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Finding Methods for Innovative Packaging Development

The Card Approach

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Lund, 10 December 2012

Finding Methods for Innovative Packaging Development: The Card Approach

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Abstract

Innovation strategies are crucial for corporate success and should be a top priority for packaging companies. However, to improve the innovativeness of packaging manufacturers, there is a need to increase the integration of product and packaging development and collaboration within the supply chain. New methods for innovative packaging development are needed.

Packaging plays a valuable role in the marketing and distribution of products, and can thus add great value for actors in the supply chain as well as for consumers. However, packaging's great potential to add value seems to be overlooked and neglected, which appears to be the result of too little knowledge. Collaboration between supply chain actors is limited and packaging development does generally not start until the product is almost finished and ready for production, which restricts the packaging innovation potential. If the product and the package can instead be developed in a more integrated manner, this would improve the competitiveness of the total product-packaging-complex.

Packaging development is a complex process with many different parameters that must be addressed, such as product requirements, distribution of products, the retailer, the consumer and sustainability. A holistic and systematic approach is thus of great importance. To enable this process, researchers have called for a facilitating and holistic method for packaging development, contemplating the known and potential benefits of integrated product and packaging development and supply chain collaboration.

This report presents the results of a case study that evaluates a carton packaging company's new method for innovative packaging development. This method, *The Card Approach*, should be applied at the very beginning of the packaging development process and is an interactive way of performing a packaging requirement analysis in collaboration with the packaging company's customer.

The report concludes that many benefits can be gained from implementing the Card Approach. This new approach will result in a very thorough packaging requirement analysis, which in turn will increase the potential to develop optimised packaging. By using it as a standard approach at the company, the packaging development and hence the actual offering will be improved and more effective, and internal collaboration and communication will increase. Application of the Card Approach should enhance the potential of innovative packaging solutions because, among other things, it should increase the integration of product and packaging development, and supply chain collaboration.

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1. Introduction

Finding methods for innovative packaging development is an important task. Innovation strategies are recognised as crucial for corporate success (Wells et al. 2007; Olander-Roese and Nilsson 2009) and packaging companies should make innovation one of their top priorities (Kalkowski 2010). Great advantages when developing innovative packages are identified for both customers and end-consumers, considering for example protection and marketing aspects (Paine 1990). However, although the packaging industry's innovation capability is increasing, driven by aspects such as globalisation, changes in demographics and lifestyles (Azzi et al. 2012), there is still great potential for improving the innovativeness in supply chain packaging systems according to the results from a Swedish survey (Saghir 2004).

The package is an essential part of the total product offering (George 2005; Wells et al. 2007; Simms and Trott 2010) and packaging may help to enhance the value of products (Lutters and ten Klooster 2008; Olander-Roese and Nilsson 2009; Simms and Trott 2010). However, the importance and potential of packaging often seem to be disregarded; instead, negative views about packaging exist, regarding issues such as unnecessary costs and environmental concerns (Olander-Roese and Nilsson 2009; Simms and Trott 2010; Hellström and Nilsson 2011; Mensonen 2012). In general there is a need to acknowledge more of the great potential of packaging as a value creator for the product-packaging-complex (Olsson and Larsson 2009), and packaging ideas and concerns should be considered as more important during product development (Simms and Trott 2010). Currently, packaging considerations are generally not made until towards the end of the product development process (Motte et al. 2007; Bramklev 2009; Olander-Roese and Nilsson 2009; Olsson and Larsson 2009; Simms and Trott 2010). To achieve an optimised product-packaging-complex, the development processes of product and packaging must be performed in parallel (Olsson and Larsson 2009), and concurrent, integrated packaging/product development is preferable (Lutters and ten Klooster 2008; Olander-Roese and Nilsson 2009).

Manufacturers of consumer and industrial products commonly outsource packaging development to packaging suppliers. Unfortunately, collaboration and communication between the different actors is then rare (Bramklev 2007; Olander-Roese and Nilsson 2009; Hellström and Nilsson 2011). Packaging manufacturers often take a passive role as suppliers to product manufacturers (Bramklev 2009). They simply develop the package that the product manufacturer (the customer) has asked for, even though this might not always be the most optimal solution (Paine 1990). For successful development and innovation processes, though, a complete understanding of the customer is needed (Olsson et al. 2008).

Consequently, companies can gain by including customers and suppliers more in their innovation processes, because as Tidd and Bessant (2009) state: "Innovation doesn't take place in isolation". It is advantageous for companies to utilise and benefit from their suppliers' expertise, as this may lead to improved processes as well as saving in expenditures and time (Tidd and Bessant 2009). Thus, supply chains need to become more integrated and collaborative and the supply chain actors need to understand the value of packaging. To develop successful packaging, packaging manufacturers must understand, consider and meet the needs of *all* supply chain actors, as well as the end-consumers, as the various actors' requirements will differ (Olsson et al. 2008; Simms and Trott 2010).

Recognisably, successful packaging development is a very complicated matter (Simms and Trott 2010). It includes considering various important packaging aspects and requirements (described more comprehensively in this report). The amount of research conducted on packaging design has increased in recent years (Azzi et al. 2012) but more is needed (Simms and Trott 2010). Azzi et al. call for the application of a more holistic approach to packaging design research. All different dimensions of packaging should be analysed together and holistic packaging development methods are needed (Azzi et al. 2012).

This report presents the results of a case study that examines the packaging development process of a cardboard packaging company; Å&R Carton. The company delivers packaging solutions to various consumer market segments. The company's focus is to provide *primary packaging* that will be handled by the end-consumers. Currently the packaging company is developing a new, interactive method for packaging development: *The Card Approach*. The objective of the approach is that the packaging company and its customers in cooperation should perform a thorough packaging requirement analysis, aided by a deck of cards that present and illustrate various packaging parameters. The Card Approach constitutes a comprehensive method for interactive inquiry with the potential for generating innovative packaging solutions.

The purpose of the performed case study was to evaluate Å&R Carton's new method for packaging development and conclude whether or not it fosters innovation. This report examines packaging development holistically, addressing all important parameters for successful development. The case study and accompanying literature review were carried out in the framework of a research project on integrated product and packaging development and innovation, funded by the Bo Rydin Foundation.

When referring to packaging manufacturers in this report, these are converters of packaging. Their customers – the product manufacturers (also known as brand owners) – are mainly producers of consumer and pharmaceutical goods.

The report is structured as follows:

- The research approach to the case study is described in section 2.
- The results of the literature review on packaging development are presented in section 3 and consider packaging importance, the current situation and challenges.
- The results from the case study at the packaging company are presented in section 4, including a description of the Card Approach.
- The value of the Card Approach is evaluated and discussed in section 5.
- Section 6 presents the conclusions.
- Section 7 includes further reflections on the Card Approach, considering potential weaknesses and its innovativeness.

2. Research approach

This report is a result of a case study and a literature study, performed within a research project funded by the Bo Rydin Foundation. The case study was carried out at Å&R Carton, a Swedish carton packaging company, between May and August of 2012. It focused on the company's new packaging development process, the Card Approach. During the case study, one researcher was positioned at the actual packaging company, having her workplace there. This resulted in daily interaction with the employees. Information for the case study was gathered by analysing existing material about the packaging company and the new packaging development approach. In addition, in-depth interviews and discussions were performed on several occasions with employees in different positions at the company including:

- A key account manager
- Packaging designers and developers (2 people)
- A group innovation manager
- A group marketing manager

Selection criteria for the interviewees were that they were acquainted with the Card Approach, but had different tasks in the company in order to obtain a comprehensive view. The interviews and discussions focused on important aspects of packaging development at the packaging company and how to integrate the company's customers in the packaging development process. In particular the interview questions regarded challenges for the packaging company, the categories included in the new packaging development approach, how to apply the approach, along with experiences, values and drawbacks of the approach.

A literature review was performed as a complement to the case study. It focused on packaging development and innovation. The literature selection was based on the purpose of evaluating the Card Approach as an innovative packaging development method. Literature was retrieved from previous research carried out at the Division for Packaging Logistics at Lund University, from academic articles on packaging values, packaging development, integrated product and packaging development, as well as from innovation management literature.

The roles of the three researchers performing this study have differed. The one positioned at the packaging company carried out the main research work of both the case study and the literature review. The second researcher provided the framework for the study, helped with the literature search and acted as a discussion partner to bring the work forwards. The third researcher mainly functioned as a supervisor.

3. Packaging development in the literature

3.1. The importance of packaging

The importance of packaging is growing and reasons are increasing logistical costs, the progress of packaging technology and increased environmental consideration (Azzi et al. 2012). Packaging has the potential of adding value both for consumers and all actors within the supply chain throughout the product lifecycle; it is also recognised for being valuable for the distribution and the marketing of products (Olsson and Györei 2002; Olander-Roese and Nilsson 2009; Olsson and Larsson 2009).

One conclusion is that more value than cost can be achieved from successful packaging designs (Sandom 2008). Another is that cost reduction and improved profits due to packaging design can be achieved by, for example, cost-effective material choices, improvement of sales, and customising packaging designs for manufacturing and logistic processes (Azzi et al. 2012).

Various success cases of improved package designs were found in the literature. Benefits from re-designs of packages can be logistical, environmental, product and market related (Hellström and Nilsson 2011). The benefits gained in these success cases are, for example, reduced material need while increasing the strength of the package (Lutters and ten Klooster 2008), reduced packaging volume that made the package more user and environmentally friendly (Olander-Roese and Nilsson 2009), reduced expenses (e.g. less goods damage, less transport) (Hellström and Nilsson 2011), and increased consumer value (Mensonen 2012).

Moreover, Olander-Roese and Nilsson state that: “Packaging has a potential of being a driver for innovation”. For example, instead of the standard practice where packaging design is decided based on the product design, the reverse can occur. This means that package design sometimes can have a significant and beneficial impact on the design and development of the product. Packaging can also impact innovation within marketing processes (Olander-Roese and Nilsson 2009), and in logistic and distribution systems (Rundh 2009).

3.1.1. Purpose of packaging

Although the function of packaging varies depending on its type (Hellström and Nilsson 2011), three main purposes of packaging can be found in literature: I) protection, II) convenience, and III) communication (Prendergast 1995; Lockhart 1997; Lutters and ten Klooster 2008; Simms and Trott 2010; Mensonen 2012).

Protection

The package should first of all protect the product on its way from manufacturer to the end-consumer (Sara 1990; Simms and Trott 2010). This aspect is the most basic and important purpose of packaging (Lutters and ten Klooster 2008; Azzi et al. 2012). Reasons as to why protection and preservation are so important include economical and legislative issues. The protective function of the packaging can be divided into two parts (Azzi et al. 2012):

1. Product and package safety – protection against deteriorating environmental factors.
2. Environmental safety – protecting ecosystems and human health from packaging components and contents (Azzi et al. 2012).

Convenience

The package aims to facilitate the handling and usage of the product it contains and make handling as convenient and user-friendly as possible.

Packaging should ensure that the product can be distributed (Lutters and ten Klooster 2008) and handled safely, effectively and efficiently all along the supply chain, from manufacturer to the end-consumer. This includes aspects such as transport, distribution, storage, retailing, consumption and package disposal (Saghir 2002). Packaging must thus meet the requirements from both the production and packaging line, as well as from customers and consumers (Paine 1990). For operators within the supply chain, the convenience aspect can include that the packaging should be ergonomic during handling (Azzi et al. 2012); for end-consumers the packaging should be convenient to use (Silayoi and Speece 2004) when it comes to opening and carrying features, for example (Simms and Trott 2010; Azzi et al. 2012). In section 3.2.3., convenience during distribution is discussed in terms of logistics.

Communication

Previous research emphasises the increasing importance of the communicating role of packages (Underwood et al. 2001; Rundh 2009).

The package should communicate information about the product to stakeholders along the supply chain and to consumers (Lutters and ten Klooster 2008). This purpose is split into two. Firstly it is about providing practical product information on destination, means of handling, nutritional information, health claims, etc. (Hellström and Saghir 2007; Hawkes 2010). But often more importantly, the package can work as a marketing tool that communicates with the end-customer at the actual point of sale (Gray and Guthrie 1990; Silayoi and Speece 2007; Wells et al. 2007; Hawkes 2010; Simms and Trott 2010). The marketing function of packaging is discussed more thoroughly in section 3.1.3.

3.1.2. Impact on logistics and the supply chain

Packaging constitutes the most vital interface between the product and its logistical system (Saghir 2004) and is thus an essential logistical tool. Packaging has the potential to enhance the efficiency and effectiveness of the whole supply chain (Olander-Roese and Nilsson 2009; Simms and Trott 2010; Azzi et al. 2012). Effectiveness includes marketing and promotional aspects, and improving sales communication to customers. The supply chain efficiency concerns aspects such as logistics, return flows, traceability and protection of goods (Saghir 2004; Bowersox and Closs 1996). Accordingly, packaging design can have large effects on the supply chain costs and performance. Integration and collaboration of logistic processes and packaging design can thus be beneficial for companies (Azzi et al. 2012).

Figure 1 illustrates the actors that are influenced by packaging performance.

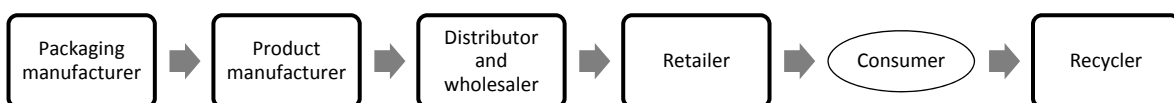


Figure 1. The actors of the supply chain affected by packaging performance derived and developed from Olander-Roese and Nilsson (2009), Simms and Trott (2010), and Hellström and Nilsson (2011).

The packaging design will impact the performance of various logistic activities within the supply chain such as handling, storage, filling, transportation and disposal (Olander-Roese and Nilsson 2009; Azzi et al. 2012). Packaging also has the potential to lower costs by reducing goods damage, and improving “cube utilisation” during transportation (Hellström and Nilsson 2011).

Packaging innovation may lead to successful new logistic solutions and distribution systems (examples are Tetra Pak and IKEA) (Rundh 2009), and/or the ability to penetrate new markets, where logistic requirements differs (Hellström and Nilsson 2011).

3.1.3. Packaging as a marketing tool

Product packaging is recognised as a vital part of the marketing mix (Sara 1990; Olsson and Györei 2002; Olander-Roese and Nilsson 2009; Rundh 2009; Hawkes 2010; Simms and Trott 2010; Hellström and Nilsson 2011). This in fact can influence the market position of a product (Olsson and Györei 2002). The importance of the package in marketing can be explained by the fact that the package is the only marketing tool of the product that is physically bound to it (Mensonen 2012). Additional explanations are that not all brands can carry the expenditure of a national advertising campaign (Wells et al. 2007), along with the fact that consumers nowadays have started to trust their own judgement and taste rather than being convinced by traditional marketing measures (George 2005). In the USA there seems to be a change in product marketing trends, leading to less traditional marketing (through television, print, internet, etc.) and more indirect promotion (McGinnis et al. 2006) that can include packaging marketing. Employing packaging as a marketing tool is in fact a growing concept (Hawkes 2010), but Sara (1990) and Mensonen (2012) argue that marketing professionals still neglect packaging to a high extent.

As stated in section 3.1.1., packaging communicates with the end-customer at the actual point of sale. Often the consumers’ purchase decisions are made at this point (Silayoi and Speece 2007; Wells et al. 2007). Azzi et al. (2012) claim that as much as approximately two thirds of the purchase decisions are made at this point in the store. This highlights the importance of packages as marketing tools, as the package represents the final marketing possibility for the brand and communicates with the consumer when he or she is in the act of making a purchase decision (Rundh 2009). Packaging is sometimes referred to as the “silent salesman” (Sara 1990; Wells et al. 2007).

In accordance with this, packaging has been shown to have an imperative impact on consumers’ purchase decisions and product choices (Sara 1990; Silayoi and Speece 2004; Silayoi and Speece 2007; Wells et al. 2007). Wells et al. (2007) found that 73% of the consumers interviewed stated that packaging influenced their purchase decision.

The most important marketing function of the package in the store is to rapidly attract the customer’s attention and to differentiate the product from competing products and brands (Sara 1990; Underwood et al. 2001; Mensonen 2012). Consequently, packaging is vital when it comes to assisting in product differentiation (Wells et al. 2007; Olander-Roese and Nilsson 2009; Rundh 2009; Hawkes 2010) and creating brand awareness (Wells et al. 2007; Rundh 2009; Hawkes 2010; Simms and Trott 2010). The package then needs to be persuading and communicate the values of the product (Rundh 2009; Azzi et al. 2012). When consumers choose products and evaluate product quality, much attention is placed on extrinsic features of the package (Wells et al. 2007). These

should help the consumer to intuitively understand the differences between various products (George 2005).

Moreover, the package design influences the consumers' perception of the value and quality of the product and the brand (George 2005; Olsson and Larsson 2009; Hawkes 2010; Simms and Trott 2010). Thus a successful package can generate a positive product perception and enhance the product (Wells et al. 2007; Simms and Trott 2010).

Since the package is part of the product offering (George 2005; Wells et al. 2007; Rundh 2009), the package design should complement the product (Bramklev et al. 2005). Thus, for successful packaging marketing, the package must convey an identity that is harmonised with the brand and the actual product (Mensonen 2012). In some cases, such as bottled water (Simms and Trott 2010), the package is in fact the product in the consumers' eyes (Silayoi and Speece 2004; George 2005; Hawkes 2010), which highlights the importance of well-thought-out packaging even more. Since packaging and product are interlocked, packaging should have an impact on product development and production (Olander-Roese and Nilsson 2009). This is further discussed in section 3.3.3.

3.2. Packaging development

3.2.1. Current situation

The general procedure of packaging development does not start until a specific product is almost finished and ready for production (Olander-Roese and Nilsson 2009; Olsson and Larsson 2009). Figure 2 illustrates the standard approach to product and packaging development.

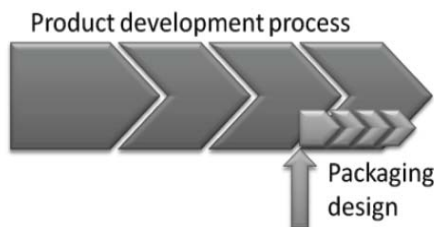


Figure 2. The standard approach to product and packaging development. The figure is taken from Olander-Roese and Nilsson (2009).

Thus, packaging considerations are generally not made until towards the end of the product development (Motte et al. 2007; Bramklev 2009; Olander-Roese and Nilsson 2009; Olsson and Larsson 2009; Simms and Trott 2010). According to the results from surveys performed on the product manufacturing industry, product manufacturers at this stage establish package definitions and specifications. Decisions about what kind of package should be developed are taken. After this, packaging manufacturers may be engaged to develop and manufacture the intended package as a supplier (Bramklev 2009).

In a multiple case study of the packaging manufacturing industry, Bramklev identified three package development stages; see Figure 3 (Bramklev 2009).

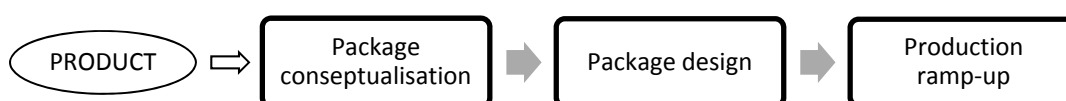


Figure 3. Four stages in the packaging development process (Bramklev 2009).

In package conceptualisation, the package specifications are determined by the product manufacturer. Packaging concepts are then developed by either a design bureau or the packaging manufacturer before a final concept is chosen. This concept is then further refined during the package design stage, performed by the package manufacturer. Prototypes are constructed and tested, and technical documentation for the production of the package is compiled. Finally, in the production ramp-up stage the production line is developed, implemented and quality assured (Bramklev 2009).

In addition, before the actual package development process, a package planning phase can be performed by the packaging company. In this strategic phase, market opportunities are identified and evaluated and potential package concepts are gathered in a concept portfolio. This portfolio includes package concepts that meet the demands of the market, which can be used in future packaging projects. Successful solutions from previous projects can also be kept in this portfolio (Bramklev 2009).

Bramklev stresses that the packaging development processes that are industrially employed do not seem to be based on theoretical findings, but on practical experience (Bramklev 2009).

3.2.2. Previously suggested methods and frameworks

Packaging development is complex, as will be described in greater detail in section 3.3.2. Many researchers have tried to develop methods to facilitate and improve the development process (see section 3.3.1 for further examples). Lutters and ten Klooster (2008) propose that packaging development should be based on the *functions* the package should be able to perform, instead of being based on technical specifications established by the product, as is normally the case. Lutters and ten Klooster's concept limits the development process as little as possible, enhancing the innovation potential of the packaging (Lutters and ten Klooster 2008).

However, according to Azzi et al., other researchers have failed to address *all* the important parameters concerning packaging. They have determined five main drivers that should be considered during packaging development. These drivers are claimed to be the most important issues to achieve a successful packaging solution: 1) safety, 2) logistics, 3) marketing, 4) sustainability, 5) ergonomics. The authors also state that the drivers are very interdependent, as they interact with each other, and that compromises between different drivers may be necessary (Azzi et al. 2012).

3.2.3. Important parameters in packaging development

This section addresses important parameters that according to the literature should be considered and understood in packaging development:

- Product
- Distribution
- Retailer
- Consumer
- Sustainability
- Additional parameters: technology advances and adapting to globalisation

All the parameters should be assessed and translated into package attributes. However, there will often be a need for compromising between different parameters (Rundh 2009; Hellström and Nilsson

2011; Azzi et al. 2012). Thus, it is of great importance that a holistic and systematic approach is applied during packaging development.

The product

Packaging development is often greatly dictated by the product requirements and properties (Lutters and ten Klooster 2008). Important product characteristics to take into account are the protective and preserving requirements (Lutters and ten Klooster 2008; Azzi et al. 2012). Since the packaging is an important part of the product, it is also essential that it communicates a message that corresponds with the product and reflects the brand (Rundh 2009; Hawkes 2010).

It is thus essential that the packaging development is performed in close collaboration with the customer (Rundh 2009). To achieve the best possible product-package complex, packaging ideas needs to be considered during the product development process (Simms and Trott 2010). The integration of product and packaging development is further addressed in section 3.3.3.

Distribution

Between the manufacturers and end-consumer there are many intermediate distribution steps, such as transport and storage, that need to be considered during the packaging development (Simms and Trott 2010).

First of all, the characteristics of the distribution system must be taken into account for safety and protective reasons. The packaging must to be able to resist various strains during the distribution steps, including temperature changes, humidity, water, radiation, microorganisms, chemicals, vibrations, etc. (Azzi et al. 2012). Moreover, the manual handling of the packaging (especially industrial packaging) along the distribution system may need to be considered, as it can be beneficial to improve the ergonomic features of the packaging. Packaging characteristics that may be influenced are for example weight and dimension, to improve the distributors' efficiency and protect employee health (Azzi et al. 2012). The packaging also needs to communicate sufficient and accurate information about the content during the distribution steps, so that it is handled correctly, sent to the correct destinations, etc. (Hellström and Saghir 2007; Lutters and ten Klooster 2008).

The importance of packaging for logistical issues and supply chain performance has been addressed in the literature (e.g. Rundh 2009; Olander-Roese and Nilsson 2009; Azzi et al. 2012) (see section 3.1.2. above). Even a small alteration in the product or package can have a large impact on the whole supply chain (Klevås and Saghir 2004). Simms and Trott (2010) argue that all actors in the supply chain that come in contact with the package should be considered during the packaging development, as packaging often plays a key role in their processes (Simms and Trott 2010) (see Figure 1). If collaboration between all channel partners is implemented this can lead to improved performance because it enables increased customer value and competitiveness (Simms and Trott 2010; Hellström and Nilsson 2011). To be successful in integrating the supply chain into packaging development, all actors must accept and welcome the co-operation (Olander-Roese and Nilsson 2009).

However, little consideration is still taken to logistics and supply chain requirements when packages are developed (Saghir 2004; Bramklev and Hansen 2007), despite the recognised benefits.

Packaging layers

During the distribution of products, a number of different packaging layers (often referred to as primary, secondary and tertiary packaging) will be employed (Simms and Trott 2010). Together these layers constitute a packaging system (Olsson and Larsson 2009). As the different layers impact one another (Simms and Trott 2010), the interactions between the layers must be taken into account during packaging development (Simms and Trott 2010; Hellström and Nilsson 2011). For example, the filling rate of each layer should be as high as possible, minimising the total amount of air in the packaging system to ensure optimal performance (Olsson and Larsson 2009). Nevertheless, the benefits of a concurrent development of the different packaging layers are often disregarded (Klevås and Saghir 2004).

The different layers have different purposes and may thus be of different importance for various supply chain actors (Simms and Trott 2010).

Simplified, packaging layers can be classified into:

1. Primary packaging – in contact with the product, and often with marketing related functions.
2. Industrial packaging – enables distribution within the supply chain, normally secondary and tertiary packaging (Azzi et al. 2012).

The retailer

The packaging requirements of the retailer are essential to take into account during packaging development, as the product otherwise might not be accepted in the store (Simms and Trott 2010). Big and powerful retailers in particular can have a great impact on packaging designs (Rundh 2009). Understanding the retailer can also result in new packaging ideas. An example of packaging designed based on retailers' needs is "shelf ready" packaging, which reduces retailers' costs, since products do not need to be repacked in the store (Rundh 2009; Simms and Trott 2010).

Furthermore, the retail environment needs to be considered in the packaging development in order to optimise the communicative performance of the packaging (Sara 1990; George 2005; Simms and Trott 2010). This includes aspects such as likely positioning in the store, amount and dimensions of available space for the product, type of display, and likely visibility of the product (Sara 1990; Simms and Trott 2010).

The consumer

As a packaging designer, it is very important to understand who the end-customer is (Olander-Roese and Nilsson 2009; Simms and Trott 2010), especially as today's consumers are increasingly demanding in terms of what they want and need (Olsson and Györei 2002; Wells et al. 2007).

Different package designs will attract different types of consumers (Rundh 2009), and thus the target consumer of the package should be profiled (Sara 1990). Target groups can be defined by life stages and ages, but also attitudes, such as ethical beliefs (Rundh 2009). Demographic and lifestyle factors also influence consumer behaviour (Rundh 2009). If the package is designed with regard to a specific target consumer profile, this can, for example, result in improved brand awareness (Wells et al. 2007). Differentiated packaging targeting specific consumer groups is becoming increasingly important when it comes to brand marketing (Rundh 2009).

Examples of package properties that can affect consumer behaviour differently, depending on the group, are shape, colour and technological features (Silayoi and Speece 2004, Silayoi and Speece 2007). Hence, understanding how different packaging features influence different consumers' shopping behaviour is of importance (Wells et al. 2007). An example is that consumers who have limited time for shopping tend to pay more attention to extrinsic features, such as visual images (Wells et al. 2007). Pictures and graphics on packages can make the consumer pay attention to the package, but may also generate positive associations and emotions (Rundh 2009). Moreover, selection of packaging colour can have a great impact on product sales. Consumers unconsciously associate colours with different attributes, such as male/female, temperatures, etc. It is important to keep in mind that colours have different associations in different cultures (Sara 1990).

A vital aspect to remember is that the packaging properties must be balanced so that the package sells products, but also satisfies consumers in the long run (Rundh 2009; Simms and Trott 2010). Packaging's importance as a marketing tool was addressed in section 3.1.3.

Consumer satisfaction

It is vital that the consumers are satisfied with the package as this otherwise may have a negative impact on the product's success (Simms and Trott 2010). For example, low quality packaging can result in consumer complaints that damage the brand (Rundh 2009).

Overall, the consumer experience of the package must be great and it is thus important to understand how the package will be used, consumed and/or disposed (Olsson and Larsson 2009). Integrating the consumers in the package development process can be valuable. This may result in an increased number of packaging ideas and can also enhance the package's ability to communicate with consumers (Simms and Trott 2010). User-friendliness and convenience of the packaging features are also very important (Silayoi and Speece 2007; Azzi et al. 2012) and may be something that consumers are prepared to pay extra for (George 2005).

Sustainability

Environmental sustainability is often addressed when it comes to packaging, but Azzi et al. (2012) conclude that packaging sustainability consists of three aspects: environmental sustainability, social sustainability, and economic sustainability. All three can be greatly influenced by even small changes in packaging systems (Azzi et al. 2012).

Environmental sustainability

Packaging companies need to meet requirements for environmental sustainability set up by consumers (Simms and Trott 2010), as well as national policies and regulations (Azzi et al. 2012). The demands for environmentally friendly packaging is rising (Mensonen 2012) and packaging can, of course, play an important role as companies strive to reduce their environmental impact (Simms and Trott 2010; Hellström and Nilsson 2011).

Means such as minimising unnecessary waste and increasing recyclability may be applicable for decreasing the environmental impact, however other means can be equally important (Mensonen 2012). When the environmental impact of packaging is evaluated, logistic activities, such as minimising transportation, is of great importance (Hellström and Nilsson 2011). In addition, packaging developer must ensure that that the packaging protects the surrounding environment from the packaging components and content (Azzi et al. 2012). Developing packaging with second

usage possibilities (beyond just being a container of the product) (Mensonen 2012) might also be a method for supporting sustainability, as it will reduce the current “throw-away mentality” (Azzi et al. 2012).

Some consumers even make purchase decisions based on the recyclability of the package. In order for the consumers to recycle the packaging, though, it must be convenient and obvious how to do so (George 2005).

Social sustainability

Social sustainability of packaging is much associated with ethics and concerns, for example, facilitating recycling, conveying honest and complete information on packages, and guaranteeing safety. This is particularly important for packaging used in areas such as the food industry and healthcare (Azzi et al. 2012). A recent strong consumer trend is that brands with strong ethical identity, such as those that consider human relation issues, have become successful (Rundh 2009).

Economic sustainability

As companies' profits are the main objective in all industries, it is vital that the packaging ensures economic sustainability (Azzi et al. 2012).

Packaging makes up approximately 9% of the total product costs, and most of the expense involves labour, equipment and packaging material. A crucial factor that can generate hidden costs is over-packaging, which leads to unnecessary expenses such as for disposal and transportation (Azzi et al. 2012).

The quality of the packaging design is often a trade-off between packaging costs and the accepted amount of damage to packages and products (Lutters and ten Klooster 2008). Poor quality packaging can have a very negative impact on a company's expenses and income. Interruptions in production and distribution can be expensive, and the same applies to unsatisfied customers and consumers (Rundh 2009).

Additional parameters

Technology advances

Packaging related technological advances must be monitored by packaging companies (Sara 1990). Examples of new packaging technology that has led to improvements are gas and moisture barriers for cardboard, new materials, new printing technology, controlled atmosphere packaging, and web design for visualising packaging ideas (Rundh 2009).

Adapting to globalisation

As globalisation and international trade continue to increase, it is vital that packaging companies learn to understand and adapt to new cultures. Globalisation is resulting in an increase in ideas, influences and requests that need to be considered by product and packaging companies (Rundh 2009; Azzi et al. 2012). Another consequence of globalisation is that logistical issues are becoming even more important due to increased supply chain distances (Rundh 2009; Hellström and Nilsson 2011).

3.3. Challenges for packaging development

3.3.1. More research about packaging is needed

Examples of packaging related subjects that need to be further examined are: packaging as a marketing and communicational tool (Wells et al. 2007; Rundh 2009; Simms and Trott 2010), integration of packaging and product development (Olander-Roese and Nilsson 2009), packaging as a driver for product innovation (Olander-Roese and Nilsson 2009) and packaging logistics (Hellström and Nilsson 2011; Azzi et al. 2012).

A new approach to packaging development is needed

Successful packaging design is a complicated matter (see section 3.3.2.), which results in companies often tending to only focus on packaging designs that are cost saving (Ahmed et al. 2005).

To aid the packaging development process, researchers call for a facilitating strategy for packaging design (Lutters and ten Klooster 2008; Simms and Trott 2010; Azzi et al. 2012). It would have the aim of holistically integrating all important parameters of packaging (Azzi, Battini et al. 2012) and of helping to create new, successful packaging ideas (Simms and Trott 2010). The design strategy should also include guidance for “weighing” and prioritising when different features are in conflict, in order to identify which features are most important (Azzi et al. 2012).

Many researchers have already developed recommendations, methods or frameworks to facilitate and improve the development process. These research contributions vary considerably in focus. Rundh (2009), for example, focuses on marketing issues, while Simms and Trott’s (2010) focus is the perspective of the stakeholders within the supply chain. Another aspect that, for example, is stressed by Bramklev (2007) and Olander-Roese and Nilsson (2009) is that packaging development needs to be integrated in the development processes of the product (further addressed in section 3.3.3.). However, according to Azzi et al. other researchers have failed when it comes to addressing *all* important parameters considering packaging (Azzi et al. 2012).

3.3.2. Packaging development is complex

One great challenge for the packaging industry is the complexity of packaging development. Packaging is important for numerous aspects in the product life cycle (such as protection, convenience, communication; see sections 3.1 and 3.2.3), and all aspects and parameters need to be considered during the development process (Simms and Trott 2010). Additional important aspects are the interactions between the different levels of packaging that will be employed (Lutters and ten Klooster 2008; Bramklev 2009; Olander-Roese and Nilsson 2009) and various steps and stakeholders in the complex supply chain (Lutters and ten Klooster 2008; Rundh 2009; Simms and Trott 2010). Consideration of environmental concerns further complicates matters (Simms and Trott 2010; Azzi et al. 2012), as well as trying to please different consumer segments (Wells et al. 2007).

Since consumer needs and requirements are constantly changing, so do the conditions in the area of packaging. Reasons for the changes include globalisation and variations in lifestyles and demographics (Rundh 2009; Azzi et al. 2012).

Compromising and making trade-offs between different packaging properties are often needed since not all requirements can be met simultaneously in the packaging development process (Hellström

and Saghir 2007; Simms and Trott 2010; Hellström and Nilsson 2011; Azzi et al. 2012). For example, environmental considerations (aimed at minimising packaging components) may need to be balanced against the protective purpose of packaging (a certain amount of packaging is needed for adequate protection), which can be a very difficult task (Simms and Trott 2010). Moreover, the economic benefits of standardised packaging systems sometimes need to be balanced against the marketing advantages of differentiated packaging solutions (Olsson and Györei 2002). When packaging solutions are evaluated, the main driving force is economic and the evaluation is often more focused on the production economy than the service related economy. Measurable economic aspects often constitute the basis of the analysis, while conditions that are more difficult to measure rarely are considered. This means that a packaging idea that is thought to have many advantages may not be realised since the required (and measurable) investment is too high (Olsson and Györei 2002).

Additionally, products most often require packaging systems consisting of several packaging layers (Simms and Trott 2010). These different layers are frequently produced by separate packaging manufacturers, and there is a need for an improved integration of the layers in packaging development (Bramklev 2009). However, the interdependency of the packaging layers is often overlooked (Klevås and Saghir 2004).

Another problem is a lack of adaptability to change within the supply chain (Olsson and Györei 2002). Packaging plays an important role for supply chain stakeholders and they should thus be considered and/or integrated in the packaging development process (Olander-Roese and Nilsson 2009; Hellström and Nilsson 2011; Simms and Trott 2010). For this to function well, the mindsets of the supply chain actors must, however, be accepting and open to collaboration (Olander-Roese and Nilsson 2009; Hellström and Nilsson 2011). But even though there seems to be a change in competitiveness – from company versus company to supply chain versus supply chain (Olander-Roese and Nilsson 2009; Hellström and Nilsson 2011) – each supply chain actor seems to only focus on optimising its own processes, remaining unwillingly to adjust and compromise for improvements. In conclusion, the supply chain needs to become more dynamic to profit from the many advantages that packaging can offer (Olsson and Györei 2002).

3.3.3. Limited knowledge about the importance of packaging

An important challenge for the packaging industry is the limited knowledge that exists about packaging's many important roles in the supply chain and for the end-consumer. For instance, few product manufacturers appear to understand the important communicative role of packaging (Sara 1990; Wells et al. 2007) and the same is often true about the impact of packaging on logistic activities (Hellström and Nilsson 2011; Azzi et al. 2012). Other packaging aspects that are disregarded are the benefits that can be gained by integrating packaging development in the product development process (Lutters and ten Klooster 2008; Olander-Roese and Nilsson 2009; Azzi et al. 2012) and production system (Azzi et al. 2012), as well as concurrent development of primary, secondary and tertiary packaging (Klevås and Saghir 2004).

As a result of this knowledge gap, packaging's great potential for value addition is often overlooked and neglected (Olander-Roese and Nilsson 2009; Simms and Trott 2010; Hellström and Nilsson 2011; Azzi et al. 2012; Mensonen 2012). Instead, many negative views exist about packaging. For example, packaging is perceived by many companies as merely a risk element (Olsson and Larsson 2009), an

unavoidable expense (Olander-Roese and Nilsson 2009; Simms and Trott 2010; Azzi et al. 2012; Mensonen 2012), or unavoidable waste (Mensonen 2012).

Recognisably, product manufacturers can benefit from acknowledging more of the great potential of packaging as a value creator for the product-packaging-complex (Olsson and Larsson 2009), and packaging ideas and concerns need to be considered as more important during the product development (Simms and Trott 2010).

Integrated product and packaging development

If the product and the package are developed as an integrated complex, this can increase the competitiveness of the complex (Olsson and Larsson 2009). To achieve an optimised product-packaging-complex, the development processes of product and packaging must be performed in parallel (Olsson and Larsson 2009), and a concurrent, integrated packaging/product development is preferable (Lutters and ten Klooster 2008; Olander-Roese and Nilsson 2009). This approach is illustrated in Figure 4.

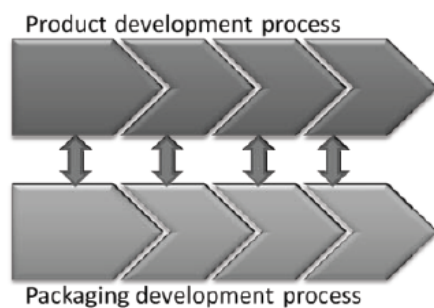


Figure 4. Concurrent and integrated product and packaging development. The figure is taken from Olander-Roese and Nilsson (2009).

Many benefits can be achieved by employing a more integrative strategy of product and packaging development. The benefits include reduced time-to-market, reduced expenses, environmental advantages (e.g. due to less resource utilisation and improved logistic processes), improved innovativeness and improved customer and consumer value (Bramklev et al. 2001; Bramklev et al. 2005; Bramklev 2007; Olander-Roese and Nilsson 2009). Results from surveys of the Swedish industry show that the participating companies accepted and were aware of that there were benefits to be gained from integrating packaging earlier in the product development (Bramklev 2004).

In spite of these identified benefits, packaging development is seldom integrated into the product development process (Motte et al. 2007; Olander-Roese and Nilsson 2009), even when both processes are performed at the same company (Bramklev 2007). Instead, as described in section 3.2.1, the general practise is that packaging considerations and development are carried out towards the end of product development (see Figure 2). According to Bramklev et al.'s survey results, packaging development is often performed during the actual production process of the product (Bramklev et al. 2005). This procedure increases the total development time; see Figure 5.

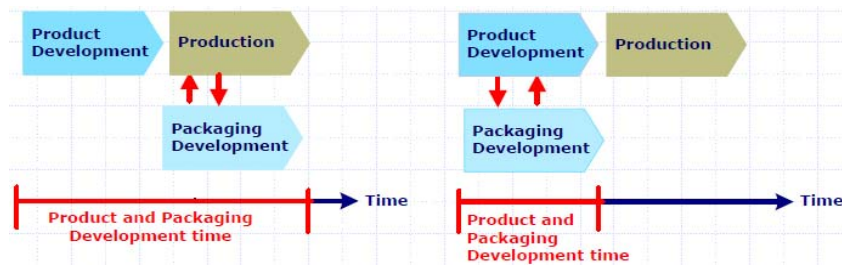


Figure 5. A comparison between non-integrated (left figure) and integrated (right figure) product and packaging development processes. The figure is taken from Bramklev et al. (2005).

Moreover, if the product is already finished when the package development starts, the packaging design will then be dictated by fixed product specifications (Lutters and ten Klooster 2008). The outcome is that the packaging innovation potential will be restricted, since no compromising between packaging and product functions and can be made (Lutters and ten Klooster 2008). In addition, packaging and product designers rarely communicate (Lutters and ten Klooster 2008), and the product manufacturers usually rely on packaging suppliers to alone come up with great solutions for packaging (Motte et al. 2007).

Potential reasons for the lack of integration between product and packaging development are that packaging is not regarded as an important part of the product (Motte et al. 2007), and/or ignorance about the benefits that packaging can offer product manufacturers (Olander-Roese and Nilsson 2009). Increased integration would actually decrease the knowledge gap and increase the awareness of packaging's great potential, which would be beneficial (Olsson and Larsson 2009).

Accordingly, there is a need for an increased integration of product and packaging development, where packaging should be considered earlier in the development process of products (Olsson and Larsson 2009). To succeed with this integration, the companies concerned need to adopt an accepting mindset towards collaboration and integration (Olander-Roese and Nilsson 2009). Various ways of integrating packaging into the development of products exists, but what is most important is that the integration process is adapted to the companies concerned (Motte et al. 2007).

4. Finding a method for innovative packaging development

The following section is based on the findings from a case study performed at Å&R Carton; a Swedish packaging company in the process of developing a new packaging development approach.

4.1. The case of one packaging company

Å&R Carton is a global carton packaging manufacturer (converter of packaging). Figure 6 illustrates where in the supply chain the company is situated.



Figure 6. The packaging company's position in a supply chain.

Å&R Carton has 13 production sites in Europe and approximately 1650 employees. The company's focus is to provide cardboard primary packaging to be handled by end-consumers. Packaging solutions are supplied to a wide range of consumer market segments, such as beverage, confectionary, food service and tobacco. The company's offering consists of packaging solutions that create brand value and improve customer's business. The company is not involved in the graphical design of the packaging (only choice of shape, materials, etc.) or the development of industrial packaging.

Packaging development at the packaging company revolves around three issues: protection, user-friendliness, and marketing. These issues are very much related to the main purposes of packaging, which were discussed in section 3.1.1. (user-friendliness is to a large extent associated with convenience, and marketing is, of course, related to communication).

Hereafter, when referring to *the packaging company* or *the company*, Å&R Carton is intended.

4.1.1. Challenges and objectives of the packaging company

The current situation

Currently no established and standardised packaging development process exists at the company. Instead different plants and employees apply their own packaging development methods, depending on tradition, personal preferences and such, without collaborating and communicating with each other. The outcome is that the quality of the results of the process will differ greatly.

Furthermore, the packaging development is primarily guided by the specifications communicated by the customer (the brand owner and product manufacturer) in its packaging inquiry. Overall, an important objective for the packaging company has been to improve its offering through improved collaboration and communication with its customers.

Two situations arise when the packaging company achieves customer inquiries:

1. The customer asks the packaging company to design *and* produce a new innovative package for their product, based on specific requirements.
2. The customer asks the packaging company to produce a package that already has been designed by a third party company.

In the first scenario, the overall problem is that the responsible packaging developer in each case will start the packaging development from scratch and will design a new packaging solution for each case. The packaging solution is then often forgotten, as the solutions are not filed or shared with the rest of the company. Thus for each new packaging case, the developers have to “reinvent the wheel” again and again, even though someone else at the company may already have come up with a solution to a similar problem. This lack of overview of the company’s competence and knowledge leads to a less effective development process. The packaging development process is already time consuming as it is, especially as the information gained from the customer about the product and its requirement in many cases might be insufficient or inaccurate. Moreover, the contact between the packaging company and customer is often limited to the customer’s requirement specifications making the process merely reactive for the packaging company.

In the second scenario, the third party designing company (design bureau) may have come up with an innovative and cool package, specially designed to stand out and convey the brand message. However, the designing company has not at all considered how the package should be produced or how it should protect the product. If the packaging company is then able to manufacture this exact package, the costs will be high since the production needs to be customised. The customer will then consider the packaging company to be non-innovative and expensive. If, instead, the packaging company had been able to design the package from the beginning, the expenses for the customer would decrease because the design would have been customised to the available machinery and no design bureau expense would be necessary.

Challenges for the packaging company

Based on the aim to improve customer collaboration and communication the following challenges were encountered:

1. Understanding the needs and requirements of the packaging company’s customer

This is important, as a complete understanding of the customer’s need is a requirement for the ability to develop packaging with optimised performance. As discussed in section 3.3.2., packaging development is very complex, which makes this challenge somewhat hard to manage. A great number of parameters and aspects must be contemplated to develop successful packaging solutions. Consequently, all these packaging aspects need to be taken into account in a structured manner so that nothing is forgotten or overlooked. There may also be a need to prioritise between different packaging issues.

2. Finding a method that utilises the competence within the entire company and results in a more united way of working

a. Finding an optimised and standardised approach for packaging development at the company

This is important as an optimised and standardised approach should lead to improved quality of the packaging solutions developed. At the moment, such an approach does not exist at the packaging company; various segments and employees apply different approaches, which lead to differences in the quality of the results, as described in the previous section.

b. Finding a method for gathering and saving the company's knowledge and competence

This is important as the company's collective knowledge and competence can make the packaging development more effective and successful. Since the knowledge and invented packaging solutions are not currently shared, the packaging developer most often has to start from scratch. This is unnecessarily time consuming.

3. Improve knowledge about the importance of packaging

This is important as the current level of knowledge apparently is too low (see section 3.3.3.). This results in decreased value of the packaging company's services and products. The customers do not necessarily understand the great potential of value addition of packaging, as packaging development in many cases is neglected and/or viewed as an unnecessary cost (see section 3.3.3.). The awareness of the importance of packaging should thus be improved. At the moment, integration and collaboration between packaging manufacturers and supply chain actors, especially product manufacturers, is limited. This may originate from a limited understanding of the value and potential of packaging.

4.2. The Card Approach

To meet the objectives and overcome the internal hurdles and limitations, the packaging company started developing a new approach for innovative packaging development in 2011. The approach is referred to as *The Card Approach* and is based on using a deck of cards. The Card Approach can in short be described as a methodology for the performance of a packaging requirement analysis. When applying the Card Approach the customer is involved in explaining the packaging aspects that are required and desired, aided by the deck of cards. The approach should be applied at the very beginning of the packaging development process, see Figure 7.

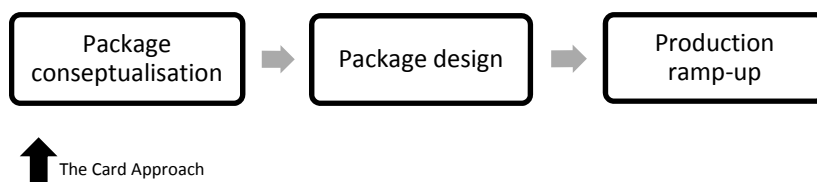


Figure 7. The black arrow indicates where in the packaging development process the Card Approach should be applied.

The Card Approach has been under development since May 2011, under the direction of the company's Group Marketing Manager and the Director of Innovation. The development was based on the notion that no standardised development process existed at the company. The aim was to enable the whole company to benefit from its collective knowledge. The development process of the Card Approach commenced by analysing the packaging company's customer offering, dividing it into

various categories. A number of symbols were then created to represent standard aspects within the different categories. At first an “interactive whiteboard” was used to provide an overview of the categories. However, as this proved to be unnecessarily complicated the idea of a simple deck of cards was born. A deck of cards would be easy and inexpensive to distribute to all relevant employees at the company.

The card deck of the Card Approach is divided into five categories:

1. Secure & Protect
2. Placement
3. Target group
4. Seduce & Attract
5. Serve and please

Each category includes various cards representing examples of important aspects of packaging. In addition to the five categories, the deck of cards includes a single “Joker” card. Figure 8 displays the card deck divided into the different categories.



Figure 8. The Card Approach card deck divided into categories.

4.2.1. The categories of the Card Approach

The five categories that the card deck is divided into represent different important aspects of packaging. In the category “Secure & Protect”, the most basic properties of the package are represented, the aim of which is to protect the product, package and the environment. The other categories highlight packaging’s great potential for adding customer value to products and being an important part of the marketing mix.

Figure 9 presents a summary of the different categories of the approach.



Figure 9. Summary of the Card Approach categories and sub-categories.

The following sections describe the Card Approach categories.

Secure & Protect

This category is divided into three sub-categories: *logistics/supply chain*, *protection of package*, and *protection of product*. However, the logistics/supply chain sub-category is not intended to be considered in depth during the workshop.

The aim of this category is to determine the requirements that are set for transport and logistics so that the package and product survive to the end-customer, and to obtain information about the material and barrier types that are needed to protect the product and extend the product’s shelf life.

Target group

The package design can be used to attract different kinds of consumers; understanding the product target group is thus of great importance in order to develop an optimal package. Important factors for identifying the target group are: *life stage* (age, civil status, etc.) and *character* of the consumer (lifestyle, consumer behaviour, values, etc.). In addition, specific *properties of package* can be of importance for consumers on certain occasions and should be considered when profiling the target group.

Placement

Place is one of the four *P*’s in the marketing mix. The packaging developer needs to understand the kind of store and where in the store the product will be sold, and if there are any special requirements. This category has two sub-categories: *type of store* and *place in store*.

Seduce & Attract

The aim of this category is to find out more about the product and the brand. For example, what is the Unique Selling Point of the product? What should the package emphasise and signal? These aspects are of great importance, as the more information about the product that is obtained, the easier will it be to design an optimal package. This category includes the sub-categories *competitor*, *pack design* and *marketing mix*.

Serve & Please

This category mostly has to do with consumer satisfaction after the product is bought and brought home. It relates to package attributes and properties that are of concern when the package is carried home, utilised and finally disposed of; for example, opening and closing mechanisms. Most importantly, the product must be easy to handle and use. The package attributes need to match the user preferences and fit the purpose of the product.

To aid packaging innovation and prevent getting mired down in existing solutions, the customer's requirements for packaging properties should be assessed in terms of which functions the customer anticipates, not which of the existing solutions they expect.

Joker

The Joker is the last card in the deck. Its purpose is to encourage the customer to bring up important issues that they feel have not been addressed, so that nothing is overlooked.

4.2.2. Application of the Card Approach

The Card Approach is supposed to be applied at the very beginning of a packaging development process during a workshop with customer representatives. The aim of the workshop is to gather as much information and understanding about the customer's packaging requirements as possible. This is done by contemplating the cards in the Card Approach. Each category of the card deck includes cards representing different aspects that might be of importance for the customer. The task of the Card Approach is to determine the aspects (= cards) in each category that are important for the customer and why.

The five categories in the card deck are during the workshop handled in the order presented in Figure 9. If needed, the cards should be presented and explained by the packaging company's representative. It is then up to the customer to state which cards are important for this particular packaging case. The selected cards should be discussed thoroughly so that the packaging requirements are fully understood. At the end of the workshop, a number of cards are selected that represent important packaging aspects for the specific case. The Joker card is considered last, and the customer can then bring up packaging issues that have not yet been mentioned.

The processing of all the information gathered from the Card Approach workshop should result in a good image of the kind of packaging solution the customer needs and the packaging development process can then begin at the packaging company.

The Card Approach should also result in the establishment of a database consisting of the company's collective knowledge and competence about packaging development. Important aspects about each card in the deck will be gathered in the database, so that the company's employees can understand and explain the different cards. The database should also be dynamic and gradually expanded with new information and packaging solutions over time.

The idea with the Card Approach is to create a very interactive packaging development process. When applying the Card Approach many questions need to be asked so that all customer requirements are completely understood. It is also important to remember that each packaging project is unique and that there will be different considerations each time; thus it will be impossible to develop a checklist with the "correct questions". The purpose of the Card Approach is to have as

open a discussion as possible about what parameters are important for the specific packaging case. The information obtained during the workshop should consist of as few fixed packaging features as possible. Instead the *functions* that should be performed by the package should be examined thoroughly to maximise the freedom for the packaging developer. Another important aspect to keep in mind during the workshop is that various packaging properties and requirements cannot always be combined, which means that compromises will be necessary. Thus, no promises should be made. It would also be valuable to understand how the customer prioritises the different packaging features.

Overall, the message to be conveyed during the workshop is that the main goal is to help the customer find a packaging solution that is in accordance with the customer's demands and requirements.

When should the Card Approach be applied?

Generally, the Card Approach should be employed during a customer workshop at the start of a packaging development process, but can also be employed on other occasions depending on customer requirements. Examples of scenarios where the cards can be useful are:

- New packaging development
- Re-design of package
- Cost optimisation of package
- Marketing of the packaging company (presentation of the company and its strengths)
- Internal education at the packaging company

Application of the Card Approach appears to be most valuable and useful in more special projects, such as new packaging development projects with generous budgets. In other words, such a thorough analysis may not be relevant for all packaging projects assigned to the packaging company. In more basic cases, a standard requirement specification from the customer may be enough, in combination with the information available in the established database.

The best possible packaging-product-complex result will probably be attained if the Card Approach workshop is performed at an early stage in the *product* development, so that both packaging and product can be adapted and customised in relation to each other. The benefits of concurrent product and packaging development are described in section 3.3.3. As few preconceived ideas as possible should exist when the Card Approach workshop is performed, which makes it appropriate to do so early in the product development process. See Figure 10 for a suggested application of the Card Approach in concurrent product and packaging development.

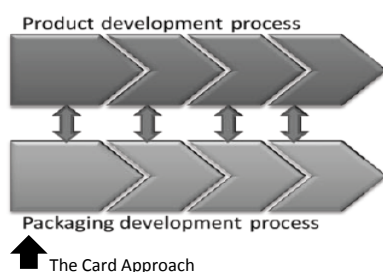


Figure 10. The black arrow indicates where in the packaging development process the Card Approach can be applied if concurrent product and packaging development is employed. The figure is a modified version of one from Olander-Roese and Nilsson (2009).

Participants of the Card Approach workshop

The packaging company should consider carefully who should participate in the Card Approach workshop. It is vital that the customer representatives are people with extensive knowledge about the product, its target consumer, means of distribution, etc. But they should also be in decision-making positions and, for example, be able to decide on compromises between different packaging aspects. Examples of customer departments that should be represented are purchasing, marketing and development. It can be extremely disadvantageous to have people attending who are inappropriate, because if inaccurate information is obtained, the finished packaging solution might in the end be rejected by the packaging company.

The choice of the packaging company's representatives is equally important. They must, of course, have extensive knowledge about packaging development and be skilled salespersons to gain the customers' trust and participation, and move the discussion forward. It is also essential that they are excellent listeners to understand the customers' needs and pay attention to details. The representatives must convey professionalism and credibility, and show dedication to each particular case. It must be implicit that the packaging company understands and is interested in the customer and the product, and that the package will be developed specifically after the demands set by the specific product. Finally, packaging company's representatives need to be fully trained and skilled in the Card Approach, and be aware of its benefits, so that they can explain them to the customer. A first choice would be someone from the sales department, but the packaging developer should also attend the meeting, as this person will carry out the final package design.

For the Card Approach workshop to be successful, it is crucial that the participants have adopted a positive mindset and understood the purpose, and it is up to the packaging company's representative to ensure this. This requirement is in accordance with Olander-Roese and Nilsson's claim that an open mindset is a requirement to obtain successful integration and innovation (Olander-Roese and Nilsson 2009). The need for an open mindset applies to the customer representatives, who need to accept this unusual approach to packaging development and need to participate in the workshop without being too assertive and having preconceived ideas about the packaging. Additionally, the packaging company's representatives must also have an open mindset, so that the needs and requirements of the customer are really understood.

Experiences from application of the Card Approach

The company has performed pilot testing of the Card Approach in five customer meetings to see how users responded to the method. The purpose was to observe the customer reactions and interest in the approach, and to market the packaging company as being innovative. None of these meetings, though, were aimed at developing new packaging solutions for specific products.

The results from these meetings were important input to the company. The experiences from the pilot testing were very positive and the results appear promising. All customer meetings resulted in that the workshop participants appeared to be more engaged in the meetings and the discussions when applying the Card Approach than they otherwise used to be when discussing packaging aspects and requirements. The engagement was expressed in terms of motion (people were standing up instead of sitting down), and increased personal attachment to the discussion. During one of the customer meetings, the participants were divided into three smaller groups for a discussion about packaging ideas. The Card Approach was employed in only one of these groups. A large difference

between the groups could soon be observed. In the groups without the card deck the discussion ended quite quickly, as few discussion topics came up. However, in the group with the card deck the discussion was lively, inventive and rewarding. As a result, all groups ended up gathered around the deck of cards, resulting in an overall satisfying customer meeting, both for the packaging company and the customer. A great advantage with the Card Approach appears to be its ability to move the discussion forward by preventing it from getting stuck, either in details or due to lack of topics. During the pilot testing the customers perceived the Card Approach as a totally new and innovative packaging development method. As a result, there was an increased customer interest in the packaging company and in packaging development.

Still, a challenge for the Card Approach is to get the customers fully involved and dedicated during the workshop. In the customer meetings where the Card Approach was evaluated, the customers sometimes tended to lose focus. Reasons for this could be that they had not understood the purpose and value of the Card Approach, and/or that they did not follow the line of reasoning. Thus, it is imperative to explain the reasons behind the Card Approach to the workshop participants.

In addition to the customer meetings, the Card Approach was applied to two internal evaluations at the packaging company (in Sweden and in the Netherlands). The opinions about the Card Approach have been very positive overall. Both sales representatives and packaging developers at the packaging company support the idea and believe that the approach will be very beneficial and facilitating for the company and its customers.

The positive attitude is in part based on the company's need for a new packaging development approach. Additionally, the simplicity of the Card Approach is appealing. In a structured way, it contains the company's entire customer offering and the approach is thought to improve company's creativeness.

So far only the Group Market Manager at the packaging company has applied the Card Approach in customer meetings. Although many employees seem to believe that there is great potential in the approach, they have not yet tried to use it because they are uncertain of how to do so correctly. Thus, there is a need for thorough and structured work instruction and educational material about the approach. A requirement for this material is that it must be intuitive and simple to follow.

5. The value of the Card Approach

5.1. The categories of the Card Approach

This section presents an evaluation of whether or not the packaging requirement analysis of the Card Approach provides sufficient information for the development of packaging solutions with optimised performance. This is done by evaluating if all essential packaging parameters and issues are included in the categories of the Card Approach, so that the customer’s needs and requirements are completely understood. Understanding the customer is, as described in section 4.1.1., an important challenge for the packaging company. A complete understanding of the customers’ situation is actually a prerequisite for a successful development process (Olsson et al. 2008) because the customers themselves might have little insight into their actual needs (Fredriksson and Wallberg 2011).

5.1.1. Parameters addressed when applying the Card Approach

The five Card Approach categories are related to different of the packaging parameters mentioned in section 3.2.3. and the packaging issues described in section 4.1. In Table 1, the associations between the Card Approach categories and important packaging issues and parameters are summarised, and these associations will be described in the following sections.

Table 1. Associations between the Card Approach categories and packaging issues and parameters. Parameters in parentheses are only briefly considered in the given category.

Card Approach category	Packaging issue	Important parameters according to literature review
Secure & Protect	protection, user-friendliness	product, distribution (sustainability)
Target Group	user-friendliness, marketing	consumers (sustainability)
Placement	user-friendliness, marketing	retailer (distribution)
Seduce & Attract	marketing	product, consumers
Serve & Please	user-friendliness	product, consumers (sustainability)

Secure & Protect

The first category covers the most important feature of the packaging, namely *protection*. The category is also related to *user-friendliness*, as safe handling of the package and product, as well as distribution of the same, is related to this issue.

Product properties and requirements are thoroughly addressed, especially in the sub-category of protection of product, to make the packaging as secure and protective as possible.

Distribution is covered in the sub-category of logistics/supply chain, but also overall in the whole category, as distribution requirements must be considered to ensure security and protection of package, product and the environment. Thus the intended means of distribution and use of industrial packaging are raised to asses which demands will be applied to the package during its life cycle, and hence, what the protective requirements are.

As protection involves protection of the environment from packaging and product components, *environmental sustainability* is partly addressed in this category.

Target Group

The main concern of this category is the end-consumers, and the aim is to profile the target consumer of the product as exactly as possible, so that the package can be made as *user-friendly* and attractive (*marketing* concerns) as possible. The importance of understanding the end-consumer and making the packaging both user-friendly and saleable was described in section 3.2.3.

Various consumer properties were selected to be represented in the card deck. By combining different cards, unique consumer personalities can be obtained. When it comes to the life stage sub-category, these consumer traits will especially impact the functions and size of the packaging, but also marketing issues to some extent. The cards of the packaging properties sub-category will have impact on functions of the package, as well as aesthetic issues. Whereas the character sub-category primarily refers to aesthetic attributes of the packaging and is thus related mainly to marketing issues and how to influence different types of consumer behaviour properties.

In particular, some of the target groups represented in this category are largely related to *environmental and social sustainability*. Thus, if this is the target group of the package, the packaging company will put much effort into developing sustainable packaging concerning materials, functions and aesthetic appearance.

Placement

Where the product will be sold is, of course, an important aspect when it comes to *marketing* issues, as many purchase decisions are made at the store (Silayoi and Speece 2007; Wells et al. 2007; Azzi et al. 2012). However, the *user-friendliness* of the package for the store personnel and consumers should also be considered as important.

Obviously, the main packaging parameter considered in this category is the *retailer*, and the most important issues of this parameter are addressed in this category. Firstly, the type of store that the product will be sold in is considered. Different demands are placed on the package design depending on store type, as space requirements, consumer behaviour, etc., will differ between stores. Thus, if discussing many different kinds of sales stores for a product, the packaging company may need to suggest different package designs for the different types of stores.

Additionally, the placement of the product in the store is addressed in this category. Package requirements might differ depending on this. The marketing potential of the packages can also be optimised according to the placement.

Distribution aspects may be of interest here to some extent. The retailer may have certain distribution requirements or needs to facilitate their handling of goods, such as “shelf ready” packaging.

Seduce & Attract

This category is very much related to *marketing* and the aim is to determine what the most important quality of the product is and how this can be accentuated with the package design. This is achieved by contemplating the graphical package design and the overall marketing strategy of the product. Means of increasing the marketing space on the package may also be reviewed. The competing brands are also discussed, as it is vital that the package design is differentiated and stands out in the competition.

In this category the packaging company needs to fully grasp what the Unique Selling Point (USP) of the product should be so that this can be incorporated into the packaging design. The USP of the product will be governed both by *product* and target *consumer* traits. When it comes to designing an as attractive package as possible, it is mostly the consumer properties that are of concern.

Serve & Please

In the last category of the Card Approach, *user-friendliness* and user satisfaction are in focus. The consumer must be satisfied with the actual product, as well as the package to purchase the product again. Special packaging features can enhance the consumer value of the package.

Parameters that must be considered to develop accurate packaging user properties are *product* and target *consumer*. Obviously, issues such as dosing mechanism and close-ability will depend on the product; the packaging must match the purpose and the properties of the product. Moreover, for the packaging to be user-friendly, the packaging properties must be designed with the requirements and preferences of the target consumer in mind. For example, packaging properties intended for children need to be extra intuitive and safe.

Some of the cards in this category are related to disposal of the package and hence to *environmental sustainability*. These aspects may help to reduce waste and decrease resource utilisation. The *economic sustainability* of the package should not be forgotten when discussing this category, as too many advanced features will make the package very expensive.

Joker

If the customer feels that important packaging aspects have not been brought up during the Card Approach workshop, they may bring these aspects up at this point. However, the Joker card is not a guarantee that all the remaining important issues concerning the packaging will be raised. As discussed thoroughly above, packaging is a very complex matter and it will be hard for the involved parties to keep everything that is of importance in mind at the same time during the Card Approach workshop.

5.1.2. Are all important parameters included in the Card Approach?

The packaging parameters described in section 3.2.3. were based on the overall packaging industry and the whole packaging development process. However, when considering the Card Approach, this concerns a specific part of the development process at a specific packaging company, which must be taken into account in order to develop an optimised process. Based on the profile of the company and the aim of the Card Approach, the following packaging parameters are important when applying the Card Approach:

- The product
- Distribution and different packaging layers
- Type of store
- Target consumer
- Sustainability

Even though it is true that technological advances and globalisation are aspects that should be considered during packaging development, the need to consider these when applying the Card Approach is limited, as the aim of the approach is to analyse the customer's packaging requirements

early in the packaging development process. Technological advances and globalisation can be considered during the subsequent steps of the packaging development process.

Consequently, all essential parameters are covered to some extent using the Card Approach, as can be seen in Table 1. When reviewing the Card Approach, it is relatively clear that the product, consumer and retailer parameters are addressed thoroughly. However, the extent to which the sustainability and distribution parameters are addressed may be too limited.

Considering sustainability, though, the packaging company can and should consider this parameter during the subsequent packaging development and production, similar to technological advances and globalisation. When the Card Approach is applied, the aim should be to understand how important sustainability is to the customer. This is achieved by, for example, addressing sustainability-interested consumers and the recyclability of the package, as discussed in the previous section. It would still be beneficial if this parameter could be additionally addressed, by for example considering the customer's sustainability profile. Yet, if sustainability is crucial to the customer, this will probably be addressed in one way or another during the Card Approach workshop.

The parameter is least adequately addressed in the Card Approach is distribution. At the moment, the Card Approach mainly targets distribution aspects to enable security and protection; this parameter is mainly discussed in Secure & Protect, as seen in Table 1. Thus, distribution and supply chain requirements may need to be incorporated even more in the Card Approach discussion, especially if the aim is to develop optimised packaging solutions (the importance of distribution, logistics and supply chain considerations during packaging development have been described in sections 3.1.2. and 3.2.3.).

As described in section 4.2.1., the thought with the sub-category logistics/supply chain, in the Secure & Protect category is to only briefly address distribution of the package. On the contrary, though, it would be beneficial if extra effort was put into discussing this aspect at the very beginning of the packaging development (i.e. during the Card Approach workshop). According to the employees at the packaging company, the importance of integration and adaption to industrial packaging and distribution requirements seems to vary depending on the customer. Thus, distribution aspects are considered differently in each packaging case. However, even though the customer may not consider the distribution aspects to be important, many benefits are to be gained if these aspects are further considered (again see section 3.1.2. and 3.2.3.).

That the packaging company is a provider of primary packaging can explain the fact that distribution and logistics are not the company's primary concern. However, to develop optimised packaging solutions it is vital that other packaging layers, and the distribution of these, are considered comprehensively. For example, even small changes in the packaging design can have a large impact on the performance of the whole supply chain, which emphasises the importance of optimising each specific package to its context. It is thus important that the packaging company is completely aware of the kind of industrial packaging that will be employed and how the distribution of the product will be managed within the supply chain in order to know which requirements to place on the primary packaging.

Still, the most important packaging parameters are covered to a large extent by the Card Approach. If the distributional aspect is additionally considered, a holistic and comprehensive analysis of the

packaging requirements will be obtained when applying the Card Approach. The result should be that challenge 1 in section 4.1.1. is met; the customer needs and requirements are completely understood so that packaging solutions with optimised performance can be developed.

5.2. Application of the Card Approach

Additional values gained from application of the Card Approach are described in this section.

First of all, the Card Approach is thought to make the packaging development process more effective, which should save time for the packaging company and its customers. Due to the Card Approach's structured and holistic nature, all necessary information will be obtained more effectively and sooner (early in the packaging development process) than before, and packaging solutions will be achieved faster and more effectively. Even in those cases when the packaging company is unable to meet the customers' requirements, time will be saved, as the Card Approach will result in a more rapid rejection of impossible packaging projects. This could include products that are not appropriate to keep in cardboard packaging or products that are so inexpensive that the packaging company's packaging solutions will be too expensive in comparison.

The proposed diversity of the Card Approach participants from various departments at the packaging company and its customers should be valuable. Group diversity enhances creativity (Goffin and Mitchell 2010), and various kinds of knowledge and creativity will be valuable in the packaging development process (Fredriksson and Wallberg 2011). In particular, the packaging development department should be represented in the workshop as it is these employees who will carry out the packaging design. If only the sales department is represented and then must convey the information to the development department, this poses a risk, due to the addition of an extra communication step (Olsson et al. 2008). One common perception is that marketing or sales personnel are best suited when it comes to attaining valuable customer knowledge. However, this might be inaccurate. The packaging developers may actually bring much value when it comes to understanding and solving customer problems, if allowed to meet and discuss with the packaging company's customers (Olsson et al. 2008).

5.2.1. Increased internal collaboration and communication

As stated in section 4.1.1., the packaging company aims to find a method for becoming more united and collaborative. Knowledge and competence need to be shared and aligned to a larger extent in the company.

For example, a common and standardised packaging development approach was needed to improve the quality of the packaging solutions the company developed. The development of the Card Approach has solved this issue, as it is a thorough and generic method for performing a packaging requirement analysis that can be applied by all of the packaging company's various plants. Additionally, educating the packaging company's employees in how to use the Card Approach will promote increased employee understanding and knowledge about the company's overall competence and packaging. The Card Approach may actually be used as an internal educational tool about packaging development and the value of packaging.

As described in section 4.1.1., knowledge and invented packaging solutions are seldom shared in the packaging company, which limits its success. However, a secondary effect of the Card Approach is the

establishment of a database containing information about the card deck, which potentially means that it will gather the collective competence of the entire packaging company, as the card deck should represent the company's complete customer offering.

This concept is in accordance with Tidd and Bessant (2009) who state that companies need to learn to collect experiences both from successful and failed projects, so that future projects will not need to "reinvent the wheel" or repeat mistakes (Tidd and Bessant 2009). In addition, innovative ideas can develop over time and be combined with other ideas. Thus, it is important to share the knowledge gained within organisations (Björk and Magnusson 2009). By establishing a database competence will also not be lost when employees leave the company (Fredriksson and Wallberg 2011).

The establishment of a database containing the company's collective knowledge and competence may be the greatest long-term benefit from the evolution of the Card Approach. A database will facilitate the company's future packaging development, making the process increasingly simple, effective and successful, as previous solutions and ideas may be easily found and utilised. The database could actually become a concrete asset that increases the value of the total company.

In summary, the Card Approach will result in that challenge 2 in section 4.1.1. is met. Creating a general packaging development approach and collecting valuable information in a database will enhance the exchange of ideas and solutions in the company.

5.2.2. Potential for packaging innovation when applying the Card Approach

Innovativeness is identified as a crucial factor for success for packaging companies. By applying the Card Approach, the potential for packaging innovation is thought to improve.

The packaging innovation process should be driven by three factors: consumers, distribution/logistics and technology (Hellström and Nilsson 2011). Most often, though, especially in technological industries such as the packaging industry, the innovation focus is mainly on technology (Hellström and Nilsson 2011). When using the Card Approach, a very holistic view is applied (see section 5.1.) and all important parameters of the packaging are taken into account in collaboration with the customer. This is similar to what is recommended by Hellström and Nilsson (2011), and consequently the Card Approach will improve the potential of innovative packaging.

Creativity combined with structure

For innovation to occur, creativity must be combined and balanced with structure (Olsson et al. 2008). The Card Approach is a good example of a method where this is achieved: an open, interactive and creative manner is combined with a structured and holistic approach. Thus the Card Approach should lead the way for innovation.

Considering creativity, the interactive and visual manner of the Card Approach results in a more open and engaged discussion. Instead of just having an ordinary dialogue about packaging requirements, the workshop participants have the card deck to look at and "play with". This leads to an increasingly vivid and driven packaging discussion. By interacting with the customer and exploring the underlying needs, issues and ideas may come up that otherwise might not have appeared (Olsson et al. 2008). This tendency toward increased creativity and openness has been observed in the Card Approach trials (see section 4.2.2.).

The structured way and the simplicity of the Card Approach should be beneficial. A very thorough packaging requirement analysis is obtained, just by systematically explaining various packaging aspects (the cards in the deck) and asking appropriate questions. The fact that the most important packaging aspects are already “listed” in the card deck will minimise the chance of important aspects being disregarded or forgotten. Additionally, the structure of the Card Approach aids workshop participants in following the discussion and can facilitate time management.

Improved product and packaging integration and supply chain collaboration

By increasing the interest and knowledge about packaging, integration and collaboration should increase and lead to improved packaging innovation potential. Application of the Card Approach should increase knowledge, interest, as well as dedication and appreciation for packaging (see challenge 3 in section 4.1.1.). By involving the customer in choosing between various packaging parameters, the customer is incorporated in the packaging development process. The fact that all potentially important aspects of packaging are represented in the card deck can serve as an eye-opener for the customer and lead to increased awareness and appreciation of the great potential and value of packaging. One important aim of the Card Approach is to completely understand the customer’s problems so that these can be solved in the best way. This attitude will engender customer trust and appreciation.

The Card Approach can result in strengthening the customers’ perception of the packaging company as a credible, interesting and innovative packaging supplier that offers additional customer value, compared to its competitors. This in turn should lead to increased product and packaging integration and supply chain collaboration.

Product and packaging integration

The Card Approach can be described as an integrative approach for packaging development because with it, the packaging company meets with the product manufacturers and together they discuss ideas, requirements and limitations of the packaging. As described in section 4.2.2., the Card Approach should result in as few fixed packaging features as possible so as to improve the packaging innovation potential. This is in accordance with Lutters and ten Klooster’s research (2008). For this to be possible, the product manufacturers must have as few preconceived ideas as possible about the packaging at the start of the Card Approach workshop. Preferably the Card Approach workshop should be performed early in the product development process as findings then can influence the product development. In some cases packaging may then become a driver for innovation, which is desirable and advantageous but does not very frequently occur (Olander-Roese and Nilsson 2009).

Supply chain collaboration

When aiming for innovation internal and external collaboration are vital conditions, as well as customer understanding (Olsson et al. 2008; Tidd and Bessant 2009). The Card Approach improves understanding of the customers’ needs and requirements (see section 5.1.) and the internal collaboration (see section 5.2.1.). Considering external collaboration, the Card Approach involves extensive collaboration and communication with the company’s customers; one might argue that the approach is, in fact, a kind of “open innovation”, which has proven to be beneficial for companies’ innovation potential (Goffin and Mitchell 2010). This results in faster and less expensive launches of innovative product (Kalkowski 2010).

Moreover, in the case of the Card Approach, the packaging company takes an unusual responsibility, since although it is situated very early in the supply chain (see Figure 1), it is contemplating and indicating how the company's packaging solutions can bring value to many actors within the whole supply chain (see 3.1.2.).

6. Conclusions

In order to achieve more innovative packaging development there is a need for more holistic development processes that assess and balance all important packaging parameters. In addition, the process must be adapted to the specific packaging company, and to each specific packaging development case.

The Card Approach meets many of the packaging company's current challenges. It is a structured and holistic method for packaging requirement analysis that considers the most important parameters for packaging development at the company, especially if distributional issues are considered even further. Consequently, by applying the Card Approach, the packaging company will attain a thorough understanding of the customer's needs and requirements. This should contribute to an improved potential for optimised and innovative packaging solutions.

Other advantages gained by application of the Card Approach are:

- A more efficient packaging development process
- Increased internal collaboration and communication at the packaging company
 - o Application of a standardised packaging development method
 - o Establishment of a database including the packaging company's collective knowledge and competence
- Increased creativeness of the packaging solutions
- Increased knowledge and appreciation for packaging's great value addition potential
- Increased integrated product and packaging development processes
- Increased supply chain collaboration

Overall the Card Approach is a strategic way of positioning the packaging company as an innovative packaging supplier that brings additional value to its customer, compared to the competitors. In particular, the Card Approach is a favourable method for innovative packaging development.

7. Further reflections

7.1. Possible weaknesses of the Card Approach

For the Card Approach to add even more value than currently, distributional issues, such as industrial packaging solutions and the requirements of supply chain members, need to be further considered in its application as described in section 5.1.2. The benefits of developing packaging and product concurrently were addressed in section 3.3.3. However, at the moment the properties and requirements of the product very much govern the packaging development process, even when applying the Card Approach. If a more dynamic and concurrent product and packaging development process can be applied, the success of the final product-packaging-complex may be even greater. Yet, this notion will only come about if the product manufacturers (i.e. the packaging company's customers) understand the value of concurrent development. Until then the packaging company will need to continue being very flexible in considering its customers' wishes.

7.1.1. Improving the potential for innovative packaging solutions

Many of the packaging industry's customers do not request innovative packaging solutions, but only basic and low-cost solutions. As described in section 3.3.3., packaging advantages are often neglected and packaging is perceived as merely an unavoidable cost. Other customers may consider packaging to be important, as long as it does not require expenditures (Fredriksson and Wallberg 2011). This could be a drawback for the success of the Card Approach as the packaging company's potential customers may not consider it relevant to invest much in packaging development.

To overcome this problem and engage the customers to invest in packaging, both in the Card Approach process and the development of alternative packaging solutions, it is important that the packaging company presents the many benefits that packaging can offer in a credible and convincing manner. If applied accurately, the Card Approach will aid in this, as the complexity and great potential of packaging will be highlighted. Yet packaging investments are often considered a great risk (Fredriksson and Wallberg 2011). When evaluating the economic aspects of packaging solutions, the analysis is in general mostly driven by certain expenses such as machinery investment, while advantages such as improved sales, improved handling convenience, etc., are thought to be too uncertain to account for (Olsson and Györei 2002).

Thus, after application of the Card Approach the packaging company must be prepared to communicate and explain the potential value of their packaging solutions, which on first sight can be perceived as expensive. Because even though the customer and the packaging company agree on the packaging requirements after the Card Approach workshop, this does not mean that the customer has a clear understanding of the potential packaging benefits, or is inclined to invest in new packaging.

7.1.2. Proposed alterations of the Card Approach card deck

To further optimise the Card Approach, some physical changes in the card deck may be appropriate. To prevent important aspects from being overlooked, it would be worthwhile to add a Joker card to each Card Approach category to give the customers an opportunity to mention important aspects that have not been discussed in the specific category. This might also be a good way to summarise

and bring closure to each category. Waiting until the end of the workshop to ask if there are additional important aspects can be disadvantageous because participants are then often less alert. This was observed during the meetings when the Card Approach was evaluated. At the end of the session important aspects may have been forgotten and/or seem less relevant. Time pressure and stress can also result in additional important aspects not being mentioned.

As described in section 4.2.2., some participant of the Card Approach workshop seemed to lose focus. This may be because the approach at the moment seemed a bit unstructured and the reasoning difficult to follow. For example, the cards look very similar and this can lead to confusion which may weaken the end-results. Colour coding of the different category and sub-category cards would help differentiate them. Colour coding would also make it easier for people who use the card deck the first time to grasp the concept. Additionally, some kind of simple and easy-to-understand flow chart of the Card Approach process would make the approach and the reasoning easier to follow. Figure 9 is a good foundation for such a flow chart.

7.2. The innovativeness of the Card Approach

Even though innovativeness is identified as a crucial factor for success for packaging companies, the innovation potential is still relatively low. One reason may be that many companies believe that innovation is equal to research and new product development (Olander-Roese and Nilsson 2009). In addition, the fact that the packaging companies' customers often only request cheap and basic packaging solutions instead of requesting innovative packaging may be another reason. This circumstance could be disadvantageous for the success of the Card Approach, but if the approach is developed and applied accurately this should not be a problem. Even the most sceptical customers should then be convinced that they would benefit from choosing an optimal and innovative packaging solution for their product.

As a method for packaging innovation, the Card Approach may in fact be an innovation in itself. Olander-Roese and Nilsson refer to innovation as a "commercially favourable change in the products or services an organisation offers and/or a change in the ways in which these are created and delivered" (Olander-Roese and Nilsson 2009). When developing the Card Approach, the packaging company is changing the way the company creates its products (the packaging solutions), and this change will most likely be commercially favourable. Advantages gained by application of the approach are summarised in section 6.

However, one difficulty in evaluating the Card Approach is that it has not yet been thoroughly developed and tested to definitely determine the advantages gained from applying the method. Thus, further application and evaluation of the approach is needed in combination with the above proposed alterations.

Being perceived as innovative is an important object for the packaging company. Thus if it pursues the development and implementation of the Card Approach, this will improve its innovativeness, as well as its success. However, before the approach is ready to use, further investments will be required from the packaging company. This concerns the establishment of the database tool and educational efforts to teach the employees how to successfully apply the Card Approach and utilise the database.

8. References

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