and Benton's study show that referent and expert power each have a beneficial effect on the position of a firm in the value chain. Coercive and legal power have harmful effects. This coercion will harm the relational orientation of the value chain. For legal power,

contracts are often unavoidable but using the contract as a strong-arm tactic is not in the best interest of the involved parties. The reward power has an inconclusive effect in the findings of their study. The close connection between rewards and coercion can easily be mistaken by a target.

Applying these five powers to the links of focus in the chain (the polymer supplier, the converting industry, the brand owners and the retailers) gives insights on their position in the chain. The influence of each link will be different depending the segment of the market they are operating in.

2.1.3 Value drivers

The second step in understanding the value chain (Anderson and Narus, 1998) is knowing which so called value drivers a firm is looking for in a relationship with its suppliers and customers. These drivers will differ per market segment and a good understanding assists in providing the correct market offering to a party in the chain.

In the marketing literature, exchange is accepted as a core concept (Hunt, 1991). Market exchanges occur because every party involved expects to gain value in the exchange. As a result, value has always been “the fundamental basis for all marketing activity” (Holbrook, 1994). A transactional approach (focusing on product-related issues) towards customer value is mostly described in research. This neglects the relational dimensions of customer-perceived value (Ulaga, 2003). Anderson et al. (1998) give a broader definition of value in business markets: “the perceived worth in monetary units of the set of economic, technical, service, and social benefits received by a customer firm in exchange for the price paid for a product offering, taking into consideration the available alternative suppliers’ offerings and prices.” This definition identifies and categorizes the relational aspects of value as well, namely, social and service benefits.

Research question 2 concerns the identification of these economic, technical, service, and social benefits sought by the different links along the value chain. These links will all have their own characteristics depending on the market segment they are operating in. For understanding the benefits sought by the different links one needs to gain more knowledge about requirements that need to be met before a firm decides to cooperate with another firm. Ulaga (2003) identified these requirements with the following eight value drivers with their features covering the four aspect of value described by Anderson et al:

Table 1: Value drivers (Ulaga, 2003)

Product quality <ul style="list-style-type: none"> • Product performance • Product reliability • Product consistency 	Service support <ul style="list-style-type: none"> • Product-related services • Customer information • Outsourcing of activities
Delivery <ul style="list-style-type: none"> • On-time delivery • Delivery flexibility • Accuracy of delivery 	Supplier know-how <ul style="list-style-type: none"> • Knowledge of supply market • Improvement of existing products • Development of new products
Time-to-market <ul style="list-style-type: none"> • Design tasks • Prototype development • Product testing and validation 	Personal interaction <ul style="list-style-type: none"> • Communication • Problem solving • Mutual goals
Direct product costs <ul style="list-style-type: none"> • Priced below, above, or at competition • Annual price decreases • Cost reduction programs 	Process costs <ul style="list-style-type: none"> • Inventory management • Order-handling • Incoming inspections • Manufacturing

The firms in each link of the chain will have suppliers as well as customers. So that means for this research that the brand owner is looking for certain value drivers on the supplier side from the converting industry and the polymer suppliers and also has to fulfill drivers on the other side to his customers, the retailers. Since the value chain is never perfect some of the requirements asked for by the parties in the chain can not be fully met. This gap in value between the value delivered by a supplier and the value required by a customer offers opportunities for value creation by other parties in the value chain.

In Figure 6 the links of focus are displayed. The value needs of one link in the chain to collaborate with their first-tier, second-tier and third-tier supplier in the chain, is represented by an orange arrow in this figure. A green arrow represents the value offerings a supplier can provide to its first-tier, second-tier and third-tier customer.

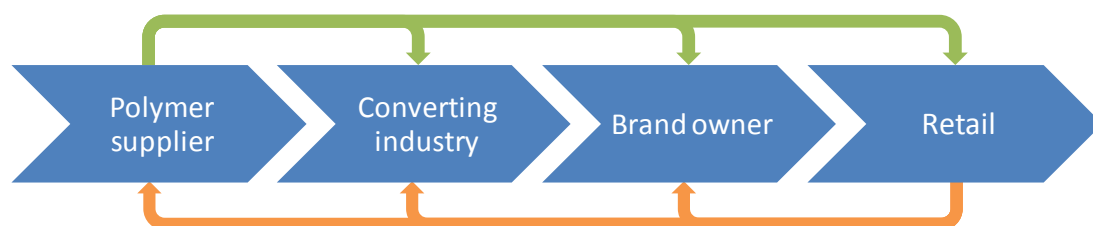


Figure 6: Path of value drivers in the packaging value chain

2.1.4 Decision making process

The third aspect for understanding the value chain is learning how companies integrate purchasing activities with those of other functional areas and outside firms, and how they make purchasing decisions. As described in the paragraph about segmentation, the purchasing orientation of a firm holds a crucial role in the way they make purchasing decisions.

First the characteristics of the two purchasing orientations commonly used in a commodity type industry as the plastics industry will be explained. Second, the disciplines involved in the purchasing process and the criteria that must be met before a purchase will be discussed.

Different purchasing orientations

The two purchasing orientations used in a commodity industry are the buying orientation and the procurement orientation (Albert, 2003).

Table 2: Procurement orientations in a commodity market (Kotler, 2000; Anderson and Narus, 1998)

Buying orientation	Procurement orientation
<ul style="list-style-type: none"> • Obtain the best deal in terms of price, quality, availability • Maximize power over suppliers • Avoid risk wherever possible 	<ul style="list-style-type: none"> • Focus on delivering value to end user • Reduce total costs • Improve quality • Sustain collaborative relationships with selected suppliers

First the buying orientation, which is the most common, is a narrow focused purchasing orientation. The buying concerns executing discrete transactions and focuses on minimizing the price paid in that transaction. The buying practices are tactical and short-term in nature. Buyers want to eliminate the point of difference between competing firms in order to force the weaker firm to make price concessions. Also avoiding risk is one of the buying orientation characteristics. Buyers make use of at least 3 suppliers and divide orders among them with the lowest bidder gaining the greatest share. Second, if a customer has changed to the procurement orientation with a certain supplier, this increases the competitive advantage of this supplier. The focus in the purchasing process now shifts from a price focus to improving quality and total cost reduction by integrating activities. The cooperation with suppliers entails a broadening of the domain and span of influence in the purchasing process. The focus is on bringing value to the end user and building a network with collaborative relationships with a few selected suppliers (Kotler, 2000; Anderson and Narus, 1998).

If a firm is able to shift the purchasing orientation of its customers from the buying to the procurement orientation it will result in an increased competitive advantage and stronger relationships. The integration of complementary resources, activities like collective R&D or just-in-

time delivery and social exchange like mutual learning and joint problem solving, create strong and long term relationships. But for making this change an understanding of the customers firm decision making process and purchasing criteria is necessary.

Buying teams

This decision making process in an industrial setting consists in its most simplified form of three disciplines (see figure 7).



Figure 7: Basic decision making process in an industrial setting (ten Klooster,2007)

It starts with marketing that collects and translates customers wishes. Then R&D designs the product and process and finally production makes the product and continuously improves it (ten Klooster, 2007). A more detailed scheme of this process can be found in appendix B.

When making purchasing decision for products and services firms make use of so called buying teams. In these buying teams members are involved of each area of the decision making process. A team can be referred to as all the members of an organization who become involved in the buying process for a particular product or service. The incorporation of multiple disciplines makes it a valuable tool for cross-functional coordination to prevent miscommunications and problems in the process from idea to product (Anderson and Narus, 1998).

In a buying team there are different responsibilities, roles, to fulfill (Anderson and Narus, 1998):

- The initiator
 - The person within a firm who recognizes that the purchase of a product or service can solve or avoid a problem.
- The gatekeeper
 - The one who controls the flow of information in and out of the firm and offers vendors access to key personnel.
- The influencer
 - The person who guides the selection process by expressing preferences or recommending vendors or offerings.
- The decider
 - The one who has the ultimate responsibility for determining which product or service will be purchased and for choosing the supplier.

- The buyer
 - The individual who negotiates with the vendor and formally executes the purchase or acquisition.
- The user
 - This is the individual who employs the acquired product or service.

The job title of the persons who perform these roles differ from one organization to another. But important is to gain an understanding of the distribution and performance of the different roles. This can be used to craft and disseminate customized communication to the members of the buying teams and to identify the key players at the customer's firm who perform these roles.

Purchasing criteria

The requirements and preferences of the decision maker in a buying team need to be understood before any purchasing will happen. Hakansson, Johanson and Wootz (1976) remark that three sources of uncertainties make it difficult for a customer to understand his own requirements and preferences. These uncertainties are the barrier for coming to a purchase (Anderson and Narus, 1998). Understanding the decision maker's uncertainties helps in understanding its requirements and preferences. Ford (2006) suggests there are three kinds of uncertainties.

- Need uncertainty
 - Difficulties customers have in interpreting the exact nature and importance of goods and services that their firm requires.
- Market uncertainty
 - The buyer's lack of ability to predict how many alternate suppliers will be available and what quality of goods and services will be available when the need comes up.
- Transaction uncertainty
 - Relates to the lack of customer confidence that suppliers have easy to use procedures of doing business.

Being able to present the right customized package of products and services which answers the uncertainties of the decision maker is necessary before a purchase will take place.

The power distribution, the value drivers and the decision making process form the theoretical background for researching the *value chain*. This is the first part of the understanding value process as described in paragraph 1.3. The other half is understanding the *packaging requirements*. The theory for this understanding is described in the next paragraph.

2.2 Packaging characteristics

Before explaining the packaging characteristics a solid definition of the term packaging needs to be given. The formal definition used by the European Commission is also used in this report. *“Packaging shall mean all products made of any materials of any nature to be used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer, ‘non-returnable’ items used for the same purpose shall also be considered to constitute packaging.”* (EC Packaging Waste Directive, 1994).

This definition covers three main aspects related to temporary relation the packed product and the packaging have (Zakboek Verpakkingen, 2008). The first aspect is that the packaging has to protect and preserve the packed product. The second refers to the goods that need to be transferred from producer to the consumer. And the third aspect is that the packaging has a presentation function and needs to inform about the packed product.

The term packaging if can only be applied when something is added to the product. The packaging should bundle the product, envelope it, give it shape and keep out external influences that would be detrimental to the product or visa versa (Ten Klooster, 2002).

These aspects refer to the functions a packaging has during its lifecycle (Zakboek Verpakkingen, 2008). There are two different kinds of functions, use functions and the product functions. Use functions (preserve/protect, distribute and inform) address the various main aspects the packaging must fulfill during its life. The product functions (design, business economics, functioning, psychology, politics, regional/global) set the boundaries in which the packaging needs to be designed. Table 3 gives an overview of these functions.

Table 3: Packaging functions (Lutters and ten Klooster, 2008)

Packaging functions	
<p><u>Use Functions</u></p> <ul style="list-style-type: none"> • Preserve/protect • Distribute • Inform 	<p><u>Product Functions</u></p> <ul style="list-style-type: none"> • Design • Business economics • (Technical) functioning • Psychology • Politics • Regional/Global

The use function refers to a certain goal the packaging has to establish (Zakboek Verpakkingen, 2008). Related to the different phases during its lifecycle, the packaging has to fulfill one or several of these functions. In hierarchical order with the most important first, these functions encompass:

- Preserve/protect
 - Ensuring that the product has the specified quality at the assumed time and place where it will be used.
- Distribute
 - Ensuring that the product will reach a specified destination at a pre-determined time.
- Inform
 - Furnishing information in the widest sense in order to make it possible to use the product.

These functions form the foundation for the requirements the packaging must meet. In appendix C more detailed information about these main functions can be found. The hierarchy influences the decision making in the design process. The packaging should be designed in such a way that it matches the requirements during the different phases of its lifecycle.

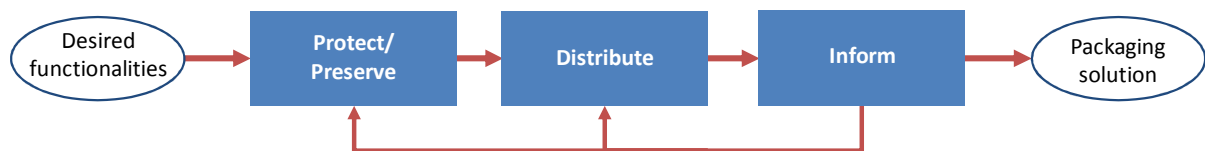


Figure 8: Packaging design process (Zakboek Verpakkingen, 2008).

For the packaging of food the function of preserving/protecting is the most important since the goods are perishable. Also the functionality of distribution is of high importance because it has a direct effect on costs. And finally the functionality informing deserves the label important as well because of legislation and sales promotion that can have a great influence on the product and the packaging (Ten Klooster, 2002).

2.2.1 Protect/preserve

This functionality can be described as a triangle (Figure 9). In a well designed packaging these aspects form a statically determined triangle. This means if one of the three aspects changes, another one also needs to change to balance the difference, otherwise the packaging will be over specified which results in unnecessary costs.

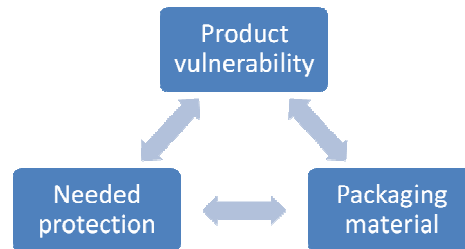


Figure 9: The protect/preserve functionality (ten Klooster, 2007)

For designing a packaging that is able to fulfill this functionality a good understanding of the product is necessary. The fitness for use is usually perfectly understood by both users and developers. Nevertheless it is extremely difficult to formulate and formalize specifications in such a way that they can play a clear role in the overall distribution chain. Product designers are more often focused on cost and environmental impact than on the vulnerability of the product they are working with (Lutter and ten Klooster, 2008). The focus on cost and environmental load are part of the parameters to judge ideas, but the level of vulnerability of the packed product which is closely related to the complexity of the packaging is not.

Focusing on vulnerabilities of the packed product in combination with the functions the packaging has to fulfill during its lifecycle is essential to designing a better packaging. The different kinds of vulnerabilities that can be distinguished in hierarchical order from easiest to fulfill to most complex and delicate are (Zakboek Verpakkingen, 2008; Ten Klooster, 2002):

- Mechanical influences
 - Breakage or damage caused by acceleration or by contact with other (sharp) objects
- Physical influences
 - Decomposition under influence of UV-light, absorption or emission of moisture or odor, losses of components (e.g. CO₂), etc
- Biological influences
 - Micro-organism like bacteria, fungi, ferment
- Chemical influences
 - Reactions with oxygen or other unwelcome chemical reactions
- Biochemical influence
 - Enzymes

To determine to what degree the packaging should protect the product against its environment, it is important to understand the vulnerabilities affecting the product during the packaging lifecycle. As a result, the requirements of the packaging material are also influenced. The material must be chosen in accordance with the vulnerability effecting the packed product.

The underestimated complexity of packaging, the short time-to-market, the limited tests to evaluate a packaging concept and the price pressure on packaging materials are all reasons to put more effort in this design step (Lutter and ten Klooster, 2008).

2.2.2 Distribute

The protect/preserve functionality is the foundation of the packaging requirements. But this functionality is directly influenced by the distribution functionality. This functionality can be described when understanding the demands during the different phases of the packaging lifecycle. This lifecycle is characterized by different succeeding phases in which the packaging and the product fulfill several functions (Zakboek Verpakkingen, 2008). By dividing this chain into phases it is possible to evaluate the functions a packaging fulfills during its life. Figure 10 shows this chain with the different phases.

In essence, the chain is still easy to explain, yet because of all the options within each individual step and because of potential loops involved in connection with reuse, it becomes more complex (Lutters and ten Klooster, 2008).

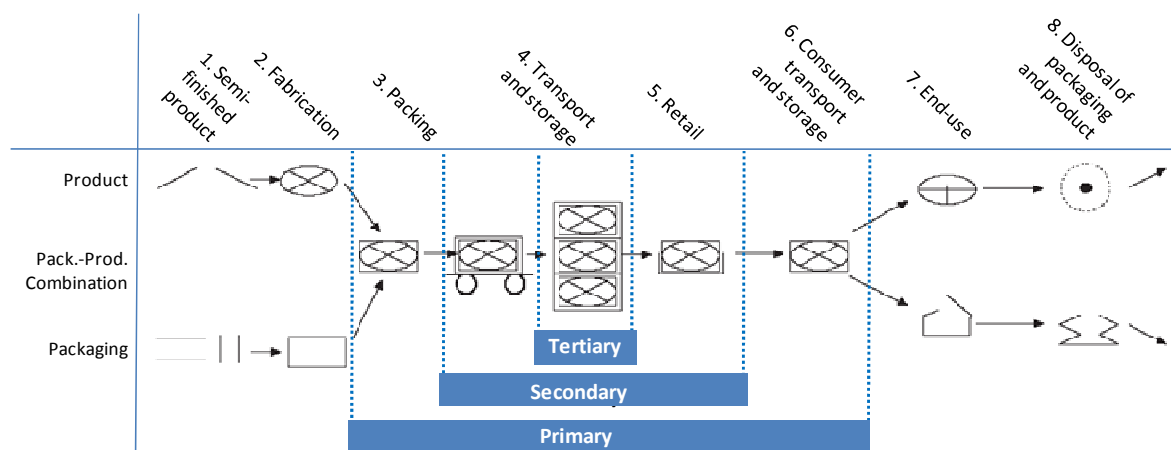


Figure 10: Simplified indication of the packaging lifecycle (Zakboek verpakkingen, 2008).

Eight different phases can be distinguished in the lifecycle of the packaging, the product and the combination of the two. By using this model an overview can be created of the functionalities of the packaging. This provides a basis for tuning the packaging to the needs of the different phases of its lifecycle. Optimizing the requirements for one phase can cause problems in other phases of the chain. For example weight reduction can reduce transportation costs but may cause the product to

decay quicker. Understanding the requirements of packaging throughout the chain will result in developing an optimal solution for the chain (Dirken, 2008). As can be seen, the five product vulnerabilities are applicable in phases 3 till 7. During these phases the packaging has to prevent that the product quality decreases under influence of the vulnerabilities.

It is important to make the distinction between the separate packaging and the product that has to be packed. The differentiation between primary, secondary and tertiary packaging can be seen and is also present in their definition.

- Primary packaging
 - This is the sales packaging which is designed to be a unity for the end-user of for the consumer at the point of sale.
- Secondary packaging
 - This is a packaging designed for collecting primary packaging. It should hold these together until the place of sale, regardless if this packaging is sold to the end user or the consumers or if it is being used to fill the shelves in the store. This packaging can be removed without influencing the quality of the packed product.
- Tertiary packaging
 - This is the distribution packaging. It is designed facilitating the handling and transport of secondary and primary packages.

The functions for these packages differ but also have overlap. The definition of a primary packaging states that it is the packaging at point of sale and the definition of a secondary packaging states that it is for clustering the primary packaging and the tertiary packaging is for clustering the secondary packaging. But these functions can overlap, for example with a six pack of beer; the individual cans can be sold as primary packaging but the six pack, which is used for clustering these cans can also be sold.

The primary packaging is combined with the product from phases three till seven. The secondary package is applied in phases four and five. The tertiary packaging is applied in phase number 4 (see figure 10). During the phases 1 and 2 and in phases 7 and 8, product and packaging are separated, this applies for all three packaging shells. The merging and separating in the chain can be referred to as converging and diverging flows (Zakboek Verpakkingen, 2008). Important to note is that the primary, secondary and tertiary packaging shell form a combination which has the function to get the product at the consumer with the required quality. Since these three shells form a combination, they should also be designed in this way. Only focusing on one will not result in the most efficient solution for the whole chain.

The phases in the chain are connected to a time axes but due to the abstract character of the model it is not possible to determine how much time a phase takes. Phases 1 and 2 can vary from seconds to months due to integrated production sites or long transportation times. Phase 3 is usually short due to high speed packaging lines. The transport and storage phase, number 4, can also vary a lot in duration. Fresh products need to be transported fast and cannot be stored for more than a week while products like chips or soda's can be stored for more than a year. The fifth phase, the storage and handling in the store can also differ from hours to months and sets different demands compared to the previous phase. In phase 6 the consumer transporting the packaging which usually takes a few hours maximum. The next phase, 7, can take seconds or years. Demands can differ a lot in this phase. The duration of the last phase can also differ a lot. The nature of this phase is much different than the previous phases. It can take weeks or even years depending on the method chosen, for example recycling or energy recovery which are much faster compared to landfill.

2.2.3 Inform

The information function is the third aspect in the packaging design process and includes furnishing information in the widest sense in order to make it possible to use the product. The demands for this functionality differ for each of the three packaging shells. The primary packaging mainly has a marketing function to the consumer, while the secondary and tertiary packaging information function is mainly focused on improving the distribution efficiency.

Informing with the packaging is possible with making use of different shapes, colors, icons, pictures, text, etc. This encompasses the graphical design of the packaging, which is difficult to master (Zakboek Verpakkingen, 2007). Several variables influence the requirements of the design; the used material, the printing technique and the mandatory information the packaging needs provide to the stakeholders (weight, quality, dimensions, brand name etc).

A good understanding of the three main functions (protect/preserve, distribute, inform) is needed to design an optimal packaging for a specific market. In order to understand the requirements for the food packaging market, the next paragraph explains a table that gives an overview of the vulnerabilities for food products which need to be packed and the functions the packaging has to fulfill to get the food product from phase 2 (fabrication) to phase 7 (end-use) in the lifecycle (Figure 10).

2.2.4 Food packaging

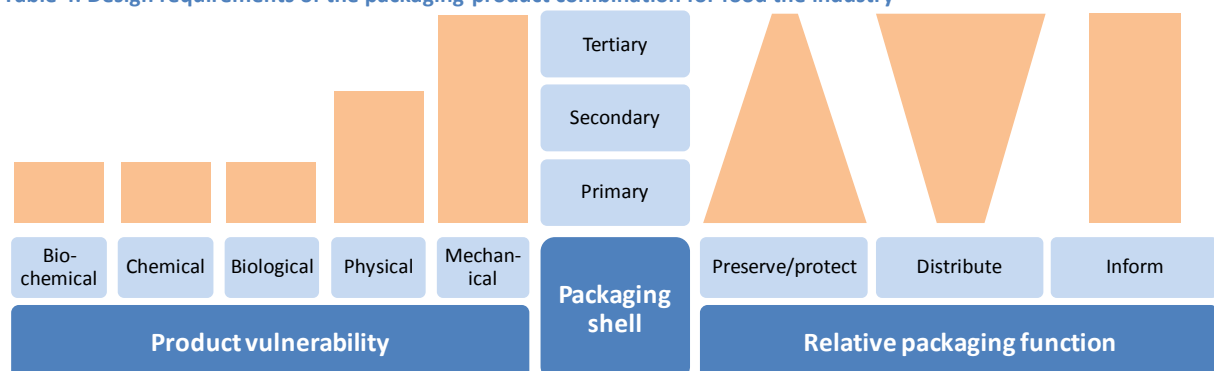
The kinds of packaging being used in the food industry are primary (bottles, boxes, flexible plastics, semi and rigid plastics, wraps, etc), secondary (boxes, trays, barrels, crates, wraps, etc.) and tertiary (pallets, wraps, etc.).

The three functionalities of these packaging shells, as was explained in previous paragraphs, are all important in the food industry. The ability of a packaging shell to protect/preserve its contents against the different vulnerabilities decreases if the shell is secondary or tertiary packaging because the emphasis then changes from the protecting/preserving functionality to improving distribution. Informing is a functionality which is equally important for all the three shells. It communicates how the product should be handled and stored, provides information about safety issues or fulfills a marketing function.

According to the standard division for businesses (Standaard bedrijfsindeling) by the Central Bureau for Statistics in the Netherlands, the food business which is the focus of this research, belongs to the category of industries. Foods, as well as drinks, are of biological nature. This means all kinds of decreases of quality are possible. The characteristics which have most influence on the quality of the packed product are: dehydration, hydration, active processes in the product, oxidation, UV-sensitiveness, acid, pressurized and micro organisms (Zakboek Verpakkingen, 2008). The vulnerabilities applicable in the food industry are the most demanding of all industries so all vulnerabilities are of influence. The most vulnerable products are mayonnaise, ketchup, beer, wine, dairy, meat, coffee and nuts. Packing these products needs extra attention (ten Klooster, 2002). For secondary and tertiary packaging other vulnerabilities are applicable. Their main functions is the distribution functionality. This demands mainly mechanical properties from the packaging and in some cases also physical properties from the secondary packaging since in some cases the bulk industry demands more functionality of the packaging.

When combining the three main functionalities of the packaging and the vulnerabilities of the food product an overview is created which provides insights in the design requirements the packaging shells when applied in the food industry (Table 4). Understanding where the emphasis on these facets is for flexible food packing is one of the results of the empirical research and will be presented in chapter 5. This will shows what the market needs are for the packaging; so where opportunities are for SABIC to create solutions for these needs and capture value in the market.

Table 4: Design requirements of the packaging-product combination for food the industry



2.3 Integrating the value chain with the packaging requirements

The theories for understanding the firms in the value chain and the packaging requirements laid the theoretical basis which is necessary to understand how value can be captured in the flexible packaging market for food products. The input of this understanding is drawn in figure 11 to give a visual overview of how the theoretical tools used in this research to generate value offerings.

The six aspects of the two theories (value chain and packaging requirements) are empirically researched. The relational aspects between the firms (who has the most influence, what drivers are valued and how are decisions being made) will provide a picture of the value chain. An understanding of the packaging requirements will be used to generate an overview of the market needs for a packaging product. These results will be presented in Chapter 4. The methods used to research the market and drawing conclusions is explained in detail in Chapter 3. In Chapter 5 conclusions will be presented and recommendations will be given on how to create the value offerings.

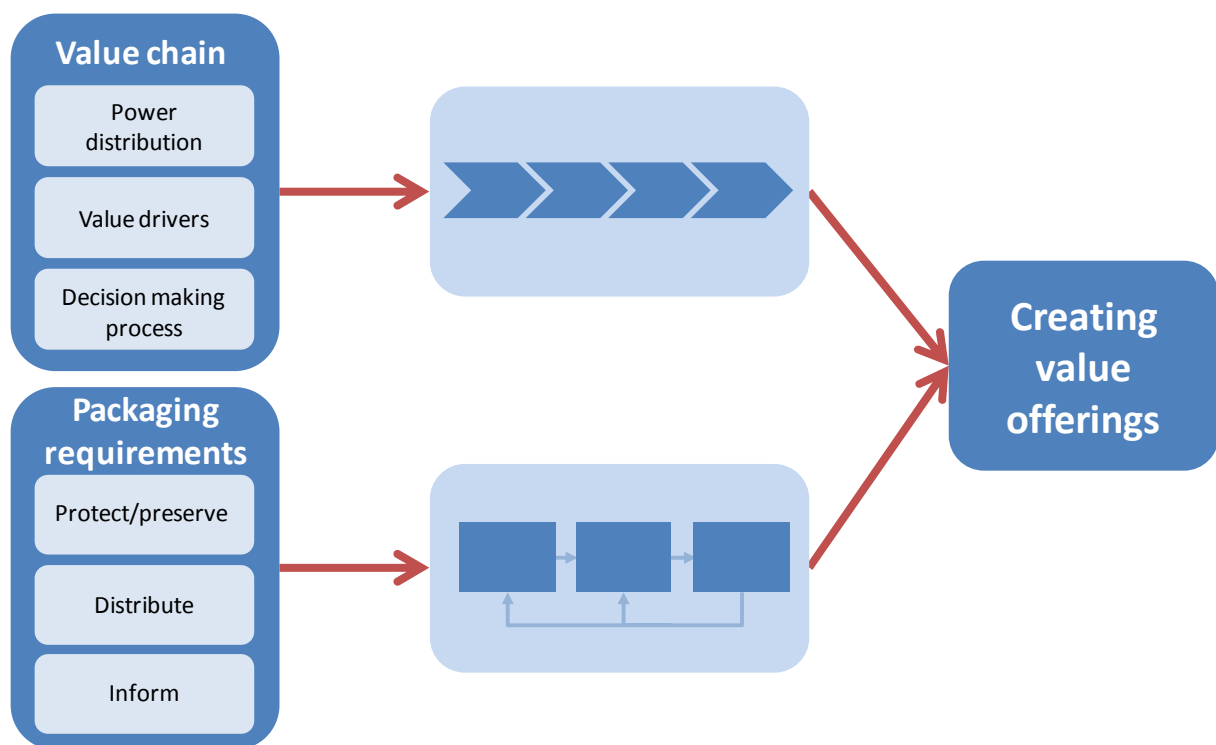


Figure 11: the process of value creation in the packaging business

3. Methodology

The methodology used for researching the packaging value chain and market need for packaging products will be explained in this chapter. The data collection method is elaborated as well as the methods for processing data and conclusion drawing.

3.1 General methods

This research can be defined as a case study. The unit of analysis, that is the major entity that is being analyzed in the study, is the value creation process in the flexible packaging market for food products (Yin, 2003). The units of observation, which are the units on one collects data from, are the firms in the value chain of this flexible packaging market (Yin, 2003). An inductive approach towards the research process was used which means moving from a set of specific facts to a general conclusion. This research can be characterized as a multi-method qualitative study because various techniques (semi-structured interviews and secondary literature review) were used for collecting qualitative data (Saunders et al, 2007).

3.1.1 Research framework

In the consumer literature, Peltier and Schribrowsky (1997) presented a framework for micro-segmentation to identify customers needs. Albert (2003) used this framework in an adapted version (see figure 12) to study the need-based segmentation in an industrial commodity market, in his case the steel industry. For answering the research questions for the plastics market, which also concerns a industrial commodity market, the framework of Albert was used because it has proved to be a structural approach which generates valid results.

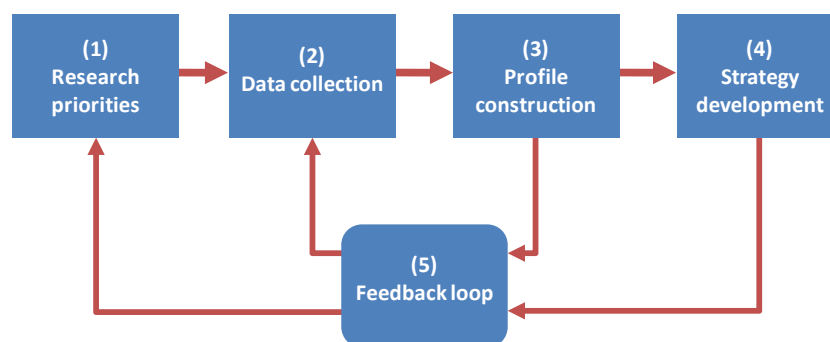


Figure 12: Research framework, adapted from Albert (2003)

This framework consist out of 5 steps. The first step is establishing the research priorities and characteristics that need to be researched. This meant building the a theoretical framework to describe a value chain and packaging requirements. The second step entails the data collection which was done by conducting semi-structured interviews with involved parties in the chain and a

secondary literature analysis. In the third step the categorization and processing of the data takes place and the characteristics of the value chain and the packaging requirements were constructed. The outcome of this step is presented in chapter 4. In the step 4, strategy development, the actions SABIC should take to capture value are developed. These actions form the answer to the main research question which will be answered in chapter 5. The feed back loop, step five, is consulted during all the previous steps to validate the results to use as input for the following steps.

3.2 Research activities

The data collection in this research consisted of various techniques. The theoretical questions were answered in chapter two through the desk research. The methods for answering the remaining empirical questions will be explained in the following section.

Two methods were used, semi-structured interviews and secondary literature reviews. The semi-structured interviews provided input for gathering data about the three aspects for describing the value chain and the three aspects for describing the packaging requirements. Secondary literature research was used to get familiar with the unit of observation in order to retrieve more in-depth information during the interviews. These interviews were open-ended, in-depth semi-structured of nature. In this way the collecting of valuable information that could not be foreseen can also be collected and makes it possible to fulfill the data triangulation requirements in qualitative research (Yin, 1994; Saunders et al, 2007). Further, the personal contact makes it possible to judge the quality of the response and create additional commitment of the interviewee to cooperate with the research. These factors are more difficult when making use of questionnaires.

During the pre-tests of the semi-structured interviews it turned out these could not provide sufficient reliable data concerning the power distribution along the value chain. The necessary objective helicopter view which is needed to judge such a complex aspect of the value chain was not present at the interviewees from the practitioners group. The interviewees from academic and non governmental organizations did provide data that was unbiased and they recommended secondary literature which give more insights as well. The use of secondary literature was essential. It provided the objective helicopter view and the input from the interviews with the practitioners was used to support and verify the secondary literature findings for this part of the research on the value chain.

The method used for data collection for the semi-structured interviews as well as the secondary literature review will now be explained.

3.3 Data collection methods

3.3.1 The interview

The content of the interviews was based on the findings in the literature study. The interview questions can be found in appendix D. The topics handled during the interviews were the characteristics of the value chain and the packaging products. The participants were asked about their position in the value chain, their customers, their suppliers and the packaging requirements they and their customers valued. All six aspects of the theoretical framework were covered in these interviews. Pre-tests of the interviews were held to verify the clarity and structure of the questions. After these pre-test the questions and topics to be covered were modified to find more significant data for answering the research questions.

In all cases, the researcher visited the participants at their own office and the interview was conducted in a quiet and calm environment, this to make the respondent less preserved from sharing sensitive information. All interviews were recorded after consultation and relevant factors were written down. The recording could have hold back the respondent to share sensitive information, but after explaining the recording was purely for data processing this risk was expectable. To prevent bias during the interviews the researcher made sure he was well prepared and remained neutral during the interview.

Sampling method

The sampling method used for this research is the Delphi sampling method. The reason to choose this method is that it is cited as *“the best method for supply chain research in industrial marketing”* (Cook and Frigstad, 1997, p.23) and since this research concerns supply chain research in an industrial setting the reason is clear. Also the questions which need to be answered by the sample are uncertain and speculative. So the use of a general population, or even a narrow subset of a general population found with other sampling methods, might not be knowledgeable enough to answer these questions accurately. By using a Delphi sample for data collection, the data collected will be more valid. This method makes use of a panel of specialists drawn from the industrial setting being studied. The specialists come from fields of academics, practitioners and non government organizations. Some are involved in multiple fields.

The recommended sample size is 15-25 persons. Experiences of other researchers is that larger groups create few extra ideas and limit the in-depth examination of the findings (Delbeq, Van De Ven, & Gustafson, 1975). The external validity is guaranteed by this sample since the specialist of the areas are representative for their discipline and results can be generalized.

A threat to external validity is that the participants from the brand owners are all from R&D departments. This can cause a bias in the data since they all have similar position in the decision making process as described in chapter two and can not provide objective data for the other areas. Also the input from the convertors and polymer suppliers is mostly from marketing but the position of the specific participants is broader. They are in management positions and have strong decision making power in their firms. But taken this into account, these R&D packaging participants and the managers in converting and polymer industry will provide the most useable and rich data considering the time constrain and the difficulties for finding participants which are knowledgeable enough for this research.

Sample characteristics

The final sample of consisted of 25 participants from all links in the value chain as well participants with a helicopter view. Table 5 displays these participants with their characteristics. They are categorized by their position in the value chain or as an overall specialist. Also the position of the practitioners in their company's decision making process is indicated since this can have an influence on its view on the packaging market and can cause a bias in response. This bias was taken into account when the data was processed to guarantee for external validity so that the effects and conclusions found in this study will also hold when other units are studied.

Table 5: Interview participants

Participant number	Value chain position	Job title	Position in DMP	Discipline
1	Polymer supplier	Business intelligence manager	Marketing/R&D	Practitioner
2	Polymer supplier	Business manager LDPE tubular	Marketing	Practitioner
3	Polymer supplier	International account manager	Marketing	Practitioner
4	Polymer supplier	Business manager LLDPE	Marketing	Practitioner
5	Polymer supplier	Technical marketing manager	Marketing/R&D	Practitioner
6	Polymer supplier	Program Manager REACH	Marketing	Practitioner
7	Polymer supplier	Business manager automotive	Marketing	Practitioner
8	Converting	Managing director	Marketing	Practitioner
9	Converting	Managing director	Marketing	Practitioner
10	Converting	Managing director	Marketing	Practitioner
11	Converting	Controller	Marketing	Practitioner
12	Converting	Purchasing manager	Marketing	Practitioner
13	Converting	Managing director	Marketing	Practitioner
14	Converting	Managing director	Marketing	Practitioner
15	Brand owner	Packaging development manager	R&D	Practitioner
16	Brand owner	Head of global packaging material & training	R&D	Practitioner
17	Brand owner	R&D senior packaging innovation engineer	R&D	Practitioner
18	Brand owner	Manager packaging development	R&D	Practitioner
19	Brand owner	Product manager	R&D	Practitioner
20	Brand owner	Packaging development manager	R&D	Practitioner
21	Retail	Quality assurance manager	Marketing/R&D	Practitioner
22	Overall	Director	n/a	NGOs
23	Overall	Manager market development & sales	n/a	NGOs
24	Overall	Packaging professor	n/a	Academic
25	Overall	Packaging technologist for fresh products	n/a	Academic

3.3.2 The secondary literature

The second method used for data collection was secondary literature review. This provided the insights that can not be found in the semi-structured interviews. For researching the power distribution along the value chain the input from the practitioners was biased. Some indicated their own influence as minor while other links in the chain indicated them as influential. This misunderstanding is the reason for the biased view they have on the chain since they only see the chain from their own position and their contacts and relations are not so wide spread that they have sufficient insights on all the other links in the chain. The interviews with the overall specialists did gave some of the insights needed to make a valid analysis and they suggested the secondary literature that provided additional data.

This secondary literature was mainly retrieved from the literature database of the Netherlands Packaging Centre in Gouda. The sources vary from industry reviews by several banks (ING, ABN AMRO), consulting companies (Deloitte), industry associations (AMI, FPA, Euroflex) and research institutes (CBS), to newspaper articles. The specific sources can be found in the list of references.

3.4 Data analysis

For analyzing the data collected during the interviews and for the secondary literature reviews, Miles and Huberman (1994) provide guidelines for doing this in a structured manner. They define the process of data analysis as three concurrent flows of activities, namely data reduction, data display and conclusion drawing/verification. Data reduction involves the process of selecting, focusing, abstracting and transforming the data that appear in field notes. The data display concerns displaying the information in an organized compressed manner so that it permits conclusion drawing. This conclusion drawing already starts at the beginning of the data collection, filtering facts that have meaning for the study. Finally the conclusions need to be verified for their validity (Miles and Huberman, 1994). This method for analysis was followed in this research since it made it possible to order and process the large amount of qualitative data that was collected.

3.4.1 Data reduction and display

The first step in the process of data reduction is making a single contact summary sheet after each field contact. On these rather simplistic sheets some focusing or summarizing questions are written down. The purpose is to answer these questions briefly to summarize the main point of the contact (Miles and Huberman, 1994). A second data reduction tool that is described by Miles and Huberman is coding of the data. The information gathered during the interviews was transcribed and linked to the concepts and contextual setting.

These rather two abstract steps of data reduction are enriched with the Constant Comparison

Method (CCM) for analyzing qualitative interviews (Boeije, 2002) which provides a more practical guideline for the processing of data. The main tool is comparison. This is used to distinguish conceptual similarities, to refine the discriminative power of categories and to discover patterns. (Boeije, 2002).

The coding of the three aspects of the value chain and the three aspects of packaging was done by using indicators which can link the data findings to the specified dimension. An overview of the indicators for each of these dimensions is displayed in the following table.

Table 6: Indicators used for coding data

Concept	Dimension	Operationalization	Indicator
Value chain	Power base	Coercion	Source holds ability to mediate punishment to target
		Legal	Source retains judiciary right to influence target
		Reward	Source retains ability to mediate rewards to target
		Expert	Source has access to knowledge and skills desired by target
		Referent	Target values identification with source
	Value driver	Product quality	Product performance; Product reliability; Product consistency
		Delivery	On-time delivery; Delivery flexibility; Accuracy of delivery
		Service support	Product-related services; Customer information; Outsourcing of activities
		Personal interaction	Communication; Problem solving; Mutual goals
		Supplier know-how	Knowledge of supply market; Improvement of existing products; Development of new products
		Time-to-market	Design tasks; Prototype development; Product testing and validation
		Direct product costs	Priced below, above, or at competition; Annual price decreases; Cost reduction programs
	Process costs	Inventory management; Order-handling; Incoming inspections; Manufacturing	
Decision making process	Purchasing orientation	Buying orientation, Procurement orientation	
	Buying teams	The initiator, The gatekeep, The influence, The decider, The buyer, The user	
	Uncertainties	Need uncertainty, Market uncertainty, Transaction uncertainty	
Packaging requirements	Required functionality	Primary packaging	Sales packaging, unity for the end-user
		Secondary packaging	Collecting primary packaging, hold together until the place of sale, can be removed without influencing the quality of the packed product
		Tertiary packaging	Distribution packaging, facilitating the handling and transport of secondary and primary packages
	Packaging function	Preserve/protect	Ensuring that the product has the specified quality at the assumed time and place where it will be used
		Distribute	Ensuring that the product will reach a specified destination at a pre determined time
		Inform	Furnishing information in the widest sense in order to make it possible to use the product
	Product vulnerability	Mechanical	Stacking, vibrations during transport, impacts and deformation
		Physical	Absorption of light, Permeability of gasses and vapour, Temperature
		Biological	Micro organisms, Bugs, Animals
		Chemical	Affecting the product, affecting the packaging, migration
	Biochemical	Emzymes	

To analyze the value drivers and the decision making process for the value chain three types of comparison were needed for the CCM. The first type is comparing within a single interview. This interview was coded and linked to the concepts from the theoretical framework. Second, the

responses of the interviews within one segment were compared. This resulted in a verification of the data gathered in a individual interview and triangulating the data sources. The final comparison was comparing the results found in the different links in the chain and generate an overview of the whole value chain.

For making the overview of the power distribution only using the CCM was not sufficient for finding a valid answer. The data analysis for this dimension was done by ranking the amount of influence each link has in a market segment. This amount of influence was reasoned out by collecting relevant information found during the secondary literature review. This was connected to the indicators to get a picture of the five different power bases for each link in the chain depending on the market segments. During the semi-structured interviews these secondary literature findings were addressed in an indirect way in order to test their validity. After analyzing the findings the relative amount of power for each power base was indicated as high, medium or low and given the ranking [2], [1] or [0]. This amount of power was then multiplied by the influence the different bases can have on a firm's position in the chain. The bases with a harmful effect to the power of a source (Coercion and Legal) are weighted [1]. The inconclusive base (Reward) is weighted [2] and the bases with a beneficial effect on the power of the source (Expert and Referent) are weighted [3]. The total power of a link in the chain per market segment is the sum of the weighted scores for each link. The tables with these scores can be found in appendix E.

To analyze the requirements packaging, the CCM was applied again and consisted of three steps. First, comparing the data of a single interview. This was coded according to the theoretical framework to find the characteristics of the functions and vulnerabilities of the primary, secondary packaging shell affecting the product and packaging. In the second step the data was compared between the interviews. And the final comparison of the data was between the functions and vulnerabilities affecting the requirements of the different shells of packaging to see were the requirements are the most difficult to fulfill.

3.4.2 Conclusion drawing/verifying

In this last step noting patterns and themes was the main goal as well a noting relationships between variables and creating profiles of the packaging requirements and the market segments in the value chain. As was already shown in figure 12, the research framework, the results from the analysis were presented to a representative of each link in the value chain. This persons' feedback and advise was then implemented where necessary to generate more valid findings.

4. Results

This chapter presents the results found in the semi-structured interviews and the secondary data analysis. The theories introduced in the theoretical framework have been used to describe the value chain and the packaging market needs.

In paragraph 4.1 will be explained that depending on the market segments there was found that for commodity packaging the convertor is the most interesting party for SABIC to focus on. In this segment the focus is on costs and constant quality. For specialty packaging the brand owner was found to be the party to focus on. Their main drivers and purchasing requirements for delivering packaging functionality and adding value to their products will be explained as well in this paragraph. The results of the analysis for the packaging market needs will be clarified in paragraph 4.2. In the packaging table the needs will be indicated and where value can be created in the packaging market.

4.1 Value chain

4.1.1 Segmentation in the flexible food packaging market

This distinction between commodity and specialty packaging forms the basis for the relations and collaborations between parties in the value chain. The characteristics of commodity and specialty packaging that were found during the interviews will now be explained as well as the influence this has for the flows of information between the links in the chain.

Commodity packaging segment

The requirements for commodity packaging are characterized by the fact that the packaging specifications are already predefined. An interviewee from a brand owner characterized commodity packaging as *“Not exciting”*. The packaging is being used for a considerable time already and the focus is not on using special materials but on using the most efficient production methods. The materials are standardized and interchangeable which gives the advantage that there are various sources where the materials can be purchased. All interviewed brand owners indicated to make use of at least one, but rather two back-up suppliers to guarantee their packaging supply.

The standardized character of commodity packaging also has its effect on flow of information in the value chain. Everything is focused on efficiency and low cost as was especially indicated by the convertors. An interviewee from a brand owner said: *“We give the convertor our material specifications that need to be met, but further we have no special interest in it.”* This attitude makes the flow of information straightforward. Every link in the chain limits its contact to its direct customer and there is no intensive collaboration. In figure 13 the information flow is displayed and

there can be seen that every link makes demands for its customers which then realizes these to them.

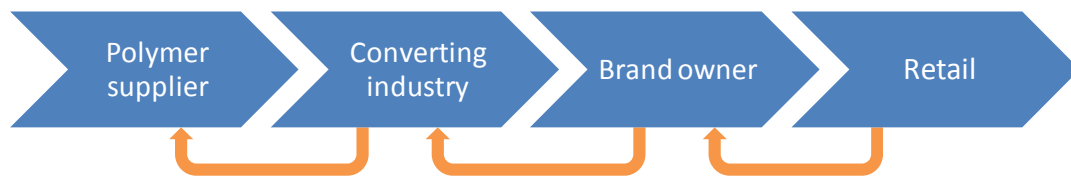


Figure 13: Information flow in a commodity packaging market

Specialty packaging segment

The other end of the flexible packaging market is the segment for specialty packaging. This is referred to by the interviewees as packaging for premium products. The brand owners use this kind of packaging since it has the power to distinguish and make a product stand out between other products. This is achieved with unique features that bring additional value to the consumer in terms of convenience of use like easy opening or re-closable, or for marketing functions like special gloss or clarity of the material.

But specialty packaging does not only refer to the primary packaging, also solutions for distribution efficiency or improved environmental performance was categorized as specialty packaging by the interviewees. The main feature of specialty packaging is that it is not commonly used and has the ability to deliver additional value compared to standard solutions.

With the capability of being able to provide additional value, the interest of the parties in the value chain changes. The information flow and the collaborations in the value chain differ from commodity packaging. The capability to offer special solutions made all brand owners interested in the polymer suppliers. They indicated the convertor has a standard package of solutions but the polymer supplier has the capability to develop grades with unique functionalities that can serve their needs. If the polymer supplier is the sole supplier of a special grade that can for example provide the desired gloss or use functionality for easy opening or re-closable packaging, the brand owner wants an intensive partnership. In this close collaboration a preferred convertor of the brand owner is involved since he has the production facilities where the materials can be tested and improved. A brand owners interviewee remarks bluntly: *“We force the convertor to buy the special grade.”* This shows the contrast between the attitude in the commodity and the specialty packaging market.



Figure 14: Information flow in a commodity packaging market

Summing up, the segmentation between commodity and specialty packaging in the flexible packaging market for food products creates a clear difference which explains the general requirements for packaging products as well as the difference in the relations between the parties in the value chain. These two segments form the pillars to explain the results for power distribution and the value drivers in the packaging chain.

4.1.2 The power distribution

The distribution of power in the flexible packaging market is the first aspect for understanding the value chain. With power was meant the capacity of one firm to optimize the behavior of suppliers and subcontractors in accordance with his desired performance objectives (Stannack, 1996). With distribution is meant the amount of perceived relative power each link possesses in the value chain within a market segment.

As mentioned in the previous paragraph, there is a difference between the market for commodity packaging and specialty packaging. This difference has its influence on the relations between the links in the value chain and with that the distribution of power. First the results from the secondary literature review and the interviews are presented in order to give an overview of the positions of the links in the chain. After that, the differences between the power distribution of the commodity and specialty segment is described and a graphical overview is given. The results will show that the retailer and brand owner are the most influential parties in both segments. The convertor has the second most power in the commodity segment while the polymer supplier has little influence. In the specialty segment the polymer supplier has a high influence while the convertor's is small.

The presentation of the results follows the same path as a packaging product through the value chain but than backwards. It starts with the influence of consumers on the packaging chain and works all the way back to the polymer supplier. Displaying the results in this way provides a clear overview of the different power bases working in the complex and differentiated packaging value chain.

Consumers

Production cycles, retail trends and consumer habits all have a great influence on the manufacturing of consumer goods but consumer trends form the foundation for most developments in the packaging chain (ING, 2007). Consumer behavior is constantly changing and although not every development is worth mentioning, there are three major trends.

The first one is that the European consumer takes less time to buy and consume food, so the popularity of convenience products is growing; "on-the-go" or "easy opening" are just some terms mentioned several times by the interviewees. Packaging has a huge role in this development (e.g. microwavable meals or individually packed portions). This change is affecting every party in the

packaging chain since packaging has become a major component to offer this convenience (Stewart, 2008).

A second trend is the move towards fresh and healthy products like prepared salads or carrots packed in a small bag as alternative for potato chips. Packing these fresh products demands an optimal gas atmosphere in the packaging to keep the product fresh and appealing. The design requirements for these packaging materials are high since they are of great influence for the shelf life of the product (ING, 2007).

The third major trend is the environmental friendly drive; "Going Green". Although this trend is not always initiated by the consumer it is creating a demand. One interviewee remarked that "*retailers and brand owners use it to distinguish themselves from one another*". The effect is that the packaging industry is changing; now it is more driven by the demand of environmental friendly and sustainable packaging alternatives (Stewart, 2008). A study conducted by Deloitte Consulting LLP in 2007 found that sustainability is rapidly becoming a necessity for consumer business. This makes sustainability a strategic issue on which the consumer-packaged-goods-companies must anticipate proactively (Stewart, 2008).

Retailers

The consumption in the European market is still growing especially in central and eastern Europe, 35% against 10% in Western Europe since the year 2000 (ING, 2007). Throughout Europe, the growth in consumption leads to an increase in retail shopping. Especially the one-stop shopping concept at large retailers is rising. On the one hand, people have less time and more money to spend. On the other hand is the ongoing expansion of the products the retailers offer. This development results in a concentration of the retail market, increased market share and growing market power of the large retailers. But despite the ongoing growth, the competition in the market is intense and the pressure on sale prices is high. This price pressure has its effect on the manufacturing goods and enhances competition on quality and the search for adding more value to the consumer products (ING, 2007).

Retailer's inference through private labels means that they are becoming more vertically integrated. They sell the products as well as being involved with production, storage and transport of these products. The intense competition among retailers, the pressure on retail margins and the world wide economic recession which makes consumers more cost-conscious, has lead a rising market share of private labels form 23% in 1999 to 36% 2006 (EHI,2008). Their strong position enables them to utilize their first hand knowledge of consumer behavior to add more value to their products with more innovative packaging and more efficient packaging and force other player in the value chain to follow. Large retailers, like Walmart, Tesco, Carrefour etc., push brand owners to use optimal environmental friendly packaging or to make transport packaging fit for their distribution channels.

For example, Walmart has introduced the packaging score card to rate the environmental performance of a supplier or Albert Heijn opening “To Go” shops on train stations for selling on-the-go and convenience products of mainly their private label.

Brand owners

The difference between brand owners and retailers with private labels is that the brand owner is in control of the manufacturing of the goods as well as the packaging as the six interviewed brand owners indicated. They have to carry the full responsibility for the product which means guaranteeing product safety but also the financial investments in advertisement, production and product development. The retailer purchases the product and only specifies the packaging which makes the risks less high.

The rise of private labels makes retailers and brand owners competitors. In this struggle the retailers have the advantage of knowing the consumer behavior firsthand. But the brand owners respond by entering the retail business as well (ING, 2007). For example Unilever opening ice cream shops or Sara Lee opening coffee shops. Another reaction of the brand owner is focusing on just a few brands to make these stronger and compete with the private labels. But the peak of private labels has passed (Decision News Media, July 2009). Their sales are still growing but since a year this growth is consecutively declining. The large brand owners have been investing heavily in product and packaging innovation and are coming out with value offerings that are directly competing with the private labels. *“Packaging is no longer just a product to protect the contents. The packaging is used as a communication tool to the consumer”* as said by an interviewee from brand owner, *“If for example an improved soup packaging can attract more customers, than that can compensate for the differences in margin.”*

On the other hand, the power of brands is underestimated. Retailers need to offer certain premium label products in order to serve the customer and prevent him from shopping at the competition as 2 brand owners said. For example Albert Heijn which refused to sell Grolsch beer after a disagreement about the cost price. Later Albert Heijn had to give in because customers went to the competition to buy Grolsch beer and did their groceries over there at the same time. The same happened in the beginning of 2009 in Belgium between Unilever and Delhaize.

The brand owners still have full control on how to pack their product. The decision of the design is completely in their hands. But retailers begin to demand from the brand owner that the packaging scores optimal on certain sustainability test like the carbon footprint, life cycle analysis etc. Retailers also influence the brand owner to make the optimal packaging for handling and distribution efficiency.

To their suppliers, the brand owner has the power to mediate business for packaging production with volumes that are considerably high. Producing for a brand owner can also mean long term sustainable business since they work with up to three preferred suppliers which produce the packaging products. In contrast, in the private label business it is common to use E-auctions to mediate business. These E-auctions are focused on price and the relationship between buyer and seller is short term and not collaborative. The demand for better quality and innovative products makes the use of E-auctions less fit for the value adding need in the packaging market nowadays.

Converting industry

For the converting of polymers the total flexible packaging production is derived from approximately 1000 plants throughout Europe. These plants are mainly owned by private families although in Western Europe the plants are fairly big and often owned by one of the top 20 packaging companies (ING, 2007). These Western Europe convertors are more specialized in producing high quality and innovative packaging. Their direct relationship with the brand owner enables them to profit from the market knowledge of the brand owner. But the convertors are not able to exploit this opportunity. There is a lack of strategy and academic knowledge at this link in the chain as an interviewee from academics indicated. And because the converting industry is so shattered, they are caught between these large polymer suppliers and powerful brand owners. On the one hand the material costs are rising, which can make up to 40 to 60 % of their product price and on the other hand the market prices for packaging are being lowered by the brand owners to save costs. This makes the convertors focusing on cost competitiveness by enlarging scale and adding more value to their offering. Improving product functionality by using their materials in a smarter combination allows them to innovate while keeping R&D costs relatively low. However five out of seven interviewed convertors said their capability to innovate is limited since they depend on the materials supplied by the polymer suppliers and the capabilities of their own machinery.

Polymer suppliers

The production of polymers takes place on large scale by a few players and their direct customers are the scattered converting companies. Within the flexible packaging market mainly commodity plastics are used which are interchangeable between the different polymer suppliers and creates a vulnerable market position for them. To be at the frontline of the developments in the packaging industry and be able to offer additional value to their offerings, the polymer suppliers need to understand the further developments in the value chain. This market information is often difficult to capture by the polymer supplier because the scattered converting industry is protecting its position by holding back information as the interviewees from the polymer supplier said. Skipping this link in the value chain and moving directly to the brand owner is still a difficult step for some. But within the

packaging market it is becoming more and more common for the brand owner to be in direct contact with the polymer supplier, 4 out of six had this contact. And as one of the interviewees from brand owners said: *"It is no disgrace anymore to skip a link in the chain."* This is a major development and results in a chain which is more open for collaboration, information sharing and adaptive to change. Also the competition from the Middle East and Far Eastern polymer suppliers is pushing the European ones to innovate and specialize. This is a necessity for them to be able to offer more value to their commodity resins instead of competing on price. The extensive technical knowledge of polymers and their R&D capabilities gives the Western polymer suppliers a strong position in the value chain but they need to be able to ventilate this knowledge to the right party in the packaging chain.

Now the data from the aggregate secondary literature review and the more detailed data collected in the semi-structured interviews can be combined. A more practical and in-depth overview of the power bases (Coercion, reward, legal, referent and expert power) that are of influence for each link can now be given for the commodity and specialty packaging segment. The characteristics for each applicable power base of the links in the chain will be explained and the weighted amount of power for each link is displayed in a graph.

The commodity packaging market

First the polymer supplier, this party possesses the expert and referent power bases. All interviewees refer to expert power of the polymer supplier since they perceive him as the party in the chain that holds the most material knowledge. As one of the interviewees from brand owner mentioned: *"It all starts with the granulate and this is why we need the polymer supplier."* But since it is a commodity market, the material knowledge is commonly known and there are no materials used that can distinguish a polymer supplier from his competition, his influence is medium strong. The referent power is useful since the polymer supplier innovativeness or reliable reputation can be reflected on its customers. But still, this is indicated as a medium strength power base by the interviewees. Overall score:

Referent power - medium = 3x1

Expert power - medium = 3x1

→ 6

The converting industry has a stronger position in this market than the polymer supplier. They are the one that can choose which specific commodity material to use. The brand owner makes the specifications and the convertor chooses material X, Y of Z as the interviewees from convertor and

brand owner said. This gives them a strong position in the value chain. They can offer the desired solution since they have good insights in the brand owners needs and they have the power to reward business to the polymer supplier by using his grades.

Overall score:

Reward power - medium = 2x1

Expert power - high = 3x2

→ 8

The brand owner possesses more power bases. The coercion power rests on their ability to influence the final design of the packaging and how the packaging is produced and by whom. The brand owner does not influence every detail but focuses on the essential demands for the packaging. With his specifications he can mediate business to its suppliers and specify the materials they need to use. Usually, the orders are large and long term which results in sustainable business for its suppliers as they say. This has a positive effect on the referent power which the brand owner has. The suppliers which can advocate that they are connected to this large brand owner may generate additional business for them in other areas, since they have to be a reliable business partner before being able to supply to large brand owner.

Being the most innovative link in the chain with new packaging solutions and having a good understanding of the market has positive effects on the expert power base since they know what the developments will be in the near future and how the business will evolve.

Overall score:

Coercion power - medium = 1x1

Reward power - medium = 2x1

Referent power - high = 3x2

Expert power - medium = 3x1

→ 12

The retailer's power is equal to the power of the brand owner in the commodity market though it builds on other pillars. The retailer has the power to reward the brand owner with better sale positions for their products in the shop. They also have the ability to influence the secondary and tertiary packaging used in the distribution channel and influence the brand owner to use more environmental friendlier packaging. The strongest power of the retailer in this market segment is that they have first hand consumer knowledge. They know how to utilize this to increase sales and put pressure on the brand owners.

Overall score:

Coercion power - medium = 1x1

Reward power - medium = 2x1

Referent power - medium = 3x1

Expert power - high = 3x2

→ 12

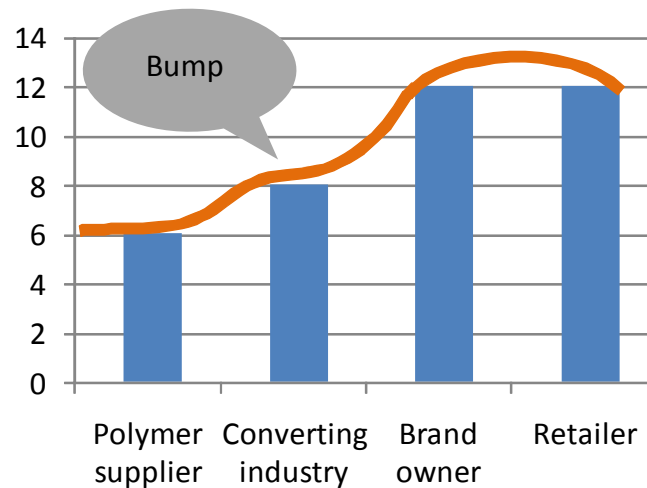


Figure 15: Power distribution in the commodity segment

The ranked power bases for each link in this market segment generate a graph of the influence a link possesses in the chain. As can be seen in the distribution of power, the retailer and brand owner possess the most power. A note should be made at the vertically backward integrated retailers, like for example Walmart, Carrefour or Tesco, that have an even more powerful position in the chain since they possess the power bases presented in both links in the chain. One interviewee remarked that the initiatives of these powerful retailers can lift the standard of the whole industry. A quote from Walmart's sustainability product index for suppliers says *"The index will bring about a more transparent supply chain, drive product innovation and, ultimately, provide consumers the information they need to assess the sustainability of products. If we work together, we can create a new retail standard for the 21st century."* Mike Duke, President and Chief Executive Officer, Walmart Stores, Inc. at the Walmart Sustainability Milestone Meeting, July 16, 2008.

From the polymer supplier to the brand owner there is a *bump* in the power distributions at the convertor. This bump is not only figuratively but also literally present. In the commodity market the converting industry is the broker between the polymer supplier and brand owner. They defend their scattered position by preventing direct contact between the polymer supplier and the brand owner. They are able to do this because the brand owner is not interested in commodity material and they leave the choice for which material to use to the convertor.

The specialty packaging market

Now the focus is on specialty packaging, where the market relations are different.

The polymer supplier holds a strong position in this market. The main reason is that they provide a unique functionality with their packaging solution and this uniqueness makes them the sole supplier for the brand owner. The collaboration between the brand owner and the polymer supplier with the goal to optimize the packaging specifications give them a direct influence on the design and implementation of the packaging. This knowledge of the unique material gives them strong expert power and when a concept is successful this increases the referent power as well. The brand owner and the polymer supplier can choose the production methods in accordance with the brand owner's preferred supplier. This gives them reward power since they have the power to mediate business for the convertor.

Overall score:

Reward power - medium = 2x1

Referent power - medium = 3x1

Expert power - high = 3x2

→ 11

The converting industry has a weak position in this market compared to the polymer suppliers and the brand owners. Their role is only executive although their influence is on the packaging production can provide them with a medium to high expert power depending on the chosen method.

Overall score:

Expert power – medium to high = 3x 1 or 2

→ 3 to 6

The brand owner and the retailer have an equal amount of power, just as in the commodity market, but in the power bases the nuances are different. The brand owner still decides about the packaging functions and specifications but needs the polymer supplier's support for optimal design specifications which gives the link more power compared to the commodity segment. Furthermore, the power bases for the retailer are equal as for commodity packaging. The aspect that receives most of his attention is efficient handling and sustainability.

Overall score for both parties:

→ 12

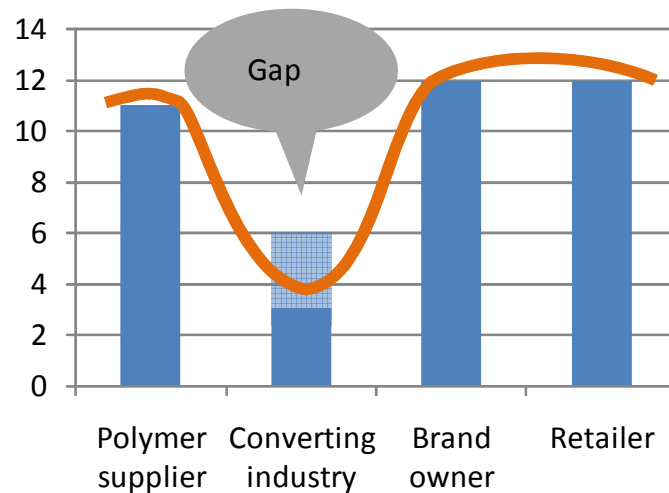


Figure 16: Power distribution in the specialty packaging market

In the power distribution figure a gap in the power distribution can be seen. The converting industry has a relatively low influence in this market segment. As an interviewee from the brand owners indicated: *“We want to distinguish ourselves from the private labels. If we want a unique solution we don’t go to the convertor. We know he has only standard materials and can make only standard solutions. For unique solutions we need the polymer supplier.”* This remark captures the power distribution in this market. It relates to the expert power of the polymer supplier, the lack of innovativeness of the converting industry, the decision making power of the brand owner and the pressure from retail with strong private labels.

4.1.3 Value drivers in the packaging market

The second aspect the value chain is understanding the value drivers a firm is looking for in a relationship with its suppliers. As said in the theoretical framework, the drivers important in a relationship differ per market segment. In paragraph 4.1.1 the difference between the flows of information and with that direction of the value drivers per segment was presented (Figure 13 and 14). The difference between the segments was the presence of a direct link between the brand owner and the polymer supplier in the specialty packaging segment. For understanding the value drivers in the packaging market the focus was in particular on the drivers the brand owner is looking for in the relationship with the convertor, the retailer and the polymer supplier. The drivers in the relationship between the polymer supplier and the converting industry are already described in previous research undertaken by SABIC so these were out of this research scope and will not be portrayed here.

This paragraph will start with discussing the retailer’s value needs in the flexible packaging market for food products followed by the value needs of the brand owner for the commodity and specialty packaging segment.

Retail to brand owner

The interview with retailers and brand owners revealed that retail does not make a discrepancy between specialty packaging and commodity packaging. The focus of the retail is different in this market and is not influenced by this segmentation. His main concern is improving handling efficiency and sustainable performance. Since the brand owner is the decision maker for the design for primary, secondary and tertiary packaging, the retailer limits his contact to this party. As always there are exceptions, for example one convertor said he had a packaging for bread with improved environmental performance. He introduced this to his customer, the brand owner, but he was not willing to use this packaging solution. The convertor didn't stop here, he knew the retailers drivers so he knew he values improved sustainability. He used his network and turned to him which resulted in the retailer pushing the brand owner to use the convertors packaging solution.

From the eight value drivers described in the theoretical framework (Table XX), four of these apply to the retail-brand owner relationship:

- product quality
- process costs
- delivery
- direct product costs

Product quality refers in this relationship to the sustainable performance of the packaging. The retailer uses sustainability as a marketing tool to the consumer. Various methods (Life cycle analysis, Carbon Footprint etc.) are used to test the environmental impact of packaging. the brand owner chooses the most optimal solution that can still provide the needed functionality. This environmental push started in the United states and is also pushing the European market now. Not all brand owners have their packaging design focused on sustainability yet but this is also becoming more common to make it a point of interest to choose the most sustainable solution. As an interviewee said: *“The retailer chooses which products to buy but we, as brand owners, have to make sure that we can prove we have chosen the optimal environmental solution.”* An interviewee from academics expected that within five years from now the use of recycled material will be common in food packaging. If the retailer keeps pushing the technology to improve it will be possible to use the recycled plastics as a cheap material with a high sustainable performance.

The second focus of the retailer is efficiency and low cost. This is related to the three remaining drivers: process costs, direct product costs and delivery. He is mainly concerned about the commercial side, he wants *“The total package. Low price, good pricing conditions and terms of payment”* as a brand owner indicated. In terms of process cost, the retailers pushes the brand owner

to design a secondary and tertiary packaging that is optimal for his process. Functionalities like easy opening or retail ready packaging can offer additional value for him. An overall specialist indicated that for the retailer it's all about making money and he pushes the whole chain to improve efficiency.

Brand owner and commodity packaging

In the relation between the brand owner and the convertor there is a clear difference for the applicable drivers between the commodity and specialty packaging segment. Now the commodity segment will be discussed and in the next paragraph the specialty segment.

In the commodity packaging market the brand owner usually only has contact with the convertor and not with the polymer supplier. The brand owner interviewees said: *"We have no special interest in the materials. Only when there is a problem the convertor can't solve, we turn to the polymer supplier."* The relationship between the convertor and the brand owner was described as *"close and intensive"*. The brand owner uses maximum three preferred suppliers and some even have integrated suppliers. The main reason to be in close contact with the convertor is to have full access to the convertors developments, know-how and processes in order to decrease the time needed for product and process improvements.

The drivers that create value in the brand owner – convertor relationship in this market segment are:

- product quality
- delivery
- direct product costs
- process costs

The brand owner refers to quality as a *"necessity in business nowadays."* Quality means the product performance, reliability and consistency. The product quality needs to be optimal in order to keep efficiency high. This efficiency relates to the process costs and delivery, the other two drivers. These are the main focus of the brand owner in the commodity segment, keeping the process costs as low as possible. Direct product costs are of course always *"kept in mind"* as one of the brand owners answered *"but the focus is on the total cost of goods."*

Brand owner and premium packaging

The value drivers between the links in the chain in the specialty packaging segment are different compared to the commodity segment. The main difference is, as mentioned earlier, the direct contact between the brand owner and the polymer supplier.

The reason for the brand owner to have this contact is that for specialty packaging they are looking for unique solutions. They know the convertor has only a limited pallet of resins for making standard solutions. With the polymer supplier's resources and know-how he can fulfill the need of the brand owner to make a better match of the product with the packaging. *"Until now"*, as one of the brand owners interviewees said, *"the convertor has been able to provide us with the products we needed, but the market is becoming more and more complex so we need the polymer supplier to match our needs."*

The sources of value creation for the brand owner in the specialty packaging segment are as they indicated:

- Unique and exclusive, new primary packaging solutions with improved functionality.
- Cost efficient solutions for the currently used primary packaging.
- Process optimization for the whole packaging chain with use of secondary and tertiary packaging solutions.
- Increased environmental performance of packaging solutions

For these four sources of value creation the brand owners say they need the help of the polymer supplier. They are open to new ideas. *"Bring it on!"* as one indicated *"and preferably before involving the convertor."* They prefer this direct contact since, as they say *"the convertor is selective and doesn't like change."* He can reject a solution by thinking it is not valuable while it can be very interesting for the brand owner.

But after this initial contact, the convertor must immediately be involved in the process. His contribution is essential in the testing phase for product development. The convertor also needs to be open and willing to participate and he needs an active attitude in order to contribute in the process of new product development.

The value drivers for the brand owner in this market are again the same four as in the commodity market but now complemented with the value adding drivers:

- service support
- personal interaction
- supplier know-how
- time-to-market

For the relation between the brand owner and the polymer supplier, these are the most important ones. Supplier know how is mentioned by all interviewees from the brand owners as the most important reason to establish direct contact. One of them said: *“We are willing to know how they can help us with improving our products and we need them to provide us with specific material know-how the convertor doesn’t have.”*

4.1.4 Decision making process

The third aspect for understanding the value chain was learning how the brand owner integrates his purchasing activities with outside firms and how the decision maker makes purchasing decisions in combination with other functional areas within his firm. As described in the theoretical framework and in the paragraph about segmentation, the purchasing orientation of a firm holds a crucial role in the way they make purchasing decisions. Now the purchasing orientations in combination with the market segment will be explained first. Then the disciplines involved in the purchasing process and the identification of the decision maker will be described and finally the requirements that must be met before a purchase is made.

Purchasing orientation

The brand owners are the decisive factor in the decision making process of the packaging design in the value chain. They decide for the material specifications and how to produce the packaging. But their involvement is limited to a certain level depending on the market segment.

The purchasing orientation for the commodity packaging segment is the buying orientation. The characteristics of this orientation match the brand owner’s value drivers for the commodity segment as described in the previous paragraph. Obtaining the best deal in terms of price, quality and availability are the drivers in this segment. For the specialty packaging segment the orientation is the procurement orientation. This orientation focuses on delivering value to the end user, reducing total cost, improving quality and sustaining collaborative relations with selected partners. These characteristics match the value drivers for the brand owner that were found in the specialty packaging segment.

As described in the theoretical framework, shifting a customer’s purchasing orientation leads to an increased competitive advantage and stronger relationships with them. The difference that can change the buying orientation to the procurement orientation is customer understanding.

In the commodity segment the material requirements are set by the brand owner, but since it involves commodity materials there are many alternatives that can fulfill these requirements. The decision for choosing a specific material is left to the convertor that takes care in choosing a suitable material with sufficient alternative back-up suppliers and a good price. So for the commodity

packaging the convertor is the decision maker for material choice.

In the specialty segment the brand owner makes the decisions for materials and his influence is much larger. To establish the close relation with the brand owner, his purchasing process needs to be understood as well as his criteria for material approval.

Buying teams

For the purchasing process the brand owner makes use of buying teams. These teams consist of all the disciplines that are involved in the process. The three major disciplines that take part as mentioned in the theoretical framework are: marketing, research and development and production. The roles of the persons in these disciplines differ. The interviewees indicated that marketing has the role of initiator, R&D the role of influencer and production the role of user. The roles of buyer, gate keeper and decider are for other disciplines. The buyer role is found in the purchasing department. The last two roles are the most important ones for SABIC, since these person decide about what material should be purchased and control the amount of information that is provided to the suppliers. The role of gate keeper and decision maker in the packaging industry is fulfilled by a multi-disciplinary function. This person fulfills an intermediary role. He understands the packaging requirements for all the three major disciplines. As one of the brand owner interviewees in this role said: *"We are the link between marketing, R&D and production. Our job is to gather and filter all the requirements and translate them into packaging specifications."*

This role is referred to in the industry as the "packaging manager." His job title differs from one organization to the other. Some have the actual job title packaging manager but others are product managers, R&D engineers, etc. The difficult aspect is to identify the packaging managers in the decision making process as an interviewee from academics remarked. Also the level of education can differ strongly as the result of the lack of professionalization of the packaging market. In the industry there is still a lack of academic training for the packaging discipline. Many packaging managers come from different disciplines like logistics, food technology, marketing, R&D etc. and end up in the packaging business.

Purchasing criteria

The purchasing criteria for the packaging manager, the decision maker, can be reflected with understanding his uncertainties as was explained in the theoretical framework. The need, market and transaction uncertainties can be overcome by providing solutions to undermine them. The criteria the decision maker applies for making decisions about which material to use for a certain packaging are similar at all 7 interviewed brand owners:

- Product safety
- Shelf life
- Production
- Consumer
- Financial
- Geographical location

Their first concern is product safety. The materials must be approved for food contact and the brand owner wants to be fully informed about the chemistry of the material. Their main reason is that they are the ones responsible for the consumer safety when using a packaging and they need to have this information for the sake of traceability. The second requirement is that the packaging solution should provide the required shelf life of the product. This relates to the packaging for having required right barrier properties for water, oxygen, etc. The fitness of the packaging solution to the production facilities is the third requirement that must be met. If the packaging is not in line with the production capabilities of their factories, adjusting or investing in new facilities would be necessary but this will mean additional costs. The fourth criterion is that the packaging solutions should be able to provide the required functionality for the consumer as was requested by marketing. This functionality can be for example appearance, like clarity or gloss, or in convenience like easy opening or re-closeable functionalities. Being a financially sound company is the fifth criteria. All brand owners' suppliers need to be audited before any business will be done. The last criterion is the geographical location of the supplier; this needs to match the geographical production locations of the brand owner so that unnecessary distribution costs will be avoided.

4.1.5 Cross segment analysis

The model by Matthyssens and Vandembemt, that was presented in the first Chapter (page 9), showed the continuous process of commoditization. For packaging, the products from the specialty packaging segment are in the superior market position and the commodity packaging segment can be classified in the position where profits are being squeezed. The high value adding drivers for the brand owner were all found to be in the specialty packaging segment and the value drivers focused on cost in the commodity packaging segment.

Figure 17 shows the market segments and the value adding capacity of the drivers for that segment viewed from the brand owners position. To move from the low value adding commodity solutions to the high value adding specialty solution, the polymer supplier has to shift his focus to the high value adding value drivers (the shift is represented by the arrow). To anticipate on these drivers, he needs to have a thorough understanding of the brand owners needs in the market.

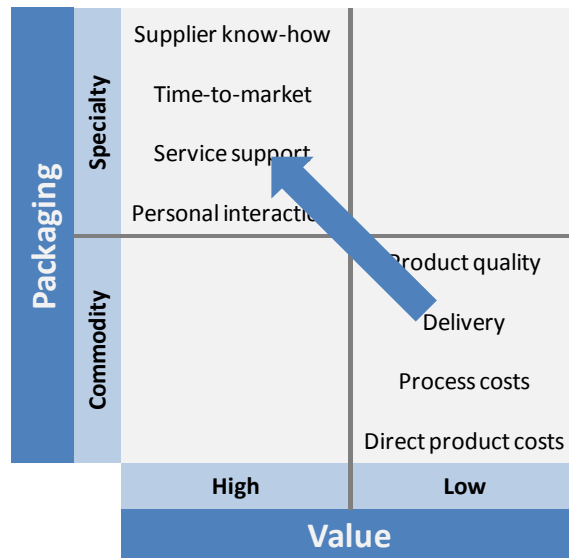


Figure 17: The shift in value drivers needed for adding value to the brand owners.

The difference between commodity and specialty packaging effect the value propositions that can be offered to the links in the chain. Paragraph 4.1.2 explained who to approach with packaging solutions and in paragraph 4.1.3 the offerings a brand owner is interested in were discussed for the two segments. The sources for value creation by the polymer supplier as well as the party that should be approached with these offerings are displayed in the following figure.

In paragraph 4.2 the findings of the interviews for understanding the functional market needs for packaging products will be presented.

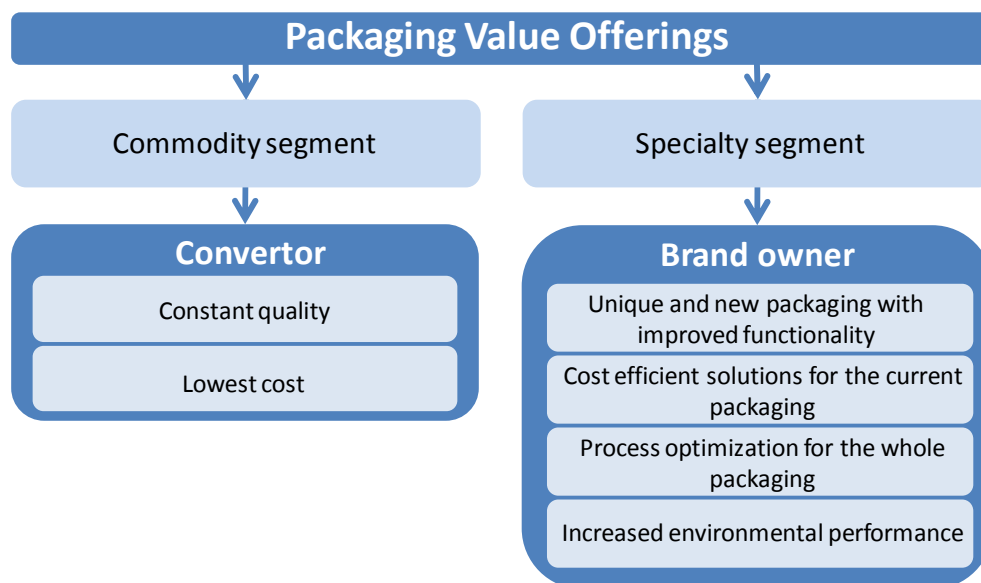


Figure 18: Packaging value offering per segment

4.2 The packaging

All interviewees agree to the statement that the importance of packaging has increased greatly over the past years. The multifaceted functions of packaging range from protecting the product, facilitation distribution, towards the marketing and information aspects. This is what makes packaging a value adding device for the food industry according to the interviewees.

The product packaging and the transportation packaging are not only used for protecting and transporting the product from A to B anymore. The interviewees address that the domain of packaging has become multi dimensional. The emphasis on the functionality of packaging to protect/preserve the product as well as the distribution and informing functionalities have increased and raised the bar for packaging requirements. Packaging has a growing role as a marketing and communications tool and it facilitates in chain efficiency with an increased thinking in processes.

Other aspects of packaging which were of interest for the interviewees from the retail and brand owner are using more environmental friendlier and sustainable packaging solutions. They search for improved sustainable performance in manufacturing, distribution and disposal of packaging so that they can use this as a marketing tool to market their packaging product as environmental friendly to the consumer.

Packaging also has to fulfill many legal requirements in order to protect the consumer. These requirements involve the packaging product itself but also the communication function it has to fulfill towards the consumer, for example legislation on safety, fair trading, health protection, the environment, the brand, quantity, nutritional value, etc.

4.2.1 Product vulnerabilities and packaging functions

Protect/preserve

For protecting/preserving the vulnerabilities of the product, the emphasis is on the primary packaging. This needs to protect the product against its vulnerabilities. At the same time it should also form a unity with the secondary and tertiary packaging, these three cannot be seen as unrelated. As an interviewee remarked: *“The primary, secondary and tertiary packaging should go hand in hand to fulfill the required packaging functions.”*

The most heard need by the packaging managers is the need for barrier properties of the primary packaging. They are looking for high barrier films that can provide protection from water and oxygen. These are the two components that have a major influence of the quality of the packed product. They use Controlled Atmosphere Packaging (CAP) and Modified Atmosphere Packaging (MAP) to prevent the growing of micro-organisms which are a biological vulnerability to the packed product. Water also has its influence on the physical vulnerability, it can make biscuits weak or gingerbread

dry for example. With the activity of water (an a dimensionless quantity expression of the relative availability of water in a substance) at levels below 0.6 and preferably below 0.4 bacteria growth impossible and the shelf life of a product can be increased. But as one interviewee remarked, it is important not to over specify your barrier. For some products it is necessary that the atmosphere in the packaging can change according to the products conditions. For example fresh packed fruits that ripen and secrete certain gasses that need to migrate through the packaging barrier. Another example that an interviewee mentioned concerned the packaging of day-fresh dairy products. The use of multilayer packaging solutions can provide a barrier that is effective enough for keeping the product fresh for its short time in the packaging but not too high and over-specified to save costs. The mechanical influences that can affect the quality of the product can occur during transport but also when the packaging is handled in the shop or by the consumer. An interviewee mentioned the puncture resistance of a bag with ketchup used in a fast food restaurant. This bag has to be strong enough to cope with the long and sharp nails of the female personnel that handle these bags. Mechanical properties can also have a value adding feature for the specialty packaging segment. The easy opening of primary packaging or making it re-closable can deliver additional consumer functionalities.

For secondary and tertiary packaging the mechanical features are the most important. The transport packaging needs to provide enough mechanical resistance against the rough handling in the distribution process as the interviewees said. But also easy opening has a role here, if a packaging can be removed fast by the retailer, this increases the handling efficiency.

Distribute

Process thinking involves all phases in the packaging chain and is mainly related to the distribution functionality that involves the secondary and tertiary packaging. All players in the chain and in particular retail are interested in the enhanced distribution functionality of packaging. The retailer's first, second and tertiary suppliers can facilitate more efficient handling with an improved packaging design. The interviewees from brand owners emphasize the high importance of efficient handling for the retailer. This can be achieved with shelf-ready packaging or with improved logistical processes with matching secondary and tertiary packaging solutions.

One interviewee made the remark that there was a tendency to serve the retailer with environmental friendlier transport packaging since this was one of his drivers for value. The chosen solution was to reduce the material thickness of the secondary and tertiary packaging. This resulted in packaging that was weaker for mechanical impacts and problems starting to occur in the

distribution process and products got damaged. This proves the need for enough mechanical strength to the retailer which now also made it the first priority for the distribution function of the secondary and tertiary packaging.

Inform

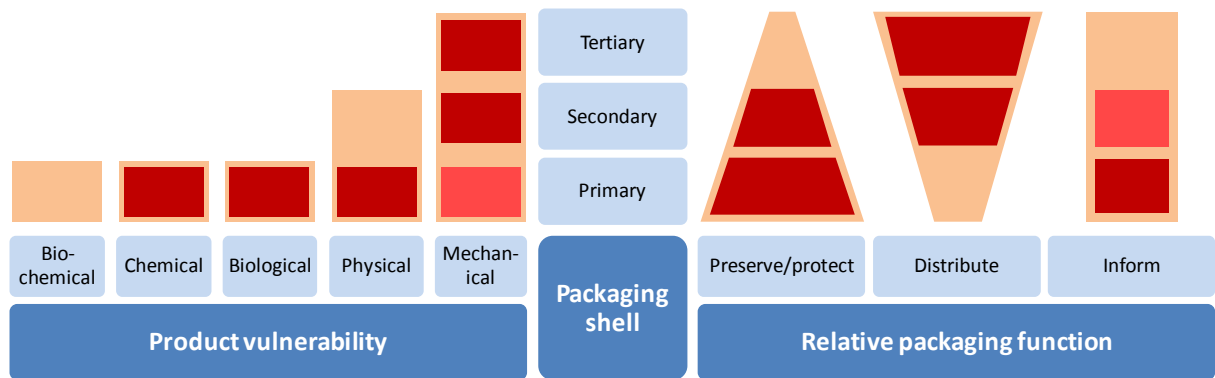
The use of packaging as a marketing and communication tool, as well for the primary as for secondary and tertiary packaging, is considered to be one of the reasons for the increased attention on packaging by the interviewees. They address that the consumer makes the final decision to buy a product at the point of sale, so an attractive packaging design is essential for influencing his buying decision. For this consumer the use functionality of a packaging has gained a major importance in satisfying his needs (EHI, 2008). Convenience aspects like easy opening, re-closable packaging and smaller portions have a significant role and influence on the design of packaging nowadays and ask for innovative designs.

The informing functionality is also mainly related to the primary packaging. This packaging is also known as the consumer packaging, it has to fulfill a marketing function by representing the brand identity, be appealing and functional for the consumer. Characteristics as gloss and clarity of the material are mentioned several times by the interviewees as value adding tools for the informing functionality. This functionality is increasing for secondary packaging; it is used for retail ready packaging which offers value for the retailer in handling efficiency and presentation on the shelf. The handling and placement cost of the retailer, which count for 40% of his direct product costs (EHI, 2008), can be decreased by using the secondary and tertiary packaging in a smart way.

4.2.2 The packaging market needs

The packaging table from paragraph 2.2.4 showed the functions of the packaging and the vulnerabilities it has to protect the product from. The input from the interviews was used to identify where the emphasis is on these functions and vulnerabilities in order to indicate the market needs of the packaging product. The three packaging functions (protect/preserve, distribute and inform) were used to indicate the needs of the parties in the chain. In table 7 the directly as well as the latent expressed needs provided by the interviewees are indicated. As can be seen, the primary packaging requires the most attention. This packaging is the most complicated and delivers the most value for the brand owner by protecting and informing about the product. The secondary and tertiary packaging have most of their indicated needs related to the distribution functionality. Improving distribution functionality demands process thinking for the whole chain while improving the primary packaging requires more knowledge about the product that has to be packed.

Table 7: Packaging table with indicated market needs



Providing solutions for these needs creates the basis for solid value offerings. These offerings are now created by intermediaries in the packaging market like design agencies or product consultants. By focusing on the indicated market needs for a packaging product, the polymer supplier can make value propositions addressing one of the first three value offerings mentioned above or the fourth offering that meets the main driver of the brand owner’s customers.

5. Conclusions and Recommendations

5.1 Introduction

The goal of this research was to create a better understanding of the flexible packaging market for food products and advise SABIC how to approach the market in order to capture additional value. The reason for conducting this research was that SABIC wants to capture more value in the flexible packaging market for food products. They want to be more upfront with developments in this market and establish closer contacts with influential parties further down the value chain and not only focus on their direct customers, as is the case now. This will help them to provide value offerings which can have a positive effect on the total packaging chain and eventually allow them to capture the additional value.

To find the answer both the value chain and the packaging supply chain were researched; the first for understanding the parties involved in the value creation process and the second for understanding the market needs for a packaging product. In total 25 semi-structured interviews were held with the involved parties along these chains (7 internal and 18 external interviews) and in addition a secondary literature research was used to generate input for aspects not covered with the interviews.

5.2 Conclusions

The interviewed participants all agreed that packaging is not only used for protecting the product anymore. Improved process thinking for packaging can offer great benefits in the area of transport for the whole chain and packaging also has a growing function as a marketing and communications tool to the consumer. The results from the secondary literature review and the interviews reveal that the consumer is the source of most trends and developments in the chain but the brand owner is the initiator of innovations in packaging. The brand owner is most upfront with developments in the packaging market and when collaborating with retail they have the ability to create new standards in the packaging industry.

From the data collected during the interviews, all links in the chain agreed that the brand owner is the designer for any kind of packaging. For primary packaging he is the decision maker for the design and development. While for secondary and tertiary packaging (the transportation packaging) he indicated that the retailer pushes him to design transport packaging that matches the retailers demands for maximum handling and distribution efficiency.

The characteristics of the value chain and how to approach it, depend on the segmentation of the market between commodity packaging (predefined, cost focus, “*not exciting*”) and specialty packaging (premium products, unique properties, distinguishing features).

For commodity packaging SABIC’s current market approach is the right one: focus on the convertor. The interviews with convertors and brand owners clarified that the convertor chooses the raw materials for commodity packaging. His choice is based on his and the brand owners needs; cost efficiency and constant quality.

For the specialty packaging segment the approach should be different. In this segment the brand owner chooses the materials based on his value needs. Four kinds of offerings were found during the interviews with brand owners that are valued in the specialty packaging segment. These are:

1. Unique and exclusive, new primary packaging solutions with improved functionality.
2. Cost efficient solutions for the currently used primary packaging.
3. Process optimization for the whole packaging chain with use of secondary and tertiary packaging solutions.
4. Increased environmental performance of packaging solutions

Being able to offer one of these solutions to the brand owner’s needs was found at all brand owners to be *the* strategic key to get a close and collaborative relationship with this influential and innovative link in the value chain.

The brand owner’s internal decision maker for packaging materials was in all cases the so called “packaging manager”. The role of this person is to be an intermediary who translates the demands of the different disciplines (marketing, R&D, production) involved in the packaging development process into material specifications. His job title differed from one organization to the other which can make it difficult to locate this person.

The requirements and preferences which this decision maker employs reflect the need, market and transaction uncertainties he has to cope with. The market and transaction uncertainties are straightforward and involve product safety, financially sound suppliers and the geographical location of the supplier. The need uncertainties are more complicated and involve the required shelf life, matching the production facilities and providing functionality to the consumer.

Creating solutions for these need uncertainties of the decision maker combined with one of the four offerings that are valued in the specialty packaging segment provides the basis for creating solid value offerings.

The directly and indirectly expressed packaging requirements of the interview participants are displayed in the packaging table (Page 61, table7). This table indicates where the market needs are for packaging products and what aspects packaging solutions need to fulfill in order to meet their required functionalities. By focusing on the indicated market needs for a packaging product, value propositions can be made addressing one of the first three value offerings mentioned above or the fourth offering that meets the main driver of the brand owner's customers.

The capability to offering value adding solutions is not the only requirement for having a close relationship with the brand owner. All brand owners agree that they want an open relation with their suppliers where knowledge can be shared and the focus is on delivering maximum value to the end user.

This openness was also found to be necessary in the relationship with the convertor. Early involvement of this party is needed in the innovation process for testing and for the production of the packaging when it turns to mass production. Keeping a good relation with this party is also essential for sustaining a healthy business relation, since the convertor is the decision maker for material in the commodity market segment.

Additional findings which are not directly related to the research questions but significant enough to mention are the fact that SABIC's direct competitors, the other polymer producers, have direct contact with five out of the six interviewed brand owners since 2 to 3 years already. These contacts are highly valued by them as they see great value in the polymer producer's R&D capabilities which can provide improved material functionality and knowledge about the most efficient product and processing methods.

Another finding was that the interview participants not directly connected to SABIC, were unfamiliar with SABIC's operations, products and capabilities. An obvious result is that if a decision maker is not familiar with your business, he will not see the value of your products and services.

5.3 Recommendations

The main research question was:

“How to approach the flexible packaging market for food products to capture maximum value for SABIC out of the value chain?”

The answer to this question can be given on the basis of the conclusions. As described in Chapter 1, the amount of value captured by the producer depends on three aspects. The comparison customers make between the firm’s product and service solutions, their own needs and the feasible competing offerings from other firms. The offerings of other firms can not be influenced but providing the best solution to the customer’s need is possible.

For understanding the customer needs it is important to differ the approach to the specific market segment, commodity or specialty packaging. For commodity packaging the convertor is the decision maker for materials and he should be approached with offerings that address his needs; cost efficiency and constant product quality.

For specialty packaging the convertor is not the decision maker but the brand owner is. He should be approached with tailored offerings that address his needs. But this requires more than just low costs and constant quality. The solutions should provide improvements of packaging functionality in terms of protecting/preserving the packed product, distribution efficiency or furnishing information in the widest sense (shape of the packaging, color, brand identity, etc).

The brand owner will choose the solution that provides him the highest additional value (Bowman and Ambrosini, 2000). These solutions can be offered to him by the convertor or by the polymer supplier. Since the resources of the convertor are limited, the polymer supplier has more capabilities to provide the solution with most additional value.

5.3.1 Implementation at SABIC

SABIC’s business strategy as described in the 2008 annual report is *“to responsibly provide quality products and services through innovation, learning, and operational excellence, while sustaining maximum value for our stakeholders.”* A one-liner captures it stronger: *Sharing Our Futures* (Vision of SABIC, Annual report 2008). A successful market strategy needs to be in line with the business strategy (Anderson and Narus, 1998). The present market strategy is focused on delivering value to SABIC’s direct customers (the convertors). It should be changed into delivering maximum value for the whole chain.

To focus on the brand owner and build a close and collaborative relationship with them, the current asset based market approach of SABIC should be changed into a market focused approach. The

current organizational structure of SABIC is divided on the basis of materials. But for serving the packaging market the division should be in terms of user market.

To capture maximum value in the packaging market a 5 step strategy should be followed:

1. Training and develop value propositions

Invest in training and education for packaging development at the Technical Marketing departments. Strong value propositions involve multiple disciplines (logistics, material knowledge, food technology, legislations etc) that need to be understood. To offer the complete package and be a worthy discussion partner for the packaging manager the same “language” needs to be spoken. One needs to speak in terms of product functionality instead of material properties.

At the same time value offerings should be developed for the indicated market needs in the packaging table. SABIC should start with providing solutions for the mechanical and physical vulnerabilities since these match the current capabilities of SABIC and can be useful for primary, secondary and tertiary packaging. In this way value can be added to the protection and distribution functionality which has direct effects in terms of efficiency.

2. Build network with brand owners

The second step is building a network with the brand owners and then specifically with the decision maker (the packaging manager) to show your strengths and capabilities. With a proactive attitude, which expresses itself in organizing workshops, participating in packaging conferences and packaging organizations, a network can be build with packaging specialists along the value chain. In this way there can be worked on collaborative relationships in which SABIC will be able to develop value adding offerings for the whole value chain.

One person (suggested job title: “Packaging Value Manager”) should be appointed or hired to be the translator between the required packaging functions and SABIC’s material properties. This person should be supported by the technical marketing departments of the current business units. His primary focus should be on the technical aspects of packaging but he should also have the power to make commercial decisions.

3. Go directly to packaging manager

When the improved skills are present the solutions for the brand owner’s needs can be provided. These should be in terms of cost efficient solutions for the currently used primary packaging, unique and new primary packaging solutions with improved functionality, secondary and tertiary packaging solutions for process optimization serving the whole packaging chain or solutions for increased environmental performance of the packaging. These solutions should be directly offered to the brand owner without involving the

converter. This party is not open to change and will try to influence the offering to his benefit, which is not the same benefit as the brand owner is looking for.

4. After packaging concept is chosen immediately involve converter

When a packaging solution is chosen by the brand owner, the converter should be involved as soon as possible. In order to build a long term beneficial and sustainable relationship with the brand owner as well as with the converter, since he is still of high influence in the commodity market, it is important to involve the converter in an early stage in the process and “put all one's cards on the table” as an interviewee said.

5. Work on open, collaborative relationship and improve offerings

When the relationship with the brand owner is becoming stronger and more knowledge has been exchanged, the gained experience in this relation can be used to shift the focus of the value offerings. Additional value can be offer by providing packaging solutions that fulfill the biological, chemical and biochemical vulnerabilities and improve the functionality of the primary packaging. The value addition of these packaging solutions is higher however these are more complex to master.

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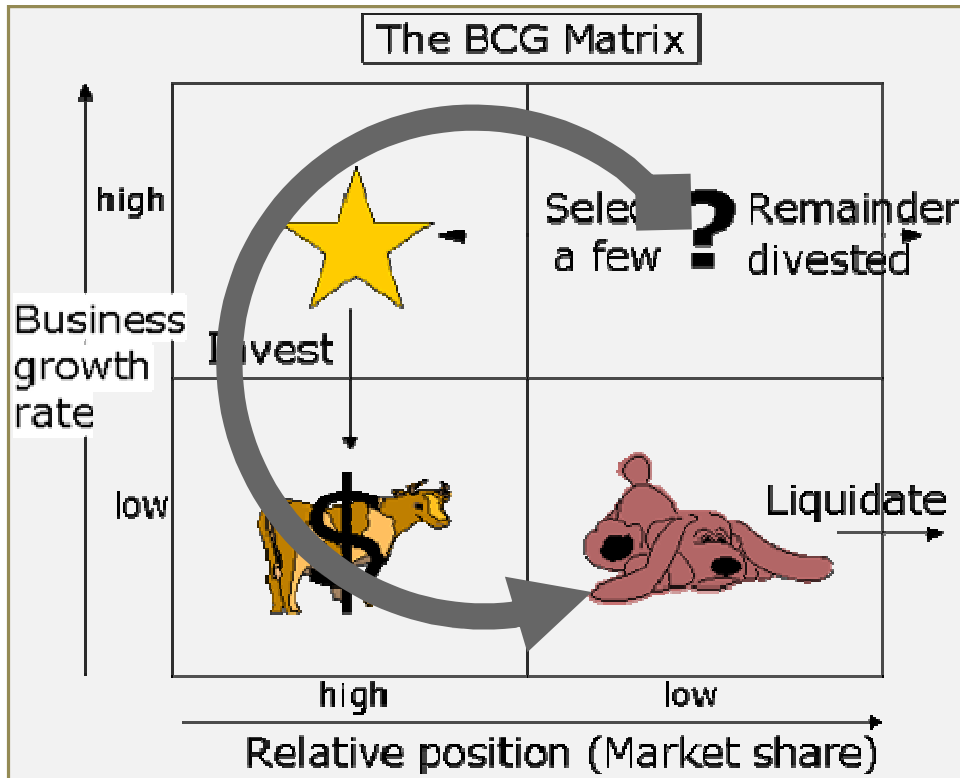
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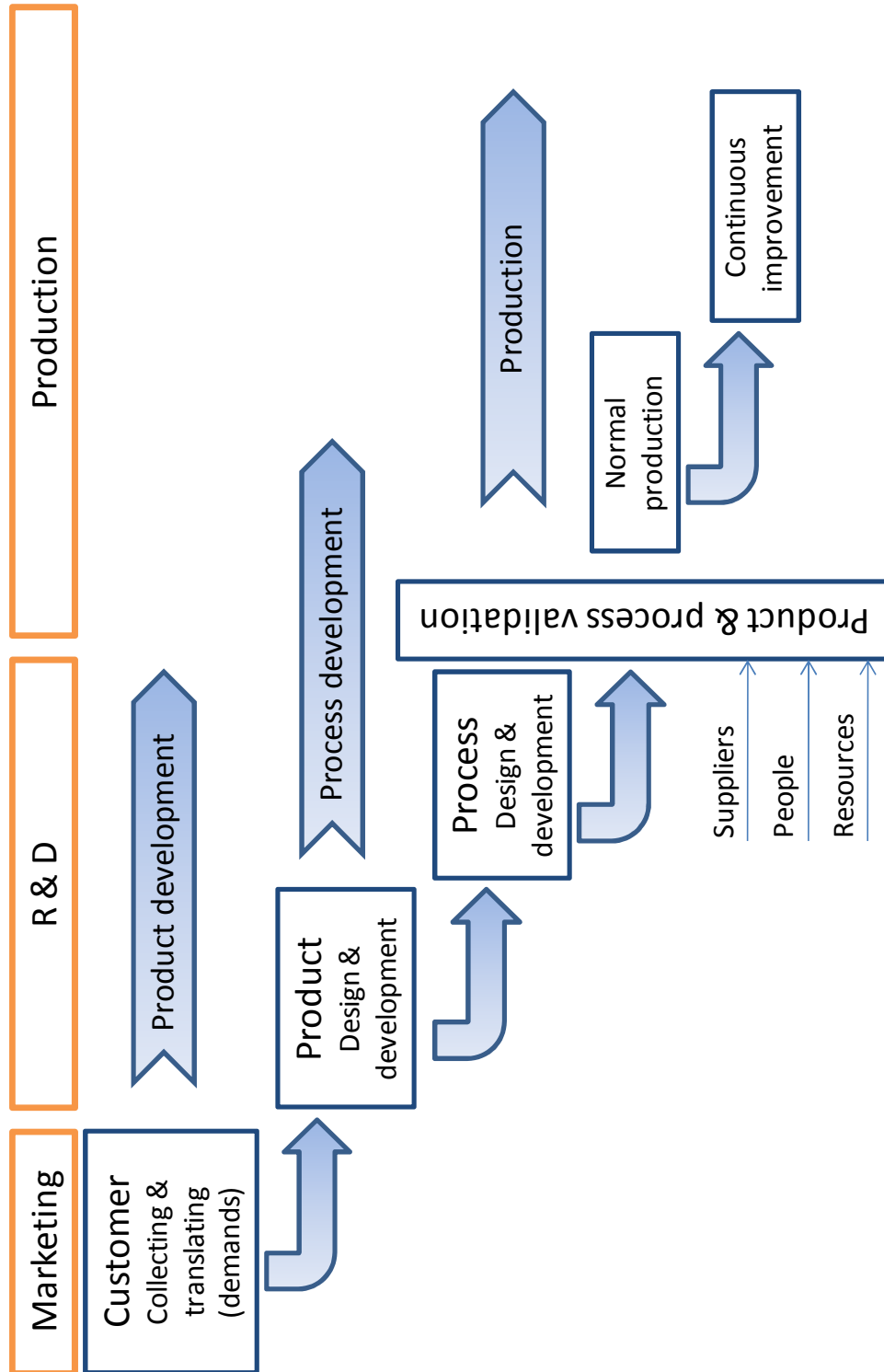
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Appendix A



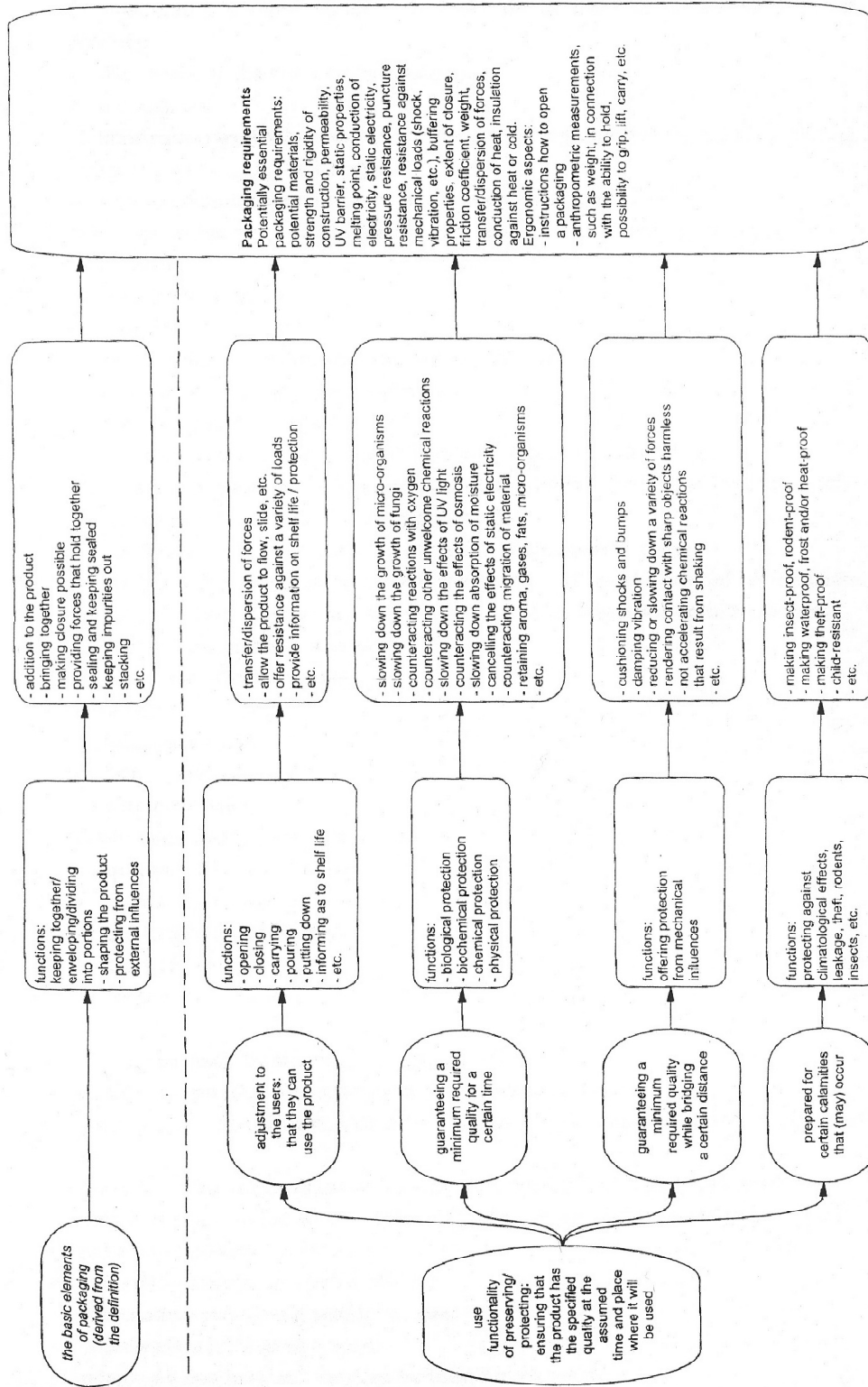
Appendix B



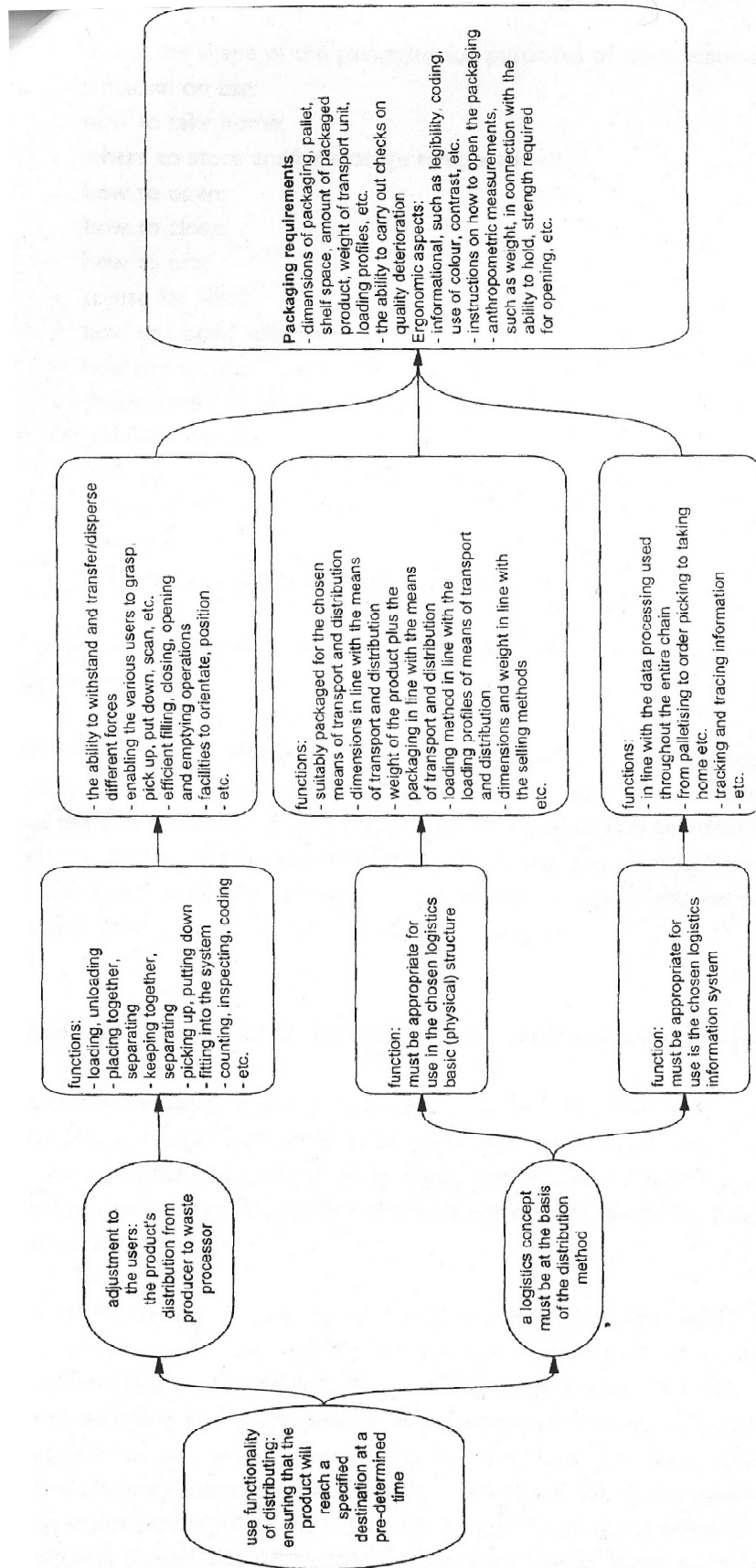
Ten Klooster, Verpakking buitenstebinnen, (2007)

Appendix C

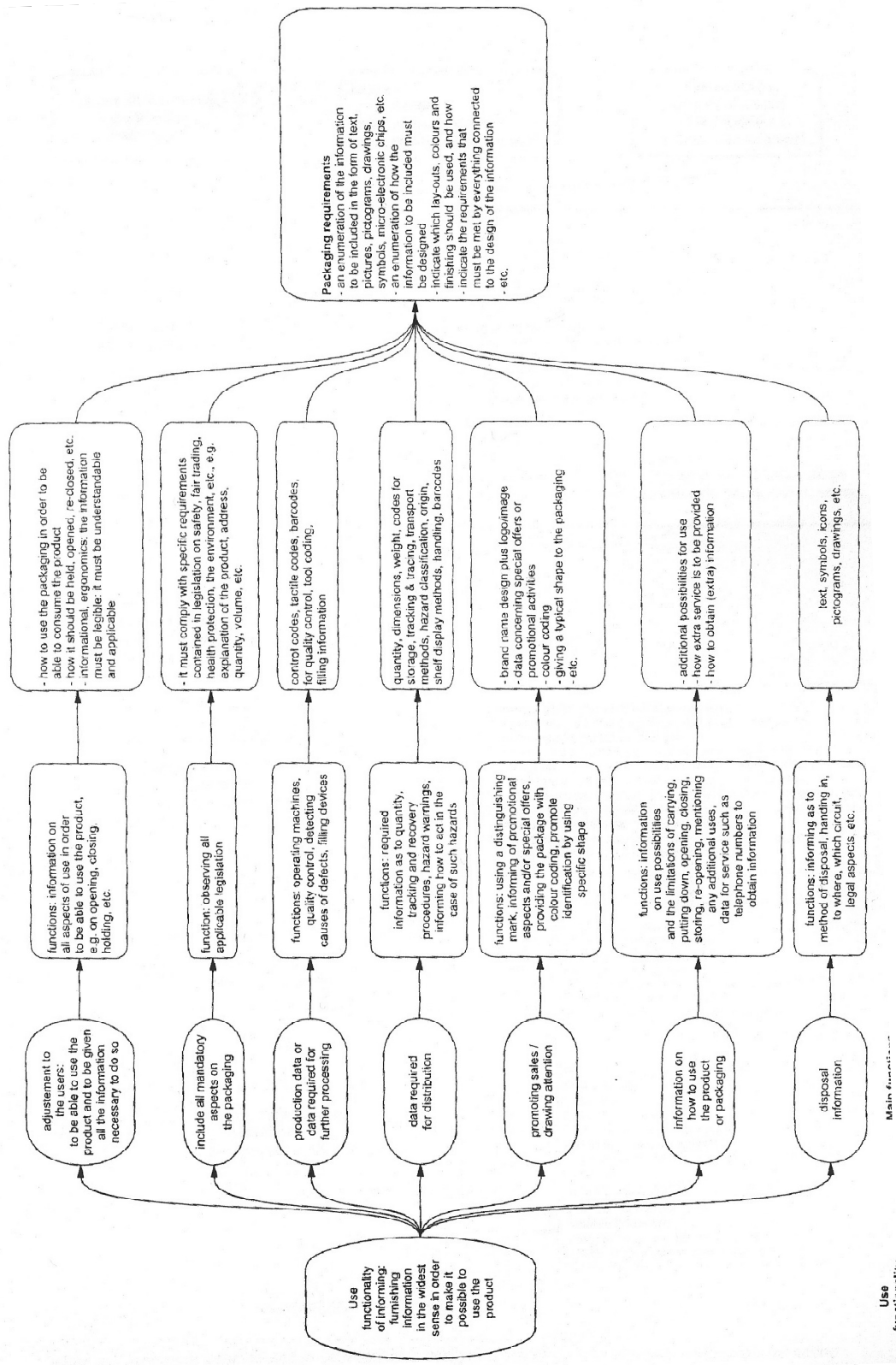
Protect/preserve functionality (Ten Klooster, 2002)



Distribute functionality (Ten Klooster, 2002)



Inform functionality (Ten Klooster, 2002)



Appendix D

Semi-structured interview script:

1. Short description of researchers personal background.
2. What is your professional background?
3. What does your job description embodies?
4. Short description of the research scope and goal.
 - Research involves **plastics for flexible packaging of food products**
 - Focus is on **primary, secondary** and **tertiary** packaging
 - Applications of interest are research are:
 - **Automatic packaging**
 - **Lamination**
 - **Shrink film**
5. Main questions:
 1. What are the differences in functional demands P,S and T packaging?
 2. How is the balance between these criteria?
 3. Which criteria need to be met before material or packaging gets approved?
 4. How is the balance between the criteria for material choice?
 5. Who is the decision maker in the packaging value chain?
 6. How is a packaging developed within your firm? Which parties are involved?
 7. Which characteristics can be distinguished between your direct and indirect suppliers?
What determines the choice for doing business?
 8. What are your customers buying motives? How do you distinguish yourself?

Appendix E

Commodity packaging:

Commodity packaging	Weight factor	Polymer supplier	Converting industry	Brand owner	Retailer
Coercion	1	0	0	1	1
Reward	2	0	1	1	1
Legal	1	0	0	0	0
Referent	3	1	0	2	1
Expert	3	1	2	1	2
Total weighted score	[Power base] x [Weight factor]	6	8	12	12

Specialty packaging:

Specialty packaging	Weight factor	Polymer supplier	Converting industry	Brand owner	Retailer
Coercion	1	0	0	1	1
Reward	2	1	0	1	1
Legal	1	0	0	0	0
Referent	3	1	0	2	1
Expert	3	2	1-2	1	2
Total weighted score	[Power base] x [Weight factor]	11	3-6	12	12