The Change from Feature Focus to Customer Focus in Packaging Development

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Abstract

The paper and packaging industry is a major and important industry in Sweden. The industry is capital intensive with a large investment base and long cycles for renewal and replenishment of machine platforms and other production equipment. Thus, the paper/packaging industry traditionally has a technical product oriented view and product development in the industry is partly made and understood in isolation from customer and consumer knowledge. In the packaging industry, paper material is the dominant but has lately experienced increased competition from plastics. In this prevailing situation, it has been hard to identify competitive advantages of paper material and packaging producers and converters have not been able to meet the changed market and customer requirements. The paper industry therefore needs to provide packaging materials and packaging solutions that provide competitive advantage and meet the needs and expectations of customers and consumers. Based on this background, the basic postulate proposed for investigation in this research is the need to turn toward a customer perspective, with increased customer understanding, in the development of packages and paper packaging material.

The purpose of this research is to better understand the different factors that affect the transformation of perspectives, from a product perspective to a customer perspective, in paper/packaging producing organizations, with regard to product and service development. The understanding of the transformation of perspectives is interesting both from an expected customer outcome and from the viewpoint of the producing organization. The research aim is to highlight the perspective transformation in the organization on a system level as well as on an individual level, since the impact of individuals cannot be excluded when the aim is to understand such transformation.

It is identified from research in service management that customer orientation is central in service management and that service development emanates from customer needs. Therefore, learning from the service industry, for knowledge transfer and for implementation in the paper/packaging industry is part of this research. The entire research is based on different studies in the paper/packaging industry and in the service industry. All studies are based on real-life case situations with qualitative,

subjective and interpretive analysis. The results from these different cases are presented in five separate papers that are appended to this thesis. The thesis takes up a summary of the papers and the entire research.

Based on the postulate that packaging development need to adopt a customer perspective, the research suggest for the packaging industry to align services to the core products for competitive advantage and increased customer value. The postulated customer perspective further proposes the package producer to regard oneself as part of the customers' and consumers' system. Models for working with the postulated perspective change as well as models for integration of individuals to the organizational systems are provided as a framework and theoretical contribution. The integration of the individuals to the organizational system concludes that the relations between employees and customers are pivotal for an increased understanding of customer needs. The interaction between product development employees and customers can therefore be enhanced through the trust of individuals within a system to transcend organizational boundaries into the entire system.

It is further concluded in the research, that the transformation of perspectives is dependent on individuals and their learning. A daily desire to learn within an organization and individual courage to question the status quo, is necessary for the change to happen. One practical contribution of this research is the methods developed for such individual learning and for changing individuals' mindsets from a product/feature perspective to a customer value perspective in product and service development.

In order to build knowledge about the transformation of perspectives, this research suggests action research as the preferred methodology for studying change processes. The main reason is the possibility to integrate human aspects into the change process and to get deep access to reality when studying the change of perspectives at the producer.

Key words: Action Research, Customer Orientation, Customer Value, Individual & Organizational Learning, Packaging Development, Perspective Change

Sammanfattning

Skogs- och pappersindustrin är några av Sveriges mest betydande industrier. Mycket av det producerade pappret används till förpackningar och papper har under lång tid varit det dominerande materialet i förpackningsindustrin; en annan viktig industri i Sverige. På senare år har dock pappersindustrin utsatts för hård konkurrens från plastindustrin när det gäller material till förpackningar. Eftersom pappersindustrin traditionellt varit inriktad på effektivisering av en kapitalintensiv produktion, har produktutvecklingen inom industrin antagit ett produktionstekniskt och produktorienterat perspektiv. Den nya konkurrenssituationen innebär dock att pappersindustrin måste möta de nya marknadskraven och utveckla förpackningslösningar som tillgodoser kundernas behov.

Denna avhandling bygger därför på tesen att pappers- och förpackningsindustrin behöver göra ett perspektivbyte, från ett produktorienterat perspektiv till ett kundorienterat perspektiv i utvecklingen av förpackningslösningar. Syftet med avhandlingen har varit att studera och öka förståelsen för innebörden av ett sådant perspektivbyte inom förpackningsutveckling avseende såväl produkter som tjänster. Avhandlingens inledande studie i förpackningsindustrin visar på ett produktorienterat synsätt. Därför har fortsatta studier inom förpackningsindustrin gjorts för att förstå vilka krav som ställs i ett perspektivbyte. Ett annat fallföretag inom pappers- och förpackningsindustrin har valts för att komplettera studierna. Detta för att djupare kunna analysera konsekvenserna av ett perspektivbyte mot kundorientering i produktutvecklingen.

Aktionsforskning i servicebranschen utgör också en del av denna avhandling. Inom servicebranschen är kunden involverad och medverkar i leverantörens process då tjänster köps och konsumeras. Mötet med kunden i dessa ögonblick har föranlett ett kundorienterat perspektiv i utveckling av varor och tjänster i serviceindustrin. Denna kundorientering har varit intressant att studera i syftet att överföra kunskap till förpackningsindustrin om den närmare innebörden av kundorientering samt även kunskap om sättet att arbeta med produkt- och tjänsteutveckling utifrån ett kundperspektiv. Ett antal studier inom serviceindustrin har därför använts som grund för analyserna rörande förpackningsindustrin. Denna avhandling

utgörs därför av fallstudier både i servicebranschen och i pappers- och förpackningsindustrin.

Baserat på tesen att förpackningsindustrin behöver skifta perspektiv i sin produktutveckling, föreslås förpackningsindustrin hämta kunskap från serviceindustrin och applicera denna i den egna industrin. Ett exempel på sådan överförd kunskap är konceptet att ”bunta” produkter och tjänster till erbjudande för kunden. Ett sådant erbjudande består av kärnprodukten, dvs. förpackningen, med tillhörande service som ökar värdet på det totala erbjudandet till kunden. Med tesen om perspektivbyte föreslås också ett systemsynsätt, där förpackningsproducenten ser sig själva som del av kundens och ytterst konsumentens system. Genom ökad förståelse för kunden i dess system, kan förpackningsproducenten integrera produkter med tjänster i erbjudanden för ökat värde, inte enbart för den omedelbara kunden, utan också för kundens kund. En sådan värdeökning kan då leda till erbjudanden som blir mer attraktiva på marknaden och därmed bidrar till ökad vinst för både producent och kunder.

Själva perspektivbytet utgör en kunskap. En annan kunskap är den om hur perspektivbytet förverkligas. I den senare kommer ofrånkomligen individens roll in, eftersom individen har stor betydelse för genomförandet av ett perspektivbyte. Relationer mellan anställda i förpackningsföretaget och individer i kundsystemet är till exempel av betydelse eftersom det ökar förståelsen för kundens behov. Men även individens lärande har stor betydelse för att ett perspektivbyte skall kunna ske. Ett perspektivbyte kräver ett lärande hos individen. I detta lärande ingår en förändring i synsätt hos individen, och en förståelse för vad kundvärde och kundorientering innebär. Eftersom individer är knutna till system, såsom organisatoriska system, blir det viktigt att systemet tillåter individen att ifrågasätta och lära för att en förändring skall ske. Ett praktiskt bidrag i denna forskning, är den metodutveckling för lärande och synsättsförändring hos individen, som tagits fram i den aktionsorienterade forskning som utförts i serviceindustrin.

För att kunna utveckla fortsatt kunskap om förändringen av perspektiv föreslås aktionsforskning som metodik. Anledningen är att aktionsforskning integrerar individer i forskningsprocessen och ett direkt personligt utbyte sker i alla faser såsom handling, reflektion och lärande. Aktionsforskning ger också en djupare tillgång och en direkt kontakt till verkliga fallstudieorganisationer.

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Appended Papers

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Paper 2: *The Integration of Customer Needs in the Establishment of an E-business System for Internal Service*

Paper 3: *Multi Theoretical Perspectives in an Abductive Action Research Study*

Paper 4: *Packaging Development – a Quest for Perspective Change*

Paper 5: *Operationalizing the Concept of Value – an Action Research Based Model*

Appendices

Appendix A: – Complementary case description of the study at the paper/packaging producer

Appendix B: – Method development for workshops

1 Introduction

Wood pulp, paper products and processed foods are presented, in the CIA world fact book, as some of Sweden's main industries (CIA 2005). The wood pulp and paper products as part of the forest industry represent a cornerstone in the Swedish economy, both on the domestic market and also as a main export. The industry is capital intensive with a large investment base in machinery and production, and therefore production is traditionally run with the focus on cost and efficiency. On average, the pulp and paper industry represents 20% of industrial investments yearly in Sweden (The Swedish Forest Industries Federation 2005). The well-established paper industry, due to the large capital investments with long depreciation times, has long cycles for renewal and replenishment of machine platforms and other production equipment. The focus in product development has therefore mainly been in production improvements on existing machinery as well as on improvement and knowledge on the raw material side. There is however, an identified need for the paper industry to develop solutions for the entire chain from forest to recycling (Jönson 2001).

Even though the world economy performed strongly in 2004, the developments in the Swedish forest industry's main market, the EU, remained weak. The paper production and exports increased while the prices were under pressure (The Swedish Forest Industries Federation 2005). The paper production mainly supplies the printing, writing and newspaper industries, but 13% of the global paper production goes for paperboard for packaging material and 30 % for corrugated material, which also partly ends up as packaging (The Swedish Forest Industries Federation 2005). In 2004, paper was the dominant and most important material in the packaging industry with a 36% market share, followed by plastics with a market share of 34%. The global packaging market is estimated to grow 3.5% in value in the coming years. 56 % of that market goes for food and beverage packaging (Pira 2005; WPO 2004). However, in the food and beverage industry as well as in other consumer goods industries, paper-based packaging is experiencing increased competition from plastic packaging. Compared with plastic packaging it has been hard to define competitive advantages of paper material (Jönson 2001). Therefore, plastics are seen as an increasing threat to the paper industry and flexible plastic material is estimated to make up an increasingly larger share of the global packaging growth.

To stay ahead of competition; innovation is argued as the way forward for organizations, which means they need to continuously provide innovative valuable solutions to customers (Kanter 1983; Ng 2004; Vandermerwe 2004). In order to keep or increase its market share, the paper industry therefore needs to provide packaging materials and packaging solutions that attract the market and its customers. That implies becoming customer oriented and developing packaging solutions that meet the needs and the expectations of customers and consumers. However, packaging producers and packaging converters have not been able to meet the changed requirements from customers and consumers in the development of new packaging materials and solutions (Jönson 2001). Product development in technological industries, like the paper/packaging industry, traditionally has a technical product oriented view, and the employees working with product development traditionally come from technical disciplines. This has led to a production and product oriented focus within the industry, and the market and customer perspectives have unintentionally been neglected or not prioritized in the product development (Paine 2002). With a product or production oriented perspective, the prevailing approach in product development, is to adopt problem solving, with a starting point in developing technical improvements rather than in the identification of customers' and consumers' needs. In such circumstances product development is made and understood in isolation from consumption and consumers (Deschamps & Nayak 1995; Olsson 2002; Warde et al. 2001). This emphasizes the gaps in customer-oriented product development recognized by Parasuraman (1998), namely the suppliers' incomplete or inaccurate knowledge of customers' and consumers' expectations combined with their inability to translate that knowledge into specifications for development.

Knowledge, such as customer knowledge, is achieved through learning, and learning in an organization often occurs in daily activities by individuals of the organization. It is, however, identified by (Pfeffer & Sutton 1999), that companies have not done enough to build knowledge into their existing products or services, nor do they develop products or services based on customer and consumer knowledge. Service development, however, needs to emanate from an understanding and knowledge of customer needs and expectations, including knowledge about their situations and behaviours, since the aim of services is to fulfil the needs of customers. In many manufacturing industries, therefore, the visions have been redefined to a service approach. The service content is identified to have an increasingly significant meaning through its role in differentiation and competitive advantage of the physical products from manufacturers (Echeverri & Edvardsson 2002).

1.1 Topic of Interest

Based on the packaging industry background, a basic postulate proposed for investigation in this research is that in order to provide new packaging solutions and packaging materials for added customer and consumer value, a change of perspective is needed. Following thereof, the main topic of interest is to understand the ability of a paper/packaging producing organization to transform from a product perspective to a customer perspective in product development. Such transformation has become central in service management, and identified as a change from an inside-out perspective, the product perspective, to an outside-in perspective, the customer perspective (Echeverri & Edvardsson 2002). Learning from service management is thereby another point of interest in this research.

Product development is studied both in technical disciplines and in marketing/business disciplines, and several authors have provided different, although rather similar, models for product development processes (Cooper 1993; Deschamps & Nayak 1995; Ulrich & Eppinger 1995, etc.). Design and engineering in the manufacturing industry already have a long tradition, yet research in the product development area still focuses on all or parts of these established product development processes, with the aim of identifying models for successful product development. The service sector, on the other hand, is argued to be slow in developing models and processes for design of services. Services are said to have been launched in a haphazard manner due to lack of processes and lack of adequate descriptions and definitions (Gummesson & Kingman- Brundage 1992). The point of departure in this research is the product developing organization, however, balancing the service and manufacturing development traditions and integrating knowledge from one to the other is of interest. The bulk of product development research usually has a positivistic approach, based on hypothesis testing of quantitative data (market surveys for example) or a focus around a demarcated problem within the hard systems that each step in the product development process represents. Independent of whether the product development research is made from an engineering perspective or from a marketing perspective, the influence of individuals on these processes is seldom integrated, and thus often demarcated. The lack of integration of individuals is also identified in service development. Access to real life situations is, therefore, identified as a problem both in service and product development. Products and services are still designed without integration of individuals such as employees or customers (Gummesson & Kingman- Brundage 1992). Therefore, the interest in this research is to integrate

the individual aspects in qualitative research on the transformation of perspectives in product and service development.

Customer orientation is acknowledged by most organizations, including product producing organizations, through its visibility in visions, strategies, external and internal communications. The customer-oriented strategy of an organization is therefore, usually known or described to the employees of an organization. However, to turn from intentions to practice regarding customer orientation requires an implementation of these visions and strategies. Many researchers have identified customer orientation as an interesting area for research, and provide models and suggestions of *what* to do to move toward customer orientation. However, *how* to do it is still elusive and therefore still in need for further research. The phenomenon is identified by Pfeffer and Sutton (1999) as the knowing–doing gap, and they argue that the performance of a company is dependent on the ability to turn knowledge into action. The interest in this research, of bridging the knowing-doing gap, arises not only from the fact that the academic world mainly provides theoretical models and suggestions of *what* to do, but also from practical insights that customer orientation in product development is spelled out as *what* to do in an organization to become successful. However, the question of *how* to become customer oriented in product development is still unanswered or superficially treated. The interest is therefore to acquire deeper insights into the product-developing firm and specifically into what makes the communicated visions and strategies of customer orientation move from intentions to implementation.

Tidd et al. (1997) have identified innovation and development to be a *change,* either in the products or services or in the way these products and services are provided and delivered. The transformation to a customer perspective, as postulated for this study, is a change that probably affect product and service development processes. In order to become successful in making change happen, the first criterion is to be able to regard change as a process, the second criterion is to see the opportunities in the change process, and the third criterion is to be able to integrate the individual learning in that change process (Sarv 1991). It is thus of interest to study how individual learning is regarded in the perspective change process and whether the individuals working within the product developing organization are given the prerequisites to incorporate customer knowledge in product development. It is further interesting to comprehend whether the individuals in the organization have an understanding of the mindset changes required to move from the traditional product perspective to the customer-oriented perspective.

1.2 Research question and research purpose

The problem for the packaging industry of adopting the customer perspective in the development of packaging solutions for customers and ultimately for consumers is identified for this research. In adopting a customer perspective, the problem for the product developing organization is how to bridge the "knowing-doing" gap in the transformation of perspectives, i.e. how to move from intentions to practice. The impact of individuals on such a transformational change of perspectives is also identified as important to understand better.

Another problem identified for the packaging industry with regard to product development is the integration of customer knowledge in the development of products and services.

The overall research question for this thesis is related to the problems described above in integration with the problem statements in the appended papers. Based on these problems, an overall research question for the entire research process can therefore be summarized into:

> *How to realize a change from a product feature perspective to a customer value perspective in product and service development?*

The purpose of this research is to better understand the different factors that affect the transformation of perspectives in producing organizations, with regard to product and service development. The specific focus is in the paper/packaging industry, while learning from the service industry is also included in the research. The understanding of the transformation of perspectives is interesting both from an expected customer outcome and from the viewpoint of the producing organization. The research aim is to highlight the perspective transformation in the organization on a system level, and in addition on an individual level, since individual impact cannot be excluded when the aim is to understand such transformation.

1.3 The point of departure

The food packaging area has been identified by Robertson (1993) as interdisciplinary, comprised by the disciplines: chemistry, microbiology, food science and engineering. These areas correspond well with the knowledge base I come from namely; chemistry, food engineering, packaging technology and packaging logistics, acquired in my education to Master of Science Chemical Engineering and Technologie Licentiate in Packaging Logistics. However, packaging is identified as an increasingly important tool for distribution and

marketing of products to consumers. Therefore, some authors argue that additional disciplines, such as distribution, marketing and processing are also needed in the area of packaging studies (Coles & Beharrell 1990; Robertson 1993; Stewart 1995). My knowledge in the business and marketing area, acquired from my MBA education, is therefore also suitable for integration in this interdisciplinary field. The different theories that link into this multidisciplinary research can be visualized in a theory map as in Figure 1. The already acquired knowledge is marked as my knowledge base. However, during my licentiate thesis work, I felt that my knowledge base did not give enough insights in the areas of customer and consumer value. Therefore, I added on theoretical and practical knowledge from service management and customer value, marked as acquired knowledge in the map.

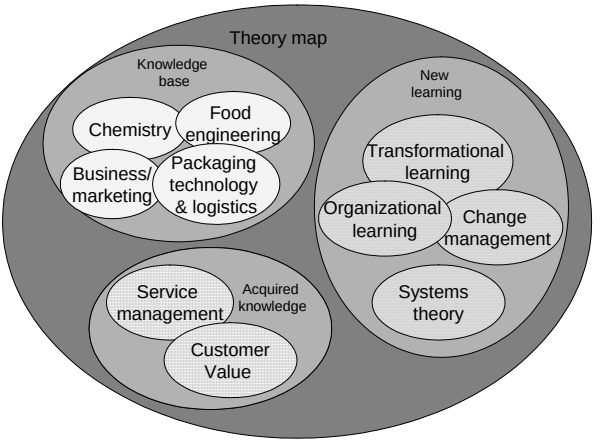

Figure 1: Map of theory

After the licentiate work, I also felt a need to include knowledge about change, and the significance of individuals on a system, as part of the abductive research process. The multidisciplinary approaches that are urged by many authors (Lambert & Cooper 2000; Olsson & Olander 2005; Solem 2003; Stock 1997; Stock 2003) in supply chain management and logistics (the research areas at my department), support the idea of borrowing theories from disciplines that might have put certain issues on the agenda for a considerable time and can thus contribute deeper insights in that specific area. However, integrating different theoretical perspectives into this research will naturally deduct the detailed and in-depth perspectives of each individual field, but hopefully contribute by integrating the different theories into a holistic view.

Change management, organizational and individual learning, and systems theory are therefore the new areas integrated in the analysis, and marked as new learning in Figure 1. My knowledge in these areas, as well as in the areas of service management and customer value, is not part of my original education, but of high interest and of significant meaning to the analysis and results made in my studies. I do not pretend to expertise in these areas, although I find it necessary to incorporate it into my research and exploring them further in the future. These areas are therefore also elaborated more in the analysis than are the theories of my knowledge base.

1.4 Research focus

The focus in this research is on the *transformational change of perspectives* in product development, with special regard to the packaging industry. The identification of different perspectives has been proposed in former research, for example by Grönroos (2000), Normann (2001) and Hammer (2001). Echeverri and Edvardsson (2002) even acknowledge such transformation as central in service management. However, *how* the *transformation* of perspectives is taking place in practice is not examined to the same extent, and especially not in product producing industries, and is hence focused on in this research.

The change of perspective in product development is from a product feature perspective to a customer value perspective. The value notion used in this research relates to the perceived value a customer experiences when using or purchasing a product or a service. The perceived value comprises product quality, service quality and price (Parasuraman & Grewal 2000). Perceived value can also be categorized as functional, transactional, emotional and social. The social value is although excluded in this research, since it refers to the perceived value in relation to other consumers, such as image or status through brand identity, and is thus not related to usage or function per se (Linn 2002). Image, status and brand are aspects that are used in the marketing and communication of the offerings from a producer. However, since the perceived value in this thesis primarily relates to the customer experiences in the use situation of a product or service, the marketing and communication aspects of products and services are not included as part of this research.

Product or service development is the process where new products or services are created in a process from idea to practical use on the market, i.e. a process of creating innovations. Lovelock and Gummesson (2004), among others, suggest acknowledging services as an integral part of every industry and product. However, as expressions, Gummesson (2005a), distinguishes services from

physical products with the notions of *goods* and *services*, but acknowledges the more common use of products and services, which is adopted throughout this thesis. Gummesson (1991; 2005c) stresses the balancing of internal quality, which includes low variability in quality of design and production, and external customer satisfaction that includes the service in the delivery process combined with the perceived value of the product or service per se. The focus in this research, however, is based on the postulate of customer orientation and therefore concentrates on the external customers' perceived quality and satisfaction.

The focus on transformational change in product development includes a focus on the individuals' sense making of the change process. Many authors argue that innovation is essentially about change combined with learning (Georgsdottir & Getz 2004; Kanter 1983; Ng 2004, etc.). This is the reason to also focus on individuals and their learning, as part of this research, in order to better understand the impact of the individual on the change process.

With the focus on the product developing organization and its relation to customers and consumers, different actors are mentioned in this thesis. The significance of these actors can be explained as:

Producer: The organization that develops products that are offered to customers and eventually to consumers

Supplier: Is used in some articles and also in this text predominantly about the actors in the service industry. However, the supplier is viewed the same way as the producer in this thesis, i.e. as the organization that develops products and services and provides them to customers and consumers.

Customer: The intermediary between the producer and the consumer. Depending on the supply chain structure, there can be many customers between a producer and a consumer, while in some industries (mainly the service industry) the producer and the consumer are linked directly.

Consumer: The end user, i.e. an individual who consumes or uses a product or service provided by the producer directly or via a customer.

The above-mentioned actors, producer, supplier and customer, can all be seen as an organization consisting of individuals in a system. However, consumers cannot be regarded as a traditional organization but as a system built on individuals gathered into a group of consumers who use products or services.

1.5 Evolution of the appended articles and papers

The first article in my research, as well as in this thesis, ***"Packaging throughout the Value Chain in the Customer Perspective Marketing Mix",*** by Annika Olsson and Michael Györei, is an early attempt to show how suboptimization in one part of the supply chain may result in decisions that are not optimal for the entire system and particularly not for the customer/consumer. This article was written in the early phase of my research, and is an input to the further studies. The article provides an indication for the need to investigate what implications it would have to adopt a customer perspective in the development of new packaging solutions.

The article presents findings from two separate studies where new packaging solutions have been developed and evaluated by the producers. The results from the studies indicate that it is difficult to include all variables, especially the qualitative ones, and translate them into an impartial evaluation during development and evaluation of new packaging systems. The major driving force to the producing company during packaging systems evaluation is found to be economic, and the economic analyses tend to be production rather than service or customer driven. The problem lies not only with the packaging supplier; the other actors of the value chain show similar unwillingness to change for improvements. Instead they tend to protect and optimize what is in each actor's control.

The contribution in this article is a suggestion to adopt a customer perspective when evaluating new packaging solutions and to incorporate qualitative data in the evaluation. The theoretical framework of the 4P's of marketing has been turned into a customer oriented 4C's for the evaluation model. The findings in this article support the launching of this research journey since they depict one of the problems or areas I am interested in, namely the problem of adopting the customer perspective in package development and evaluation.

My co-author has provided the empirical data for this article, while I provided the theoretical contribution, and both authors participated in the writing. The paper was accepted and published in: *Packaging Technology and Science, 2002, vol. 15, pp 231-239*. The complete article is presented in this thesis as appended paper number 1.

The second article; ***"The integration of customer needs in the establishment of an e-business system for internal service",*** by Annika Olsson and Sture Karlsson, is

based on a case study carried out in the service management industry, since my idea to learn from that industry was applied as the next step of my research journey. The study in this article is based on the question: "how to take customer needs into consideration when establishing new e-business systems?" The article has its focus on the development of products and services for an Internet-based sales channel, and the focus is on customer-oriented development based on customer needs.

One contribution of this article is the idea of using process mapping as a tool to understand customer needs, and specifically the process they go through in their relations with the service provider. The idea of process mapping is to regard the customer process as the beginning of a demand chain rather than as the end of a supply chain. In order to learn about the customer's process, the supplier will firstly become better acquainted with its customer. Secondly, the supplier has the opportunity to take over some activities that the customer does not consider value adding since they lie outside the customer's core processes.

Karlsson, as a practitioner, has involved himself as an active participant in the research process, and contributed extensive access to the case company, joint reflections of models, joint case analysis and also critical reflections on the writing that was mainly done by me. I also collected the data from interviews as an "outsider" to the organization.

The major learning discovery for me, from this case in the service industry, was the concept of adding value and knowledge to products and services and "bundling" it into offerings in order to create better and more visible value to the customers. Another important insight was the empirical confirmation that customer understanding is pivotal for value added product and service development. My acquired knowledge is based on the empirical findings from this case combined with theories of customer value, service offerings and process mapping.

The paper was selected from the LRN conference of 2002, to be revised and published in *The International Journal of Logistics Research and Application, 2003, vol.6, no.4, pp. 305-317*. The complete article is presented in this thesis as appended paper number 2.

The concepts of incorporating knowledge into products and services and visualizing it as offerings to customers launched the idea of using insights from previous cases in the studies of product development in the packaging industry. This led to initiating a study in a paper/packaging producing company that has

identified a potential to become customer oriented by providing value added packaging solutions to customers. The focus in the study is to follow a change process toward customer oriented product development in the focal company.

Article 3 and 4 are both based on the study at this paper/packaging producer. Article 3 is a description of the research process we have undertaken and still maintain, while article 4 presents the results from a product development perspective based on the initial steps in the research process. These results are therefore based on the focal company's present stage in the change process toward customer orientation.

Article 3, ***"Multitheoretical perspectives in an abductive action research study"***, by Annika Olsson and Malin Olander, is a paper that describes the research methodology and the research process used in the study at the paper/packaging producing company. The purpose of this paper is primarily to describe the phenomenon of being two researchers involved in the same study yet having different theoretical frameworks as the basis for analysis. My co-author has her research focus in strategy and customer orientation, while my research focus is on customer orientation and product development. Secondly the purpose of the article is to describe a stepwise model of the parallel abductive research process, which involves the participating company. Our experience from the study is described in terms of the advantages and challenges we have experienced, both in terms of being two researchers involved in the same process and also of involving the participating company in our study.

The article provides a description of, and elaboration on, action research and abduction based on a literature study of methodology. In addition to the methodology description, the contribution is to describe the practical use of the methodology in the case. The article contributes a reflection on practical issues when incorporating theories from different fields in the abductive research process, and also on the phenomenon of integrating the company in the process. The ongoing process has discerned some problems of joint action research in this specific company – the deeper elaboration of these problems is found in section 2.5 and thus not incorporated in this article.

The input for this article is based on empirical data from interviews and workshops with participants from the company. The interview input was collected mainly by me, while the workshops were made by both researchers either together or individually. The process of analysis was made by both authors and is described in detail in the paper. I was the principle author, but

my co-author provided critical reflections, and she also contributed by preparing and giving the presentation at the NOFOMA conference.

The paper was published, after a double blind review process, in *the conference proceedings of NOFOMA 2005 on pages 35-46, (Olsson & Olander 2005)* and is found in this thesis as appended paper number 3.

Article 4, "***Packagaging Development– a Quest for Perspective Change",*** by Annika Olsson, describes the findings from the case at the paper/packaging supplier, i.e. the same case as was described from a methodological perspective in article three. The intention in the entire study has been to conduct an action research process with the aim of studying the internal change process from product orientation to customer orientation in the focal company. This particular paper presents the results from the initial steps in that action research process. These steps are mainly based on interview input, since the process of getting into joint action research could not be established in this case.

In this article I as the single author provide some insight based on my research perspective of this particular case. The insight stems from the present situation in the focal company, but some suggestions for future steps in the continued action research process are also provided.

Based on theories of values and features, and on customer orientation and product development, the first problem identified for exploration is how an organization is able to change perspective from product features to customer orientation in product development. The main suggestions in this article are to view the products in a larger system perspective, and for producers to regard themselves as part of their customers' systems. These suggestions integrate the knowledge acquired through learning from the service industry case in article two. The paper provides models for viewing the core product of the company as part of an entire system in which the customers exist. The findings suggest that the more holistic the view of the producer of the products in an entire system, the more value is added to the customers.

The empirical finding from the case confirms the notions that it is a challenge to move from intention to implementation in the aim of becoming customer oriented in product development. This raises a specific interest in the part that individuals play in a perspective change. The theoretical input of organizational learning, management change and individual learning, combined with the empirical input, has led to the second problem statement for this study. Are the individuals in an organization given the prerequisites to gain appropriate

knowledge about customers, and further, to transform that knowledge into action for value added, customer oriented product development?

The perspective change from a core product perspective to a customer oriented perspective is found to depend on the individuals in the system studied. The study further indicates that a shift in perspective requires the individuals in the system to change mindset, and furthermore that it requires individuals on managerial level to question the status quo of product development and customer relations in order to impose change.

This fourth paper is submitted to *Packaging Technology and Science* and is found in this thesis as appended paper number 4. A complementary case description is provided in an accompanying appendix.

The idea that individuals have an impact on the change in processes and perspectives has been an underlying assumption throughout my research, and confirmed empirically in some studies during the course of research. This has inspired the continuous study in the service industry and the desire to develop methods for mindset change among individuals.

The final paper, Article 5, ***Operationalizing the Concept of Value – an Action Research Based Model,*** by Dag Näslund, Annika Olsson and Sture Karlsson, describes the development of methods for the procedure of changing an organization's perception of value, and how to operationalize this new understanding by changing internal processes and by changing a participant's mindset from a product feature perspective to a customer added value perspective.

The study is a continuation of my studies in the service industry. My reason for continuing in the service industry is the high level of access in combination with the open-minded attitudes toward change and method development. My personal aim is to learn more from that industry that can be applied in my future studies in the packaging industry.

The paper starts out by providing a collection of definitions of value, value added and customer value created by different authors in the field. Theoretical reflections on these concepts lead to the main question for the article: how to operationalize these value concepts and change employee mindset from a product feature perspective to a customer value perspective? The approach of the article is to view value aspects both from an internal process perspective (efficiency) and from a customer value perspective (effectiveness). We expand

the steps of understanding, creating and delivering value by changing internal processes and the employee mindset in the service developing organization. We provide methods to change the employee outlook from a feature mindset to a value mindset, and also for managing the change of core value adding processes.

This work is divided into one submitted article and one appendix. The article is based on a 4-year action research study where two authors (Olsson and Karlsson), have actively participated in the primary case organization as well as in all workshops with the primary and secondary case organizations. Using secondary case organizations has provided opportunities to validate and further develop the results and methods from the primary case organization. Näslund and Olsson write the article jointly, with input and critical reflections from Karlsson.

The Appendix focuses on describing the process of method development for the workshops used in this study. Olsson and Karlsson have undertaken the method development, and it has been an iterative process of development, testing, reflection, adaptation or redevelopment of the methods used in the workshops. The Appendix is mainly written by Olsson and critically reflected on by Näslund and Karlsson.

The main contribution of the article is the development of methods for changing mindsets among individuals and organizations, from a product feature perspective to a customer perspective. The study also provides a description of the change process the primary case organization has undertaken during the 4–year research period. Learning from the change process in the primary case organization also provides some models that can be used in other organizations or in other research such as, for example, a self-assessment model developed in the study. Besides model and procedure development, the study provides some efficiency and effectiveness results imposed from the change process in the different case organizations.

This final paper is submitted to the journal *The learning organization –an international journal* and is found in this thesis as appended paper number 5.

2 In search of knowledge

"People aren't going to listen to you unless you're part of their world."
—Wenda Millard, Chief Sales Officer, Yahoo (Fast company 2005-06-17)

The rationale for a particular research strategy lies in the epistemological and ontological assumptions that define the researcher's view of knowledge and the social world including the individuals of that world. These assumptions will define the paradigmatic view of the researcher (Morgan 1983). Since a paradigm represents the fundamental values, beliefs and conceptions of the researcher, it affects one's action on a deep level in the way it both inspires and limits one (Lloyd & Maguire 2002). Therefore it is difficult to understand a paradigm that is different from one's own, because that requires seeing the world from a new perspective (Kuhn 1996). I have chosen to introduce the reader to my paradigmatic view of science in order to make clear the perspective I represent. I hope this will guide the reader to an increased understanding of this research.

2.1 Some words about me as a researcher….

"Research to me is a quest for learning and knowledge, rather than a description of answers"

The start of the research journey, from an ontological point of view, is whether I as a researcher regard the world as objective or subjective (Arlbjørn & Halldorsson 2002). Problems provoked in "real-life" situations, such as the problems identified for this research, are faced in organizational systems. The understanding of such problems involves studying the processes within that system. Organizational systems are built on human intervention, and interpersonal relationships, which means that human actions and relations will affect the system (Checkland 1993). When the standpoint is that individuals are part of and do affect a system, the subjectivity of humans needs to be included in the reflections and analysis of the research (Nonaka & Toyama 2005). The aim of this research is to acquire a deeper understanding of the process of changing perspectives in product development, and involves processes and individuals of an organization and thereby also subjectivity. I agree with Foote Whyte (1991) that rather than to isolate myself as a researcher, the challenge is to conceptually and methodologically engage with the world of reality. This research therefore proceeds from the ontological perspective that reality is viewed based on my subjective interpretation as a researcher.

When it comes to the relationship between me as a researcher and knowledge, my epistemological standpoint is that research is a process of learning and that learning takes place in the interplay between search and discovery. My licentiate thesis focused on the integration of customer needs in e-business service development (Olsson 2002). Its purpose was to acquire knowledge of how to better understand and integrate customer needs when developing and implementing e-business systems for products and services. The studies were made on a system level, and the knowledge acquired is used as a basis for this further research on product development applied in the packaging industry. Both my licentiate thesis and this thesis are built upon the epistemological standpoint that knowledge is created during the course of research. Knowledge in complex settings is necessarily divided into different subjects or disciplines, but it evolves over time as our knowledge evolves (Checkland 1993). The combination of the theoretical framework from the known disciplines and the matching of the real-life phenomenon studied during the research process constitutes the learning and thereby an enhancement of knowledge (Dubois & Gadde 2002).

I believe that the continuous development of knowledge therefore takes place in the learning process of the researcher and also of the individuals involved around the researcher, such as the people at the case companies involved. As Guba and Lincoln (1998) state, the researcher and the individuals studied are interactively linked, so that "findings" are literally created during the course of research. Beyond findings and knowledge acquisition, the research process also develops us as human beings, *"in research, as in conversation, we meet ourselves"* (Morgan 1983). From a personal perspective I feel I have developed my ability to listen and reflect, and also my ability to facilitate change through reflection and inquiry. My research process has therefore been a personal development and a continuous loop of understanding, learning and, hopefully, knowledge creation. The organizations involved in my studies are considered as knowledge creating dynamic systems that interact with their environment, including me as a researcher. Besides interaction with individuals in the system studied and the knowledge creation, the role for me as a researcher is to conceptualize and publish the created knowledge so that it can be reflected on, not only by the company involved but also by other researchers in the field. If published, the conceptualized knowledge can be used in other industrial contexts or further developed by other researchers, which in turn leads to the creation of new knowledge.

2.2 …and as a practitioner

As a practitioner I've had the opportunity to turn my academic knowledge into practice. My own practical experience started out in the packaging industry, where I had the opportunity to practice my technological food engineering and packaging technology knowledge, and later, in addition, my educational business knowledge. However, when the opportunity to apply acquired knowledge comes into a process of wondering *why* things are done in certain ways or *why* things do not appear to work the way it is said they should work theoretically, the desire to learn more becomes indisputable. When these questions roused my curiosity, I decided to acquire more knowledge as a PhD student in the area of how to become customer oriented in product development. This area turned into a specific interest to me, since I felt that increased customer orientation would make companies and their products more successful, while I had a feeling that product and production orientation was dominant in practice. From an academic point of view, it is my belief that my practical experience contributes to the analysis inasmuch as it allows for an abductive process. That means that practical implications can be reflected on in combination with previously acquired theoretical knowledge, as well as with new theoretical knowledge that I have explored during the research process. The advantage of combining theoretical knowledge with practical experience is that the knowledge goes beyond theoretical concepts and models, because it can be critically reflected on with the basis in the practical experience (Gummesson 1985).

My practical knowledge, combined with theoretical knowledge in the discipline of packaging logistics, has provided the insight that packaging needs to be viewed in a perspective based on value rather than on features and attributes. To extend this thinking and become more explicit, I explored the service management discipline because my preconception was that service management must be advanced both from practical and theoretical perspectives in the areas of value addition and customer orientation. Borrowing from other disciplines, however, involves concerns for their underlying assumptions and underpinnings; therefore I have spent considerable time in the service management environment in order to better understand the discipline. The idea from a personal perspective was to learn more both theoretically and practically about value addition and service management in order to incorporate that knowledge in the field of value-added packaging development, which is done in the study in the packaging industry in this thesis (Olsson 2005). I have furthermore continued my studies within the service development with specific focus on mindset

change from product feature perspective to customer value perspective, among individuals in the organization.

2.3 Is qualitative research meaningful?

There are many ways to approach an identified organizational phenomenon or problem, as proposed in this research. The choice of methodology naturally relates to the paradigmatic view of the researcher, and the research strategy naturally affects the results (Morgan 1983). When the aim is to study a change process that involves or affects individuals, qualitative methodology is recommended (Foote Whyte 1991; Greenwood & Levin 1998; Gummesson 1985). The behavior of individuals cannot be understood without reference to the meaning and purposes of their activities (Lincoln & Guba 2000). The epistemological standpoint in this research is to understand and learn from the perspective change in product development. Studying change requires involving the subjectivity of individuals, since individuals are part of change and certainly will affect and become affected by change. All studies presented in this thesis are built up by input and reflection of real-life case situations. The analyses of the input to the studies are based on qualitative, subjective interpretive scrutiny made by myself or in collaboration with my co-authors, and in some occasions with individuals from the participating organizations. Different methods such as interviews, participant observations or action research are included in the spectrum of qualitative research that involves the subjectivity of individuals (Gummesson 1985). The first study, however, is based on case studies with a more "traditional" character rooted in qualitative and quantitative data input from structured interviews and surveys (Olsson & Györei 2002). The study provides a description and a critical analysis of the input, i.e. of the packaging evaluation the packaging industry made from quantitative data. Our reflection creates a desire for more subjective evaluations and inclusion of actors' (especially on the customer side) opinions in the analysis, since qualitative input would add a customer-oriented perspective on the package evaluation.

The second study was also intended as a case study with interview input. The limitation of interviews is that the dialogue between the researcher, who puts the questions or leads the discussion, and the respondent, who answers, has a limited amount of co-operative learning and reflection. That limitation was present in the interview phase of the study; however the organization studied became very involved in my study and the suggestions provided from the research were implemented and reflected on by the organization (Olsson & Karlsson 2003). The deep involvement of participants in the service organization studied motivated me to consider action research superior and

preferred onward in the research, since it involved the participant organization better. Compared to interviews or observations of a traditional case study, action research takes the interaction with the participants further and yields a deeper understanding of the individuals, and therefore a reason for conducting action research when studying phenomena in a company (Gummesson 1985). Another advantage of the deep involvement is that the empirical input for analysis is based on primary, first hand data since the researcher is part of the environment being studied. In traditional case studies based on interviews, the data rather become secondary or second hand since it is told to the researcher by someone, rather than directly experienced (Gummesson 2000). The findings from my interviews, however, were elaborated on together with the company. In that way the reflections from the organizations improved the analysis and the outcome of the study, which characterizes action research.

Gummesson (2000) distinguishes two main action research paradigms; societal and management action research, where the latter focus on change in organizations. The preferred method to approach the problem presented in this research has become management action research, mainly since it involves individuals of the organizational system studied, but also since there is a possibility to affect the processes studied. The notion used in the papers and throughout this thesis is however, just "action research", but the way it is considered and carried out correspond better with management action research than with societal action research. The third paper of this thesis provides a deeper description of action research methodology and abduction based on a literature study within methodology (Olsson & Olander 2005). Action research has been used in the studies in the service organizations. In the last service organizations study, an action research process for method development is described, with elements of planning, action, observation, analysis, evaluation and reflection (Näslund, Olsson, & Karlsson 2005). The aim has also been to use it in the packaging industry. However, the in-depth continuous action research process has been limited due to some barriers experienced and elaborated on in section 2.5.

2.4 What do the critics say?

Although the individual interactions and deep access as in action research correspond well with my paradigmatic view, critics of action research nevertheless do exist. One argument about the limitations is the lack of possibilities for construing causality and generalizing results due to single settings or lack of patterns (Argyris & Schön 1991). My personal reflection on this is that the goal of action research is neither to find cause and effect relations

nor to generalize, but rather to understand and develop the processes in joint learning within the context studied. Guba and Lincoln (1998) suggest meeting this criticism by replacing internal and external validity with trustworthiness and authenticity. The research integrates theoretical and practical knowledge in an abductive research process together with the participating company. The abductive research process involves a cyclic process of planning, acting, observing and reflecting that involves participants from the organization studied (Olsson & Olander 2005). This participation will increase authenticity and trustworthiness because the analysis is reflected on together. Furthermore, if the suggestions in our studies are used in practice, a kind of testing or validation is made. Conceptualizing these suggestions might make them useful in other settings. The studies in the service organizations, for example, utilize the opportunity to test the developed methods from the primary case organization in the secondary case organizations (Näslund, Olsson, & Karlsson 2005).

Another argument opposing qualitative research is that of the influence of the researcher on the data collection, interpretation and reflections. However, since my paradigmatic belief is that individuals will affect the system they act and exist in, I have accepted the fact that I probably affect the process as well as the results. One way to address this problem is that we have been more than one researcher analyzing and interpreting the input of the studies. Consequently, we have been able to question each others preconceptions and prevailing knowledge (Olsson & Olander 2005). Furthermore, the results are elaborated and critically reflected on by participants from the organizations studied, which also reduces the risk of the results being affected solely by the researcher. This corresponds well with suggestions from Gummesson (2004), who recommends interpreting data in dialogue with others and in relation to their experiences.

2.5 Reflections on trust and relations in action research

The element of access is of major importance in action research. Access in essence means gaining right of entry to information and data about the phenomenon being studied (Gummesson 1985; Gummesson 2000). This requires the research question or topic to be of mutual interest to the researcher and the organization (Greenwood & Levin 1998). In an ideal action research process, some members of the organization are actively involved, such as in the search for information and in the creation of ideas for future actions (Foote Whyte 1991). The level of involvement from the organization is pivotal for this type of research. However in order to get individuals of the organization

involved there is a need for mutual trust, and also mutual outcome of the process (Zuber-Skerritt 2005).

Action research is a cyclic process of planning, acting, observing and reflecting. The reflection might impose change and potentially destabilize the status quo of an organization (Kates & Robertson 2004). Therefore there is a risk that the organization involved is hesitant about such reflections, at least to an extended depth. That reflects the potential threat that action research implies by questioning the status quo. Another related issue is to what extent individuals at different levels of an organization are allowed to integrate in the joint reflections of the change or of the status quo. The intention, in the study at the paper producer, is to follow a change process and to be involved in an action research approach (Olsson & Olander 2005). Since the action research concept is new and unknown to the focal company, and also because previous experiences of sharing company information is negative to some members of the management team, there has been some reluctance to give access to data and to become involved in the joint process. The same experience was found in my licentiate work, where the specific part of the pharmaceutical organization did not have any previous experience with qualitative research and particularly not with action research. Furthermore, our results from the study at the pharmaceutical company questioned the status quo and were thereby considered as a threat to the particular group of the organization that was built up around the establishment of the e-business portal (Olsson 2002).

In the service organizations studied, however, deeper access has been gained. As stated specifically in the second article *"not decisive in the case selection, but certainly advantageous, was the openness of the employees and the management team to share information, provide deep insights and involve me as an active researcher in their process of establishing the e-business system"* (Olsson & Karlsson 2003). My reflection is that a stronger critical scrutiny of one's own organization in combination with an open-minded view on research has facilitated the access to the service organizations that have been involved in this research. When there is a high level of trust, a collaborative relationship occurs. The motivation for the collaboration is in synergies, with results that are good for the whole and for the parties involved (Hattori & Lapidus 2004)

3 How to change perspective in product development

In this chapter I provide the analysis and results based on theory combined with the empirical input at my disposal. The theory is used in order to link my empirical observations and reflections in the analysis. The analysis is based on my topic of interest and the research question *"How to realize a change from a product feature perspective to a customer value perspective in product and service development?"*

3.1 Features versus values for products and services

In the service management discipline, Grönroos (2000) describes a core product perspective as traditional, where the quality of the core product is considered to be the main source of competitive advantage. Quality means characteristics and can be categorized as primary, secondary, tertiary etc. The primary quality belongs to the physical things, and can therefore be equated to the core product quality explained above (Echeverri & Edvardsson 2002). When the competitive advantages of the product are expressed as the features and attributes that belong to the product, a product-centred view prevails. In this perspective producers identify themselves with their core product and neglect viewing the environment in which the product is used. In the study at the paper/packaging producer it is indicated that the producer takes this core product perspective and has a feature rather than a value view of its products and of product development. This is exemplified from printed material, interviews and discussions where the main competitive advantage of the paper is expressed in terms of weight per area, and secondly on the strength of the material, which mainly refers to the primary quality (Olsson 2005). The other study in the packaging industry also provides indications of a product perspective, rather than a customer perspective, during the evaluation of new packaging solutions. The focus in the evaluations is rather on investment cost for the package producer or the product producer, rather than on the potential increase in sales volume, the potential increased exposure and the potential increased customer satisfaction with the packages (Olsson & Györei 2002).

The most important feature of a package is to protect and preserve the content, i.e. the product. Packaging is therefore, identified by several authors as an integral part of a product, and must be regarded as such (Downes 1989;

Harckham 1989; Sonneveld 2000). However, only focusing on the integrated product and package, with its features, is no longer possible, since in order to be perceived as value adding to the user the package must also be attractively presented in sound condition, and function properly when used (Doyle 1996; Sherwood 1999). Therefore, secondary qualities need to be integrated in the evaluations and analysis. Secondary quality refers to the individuals' experiences and reflections on the reality in which the product and service is used (Echeverri & Edvardsson 2002).

Value definitions, by several authors, are based either on functional value, which refers to primary quality and features of the product, or on transactional value, which refers to price and availability (Näslund, Olsson, & Karlsson 2005). In addition, Linn (2002) has categorized two other aspects of value: emotional value that refers to confidence and emotions in the use situation, and social value that refers to relations, status, image and identity, i.e. secondary quality aspects. Gale (1994) defines customer value as "*the market perceived quality adjusted for the relative price of the product*". While Parasuraman and Grewal (2000) include price, product quality and service quality in the customer perceived value.

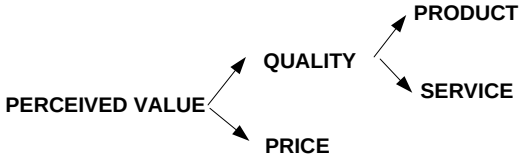

Figure 2: Perceived value model developed from Gale(1994) and Parasuraman and Grewal (2000)

The *customer/consumer perceived value* that is focused on in this thesis comprises the functional, transactional and emotional values and includes price and primary and secondary qualities of the products and the related services. Thus the customer perceived value comprises both objective and subjective factors. The value is perceived by the consumer when experiencing the use of the product or service, thus the products or services delivered must be recognized, by the consumer, as a perceived functional and emotional value in the use situation and as a transactional value in the purchase situation (Hammer 2001; Normann 2001). Therefore, an organization would benefit from understanding the context in which the product is used by the customers or consumers even if they are producing a clearly defined and rather delimited product, such as a package.

To transform perspectives, as intended at the paper/packaging producer, means to regard products from a value adding customer perspective rather than from the feature oriented product perspective described above (Hammer 2001; Näslund, Olsson, & Karlsson 2005; Normann 2001). Primary packages accelerate the consumer's first purchase decision, but they also have an effect on the consumer's experience with product use. Value addition concerns to surround the product with additional features or services that are perceived by the customer to add or improve the expected performance and the core benefits of the product, and thereby create customer satisfaction (Grönroos 2000; Stewart 1995). In order to generate consumer satisfaction, the perceived consumer value of the integrated product and package, needs to comply or exceed the customer expectations or desired value in the use situation. The perceived value in the use situation will affect for example repetitive purchases, and thereby product and packaging sales.

Contrary to the insights from the packaging industry, the studies in the service industry indicate a customer oriented view and an integration of customer knowledge into the development of products, for example in the bundling of products and services into offerings (Näslund, Olsson, & Karlsson 2005; Olsson & Karlsson 2003). An offering is a combination of core products with related services bundled into a whole that creates value to customers and consumers (Grönroos 2000; Normann et al. 1989). This way of combining the physical products, the packages, with aligned services that are beneficial for the user is suggested for application in the packaging industry. This implies integrating knowledge into the product and viewing the product from the customer's or the consumer's use situation. The combination of products together with possible aligned services, as suggested for the packaging producer, suggests an introduction of an offering system. Through the addition of services to the packages, differentiation of the offering to the customer is possible and the attractiveness of the offering might increase, since value is created when customers or consumers make use of the proposed offering (Gummesson 2005a; Normann et al. 1989). This transformation of perspectives urges the packaging producer to focus on what the customer or consumer is using rather than focusing on what they as a producer are providing (Hammer 2001). Georgsdottir and Getz (2004) further suggest the shifting of perspectives to facilitate the creative insights in the product developing organization.

3.2 The system view of packaging

Packaging is present at all stages in a supply chain since it adheres, as an integral part, to a product from production to consumption (Olsson & Györei 2002).

Therefore, the package is vital in the process of delivering products to the supply chain actors and ultimately to the consumers (Sonneveld 2000). Packaging is usually classified as primary, secondary or tertiary, reflecting the levels of usage. These definitions should be used together with the consideration of packaging as a *system*, with hierarchical levels including the product inside (Olsson, Petterson, & Jönson 2004). This view of a packaging system represents the typical technical or engineering system perspective, represented by a "hard system" view that consists of physical elements that are hierarchically connected together to form a whole (Checkland 1993).

The context for a package or a packaging system is built up by a core product with additional consequence and value levels as in Figure 3. The figure represents a system view of packaging, which contrary to the hard system described above, involves subjectivity and relations between the physical product and the consequences and perceived values, of individuals who use the product, and thus can be regarded as a soft system (Checkland 1993).

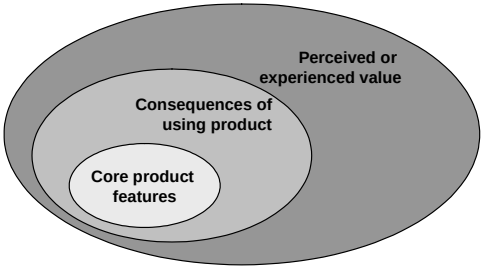

Figure 3: The system with added value

In the development of products, such as a package, a feature oriented view and a perspective of the package as a demarcated hard system represented as the system centre will delimit the opportunity to view the package from the customer perspective and to question the features that are seen as competitive advantages. To expand the system and to involve the consequences for the consumer when using the package is to include "soft" factors in the system, and also to view the system in a larger perspective. The understanding of the value the consumers perceive or experience, based on the consequences of using a package, will enlarge the system view even more and also include "soft" systems thinking (Olsson 2005). This expanded system view is necessary since it is the customer who judges the value of an offering at the end (Echeverri & Edvardsson 2002). Therefore customer orientation is a prerequisite for the development of aligned services into value added packaging offerings.

The core competence of a packaging producer is to develop and provide packages. The goal, however, for the packaging producer is to continuously provide maximal consumer value and hence profit through the performance of the packaging system, during all stages between production and disposal. Therefore, beyond the integral system of a product and its package, the users and their expectations in the use situation need to be integrated in the system. However, depending on who the user is, different expectations on value occur, and the different actors in the supply chain have different and even conflicting needs in terms of packaging. That implies that certain package features and functions are required in different stages in the supply chain for the product to be able to reach consumers at the marketplace (Olsson & Györei 2002). The implication is that organizations need to recon how their products and services fit into the life of the different customers in the supply chain (Linn 2002; Olsson 2005; Vandermerwe 2004). This is visualized in Figure 4.

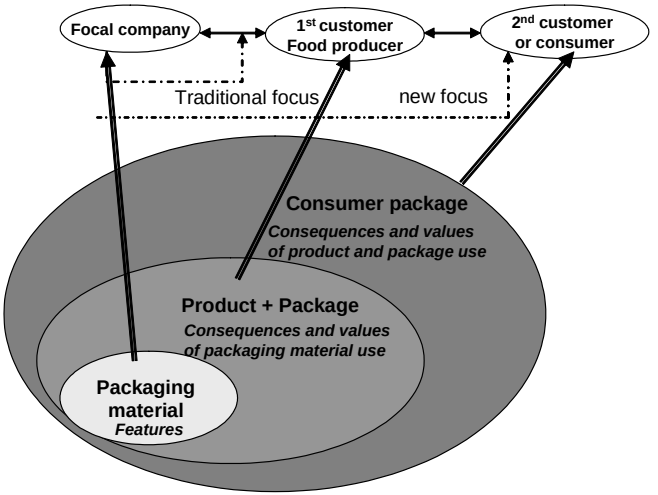

Figure 4: The system view of packaging (Olsson 2005) (upper part based on Norrmann (2001)

In the discussion, with the packaging producer of study, about the market, the focus is on raw material prices from suppliers and trading costs in the relation to the first customer (a converter), rather than on the potential of the total increase of the consumer packaging market or on potential strategies for handling competition from plastics (Olsson 2005). The suggestions proposed for the packaging industry, are a first step that implies regarding the product in the perspective of the first customer. By doing so the producer can, for example, discern consequences or problems that the first customer experiences when using

the package, or problems that the first customer has with its own core product in relation to the package (Olsson 2005). To view the first customer is regarded by Normann (2001) as the ”traditional focus”; however even in this traditional focus, companies can adopt a product perspective or a customer perspective. The transformation to a customer perspective implies regarding themselves as part of the customer's system rather than regarding their product, in this case the package, as the system per se.

To take the second step further out in the system, to the “new focus”, is to view the system from the 2nd customer's or the consumer's perspective. For a package producer, this second customer can be other actors in the supply chain who handle the package on its way from the producer to the consumer, or the consumer himself. The consumer system level can be regarded as the most complete entire system. In this entire system the end use and the final perceptions of the delivered value are judged by consumers. The customer perspective in this case involves regarding the system in which the 2nd customer or the consumer uses the package. Through increased knowledge of the 2nd customer's system, the producer and the first customer can jointly develop products to contribute to the value delivery in the entire system. This soft system view involves interacting human activities between the producer and its customers.

3.3 Processes and systems

To become competitive, organizations need to stay ahead of competitors in terms of what they provide to customers and how they provide it. Innovation is defined by Tidd et al. (1997) as:

“A core process concerned with renewing what the organization offers (its products and services) and the way it generates and delivers these”.

The definition reveals a process view of innovation, focusing on change either in existing products or services or in the processes where the products and services are created and delivered. An underlying process is the process of carefully understanding user needs and satisfying them (Tidd, Bessant, & Pavitt 1997; Ulwick 2002). A transformation of perspectives, as suggested for the packaging industry of this study, is a change that probably affect product and service development processes. Setting out in the first customer's processes and linking them into the producer's processes, as made in the service industry of study, may give the producer the opportunity to get to know and understand its customers better (Olsson & Karlsson 2003). This is schematically shown in Figure 5.

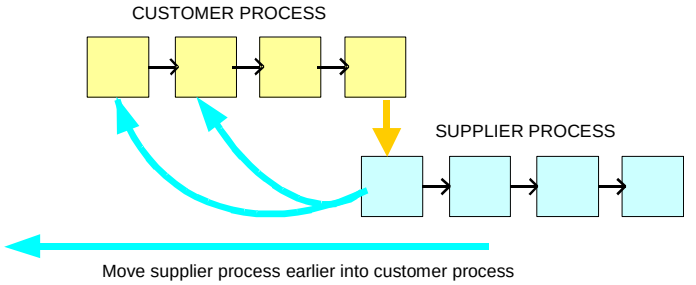

Figure 5: Schematic customer and supplier process (Olsson 2002; Olsson & Karlsson 2003)

A product is the result of a production process at the supplier, while the customers' perceived value is experienced in the process of using the product in the consumption process. The point of interaction between the customer processes and the supplier process illuminates the customer's role and demonstrates where the customer experiences value (Gummesson & Kingman-Brundage 1992). Thus, enhance the supplier's knowledge about the customer. In manufacturing industries such as the paper/packaging industry in this research, the customer enters *after* the production process, while in the service industry the customer enters and participates *in* the production process (Echeverri & Edvardsson 2002; Grönroos 2000; Gummesson 1991). The understanding of the process the first customer undertakes prior to and in relation with the producer increases the understanding of the customer's system. The increased knowledge of the customer can be used to create more value to customers and consumers. This occurs partly through development of products and services that fit into existing intertwined steps in the customer's process, but also through earlier involvement in the first customer's process. Besides understanding the processes the first customer undertakes in the direct relation with the producer, an understanding of the customer's core business processes will enhance an understanding of the customer's entire system including the customer's customers. This will enhance the possibilities to develop new products and services that better fulfil the need of the customer in its business system (Olsson & Karlsson 2003). Rather than viewing customers as parts of organisations' processes and systems as suggested in process mapping, the transformation toward a customer perspective has developed the idea of viewing the producer as part of the customer's system instead.

Soft systems enable problem solving or change by concentrating on processes by which things are done (Checkland 1993). According to Kanter (1983) successful

innovation is often associated with integrative problem solving. That is to see problems as wholes that relate to larger wholes. Therefore, as a next step, the packaging producer can regard itself as part of the customer's value adding system, which leads to systemic orientation (Olsson 2005). In systemic orientation the producer integrates into the customer's life system (Sarv 2004). That integration provides opportunities, to the producer and the customer, to jointly create value that contributes to both organizations' profitability and performance. One example of that is to be found in the service industry, where the primary case organization is making joint cost/value development with customers that leads to increased profitability for both parties (Näslund, Olsson, & Karlsson 2005). Companies who have the mental attitude of being value adding to their customers see themselves and the customers as one whole business, where they as an organization is one part that contributes to the entire system. This means that organizations need to regard themselves as part of value creation in the larger system that includes its environment including consumers (Heydebrand 1983).

3.4 The production and consumption system merged and evolved

In service management literature, the production system and the consumption system are merged because the processes of producing and consuming are postulated to happen simultaneously (Echeverri & Edvardsson 2002; Grönroos 2000; Gummesson 1991). These occasions, where the consumption and production processes intertwine, are defined as the service encounter. The perceived value emerges from the interaction between the physical products in the production and consumption systems and the employees of the producer and the customers (Gummesson & Brundage, 1992). The first service encounter often relates to the transaction between the buyer and seller in the purchase situation, where the buyer evaluates whether the product or service yields the desired value for the set goal in the purchase situation (Linn 2002). The intertwined processes of production and consumption are highly dependent on the individuals involved in the service encounter; therefore the employees of the offering producer are important for the customer's perception of quality and value (Echeverri & Edvardsson 2002).

This research indicates that prior to the existing service encounter where the production and consumption processes intertwine, certain services can be taken over or developed by the producer if they have an increased knowledge and understanding of the entire process the customer undertakes; see Figure 5. This means that through the merger of the production system and the consumption

system, combined with the move of the producer's process to an earlier phase in the customer's process, as in Figure 6, the producer can be present in the customer's system in more joint actions than previously (Olsson & Karlsson 2003). The main implication in such change is to identify the desired customer outcome that extends the boundaries beyond core products and services, i.e. the production system becomes part of value creation in the consumption system (Hammer 2001; Normann 2001; Normann & Ramírez 1993; Vandermerwe 2004).

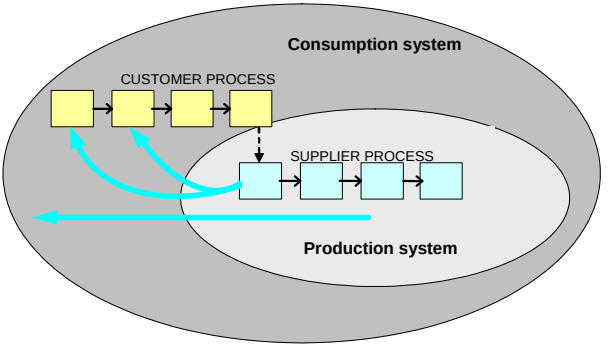

Figure 6: The change from process view to system view

The knowledge acquired about the intertwined consumption and production systems identified by Grönroos (2000) is developed through the studies in the service industry, to involve more than the prevailing service encounters, i.e. preceding steps in the customer's process (Olsson & Karlsson 2003). The knowledge acquired is proposed and incorporated to the models of the packaging industry. The integration of the process thinking in Figure 5 with the models of viewing the product as systems with different levels from feature to value in Figure 4 can be presented as in Figure 7, where the core product perspective in the production systems represents the centre of a system. In this mode the links of the producer processes to the customer processes and ultimately to the consumer processes are represented in the production, customer and consumers life system.

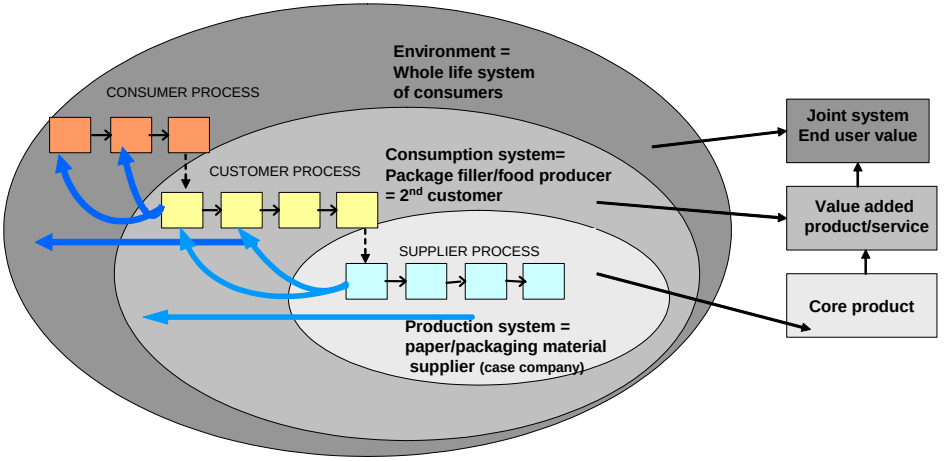

Figure 7: The integration of process models with the system models

Through moving from the centre of the system, where the focus is on the paper and packaging material and also on the internal processes of the paper/packaging producer, a move toward customer orientation is made and thereby also to an increased value delivery to consumers. Viewing the paper/package from the customer's perspective, in the customer's system and in addition learning about the customer's processes will increase the understanding and knowledge about how the package is used. It will also reveal what problems the customer usage might imply in the system. This knowledge can guide the supplier to develop and deliver packaging solutions with related services that satisfy customer and consumer needs and in addition facilitate joint development together with the customer in order to create value to the entire system including the consumers (Olsson 2005; Olsson & Karlsson 2003). Furthermore, the offering concept can be achieved because the core product (in this case the package or the packaging material) is combined with aligned services that facilitate the process the customer or consumers undertake when using the product. In this view the whole system is considered, and the prioritized focus on core product features and details has decreased in favor of system knowledge of the whole (Kanter 1983).

3.5 From knowing to doing - organizational and individual change

Even though the paper/packaging producer in this study is product oriented, there is an expressed wish, from management, to become more customer oriented and to change perspectives in the product development (Olsson 2005).

Models and suggestions for the perspective change on a system level are presented in the previous sections in this chapter. However, as argued in the introduction, problems still exist about whether the transformation will really happen. It is an important insight, from the empirical studies in this research and in the studies made for my licentiate thesis, that the individuals, especially on managerial level, in an organization have a major influence on the change process and on the learning abilities of the organization. Learning, according to Senge (1990), is a reperception of the world and our relationship to it, where we learn to create things we were not able to before. Thus learning enforces change. The following section contributes reflections on learning and the impact that individuals have on the perspective change.

3.5.1 A learning loop for change

Learning is sometimes confused with just "taking in information". However, according to Aristotle, there are three different approaches to knowledge; *episteme*, *techne* and *phronesis* (Flyvbjerg 2001). Episteme is most likely the one thought of when regarding knowledge as just information taken in, since it represents theoretical knowledge acquired mainly through education. Episteme represents "thinking" and the urge to know things (Checkland 1993), and can be regarded as "*what*-knowledge". In the paper/packaging industry studied, the wish and intention to change perspective from a product feature perspective to a customer value perspective can be regarded as knowledge of *what* to do (Olsson 2005; Olsson & Olander 2005). But *how* to implement that change is still a question mark for the case company and a key research question in that specific study. This correlates to *techne* that can be regarded as "*how*-knowledge" and represents "making" and the urge to do things (Checkland 1993). *How*-knowledge is gained when the *what*-knowledge is applied in praxis, i.e. knowledge about how to do things. This typically represents the knowing–doing gap identified by Pfeffer and Sutton (1999), which means that organizations need to move from *what* to *how*.

"Without conviction that you can make change happen, you will not act, even if you see the vision. Your feelings will hold you back"(Kotter & Cohen 2002)

This quote represents the knowing-doing gap. That means, for example, that making plans for perspective changes or identifying a need for it, as in the case company, means neither that the perspective change happens nor that knowledge is created from it, even if the intentions are there.

Aristotle's third approach to knowledge is *phronesis*; it represents action based on inquiry and reflection on the known and can be regarded as *"why*-knowledge". The cyclic learning process, according to Kolb (2005), is built on four major elements; concrete experience, observation and reflection, forming abstract concepts and finally testing in new situations. These elements can be translated into the Aristotelian knowledge approaches since *episteme* corresponds to the forming of abstract concepts, *techne* corresponds to the testing in new situations combined with the concrete experience, while *phronesis* corresponds to observation and reflection. This is visualized in Figure 8:

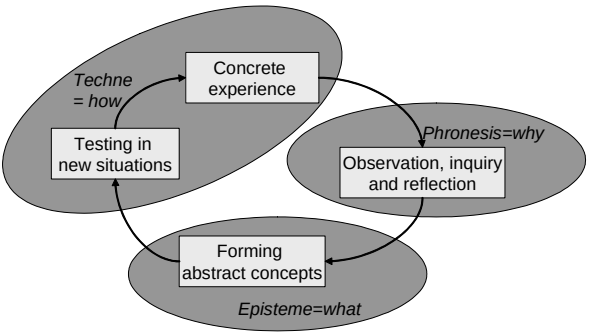

Figure 8: Kolb's (2005) cyclic points of learning modified to include episteme, techne and phronesis

According to Kolb (2005), the continuous cyclic learning begins at any of these points, but all steps need to be taken in order to acquire knowledge. It is certainly correct that the starting point in the loop is of less significance, when the observation and reflection in the phronesis step confirms the theoretical and practical knowledge. However, when there is a disconfirmation between the reflections and observations (*why*) and the theoretical and practical knowledge (*what* and *how*), new knowledge needs to be incorporated that leads to a change in the established way of knowing or doing things.

Agyris (1993; 1995) asserts that knowledge creation starts by confronting the status quo, and learning occurs either when errors are corrected or when a match between intentions and consequences is produced for the first time. Several other authors argue that, in order to create change, the cyclic loop needs to start in phronesis, and in the inquiry and reflection on the status quo (Nonaka & Toyama 2005; Pfeffer & Sutton 1999; Sarv 1997; Schön 1983). This is confirmed in the empirical input of this research. The organizations studied that are willing to "open up" and question their own way of working with development, like the service industries studied, will have an easier process of

changing their perspective and mindset, than organizations that see the inquiry as a threat. This further means that they are open to learning and to new knowledge. The ability to change is identified in *why-questions* while the "*what"* identifies what needs to be changed and the "*how*" focuses on the process of change itself.

Organizational inquiry, for mediating change, is not an inquiry made by the organizational system as such. It is rather an inquiry made by the individuals of the organizational system. The empirical studies confirm that in order to successfully move from knowing to doing in the transformation of perspectives, the individuals in the organization need to inquire into and critically reflect on the status quo. W*hy*–questions, as suggested in this research for imposing change, require reflection on values and philosophies of the organization in order for learning and knowledge creation to occur (Elkins 2003; Pfeffer & Sutton 1999). The answers to *why*-questions inspire the individuals of the organization, to critically reflect on previous constrained preconceptions of the current system, and encourage them to create new knowledge and impose change. According to Elkjaer (2004), the inquiry will further, guide the direction to new knowledge creation beyond the firm's existing capabilities. That means, when the new *why*- knowledge is acquired and understood, it obliges a change to new ways of doing things. The change depends on the ability to identify what to change and how to change it, i.e. on the ability to convert acquired knowledge from the *why*-questions into action. The process of starting out in a *why*-question in order to identify *what* to change and *how* to change it reflects the continuous cyclic loop of learning. This loop needs to be gone through by the involved individuals, and individual learning is pivotal for change such as the perspective change in the packaging industry.

To stimulate innovation, Kanter (1983) recommends organizations to make problems available and visible to individuals at all levels in the company. This also facilitates the critical reflection on existing problems and possible inquiry into the existing way of handling such problems. Unless this happens, individuals might not experience the consequences of their actions or consequences for the customers when using the product or service (Echeverri & Edvardsson 2002). The process of individual inquiry of status quo requires an organization to have people who are open and prepared to break with the past and have the courage to make changes for the future (Vandermerwe 2004). Companies that put the individual in the forefront with an underlying philosophy or set of values to trust individuals to be creative, responsible, capable of learning and deserving respect is therefore better for innovation and change in their products, services or processes (Pfeffer & Sutton 1999).

However, even if the organization has that philosophy, it is indicated in our study that the need for a mindset of making changes require an individual cyclic learning process that starts out in the phase of inquiry.

3.5.2 From resistance to learning in change

A change starts with a problem or an inquiry that individuals experience as theirs. The problem definition is part of a learning process where observations, experience and knowledge are included (Sarv 1997). It is furthermore a process that naturally reinforces the status quo and is driven by individuals who by nature are programmed to attend to their own needs first. When those needs are threatened the natural response is to resist change. Thus, changes that fail usually depend on human factors (Weymann 2001). When companies focus on implementing a new strategy for change, as for example towards customer orientation, the basic concepts of whether they can transform the thinking of the leaders, whose thinking is paramount in accomplishing necessary changes, becomes an issue (Elkins 2003). This is recognized in the study at the paper/packaging producer, where problems involved in transforming the thinking of certain leaders have affected the perspective change, since it will require more time (Olsson 2005). Resistance usually depends on the social aspects of change, where established social arrangements are threatened. The social aspects of change refers to the way those affected by it will alter their relationships in the organization (Lawrence 1986). Managers as individuals are also subordinated into groups (sub-systems) as for example the management team. Even though the management team together comes up with strategies and future visions, such as customer orientation, there may be individuals of the group who do not agree to those strategies, even though this implies an exorbitantly high risk of exposing the diverged opinion. This is exemplified in the study in the paper /packaging industry, where at least one management team member has another opinion than that expressed by the agreed strategy (Olsson 2005).

This reveals the tension and dilemmas for individuals in the balance between personal (psychological) and organizational (social) priorities (Chiva & Alegre 2005). In organizations where the new initiatives or intentions are questioned on a high hierarchical level, as exemplified by the study, change and learning will be inhibited. Learning in an organization often occurs in the daily activities by the individuals of that organization. Therefore collaboration and a desire to develop, spread and use new knowledge is needed for a change to happen (Thor & Södergren 2002). The largest barrier to change is the words, actions and subtle expressions from managerial level that the change is wrong or not agreed upon (Kotter & Cohen 2002). The idea to free individuals, allowing them to

transcend boundaries and search for better ways of doings things as suggested by Kanter (1983), also includes prompting managers to look beyond their own boundaries and look for new ways of doing things. In the service organizations studied, this has been practiced. The transformation of the thinking of the leaders in the service organizations has been facilitated from researchers and the use of methods for changing mindset (Näslund, Olsson, & Karlsson 2005). The process can be compared with a cyclic learning process in which the facilitators judiciously help leaders to carefully reflect (*why)* on the issues and the process of inquiry (*why)* in order to create new knowledge (*what)* that imposes change (*how)*. When participants on managerial level have experienced the cyclic learning, this knowledge can be transferred to other employees of the organization. Without facilitation there is a risk of going through the cyclic loop of learning without change, by confirming existing processes in the inquiring phronesis step. Participation of workers in the process of change might decrease the resistance, but the participation must build on trust and respect (Lawrence 1986). Therefore, it is important to convey an understanding prior to a change in order to cultivate readiness and to avoid resistance (Palmer 2004). Such understanding can be achieved through learning among employees as practiced in the service organizations (Näslund, Olsson, & Karlsson 2005). However, if the desire to learn does not exist among individuals in an organization, the desire to learn through workshops is probably also lacking. Therefore, the daily yearning to learn within an organization is pivotal for the change to happen, while the workshop methods developed are just one tool for facilitation in that learning process.

3.6 The individuals and the system

The studies made in this research confirm the importance of trusting individuals to critically reflect on status quo and to be willing and able to learn. The individuals of an organization therefore become increasingly crucial for success, since it is individuals rather than the organizational system that come up with new ideas, push for change for opportunities and develop creative responses to problems through their learning and critical reflections (Kanter 1983). Furthermore, the role the individual plays in the service encounter and in the relation to customers is important for knowledge creation about customers (Echeverri & Edvardsson 2002). The organizational system and the individuals, customers and employees, can therefore not be isolated and separated. Individuals of an organization are divided into groups that are subordinated to the organizational system. Lloyd & Maguire (2002) states:

"For any organization to be successful, its values and those of employees must be aligned"

That means that an organization needs to establish a sound relation between the individuals and the organizational system of which they are a part. Hardly ever are customers part of organizational systems, although the inclusion of the customers into the system is necessary in order to transfer knowledge about customers to the employees of product development (Echeverri & Edvardsson 2002). Organizations and their environments can be viewed as a system built on different levels, as in Figure 9. The organization is built on a collection of individuals into a sub-organization that is part of a whole organization that in turn is part of an entire environment; a whole life system (Lissack 1999). The system, therefore, represents many sets of human activities that are related to each other so they can be viewed as a whole. The individual constitutes the highest resolution of the system, and the organization represents the relations between individuals within the sub-system and between sub-systems. These relations between employees and customers are pivotal for an increased understanding of customer needs that are supposed to be translated into specifications for development. The interaction between product development employees and customers can therefore be enhanced through the trust of individuals within a system to transcend organizational boundaries into the entire system.

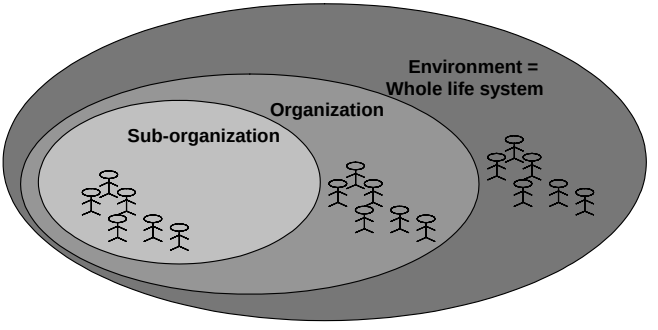

Figure 9: The individual in the organisational system

Each individual in such systems needs to generate an image of the entire system and of the dependence his or her performance has on the entire system (Schön 1983). The ability of the individuals to regard the organization as an abstract system will affect the learning within the organization in the sense that individuals need to see themselves as part of an entire system in which they contribute (Elkjaer 2004). This has been facilitated through taking examples

from well-known outside industries, in the cyclic learning process with the service organizations (Näslund, Olsson, & Karlsson 2005). After an acquired understanding of the outside example's entire system and the individual's role in that system, the knowledge can be applied within their own organizational system and the role they as individuals play in that system.

By existing in the organizational system with all information, artifacts, routines etc. of that system, the individuals make changes that enable them to adjust their behavior to the behavior of others in the system (Schön 1983). Individuals learn within the context of organizations, and the system affects the learning, which in turn affects the performance of the organization (Tidd, Bessant, & Pavitt 1997). This is because individuals subordinate themselves into existing systems, and individual learning follows coordinated paths in the system (Kogut 2000; Spender 1996). In the paper/packaging industry studied, the role the individual plays for the entire system seems to be unclear to the employees, which can depend on an unclear system view in the company. There are possible reasons, such as conflicts in the explicit strategy for customer orientation and the implicit management view, to preserve the existing production oriented system. Another possible factor is the unclear process for transformation of knowledge from customers in the product development, and thereby a cloudy view of the customer's system and how to become involved in that system on an individual basis (Olsson 2005).

3.7 The system as a whole

Interpreting interrelationships between different systems and looking for patterns in them will help to understand interdependency and change (Senge 1990). The perspective change from product feature and the detailed view of the system to a customer perspective with a less detailed view, as proposed in this research, supports the suggestion of viewing the entire system for increased customer orientation. Vargo and Lusch (2004) define services as the application of specialized competencies through deeds, processes for the benefit of another entity or the entity itself.

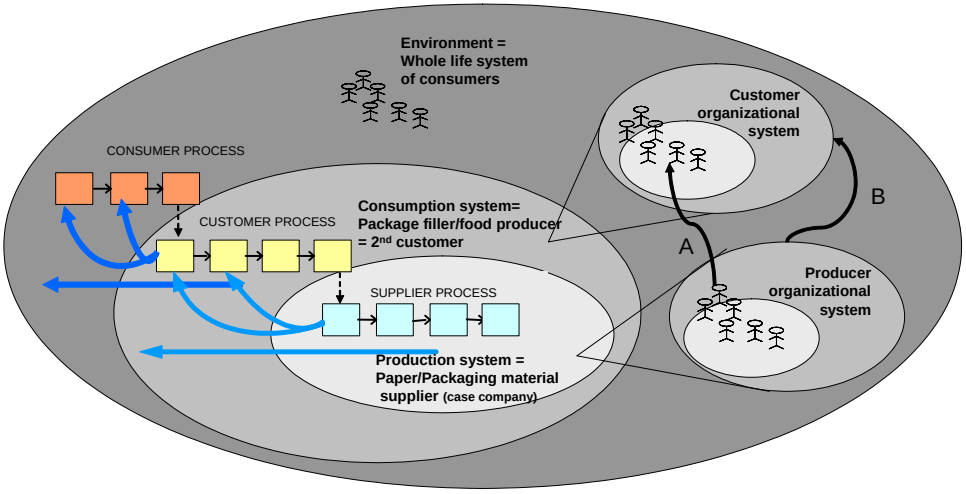

Figure 10: The linked systems

The ability at the packaging producer to become customer oriented is established as being linked to the ability to regard the entire system in which the packages are developed or exist. The entire system is represented by the consumer's life system, which equates the environment to the production, and the consumption system. However, the customer orientation is not only dependent on the levels in the production, consumption and consumer system. It is also related to the ability and the prerequisites given to individuals within the organizational systems. Organizational systems exist both in the production system and in the consumption system. These organizational systems have subsystems that are made up of individuals in the respective systems.

The links of these individuals from the different levels of these organizational systems are found to be important for the integration of the production system and the consumption system. Knowledge from the individuals in the customer system can be incorporated into the product development in the production system if the links between the individuals are open-minded and collaborative. Innovation processes in organisations have evolved from being a linear sequence of functional activities to a complex set of intra-organisational and extra-organisational activities (Rothwell 1994). Organizations create knowledge by synthesizing knowledge from the environment, such as, for example, from the customer's system. To view an organization as a functionally delimited sub-organization is therefore to neglect the environment.

The entire system where the production system and the consumption system exist is found to be equivalent to the entire system where the organizational systems exist. This can be explained by the concept that the organization in the production system and the organization of the consumption system both exist in order to provide solutions to their environment. This is illustrated in Figure 10, where the production system and the consumption system are linked to the organizational systems and all subsystems are aligned in the same entire system, i.e. the consumer life system.

The core product, in this study the paper or package, with the highest resolution, viewed from the customer perspective, can be incorporated in the consumption system and eventually to the entire consumer life systems, i.e. the environment. Likewise the sub-organization at the packaging producer can be seen as the smallest unit in an organizational system that also exists in the consumer life system, i.e. in the same environment as the product (the packages). Alliances with customers, for example, is one opportunity to learn new market and technological competencies through internalizing one's partner's knowledge (Tidd, Bessant, & Pavitt 1997). In such alliances, success depends on the levels of commitment, communication and trust between the involved people, both in the internal organizational system and in the customer's organizational system. It is therefore suggested that the packaging organization is searching for change in the whole, not in the isolated parts, and in addition involves individuals from different system levels.

3.8 Reflections on opportunities, challenges and potential criticism

As stated in Chapter Two, this research begins as a quest for knowledge rather than a description of phenomena or answers to demarcated problems. This approach is taken based on my paradigmatic view and the possible methodological criticism and challenges are discussed in Chapter Two. A searching approach, as in this research, provides new knowledge as well as new quests for learning, as in the cyclic loops explained in previous sections. Even though it can be seen as challenging not to be able to give answers in a research project, it can also be regarded as an opportunity for new learning and knowledge creation. Some of these opportunities and the experienced challenges are elaborated on in this section.

3.8.1 The customer perspective focus

Reading this thesis, will naturally raise questions about profitability, efficiency and productivity, arguing that merely focusing on customer orientation is not the one and only answer to successful product development. Tidd et al. (1997), for example, suggest balancing technology push and market (demand) pull. They bring up the risk of lack of technical progression if innovation is seen only as a process of meeting customer needs. I agree to the balancing of pull and push; however different industries have dominance in either of these. Gummesson (1991) recognises that product manufacturing is more systematic in development and manufacturing with consistency in the ability to manage internal quality, while service production greatly stresses the customer's role and external quality. It is identified in my studies in the packaging industry and in other industry-specific information that the paper/ packaging industry is capital intensive and production oriented, and the technology push has been dominating that industry (Olsson & Györei 2002; The Swedish Forest Industries Federation 2005). Therefore it is of specific interest to better understand the customer perspective in product development in that industry, since there is potential for both academic and practical development in this area. This opportunity is the main reason focusing on the external customer perspective and neglecting the internal perspectives; even though balancing perspectives is acknowledged.

3.8.2 Multidisciplinary theories

The abductive action research used, provides the opportunity to modify existing theoretical frameworks based on the empirical findings in the action research studies (Olsson & Olander 2005). The attempt in the abductive process is to find new matching frameworks or to extend existing theories in a creative and iterative process between reality and existing theory (Dubois & Gadde 2002). In complex settings, like the entire system of production and consumption including the individuals in each organization, multiple theories are needed in order to get an integrative analysis. In the latter part of my research process, I have come to the insight that individuals play a key role in the process of change through their ability to learn in relation to the organizational system where they act. The theoretical field of individual learning is from my point of view new and peripheral to my previous academic background. Therefore, the analysis of the individual impact on the systems studied would most likely have been enhanced through the involvement of people with academic backgrounds in psychology, pedagogy or behavioural science. This is the challenge and disadvantage of conducting multidisciplinary research; however, focusing on just one theoretical field in a complex social setting, as in this research, would force

the researcher to delimit the system into a hard system, where in my case only technological aspects of the problem would be integrated. This would result in a poor and distorted analysis, which is why the multidisciplinary approach has been chosen even if the depth of knowledge in certain fields is limited.

3.8.3 The action research opportunities and challenges

The suggestion of integrating the individual cyclic loops of learning into the entire systems of production and consumption, for customer oriented product development, requires deep involvement in the systems studied. That includes deep interaction between the researcher and the individuals of the systems studied. The suitable research method would therefore be action research, an approach that allows critical reflection, change and new knowledge creation related to a specific setting. Action research therefore corresponds to the cyclic loop of learning, including the step of critical inquiry. The reason for suggesting action research is the confirmation that joint reflections of the individuals in the system studied and the researcher will enhance the understanding and also take the learning forward. The researcher's role in the action research process is to facilitate the inquiry and reflections on the status quo, in an integrative manner with the participants of the organization, in order to acquire the *why*-knowledge (Foote Whyte 1991; Greenwood & Levin 1998; Rönnerman 2004). This knowledge is then used (by researcher and organization participants) to jointly impose suggestions for change, which means to acquire *what* and *how* – knowledge. This type of knowledge creation in an integrative manner is applicable on different system levels. The cooperation between the researcher and the managers, reflect and inquire the ways on working in relations to the involved employees during the change process. Thus, the action research process is an abductive process between researchers, managers and employees of the organization. However it requires mutual trust and interests.

The limited access at the paper producer has been discussed in section 2.5, and access problems naturally constrain the results and opportunities for realistic analysis. The access has been limited in the sense that certain individuals have been reluctant to participate in joint learning and joint reflections, i.e. in action research. However, the same persons have taken part in our interviews. The interviews have been semi-structured and have involved discussions around open-ended queries. From these interviews, certain opinions are perceived and included in the analysis, while the joint reflection by the respondent on the analysis has not been included. These limitations mean that we have not been able to involve ourselves as participants of change, so the results from the paper

industry rather exhibit the present situation based on interview input, but they also present suggestions for future steps in the expected change process. Some members of the company, however, have, participated in joint workshops with us, thus giving an initial sense of action research to us and to themselves. These workshops have also contributed in our analysis. The respondents who have shown reluctance to or ignorance of action research have also shown hesitation to the new strategy of customer orientation in the company. They have therefore probably also affected the implementation of the change negatively. During the writing of this thesis, these senior managers have been replaced and therefore there might be opportunities to include action research in the future perspective transformation of that company.

4 Conclusions and contributions

The basic postulate that I have investigated in my research is that in order to provide new package solutions and packaging materials for added customer and consumer value, a change of perspective is needed. The proposed perspective change is from the prevailing technical product-oriented perspective to a customer-oriented perspective. The postulate can also be described as a need for packaging producers to develop a systemic perspective and regard themselves as part of their customers and consumers system. This postulate imposes certain requirements on the product developing organization and the individuals of that organization.

These requirements imply that in order to reach a transformation of perspectives, individual and organizational learning for a mindset change is pivotal; therefore individuals need to be linked into the systems of producer, customer and consumers. Furthermore, in order to build knowledge about the transformation of perspectives, action research is suggested as the methodology for understanding the change processes and their demands on the organization. The main reason for using action research is the required integration of human aspects into the understanding of the change, as well as the deeper access to reality received.

4.1 The customer perspective – a system view

Based on the postulate that packaging development need to transform to a customer perspective, the research suggest for the packaging industry to align services to the core products for competitive advantage and increased customer value. The integration of customer and consumer knowledge into product and service development, the way this is practiced in the service organizations studied, is further suggested for value addition in the packaging industry. In this way, the idea of borrowing theories from other academic disciplines into one's own discipline, for knowledge transfer, as made in this research can also be applied in practice through borrowing concepts from one industry and using it in one's own.

Furthermore based on the thesis to transform perspectives, this research suggests the packaging industry to enhance systems thinking which requires the packaging producer to view their products as parts in a larger system. This means for the packaging producer to regard itself as a part of the customers' value adding system and in addition, to learn about the customer's processes.

The core product, the packaging, is thereby viewed from the customer's perspective and regarded as a combined hard and soft system that is built up by the core product (the hard packaging system) with aligned services that provide consequences that add value to the customers and the consumers in the use situation. The perspective change from product feature and the detailed view of the system to a customer perspective with a less detailed view supports the suggestion of viewing the entire system for increased customer orientation.

Models for working with the empirical intention, as formulated by the postulate, are provided as a framework and a theoretical contribution in this thesis. Models for the integration of the organizational system and the individuals into the entire system are also provided, and the individual impact on the total system is highlighted as a key issue in order to facilitate the transformation of perspectives. The core product with the highest resolution, viewed from the customer perspective, can be incorporated in the consumption system and eventually in the entire consumer life systems, i.e. the environment. Likewise, the individual can be seen as the smallest unit in an organizational system that also exists in the consumer life system, i.e. in the same environment as the product. The integration of the individuals into the system concludes that the relations between employees and customers are pivotal for an increased understanding of customer needs. The interaction between product development employees and customers can therefore be enhanced through trust in individuals within a system to transcend organizational boundaries into the entire system.

4.2 The learning for change

Another conclusion drawn is that the transformation of perspective toward customer orientation is dependent on individuals and their learning. The learning involves the individuals in the organizational system and comprises a cyclic loop with different types of knowledge, i.e. *what*, *how* and *why* knowledge. The entire loop needs to be gone through by the involved individuals, but in order to successfully move from knowing to doing in the transformation of perspectives, the individuals need to inquire into and critically reflect on the status quo. The process thereof starts in a *why*-question in order to identify *what* to change and *how* to change.

This research distinguishes the organizations that have stepped forward in the change of perspectives through having the courage to question their own business, while it also identifies those organizations who claim that they already know what to do and are already customer oriented. The former organizations do reflect and inquiry for change and new knowledge creation, while the latter

confirm the status quo in the inquiry and reflection phase in the learning loop. It is indicated that in order to impose a change, it is not enough for management of the packaging producer to express and direct a perspective change. A first and crucial step for the transformation to a customer oriented perspective in the packaging industry is to question the existing way of working with product development and customer relationship. This implies that in order to succeed in changing perspectives; it is proposed that individual learning is needed both among management members and among involved employees. Furthermore, trusting the individual to challenge the status quo is a prerequisite for the change to occur.

One practical contribution of this research is the methods developed for such individual learning and for changing individuals' mindsets from a product/feature perspective to a customer value perspective in product and service development. These methods can be used in workshops to highlight the customer perspective and also give insights to distinguish the difference between features and values. The method development is aimed for the individuals involved to go through a cyclic loop of learning for increased understanding in the perspective transformation process. The workshops suggested are one way of imposing individual reflection and starting an individual learning as an attempt to achieve a mindset change toward customer orientation. Furthermore the workshops can be used in order to develop the understanding among managers on how the daily individual learning takes place in the organization and how it can be utilized in the change process. However, if the desire to learn does not exist among individuals or managers in an organization, the desire to learn through workshops is probably also lacking. Therefore, the daily yearning to learn within an organization is pivotal for the change to happen, while the workshop methods developed are just one tool for facilitation in that learning process.

4.3 Action research - the way forward

This research suggests that the integration of individual's opinions and reflections is needed in this kind of studies in order to understand the individual change process required for the organizational system to reach the transformation of perspectives. To achieve such deep understanding of the entire system and the individual's impact on that system, the research methodology proposed is management action research. The reason for suggesting this is the confirmation that joint reflections of the individuals in the system studied and the researcher will enhance the understanding and also take the learning forward. From a research perspective, action research is required in order to

study and understand, and to further impact on the change process. The contribution from a research perspective is to publish reflections on the systems studied and to provide suggestions for change in the systems. These publications can be used for further critical reflections by other researchers in order to further contribute to new knowledge. The reflections and publications can also serve as new concepts for testing in new industrial contexts.

5 My future intentions

The research presented in this thesis has a paradigm of searching for knowledge rather than describing answers to cause and effect connections. The result is therefore a touchdown in the search process that naturally provides additional questions. In this section I provide some thoughts for future studies based on queries that I need to better understand or need to learn more about.

All organizations produce and sell products and services, although in varying proportions. Many product producing organizations, however, have reoriented themselves around services, which means they have aligned service to their core products in order provide attractive offerings (Echeverri & Edvardsson 2002). Hence products and services live in symbiosis when creating competitive advantages to customers (Gummesson 2005b). However, this research is based on the postulate that the paper/packaging industry needs reorientation in perspectives. One suggestion is for them to adopt the concepts of aligning services to their core products in order to become customer oriented. It is therefore of future interest to elaborate, implement and reflect on what new services a paper or packaging producer can add as aligned services in order to provide value added offerings to customers and consumers. The concept of interdependency between the core product and the aligned services is one area to be highlighted as an element in the organizational and individual learning proposed in this research.

The cyclic loop of learning, as referred to in the research, is related to the concepts of action learning. Action learning has several definitions, but all include inquiry, so this is in brief learning from a concrete experience combined with critical reflection. Action learning is individual but also related to the organization (Zuber-Skerritt 2002). Action learning is both a concept and a form of action that aims to enhance the capacities of people in everyday situations to investigate, understand and, if they wish, to change those situations in an ongoing fashion (Morgan & Ramirez 1984). The workshop method developed in this research in the service organizations can be considered a kind of action learning. The use of these methods is presented as a potential future step for action learning in the paper/packaging industry. The action learning in the packaging industry is proposed to provide a basis for continued action research in the industry, where the recommended action learning can be one part of the joint research that helps the individuals of an organization to inquiry the present mindset and the prevailing orientation.

Schön (1983) points to three phenomena needed for organizational learning; organizational theory-in-use in the present state, organizational inquiry, and organizational theory-in-use in the subsequent state. In the studies in the service industry, the deep access and the possibility to conduct action research has allowed us to experience all three phenomena. The intention to apply the acquired knowledge from the service industry to the packaging industry has taken us through the present state of theory-in-use and also partly through the organizational inquiry – while the third step of building new theories-in-use is not achieved. Some potential theories-in-use for the future are elaborated on but not implemented in practice. This testing of the suggestions as well as reflection on the process forward is one issue of curiosity and a target for my future research. My hope for future studies with the paper supplier is to gain deeper access and to precede the research in a joint action research process, as has been possible in the service organization. I make a reflection in my thesis that stronger critical scrutiny of one's own organization in combination with an open-minded view regarding research facilitates the access to research. The open-minded view is built on a high level of trust, and leads to a collaborative relationship. It is, however, an interesting challenge for future research to study the access to companies for action research, and what the reluctance to access really depends on.

The reflections from the insights in this research give rise to queries about the relation between the ability and efforts to transform perspective and the relative level of service content in an offering. The relative split between products and services in different industries can be explained by the relatively low level of tangible products in the service industry offerings, whereas offerings in the packaging industry are relatively lower in service content (Echeverri & Edvardsson 2002). Grönroos (2000), for example, states that there is a significant difference between the service industry and the product producing industry regarding customer orientation, since the competitive advantages in the service industry relate to the service encounter. On the other hand, Lovelook and Gummesson (2004) argue that the border between product producing and service producing industries' marketing is fading. It is therefore interesting to continue the research by comparing industries to better understand if the transformation of perspective is harder to accomplish in industries with tangible products that have competitive advantages linked to the features of the product, than in an industry where the competitive advantages relates to the perceived value in the service encounter. Another aspect of the ability to change is the organization's "willingness" to open up and question its own way of working, rather than regarding the inquiry as a threat, as identified in this research. The organizations, in this research, who question their own way of working, happen

to coincide with the service organizations. However in my licentiate work the service organization at the pharmacy did not show the same willingness. Therefore it is of further interest to continue to explore the relations of easiness to transform in relation to the ability to question one's own way of working, in both product producing and service producing industries.

The impacts that individuals have on the system in a transformational change of perspectives is also a topic of interest for my future studies, since the role the individual plays in such change and in mindset change toward customer orientation has been included only in the latter part of this research. Therefore this is an area for further learning and increased understanding. In future research, it would therefore be interesting to be involved in joint research with researchers from the field of psychology, behavioral research or pedagogy, in order to better understand the aspect of individual impact on learning and change. My colleague Nilsson (2005) identified the importance of putting greater emphasis on human aspects in the creation of customer value in demand-oriented supply chain management. He went on to state that including customers and suppliers in inter-organizational activities would increase the understanding of how changes at suppliers and customers might affect the entire system. This area is related to the systems of this study, where the relationship between individuals of the customer system and individuals of the product producer system (in my research the packaging producer) is identified as important for value creation. Vargo and Lusch (2004) also conclude that the focus in research has shifted from producer to consumer, as well as from tangibles to intangibles such as skills, information and knowledge, and subsequently toward interactivity, connectivity and relationships. The shifts imply academic transformation toward dynamics, evolutionary development and the emergence of complex adaptive systems. To add the complex adaptive systems approach to the issues presented in this research might enhance the impact of individuals, and is therefore one interesting way to approach these problems in future research.

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