

Information sharing for improved collaborative planning

- A case study in the food supply chain
from manufacturer to retail stores

Gunilla Hansson
Maria Hansson



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Summary

Title: Information sharing for improved collaborative planning
– A case study in the food supply chain from manufacturer to retail stores

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Problem Description:

How shall effective and satisfactory replenishment planning and information sharing be designed to improve the security of consumer satisfaction?

In which areas is it most essential to do changes in order to come closer to a more desirable replenishment planning and information sharing situation in the food supply chain?

Purpose: The purpose of this master thesis is to provide propositions for improving replenishment planning and information sharing in the food supply chain in order to improve the consumer satisfaction.

- Method:** The research method contained a literature review where the Internet has been the most frequent source, since our research area is based on dynamic reality and thereby, printed literature such as books easily gets out of date. The analysis of the frame of reference has been made through twelve propositions. These propositions have then been the base for the interviews in the case study at Kraft and ICA. The empirical material, collected through the interviews, has then been analyzed through the twelve propositions in order to find gaps between a desirable information sharing and planning situation and the situation today.
- Conclusions:** A complete food supply chain of actors is necessary to be able to deliver the products to the consumers. To make the food supply chain work in a satisfying way the actors within it has to know each other, how each actor operate and what information and knowledge that is essential for the different actors. From this each actor has to “get their own house in order”, that is to improve the work with the internal planning. This through integrate and co-ordinate the persons, departments and subjects that affect the planning, and design phases that is helpful in the planning. After the own house is in order some of the relations in the food supply chain can be developed to collaborations.
- Keywords:** Consumer Satisfaction, Consumer Demand, Food Supply Chain, Information Sharing, Collaboration, Relations, Follow-ups

Acknowledgements

These lines are a termination of a long journey in the academic school. Now the school of reality is waiting for us. To join these two schools, we chose, in this master thesis, to have an assignment from a company in the food industry but with a great portion of academic influence. Krafts Foods Sverige AB, who also is our case study company together with ICA, established the assignment.

Firstly, we would like to thank Maria Fagrenius, our supervisor at Kraft, for assisting us through the master thesis with a great patience and enthusiasm. We would also take the chance to thank all respondents at Kraft and ICA.

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Thirdly, we would like to thank our families for being there for us through our whole education, to support us patiently and for listening to all our strange, and sometimes incomprehensible explanations of the master thesis.

Finally, we would like to thank each other for a stunning collaboration.

Lund, May 2003

Gunilla Hansson

Maria Hansson

Information sharing for improved collaborative planning

The information sharing for improved collaborative planning (IS-ICP) project is a research project that aims to improve collaborative planning in the supply chain. The project is led by the University of Cambridge and involves several other academic institutions and industry partners. The project is funded by the UK Research Councils and the industry.

The project is focused on the development of a framework for information sharing in the supply chain. The framework is based on the concept of 'information sharing for improved collaborative planning' (IS-ICP). The framework is designed to be flexible and adaptable to different supply chain configurations.

The project is currently in the early stages of development. The project team is working on the development of a framework for information sharing in the supply chain. The framework is based on the concept of 'information sharing for improved collaborative planning' (IS-ICP).

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1 Introduction

In the chapter "Introductions" the background, problem description and purpose are presented. Further, the delimitations, focus and target group together with the disposition of the master thesis are introduced.

1.1 Background

"Once upon a time, local retailers knew their customer's purchase patterns because, simply put, they knew their customers. Flexible local suppliers meant merchants were able to get what they needed when they needed it. But a massive consolidation of local and regional stores has meant an end to these personal relationships. ... The result: a constant and costly struggle to match supply with demand."¹

From a historical point of view, consumers went to the retail store to buy products that they would consume at a later time. But today, buying on impulse and food purchased for immediate consumption are more common.² The consumers' wishes constantly change, sometimes it is a conscious decision and sometimes it is a change due to short-term trends or fads. Additionally, the consumers today have all the information and means to make comparisons about price levels and thereby they know what they are willing to pay for a product.³ The consumers are also becoming more interested in global products, which leads to an enlargement of the product assortment.⁴

Given that the consumers buying behaviour change, leaves room for several players in the food supply chain. Each player can provide value-adding solutions for a category of consumers.⁵ The ability to respond to and satisfy the customer's needs is today a necessity for a company who wants to be competitive.⁶

The food industry has, traditionally, been characterized by slow and gradual changes. But, in recent years the industry has changed more dramatically, for example through the increased power of the retail sector, the increasing power of brands, the globalisation and individualisation of consumer trends, and the technology developments.⁷ This has led to that predicting the future is something many companies would like to do, especially companies that plan their operations around

¹ Moffitt, N. (2000), pp. 12-13

² Greivink, J-W. & Josten, L. & Crawford, F. (2002), pp. 21-25

³ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 458

⁴ Grievink, J-W. & Josten, L. & Valk, C. (2002), pp. 19-21

⁵ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 475

⁶ PeopleSoft, Inc. (2002), p. 1

⁷ Grievink, J-W. & Josten, L. & Valk, C. (2002), pp. 19-21

tomorrow's product or service demand. But "*unfortunately, there are no crystal balls*"⁸. Instead companies have to rely on accurate and sound demand planning.⁹

Companies in the food supply chain today have difficulties in receiving reliable information from and about their customers and consumers. This means that both production and distribution will be difficult to control in an effective and lean way. Therefore, communication and collaboration in the food supply chain has become increasingly important in recent years, and it will be important in the future in order to plan and secure the supply of products.¹⁰

There are many possibilities to respond to the present markets needs within a supply chain, but there are also several problems. These problems are mostly based around difficulties in controlling inventories, this to face and respond to the customer's changing demands in the best way. The food industry is an industry where these problems are common.¹¹

Today it is not enough just to concentrate on supply, the importance of demand has to be added. To be able to add this value in business processes current, fresh and visible information is a key ingredient. Unfortunately, the supply chain today, and thereby sales forecasting, is driven by incorrect and/or untimely information. And in addition to this, until now, there have been boundaries between strategy on the supply side and on the demand side.¹²

1.2 Problem description

Most fundamental for the food industry is to secure that the consumers can buy a specific product at a specific point of time.¹³ The fact that consumers demand constantly change leads to that companies today must rely on accurate and sound demand planning. In dynamic industries, trustworthy planning is important for both the long-term strategy, and to be able to secure that the every day supply of goods flows effectively. The alternative is a highly flexible production and replenishment system.¹⁴ Traditionally, every participant in the food supply chain works individually with planning and control of its own delivery process.¹⁵ However, one thing is for sure, the complete food supply chain is necessary to be able to deliver the products to the consumers. Therefore it is important to study the relationships in the food supply chain. The collaboration between the actors is today not satisfactory enough.¹⁶ Among other things, there is a lack of sufficient and reliable information sharing

⁸ PeopleSoft, Inc. (2002), p. 1

⁹ PeopleSoft, Inc. (2002), p.1

¹⁰ Maria Fagrenius, Kraft Foods Sverige AB, 2003-01-14

¹¹ Hoffman, J. M. & Mehra, S. (2000), p. 365

¹² Seifert, D. (2002), pp. 7-9

¹³ Hoffman, J. M. & Mehra, S. (2000), p. 365

¹⁴ Främling, K. & Holmström, J. (2000)

¹⁵ Hahtola, M. & Holmström, J. (2001)

¹⁶ Maria Fagrenius, Kraft Foods Sverige AB, 2003-01-14

between these actors. The information sharing is necessary to be able to plan an efficient and satisfactory supply of products. This leads to our main areas; the importance of relationships in the food supply chain, and the importance of planning within companies. This also leads to the first question:

How shall effective and satisfactory replenishment planning and information sharing be designed to improve the security of consumer satisfaction?

Still, the problem is that this desirable replenishment planning and information sharing situation in some areas is far away from today's situation. It is sometimes difficult for actors in the food supply chain to receive information from each other¹⁷. Therefore it is important to analyse the present situation in order to specify where and how companies act in these areas today, and from this sift out those changes that is most necessary in order to achieve a more desirable situation. This leads to the second question:

In which areas is it most essential to do changes in order to come closer to a more desirable replenishment planning and information sharing situation in the food supply chain?

These changes will be the base for how companies, in the future, will work.

1.3 Purpose

The purpose of this master thesis is to provide propositions for improving replenishment planning and information sharing in the food supply chain in order to improve the consumer satisfaction.

1.4 Delimitations, focus and target group

We will study a supply chain in the food industry, from the manufacturer to the retail stores, see figure 1.1. Our literature review will however both concern the grocery industry and the food industry, but since the food industry is a part of the grocery industry we will place them on the same level. We will only study the replenishment planning and not the production or the planning of the production. Further, we will only study the consumers through the information that they give when checking-out from the retail store. Product introductions will only be mentioned in those cases where it seems relevant, but we will not study this in particular since this situation diverges appreciably from the ordinary product flow¹⁸.

From the retailers perspective a person that buys groceries in a retail store is a customer. However, from the manufacturers perspective these persons are consumers,

¹⁷ Maria Fagrenius, Kraft Foods Sverige AB, 2003-01-14

¹⁸ Maria Fagrenius, Kraft Foods Sverige AB, 2003-01-14

and the manufacturers customers are the retailers.¹⁹ In this master thesis we will use the term consumer for a person that buys groceries in a retail store.

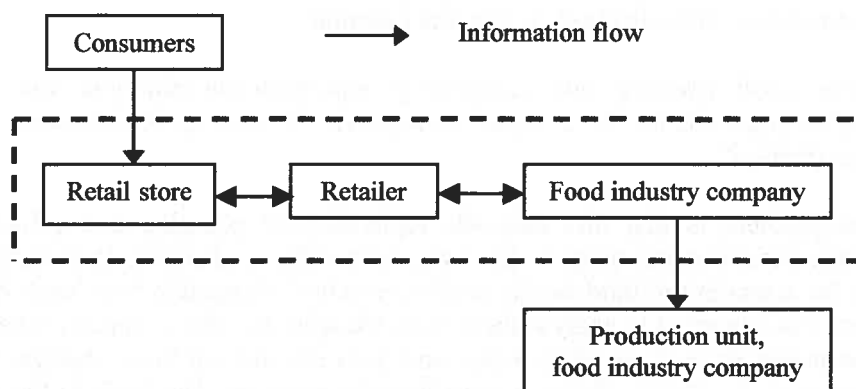


Figure 1.1: The delimitations of the master thesis.²⁰

Since the background of this master thesis bear upon communication and collaboration, we will only study the information flow between companies in a food supply chain. Further, we will not study the product flow or the economical flow.

The food supply chain witnesses great changes in the product assortment. Many retailers have chosen to introduce their own products, so-called private labels. This means that they, above all, buy production from other companies.²¹ This has led to that the manufacturers both are suppliers and competitors to their customers. We have, despite this interesting area, chosen to delimitate our study from the influences on the food supply chain from the competitors.

We hope that interested readers will be found both among people in business and in the academia.

¹⁹ Hasselgren, R. (2003), p. 6

²⁰ Figure developed by the authors

²¹ Maria Fagrenius, Kraft Foods Sverige AB, 2003-01-14

1.5 Disposition of the master thesis

Chapter one – Introduction

The first chapter provides a brief overview of the background to this master thesis, and also to the problem description, purpose, and delimitations, focus and target group.

Chapter two – Methodological reflections

The second chapter will first introduce methodological considerations taken before and during the research study. After this, a description of the research method is presented.

Chapter three – Frame of reference

The third chapter gives a description of the frame of reference that basis the two main areas of the master thesis; the importance of relationships in the supply chain and the importance of planning within companies. The frame of reference is based upon theories, models, and concepts about the supply chain, relationships between companies, facilitators when planning replenishment, ways of collaboration for a more effective supply chain, but also upon characteristics of the planning in the food supply chain today and in the future.

Chapter four – Propositions for a desirable food supply chain

In the fourth chapter, 12 propositions for future desirable information sharing and planning will be introduced. These propositions are based on the frame of reference and will in their turn both be the base for the empirical collection and the evaluation of the empirical material.

Chapter five – Evaluation of the studied food supply chain

The fifth chapter provides an evaluation of the two last subchapters in the frame of reference, the propositions and the empirical material. The chapter is divided into the two main areas of the master thesis. The subchapters are then divided into three parts. Firstly, a résumé of relevant empirical material secondly, a proposition and thirdly, an evaluation of the empirical material with help from the propositions.

Chapter six – Conclusions

The sixth chapter will highlight the most important conclusions that can be drawn with help from the fifth chapter. This chapter is divided into two parts: a description of desirable future information sharing and planning in the food supply chain, and a reformulation of the propositions.

Chapter seven – Future research

The seventh chapter will introduce areas for future research.

Appendix

The appendix is divided into three parts; Firstly, a case study protocol that has been the base for the case study secondly, an overview of the empirical material and thirdly, a description of how forecasting can be improved.

2 Methodological reflections

In the chapter “Methodological reflections” choices that affect the way that the master thesis is realized will be shown. Our methodological reflections, the choices that will be made, are based on Arbnor & Bjerkes model, in figure 2.1.

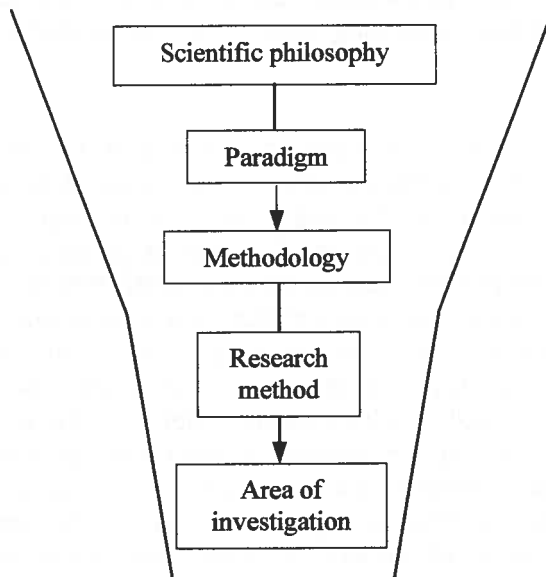


Figure 2.1: The disposition of the methodology chapter.²²

²² Arbnor, I. & Bjerke, B. (1977), pp. 12-16

2.1 Methodology

The section "Methodology" contains discussions of the scientific philosophy, paradigms and methodology that have been used in order to understand the basis of this master thesis.

2.1.1 The overall scientific philosophy

The overall scientific philosophy discusses the fundamental values and assumptions that the authors' interpretation of the assignment is based upon. In the ontological approach, the authors see them selves as nominalists²³ and not as realists²⁴. The reason for this is that the authors believe that their ideas, their culture and especially their values, influence the methodology and, in the end, the analysis and results.

2.1.2 Paradigms

People have different views of the social world that is, of the nature of social science and the nature of society. To identify where a person are at the moment the map in figure 2.2 can be a helpful tool. The basic idea with the map is to understand what kind of fundamental theories and perspectives that are going to influence the work.²⁵ We believe that we are mainly functionalists, due to the fact that we agree upon that the social world is composed of empirical facts and relationships²⁶. This statement is based on the fact that we both have our backgrounds in the natural sciences that would argue for a master thesis with an essential view in the functionalistic paradigm. However, we are functionalists with a strong coupling to the interpretive paradigm, since the interpretive paradigm is founded on the belief that you should understand the subjectively created world as it is, in terms of an ongoing process and on the everyday basis²⁷. This, we believe, is an explanation to why our way of seeing the social world, at this point of our lives, in some ways agrees with the interpretive paradigm.

The other two paradigms are, in our case, too far away from our values, our backgrounds and our assignment. There are of course a lot of perspectives in the other paradigms that in some way or another represent us, and if our assignment were of a different character, we might have chosen another paradigm.

²³ Nominalists believe that the mind of the observer always influence the result of the study. – Burrell, G. & Morgan, G. (1979), p. 4

²⁴ The realist believes that individuals do not create the social world it just exists. – Burrell, G. & Morgan, G. (1979), p. 4

²⁵ Burrell, G. & Morgan, G. (1979), pp. 21-25

²⁶ Burrell, G. & Morgan, G. (1979), pp. 25-28

²⁷ Burrell, G. & Morgan, G. (1979), pp. 28-32

In the systems approach the researchers claim that the totality deviates from the sum of the parts. The effect is that the parts of the totality become essential. The systems approach look at the qualities of the totality and from that, explains the parts. In many interpretations of reality, there is no way of measuring everything. For example, the results of two parts that work together are not always the same result as if the parts are just added to each other.³⁶

There is no possibility to try out the best research approach. The only way of deciding which approach to choose is to reflect about the situation, that is to reflect about our background and about the assignment. People reflect differently, which leads to that the approaches have different representatives.³⁷

In the following sections we will discuss the procedure of the master thesis. Here we will also support the assumptions about the approaches and paradigms we have claimed to be the base of our work. That is, to support our choice of being nominalists and functionalists with a systems approach.

2.2 Literature review

The section "Literature review" contains discussions of the investigation area that we have chosen. We will also discuss how we have gathered material for the frame of reference.

The frame of reference is based on theories, models, and concepts about the supply chain, relationships between companies, ways of collaboration for a more effective supply chain, facilitators when planning replenishment, but also upon characteristics of the planning in the food supply chain today and in the future. The frame of reference was written in two steps. The first two subchapters, the importance of relationships in the food supply chain, and the importance of planning within companies, was written before the empirical study. The two last subchapters, characteristics of today's food supply chain, and characteristics of the future food supply chain, was written after the empirical study, since we did not want to be empirically influenced.

In the assignment that was given from Kraft, a request for an investigation on how planning together with customers, in this case ICA Handlarnas AB, can be made in a more efficient and effective way was made. From this we have chosen to deepen our studies in two main areas: the importance of relationships in the supply chain and the importance of planning within companies. The base of these two areas has been consumer satisfaction. When we in this master thesis mention planning we mean the replenishment planning, for example forecasting and activity planning

Our main facility in the literature research has been the Internet and databases where mainly articles and abstracts of books have been collected. Further, we have also used

³⁶ Arbno, I. & Bjerke, B. (1979), pp. 4-10

³⁷ Arbno, I. & Bjerke, B. (1979), p. 3

books in our research. The main reason why the Internet is more frequently used than other sources is that our research area is based on dynamic reality. This means that, although we have tried to use current literature, this literature originates from real cases where reality changes frequently and some of the literature gets out of date. However, to try to keep up the creditability³⁸, that is in what way the findings reflect reality of the master thesis, we have tried to gather general information from this literature. But since most of the literature we have studied is based on empirical facts, this confirms our paradigmatic placement in figure 2.2³⁹.

2.3 Propositions for a desirable food supply chain

The section "Propositions for a desirable food supply chain" contains discussions about why and how the frame of reference have been analysed through propositions.

The first two subchapters in the frame of reference has been analysed through the chapter "Proposition for a desirable food supply chain". Here, the two main areas of the master theses has been a base for the propositions. Since the purpose of these propositions has been to formulate future desirable information sharing in the food supply chain based on the knowledge that we have assimilated through our education and through our research for the frame of reference, we have chosen to develop these propositions before the last two subchapters in the frame of reference and the empirical study. The reason was that we did not want to be influenced by how the information sharing and planning situation looks like today. Further, the purpose of these propositions has been to both be the base for the gathering of the empirical material, and for the analysis of the empirical material. This means that we have followed an abductive approach^{40 41} during the procedure of our work.

2.4 Empirical study

The section "Empirical study" contains discussions about what kind of empirical study that have been chosen and how this study has been accomplished. The studied companies will also be introduced.

2.4.1 Case study

In our empirical study we have chosen to do a case study⁴² of a specific food supply chain; Kraft Foods Sverige AB (Kraft), ICA Handlarnas AB (ICA) and ICA's retail stores. These companies are introduced later in this chapter; see chapter 2.4.3 (Company descriptions). Our main purpose has been to describe the actual

³⁸ Yin, R. K. (1994), p. 33

³⁹ Burrell, G. & Morgan, G. (1979), pp. 25-28

⁴⁰ Alvesson, M. & Sköldböck, K. (1994), p. 42

⁴¹ http://www.ne.se/jsp/search/article.jsp?i_art_id=107103&i_word=abduktion, Nationalencyklopedin, 2003-01-27

⁴² Merriam, S. B. (1988), pp. 24-25

information sharing and planning between Kraft and ICA, and the information sharing and planning within Kraft and in some aspects ICA. Therefore the main empirical material has been collected from Kraft and ICA. But since the information from the consumers, that is needed when planning, is generated in the retail stores we have also chosen to collect some information from ICA's retail stores.

The case study is primarily explorative and the reason for us to use a case study is to provide a good picture of how a supply chain in the food industry looks like. This picture will highlight whether the actors have the same opinion and attitude about information sharing, relations and collaborations, or not. This to locate where in the food supply chain the actors should put an effort, with the purpose of increasing the consumer satisfaction. As our background is academic and we have not worked in the area, we have few prejudices from reality. This means that we have started the master thesis with open eyes and have tried to make an objective empirical overview.

Since we are working from a systems approach⁴³, we have tried, through the studied food supply chain, to mark off a specific research area. Above this, we have used a qualitative study where we have chosen not to study how the different actors in the food supply chain make their company specific planning. Instead we have chosen to study the relationships, which information that is shared, and what collaborate planning and internal planning the actors in the studied food supply chain perform. This means that we have both a physical mark-off and one mark off that is decided by functions. The delimitations can be studied in chapter 1.4 (Delimitations, focus and target group). However, we believe it is an important and difficult question to mark off the system from the research area and although there are factors that influence the system from the environment, such as competitors and private label⁴⁴, these factors have been ignored.

Holme & Solvang write that a qualitative method is characterized by closeness to the research object.⁴⁵ Since we used a case study method we had a vicinity to Kraft and ICA, and the people we interviewed. During the study work we also had a continuously dialog with our supervisor at Kraft and the supervisors at the university, and as Holme & Solvang write "*The principle for knowledge development is vicinity to the units in the research*"⁴⁶.

To facilitate the case study we designed a case study protocol. This protocol has its base in Yin's book "Case study research – Design and methods"⁴⁷. A case study protocol is made to help the investigator to conduct a high quality case study. The case study is dependent on how well the data collection is prepared and contains the procedure and rules that should be followed during the study. It is also a guide for the investigator to follow when carrying out the study. It is important that every

⁴³ Wallén, G. (2000), pp. 28-32

⁴⁴ Private label is a product that are developed and produced by the retailers.

⁴⁵ Holme, I. M. & Solvang, B. K. (1997), p. 92

⁴⁶ Holme, I. M. & Solvang, B. K. (1997), p. 92

⁴⁷ Yin, R. K. (1994), pp. 54-63

investigator knows “*why the study is being done, what evidence is being sought, what variations can be anticipated and what would constitute supportive or contrary evidence for any given proposition*”. To use a case study protocol is an effective way to help securing the reliability of the case study.⁴⁸

The case study protocol contains an overview of the assignment, but also the questions that basis the interviews, that is the interview plan. These questions is supposed to remind the investigator what information that needs to be collected and why⁴⁹.

2.4.2 Interviews

We have chosen to base our empirical study on interviews. Through the interviews a greater understanding of the situation and correlation between Kraft, ICA and ICA’s retail stores, and also within the studied companies was sought for. The interviews might have caused that personal reflections from the respondents have affected the empirical material, and that we therefore might not have an entire overall picture of reality. However, one purpose in this master thesis has been to show how different people at different departments experience situations, therefore we have decided to accept these personal reflections that affect the creditability⁵⁰. Another factor that affects the creditability is that some information is under secretes and therefore must be excluded.

Interviews were chosen since we wanted to receive different angels of incidence to get a broad description of the situation today. In order to do this we used an interview plan, see appendix A. This plan is based on the propositions that we made from the frame of reference. Its purpose was that all the respondents should have been asked relevant questions and on similar themes⁵¹.

To be able to get useful information from the interviews we have chosen semi-structured interviews⁵² that allows digressions from the questions. However, a structure of the interviews in form of the interview plan, was necessary to easily compare and see similarities and dissimilarities between the respondents.

We have interviewed 11 persons at Kraft and 4 persons at ICA, at different departments and levels at the companies. We have also interviewed 3 persons at different ICA’s retail stores, and one person that have been involved in the food industry for several years. The interviews were recorded on a Minidisc and notes were taken during the interviews. The recorded interviews were afterwards written down and sent to the respondent for an approval. This to secure that the information from the interviews was correct, but also to secure that there was no confidential

⁴⁸ Yin, R. K. (1994), pp. 54-63

⁴⁹ Lantz, A. (1993), p. 62

⁵⁰ Yin, R. K. (1994), p. 33

⁵¹ Krag Jacobsen, J. (1993), p. 19

⁵² Lantz, A. (1993), p. 21

information. The respondents have also approved to the final empirical overview in appendix B. Some respondents had comments, which led to that information was removed.

Besides the interviews, empirical material in the form of internal business material, that is brochures and companies Intranet, have been collected. This additional material is mainly used in the company descriptions.

2.4.3 Company descriptions

Kraft Foods Sverige AB

Kraft Foods Nordic is a part of the worldwide group of companies; Kraft Foods Inc., and Kraft Foods Sverige AB (Kraft) is a part of Kraft Foods Nordic.⁵³ Kraft Foods Inc. is the second largest food company worldwide and has more than 60 leading brands.⁵⁴

The history behind today's Kraft Foods Nordic is the sum of several local companies. Since the end of the 20th century, collaboration and purchases have brought companies together to Kraft Foods Nordic, a company that today is one of the leading food companies in the Nordic countries.⁵⁵ Kraft Foods Nordic had a turnover of about 9 billion Swedish kronor in 2001.⁵⁶

Kraft Foods Nordic is divided into four categories: Coffee, Confectionary, Food and Snacks. The company is number one in all four categories both in Sweden and in the Nordic region.⁵⁷ ⁵⁸ Kraft Foods Nordic's food product portfolio consists of some of Nordics strongest brands. Core brands are, for example Marabou, Gevalia, Estrella, Japp, Twist, Philadelphia, O'boy and Daim.⁵⁹

Since we have chosen to work from a systems approach, we have focused the master thesis to mainly consider the Confectionary category. Examples from other areas can however be brought up in the empirical material.

We have limited the interviews to the sales, supply chain, and customer marketing departments. These departments are located at Kraft Foods Sverige AB's head office in Upplands Väsby.

⁵³ Kontakten, Kraft Foods Nordic Intranet, 2003-04-04, p. 3

⁵⁴ Kraft Foods Inc. (2003), pp. 7, 11

⁵⁵ Kraft Foods i Norden, <http://www.kraftfoodsnordic.com/profile/history/>, 2003-04-07

⁵⁶ Kraft Foods i Norden, <http://www.kraftfoodsnordic.com/profile/facts/>, 2003-04-07

⁵⁷ Kontakten, Kraft Foods Nordic Intranet, 2003-04-04, p. 5

⁵⁸ Kontakten, Kraft Foods Nordic Intranet, 2003-04-04, p. 20

⁵⁹ Kraft Foods i Norden, <http://www.kraftfoodsnordic.com/profile/facts/>, 2003-04-07

ICA Handlarnas AB

ICA Handlarnas AB (ICA) is Sweden's biggest food chain with about 1850 retail stores. ICA is a part of ICA Ahold AB which is owned by ICA Förbundet Invest AB, Canica AS and Ahold N.V., and is involved in retailing, wholesaling and real estate operation.⁶⁰

We have delimited us to the departments of purchasing and assortment, and logistics at ICA. These departments are located at ICA Handlarnas AB's head office in Järva, and in Västerås. We have not studied market and store management.

All ICA Handlarnas AB's retail stores (ICA's retail stores) are own traders and thereby run their own retail store.⁶¹ Within ICA there are several retail store profiles. These vary in size, consumer target group, assortment et cetera. ICA's reason for having different profiles is that all the profiles together shall meet the variations in the consumers demand. ICA's different retail store profiles are:⁶²

- ICA Nära – Smaller retail stores for daily purchases.
- ICA Supermarket – A purchase place for the majority of the consumer's purchase of food and grocery.
- ICA Kvantum – A retail store for a consumer who does his/her larger planned purchases.
- MAXI ICA Stormarknad – Focuses on a larger assortment of food and non-food sections. The consumer should be able to find everything under one roof.

2.5 Evaluation of the studied food supply chain

The section "Evaluation of the studied food supply chain" contains discussions about how the propositions and the empirical material have been evaluated, and why this way of working has been chosen.

The last two subchapters in the frame of reference, the propositions and the empirical material is the base for the evaluation of the information sharing. To make the master thesis easy to read we have chosen to put the empirical overview in appendix B, and, in connection to the evaluation, we have chosen to point out the most important empirical facts.

The evaluation is made in two steps; firstly we compared the interviews with each other, and secondly, we compared the interviews with the proposition for desirable information sharing that was made earlier. The purpose was to find gaps between the desirable information sharing and planning situation and the situation today in the studied food supply chain. The difference between these two situations is called creative tension. This tension can be solved in two ways: by raising the current reality toward a more desirable situation or by lowering the desirable situation towards the current reality.⁶³ The desirable situation is supposed to take advantage of the creative

⁶⁰ ICA Handlarnas AB (2001), p. 6

⁶¹ ICA Handlarnas AB (2002), p. 6

⁶² ICA Handlarnas AB (2002), pp. 8-10

⁶³ Starkey, K. (1996), pp. 291-292

tension by creating foresights for the company and for the customers. The results form a guideline to the necessary changes that the company has to undergo.⁶⁴

It is easy to mix up creative tension with problem solving. Creative tension arises from the desirable situation and the current reality that is defined. It is not a problem that is supposed to be solved, but an ongoing process of changes.⁶⁵ This in addition to the fact that we have not been able to get a total insight in the researched areas, either by literature study or by empirical study. Therefore, our purpose with the evaluation has been, not to give specific solutions to problems, but to give incentives to areas of changes. We believe that the results of two parts that work together are not always the same result as if the parts are just added to each other, which leads to that the systems approach is appropriate in our work.

2.6 Conclusions

The section "Conclusions" contains discussions about the parts that the conclusions are divided into. There will also be a discussion to whom the conclusions are recommended and how the conclusions can be generalized.

Our final conclusions are divided into two parts. Firstly, we have made a recommendation for future information sharing in the food supply chain from the empirical material and from the evaluation of the studied food supply chain. This to show how we believe that the information sharing between Kraft, ICA and ICA's retail stores should be performed. Secondly, we have rewritten the propositions since the information that we have collected through the empirical study and the evaluations have made us realize that some propositions have to be updated. These final propositions are mainly recommended to Kraft, ICA and ICA's retail stores. But even though Yin⁶⁶ and Merriam⁶⁷ argues that a qualitative study cannot lead to generalised findings, we believe that the propositions is of a general character and can therefore be used by other companies and also in further studies in the area of the master thesis. As Merriam describes it: a qualitative aimed researcher is more interested in a process, than a result or a product⁶⁸.

⁶⁴ Johannesen, J. A. & Olsen, B. & Olaisen, J. (1997), p. 99

⁶⁵ Starkey, K. (1996), pp. 291-292

⁶⁶ Yin, R. K. (1994), p. 36

⁶⁷ Merriam, S. B. (1988), p. 180

⁶⁸ Merriam, S. B. (1988), p. 31

3 Frame of reference

In the chapter “Frame of reference” four different parts is created: The importance of relationships in the supply chain, The importance of planning within companies, Characteristics of today’s planning in the food supply chain, and Characteristics of future planning in the food supply chain. These parts have been regarded as most important in order to create a wide and useful framework.

3.1 The importance of relationships in the supply chain

The chapter “The importance of relationships in the supply chain” contains three parts. The chapter begins with a short presentation of supply chain characteristics that is essential for information sharing. It also contains a short presentation of concepts that has been developed by the grocery industry in this area. The chapter continues with a presentation of issues that can affect relationships between companies, and ends with a presentation of different ways for collaboration in order to receive a more effective supply chain.

3.1.1 The supply chain

Traditionally, many companies have worked separately with supply chain management and marketing, but today these companies have to change their way of working to become competitive. The first step towards integration between marketing and supply chain management, is an understanding about the relationship between these two.⁶⁹

Fisher et al say “it’s important to know not just how much has sold of a particular product but the conditions under which it sold, including price and inventory availability”⁷⁰. To reduce the likelihood of being out of stock the entire supply chain has to be considered when planning the processes. This is an important characteristic of the supply chain in order to become efficient. The traditional supply chain is based on relationship to the direct closest trading partner, see figure 3.1. Between these two actors information is exchanged and then passed on to the next actor. A procedure like this results in limited supply chain visibility, a lack of responsiveness and is error-prone.⁷¹

⁶⁹ Shankar, V. (2001), p. 76

⁷⁰ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), p. 124

⁷¹ ECR Europe & Accenture (2001), pp. 30-31

TRADITIONAL SUPPLY CHAIN



Figure 3.1. The traditional supply chain.⁷²

In the supply chains today, there are several inefficiencies in the collaboration between trading partners. For example low forecast accuracy or long lead times.⁷³ More examples are shown in figure 3.2.

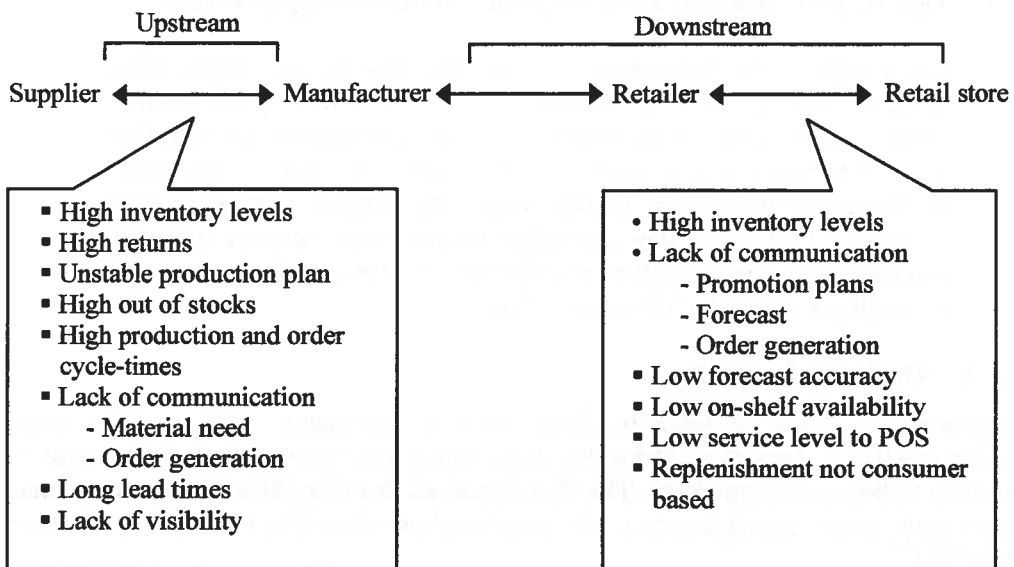


Figure 3.2: Inefficiencies in the supply chain, both upstream and downstream.⁷⁴

Over the last couple of years, the customer and consumer demand has grown radically. To respond to this demand, suppliers have to work together in order to learn about what the causes of this demand. The only way to learn more about the customer and the consumer is to collaborate within the supply chain.⁷⁵ The companies within the supply chain are often independent from each other, which lead to a need of co-operation, that is joint operations and actions, between the companies.⁷⁶

⁷² ECR Europe & Accenture (2001), p. 31

⁷³ ECR Europe & Accenture (2001), p. 20

⁷⁴ ECR Europe & Accenture (2001), p. 20

⁷⁵ Eriksson, P.E. (2001), p. 23

⁷⁶ Wilkingson, I. F. (1996), p. 31

In a supply chain, the retailers are often those who possess most information about the consumer and their behaviour. This leads to abilities for these companies to affect the behaviour of other companies in the supply chain through information.⁷⁷ This is most common in situations where the supplier has specialized products or just a few customers. Therefore, suppliers strive to establish a close relation to their customers to avoid being used by the customers.⁷⁸

To make a satisfactory relationship, the partners have to be prepared to share gains and investments both on short and long terms. Thus, it is important to design a win-win situation between the actors in the relation. Today many supply chains are dominated by one strong actor, which can lead to that other actors are forced to stay in the relationship even though it is not valuable for them.⁷⁹

Over the past couple of years, the European retail and FMCG (Fast Moving Consumer Goods) manufacturing industries have faced sustained business consolidation and increased market competition. Despite this the initiatives for collaboration between manufacturers and retailers have remained cautious. If collaboration were carried out between trading partners, it would enable the total supply chain to be more agile and responsive to consumer demand.⁸⁰

3.1.2 Relationships between companies

Information sharing between companies

To make a supply chain work, the information sharing between the companies in the supply chain has to be efficient. Further, the actors have to be willing to share all kinds of information, good and bad.⁸¹ For several reasons, many people do not tell others what they know. Goman comments five of these reasons.⁸²

1. *People believe that knowledge is power* – Sharing information is, for many people, to loose something.
2. *People are insecure about the value of their knowledge* – Too often, people underestimate their life experience; they do not know what they know.
3. *People do not trust each other* – Before information and knowledge is spread, a trust between two parts has to appear. It does not matter how powerful a database is, if the individuals that are supposed to share information refuses this, the database has no power at all.
4. *Employees are afraid of negative consequences* – There are a lot of barriers that stops flows of ideas, for example there are no such things as dumb questions. Therefore, it is crucial to eliminate those barriers.
5. *People work for other people who do not tell what they know.*

⁷⁷ Wilkingson, I. F. (1996), p. 34

⁷⁸ Olofsson, J. & Wahlman, S. (2002), p. 20

⁷⁹ Olofsson, J. & Wahlman, S. (2002), p. 19

⁸⁰ ECR Europe & Accenture (2001), p. 27

⁸¹ Olofsson, J. & Wahlman, S. (2002), p. 18

⁸² Kinsey Goman, C. (2002), p. 1-4

Holm & Lundqvist drew the conclusion that the differences and similarities between information sharing between companies is based on the nature of the products and the dependence between the companies, but also on the structure of the market. They also say that the way information is shared is dependent on the process of adoptions within the relationship between the companies.⁸³

The bullwhip effect

When a product is ordered, for example from a retail store, the information about the order is sent to several actors in the supply chain, where every actor makes its own evaluation foremost concerning product quantity. This can imply that the quantity ordered from the retail store is not the quantity that in the end is produced by the manufacturer.⁸⁴ These variations, known as the bullwhip effect, can be controlled if companies improve their supply chain by coordinating information and planning along the supply chain. According to Lee et al twisted information from one end to the other in the supply chains can create large inefficiencies, for example poor customer service, ineffective transportation and missed production schedules.⁸⁵

Lee et al identified four major causes of the bullwhip effect: demand forecasting updating, order batching, price fluctuation, and rationing and shortage gaming. Companies usually make their own demand forecasting. These forecasts are often made from historical data from the company's immediate customers.⁸⁶

The bullwhip effect can also be created when supply chain members uses input from its immediate downstream member to produce the forecasts. The input from the immediate downstream member results from that members forecasting, and they have received that input from its downstream member, that is repetitive processing of consumption data. This can cause multiple demand forecast updates.⁸⁷

To be able to counteract the bullwhip effect, companies need to understand what causes the effect.⁸⁸ But most important, according to Dejonckheere et al, the bullwhip effect should be eliminated at the source.⁸⁹ There are various initiatives and remedies to follow to reduce the bullwhip effect, for example information sharing, supply chain alignment and operational efficiency.⁹⁰

A remedy to avoid the repetitive processing of consumption data in a supply chain is to make the demand data available to all actors. The data is not as complete as the Point-of-Sales data (POS-data), explained in chapter 3.2.1 (Useful parameters when planning) from the retailer stores, but it offers significantly more information than

⁸³ Holm, M. & Lundqvist, S. (1998), p. 1

⁸⁴ Dejonckheere, J. & Disney, S. M. & Lambrecht, M. R. & Towill, D. R. (2002), p. 1

⁸⁵ Lee, H. L. & Padmanabhan, V. & Whang, S. (1997), pp. 1-2

⁸⁶ Lee, H. L. & Padmanabhan, V. & Whang, S. (1997), pp. 3-4

⁸⁷ Lee, H. L. & Padmanabhan, V. & Whang, S. (1997), p. 7

⁸⁸ Lee, H. L. & Padmanabhan, V. & Whang, S. (1997), p. 2

⁸⁹ Dejonckheere, J. & Disney, S. M. & Lambrecht, M. R. & Towill, D. R. (2002), p. 3

⁹⁰ Lee, H. L. & Padmanabhan, V. & Whang, S. (1997), p. 6

before. To reduce the bullwhip effect caused by order batching, companies need to apply a strategy that leads to smaller batches or more frequent resupply, or use a third-party logistics company that can help making small batches economical.⁹¹

Lee et al say that the simplest and easiest way to control the bullwhip effect caused by forward buying is to reduce both the frequency and the level of wholesale price discounting. If a supplier is faced with a shortage, the supplier could allocate products based on past sales record, instead of allocating products based on orders. But, there is an even easier way to avoid the bullwhip effect and it is to share capacity information with its customers, when there is a shortage.⁹²

CRM – Customer Relationship Management

Over the last couple of years a great number of companies have observed that the customers and consumers power have increased. This has led to that several companies today base their work on customer focus. The purpose of Consumer Relationship Management (CRM) is to create relation strategies that ennoble the relation and therefore increases their value, and gives a deeper understanding about the customer's value creating process.⁹³

CRM consists of three cornerstones. The first is the creation of customer value. A close relation with the customer requires a great deal of knowledge of the customer and its processes. With relations, it is important that the different partners adjust their individual processes with each other in order to create mutual value. The second cornerstone refers to the product that the collaboration is set up around. It should be seen as a process that means that the product is what is exchanged between the actors' processes. The third cornerstone aims at that it is not enough to make the other partners in a relation satisfied companies must also develop their relations with their partners.⁹⁴

⁹¹ Lee, H. L. & Padmanabhan, V. & Whang, S. (1997), pp. 7-9

⁹² Lee, H. L. & Padmanabhan, V. & Whang, S. (1997), p9. 9-10

⁹³ Storbacka, K. & Lehtinen, J. R. (2000), pp. 9-13

⁹⁴ Storbacka, K. & Lehtinen, J. R. (2000), pp. 13-14

Dependence and Power

Definitions of dependence and power

In a relation, dependence and power is closely related to each other.⁹⁵ The relationship between dependence and power can be shown with help from figure 3.3.

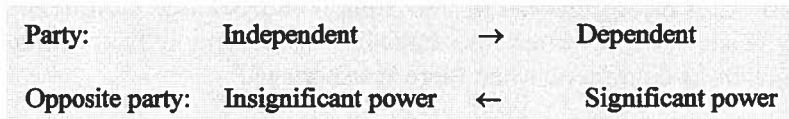


Figure 3.3: The relation between dependence and power.⁹⁶

Dependence is defined as “*a state in which assistance from others in terms of finance, emotion, protection, security, or daily attention is expected or actively sought*”⁹⁷. In a supply chain, the members have to depend on one another. The reason for this is that the different members offer specialized functions, and the more dependent a supply chain member is upon another member, the higher it perceives the other member’s power.⁹⁸ There can only be a difference between dependence and power if a partner enters a relationship by its own free will. Therefore, it is always an interdependent relationship in co-operation.⁹⁹

Power is defined as “*the ability of one actor to affect the behaviour of another actor in a manner contrary to the second actor’s interests*”¹⁰⁰. Power is about affecting the actions of the other actor in a relationship in the right direction to secure the own interests or intentions.¹⁰¹ By holding the power, a company can decide what information to give to the other actors.¹⁰² Power is influenced by several external factors, for example the relation to other organisations, the dependence between the actors in a relationship, nationality, culture and industry. These factors have to be taken into consideration when analysing the power of a company. Furthermore, power can be based on several factors and situations, for example the competitive situation, the size of the companies, the products that are offered, information sharing, and the companies’ reputation and trademarks.¹⁰³

The authors take notice of information sharing. The different actors in a supply chain have different needs of information. This means that the different actors perceive the

⁹⁵ Färnström, B. O. & Kedström, C. (1975), p. 85

⁹⁶ Färnström, B. O. & Kedström, C. (1975), p. 46

⁹⁷ Zhuang, G. & Zhou, N. (2002), p. 4

⁹⁸ Zhuang, G. & Zhou, N. (2002), pp. 4-5

⁹⁹ Färnström, B. O. & Kedström, C. (1975), pp. 90-91

¹⁰⁰ Cox, A. & Sanderson, J. & Watson, G. (2000), pp. 12-13

¹⁰¹ Olofsson, J. & Wahlman, S. (2002), p. 3

¹⁰² Olofsson, J. & Wahlman, S. (2002), p. 22

¹⁰³ Olofsson, J. & Wahlman, S. (2002), pp. 26-29

need of information in different ways. Therefore, the power that is based on information sharing can be perceived in a different way from reality, which can lead to, that one actor withholds information from another actor in order to make the other actor feel as it is in a disadvantageous position.¹⁰⁴

The use of power and dependence

Power is used in all relationships between companies. The power can lead to a strengthened bond between the actors. The prerequisite is that there are no abuses of the power, a member does not use the power only for its own benefit. The consequences of an abuse of power could be inefficiency, conflicts and reduces of co-operation.¹⁰⁵ However, there are incentives pointing at a lack of balance in power-relationships between actors in many supply chains.¹⁰⁶

In relationships between customers and suppliers, manipulation to gain power is common. If one participant is unable to maintain its position of the other, the second most informed participant would use the opportunity to pursue their interests.¹⁰⁷ Companies using power against another company in order to get their remission and to get advantages in the relation, always risks to be hit back with the same means if the power relationship is changed. Another consequence is that the reliance between the partners impairs, which affect the co-operation.¹⁰⁸

When power and dependence between partners in a relationship gets out of balance, the reason often is different valuations about the relationship. The actor that values the relation highest is also the actor that has the most disadvantageous position.¹⁰⁹

Power can be separated into two categories, forced and non-forced. The forced power exists when one actor puts performance pressure on another actor that is, the other actor has no ability whether to accept or reject the co-operation.¹¹⁰ In non-forced power, pressure is put in a way that will favour all actors.¹¹¹ A close relationship with a high level of agreements between suppliers and customers is required when non-forced power is used.¹¹²

No firms have power in all contexts, for example a buyer-supplier relationship can never just be about power, there usually are some mutual interest between the two contracting actors. This since companies are resource constrained and thereby cannot

¹⁰⁴ Olofsson, J. & Wahlman, S. (2002), p. 27

¹⁰⁵ Olofsson, J. & Wahlman, S. (2002), pp. 23-24

¹⁰⁶ Olofsson, J. & Wahlman, S. (2002), p. 3

¹⁰⁷ Cox, A. & Sanderson, J. & Watson, G. (2000), pp. 14-15

¹⁰⁸ Olofsson, J. & Wahlman, S. (2002), pp. 30-31

¹⁰⁹ Olofsson, J. & Wahlman, S. (2002), p. 22

¹¹⁰ Färnström, B. O. & Kedström, C. (1975), pp. 87-88

¹¹¹ Olofsson, J. & Wahlman, S. (2002), p. 24

¹¹² Olofsson, J. & Wahlman, S. (2002), p. 30

do everything themselves. They must look to others to provide them with goods and services that they, on their own, are incapable of doing.¹¹³

There are of course different methods of using power; we have chosen to introduce two of those. Firstly, rewards or positive sanctions can, through both economical and indirect methods, be used as power tools. Indirect methods could be, for example, information sharing or sharing of expertises between companies. Secondly, economical and indirect methods could also be used as punishments or negative sanction, for example through withholding of information or even through sharing of false information. There are also different factors that are important when determining the use of power, for example the reward and the investments that are likely to be expected, and also the perception of the company's own power.¹¹⁴

3.1.3 Ways of collaboration for a more effective supply chain

ECR – Efficient Consumer Response

What is ECR?

As previously stated, the ability to respond to the consumers' different wishes and demands has today become a priority for the retail business. Further, it is of great importance to satisfy the consumers if a business wants to be, and stay, competitive in the retail industry.¹¹⁵ This new way of thinking has influenced the different actors in the supply chain to integrate more with one another. The reason for this approach is that the different actors understand that there are potential savings to obtain, if you integrate the business.¹¹⁶

ECR is defined as “*Working together to fulfil consumer wishes, better, faster and at less costs*”¹¹⁷ and is a concept for how the manufacturers and trading partners in the grocery industry can collaborate more effectively to give the consumer the best possible range of fresh and new products, when the consumer wants them, with the right service and to the right price.¹¹⁸ ECR aims to increase consumer satisfaction, which will lead to increases in sales volume and brand loyalty, and in the end it will give an higher profit and/or a lower price from supplier and retailer.¹¹⁹ ECR underlies in a natural pull strategy that uses the scanned POS-data to update inventory and to trigger replenishment orders, based on real-time demand through electronic communications.¹²⁰ Further, Reader & Rowell believe that “*an improved process is*

¹¹³ Cox, A. & Sanderson, J. & Watson, G. (2000), p. 16

¹¹⁴ Wilkingson, I. F. (1996), pp. 33-36

¹¹⁵ Hoffman, J. M & Mehera, S. (2000), p. 365

¹¹⁶ Lee, H. L. (2002), p. 62

¹¹⁷ Svensson, G. (2002), p. 508

¹¹⁸ Hasselgren, R. (2003), p. 7

¹¹⁹ Projektleddningen för ECR Sverige och Andersen Consulting (1996), p. 5

¹²⁰ Hoffman, J. M & Mehera, S. (2000), p. 366

based on a sound understanding of existing processes"¹²¹. They also argue that people, processes and tools have to be combined in an effective way if a company should be able to deliver good results. Focus has to be on the whole supply chain, not just on the different actors.¹²²

Over the past 10 years, the ECR movement has tried to redefine how the grocery supply chain should work to prevent the increase in ordering pattern along the supply chain.¹²³ However, the general awareness of and interest in ECR is quite high among industry leaders.¹²⁴

ECR historical background

A growing number of retailers and manufacturers in the grocery industry, in the USA, was confronted, in the late 1980s and the beginning of the 1990s, with losses in market shares and declining productivity. This led to that top industry executives from retailers, brokers and manufacturers in the grocery industry in 1992 founded, a voluntary group called the Efficient Consumer Response Working Group. The goal of the Working Group was to analyse the supply chain, with focus on Wal-Mart, Target and K-Mart, three large competitors in the mass merchant channel. A US-based consulting company, Kurt Salmon Associates, was asked by the Working Group to examine the value-chain to be able to determine the cost and service improvements that could be achieved by the industry.¹²⁵

In the European retail industry, ECR Europe is the European association working in favour of the extension of ECR, and was founded in 1994.¹²⁶ There are two important characteristics of the ECR movement; it is both a voluntary and an industry wide effort.¹²⁷

Objectives and goals with ECR

The ultimate goal for companies working with ECR is to have an order cycle and a business process that are driven by the POS-data and/or other consumer data; this to receive an accurate picture of the consumers demand. The data is then sent to the manufacturer, who produces quantities of products after the actual demand. After this the quantities are distributed to the end consumer in the far most efficient way.¹²⁸ If a supply chain is ECR-driven, see figure 3.4, there should not be able to be any

¹²¹ Reeder, G. & Rowell, T. (2001), p. 5

¹²² Reeder, G. & Rowell, T. (2001), p. 5

¹²³ Lee, H. L. & Padmanabhan, V. & Whang, S. (1997), pp. 1-2

¹²⁴ Hoban, T. J. (1998), p. 235

¹²⁵ Kotzab, H. (1999), p. 367

¹²⁶ ECR Europe, <http://www.ecrnet.org/>, 2003-02-10

¹²⁷ FMI Media Backgrounder – Efficient Consumer Response, <http://www.fmi.org/media/bg/ecr1.htm>, 2003-01-10, p. 2

¹²⁸ FMI Media Backgrounder – Efficient Consumer Response, <http://www.fmi.org/media/bg/ecr1.htm>, 2003-01-10, p. 2

inefficiencies. Every step of the supply chain focuses on its own core competence and to reduce non-adding activities.¹²⁹

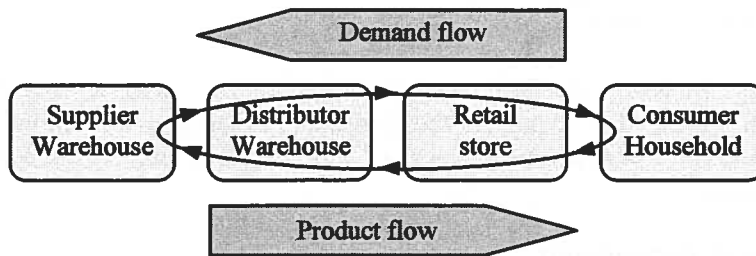


Figure 3.4. A single ECR grocery supply chain.¹³⁰

ECR requires the actors in a supply chain to study and implement methods that will enable the actors to work together to meet the mission stated previously. The concept can give opportunities, such as eliminated waste, shortened cycle time, improved customer service, and reduced costs across the entire supply chain.¹³¹ ECR can give benefits for the grocery production and distribution industry, but how large these benefits will be depends on how successful the adoption of ECR is.¹³² When implementing ECR, the actors involved should understand that *“ECR is a journey. You start at one point and you develop towards a vision. But you don’t get there on the first day”*.¹³³

To create ECR collaboration requires close co-operation and information sharing between manufacturers and retailers. When implementing ECR, support and involvement from many individuals, especially top management, are required.¹³⁴ The objective of the collaboration is both to make the administration, marketing, sales, and the handling of groceries more efficient, this by taking away unnecessary and costly obstacles in the supply chain, and thereby satisfy the consumer’s needs even better.¹³⁵ One major advantage is that feedback from the consumer’s changes in demand quickly can be communicated to the suppliers. Similarly, the trade can also benefit from this when planning activities.¹³⁶ There are barriers both between trading partners and in different internal functions within a business, see figure 3.5. The objective and goal with ECR is to break down these barriers.¹³⁷

¹²⁹ Kotzab, H. (1999), p. 367

¹³⁰ Kotzab, H. (1999), p. 367

¹³¹ Hoffman, J.M & Mehera, S. (2000), p. 366

¹³² Hoban, T. J. (1998), p. 235

¹³³ Corsten, D. & Huchzermeier, A. (2002), p. 9

¹³⁴ Hoban, T. J. (1998), p. 236

¹³⁵ Projektledningen för ECR Sverige och Andersen Consulting (1996), p. 6

¹³⁶ Främling, K. & Holmström, J. (2000)

¹³⁷ ECR Sverige (2001), p. 5

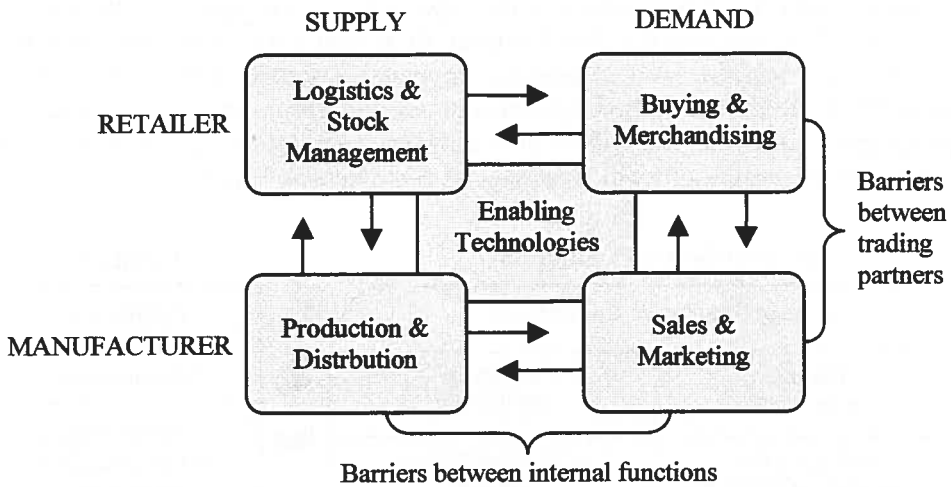


Figure 3.5. Barriers between trading partners and between internal functions.¹³⁸

To develop ECR between companies in the supply chain

When companies are implementing ECR in the supply chain, there are five important principles that have to be understood and realized to succeed with the implementation:¹³⁹

- The consumers wishes and needs have to be in focus.
- If profits are made, it should be divided between the involved partners so that in the end it will reach the consumer. This means that a win-win situation has to be established between the partners.
- To receive benefits in the end, continuous information about supply and demand of products is a necessary support for functions such as marketing, production and logistics.
- The information spread in the supply chain has to be distributed efficiently. Information technology is a tool that can fulfil this efficient flow between the partners.
- The collaborators have to have a common and consequent measurement of the follow-up, which focuses on the effectiveness of products in the whole flow.

These five principles can be summarized in three cornerstones: provide value for the consumer, remove all costs that do not add value, and minimize inefficiencies and maximize value throughout the supply chain.¹⁴⁰

¹³⁸ http://www.globalscorecard.net/getting_started/introduction.asp, Global Scorecard.net, 2003-02-13

¹³⁹ Projektleddningen för ECR Sverige och Andersen Consulting (1996), p. 7

¹⁴⁰ FMI Media Backgrounder – Efficient Consumer Response, <http://www.fmi.org/media/bg/ecr1.htm>, 2003-01-10, p. 1

To be successful in retailing, companies have to guarantee that retail stores are replenished “with the right products at the right prices at the right time the consumer wants them”.¹⁴¹ Already at the first European ECR conference it became clear that a jointly way to describe how a company in practice should work with ECR was needed. The ECR Executive Board decided to develop a tool for this, to accelerate the implementation of ECR. The Global ECR Scorecard was introduced in 2000 and was updated with the fast progress in areas such as e-business see figure 3.6.¹⁴²

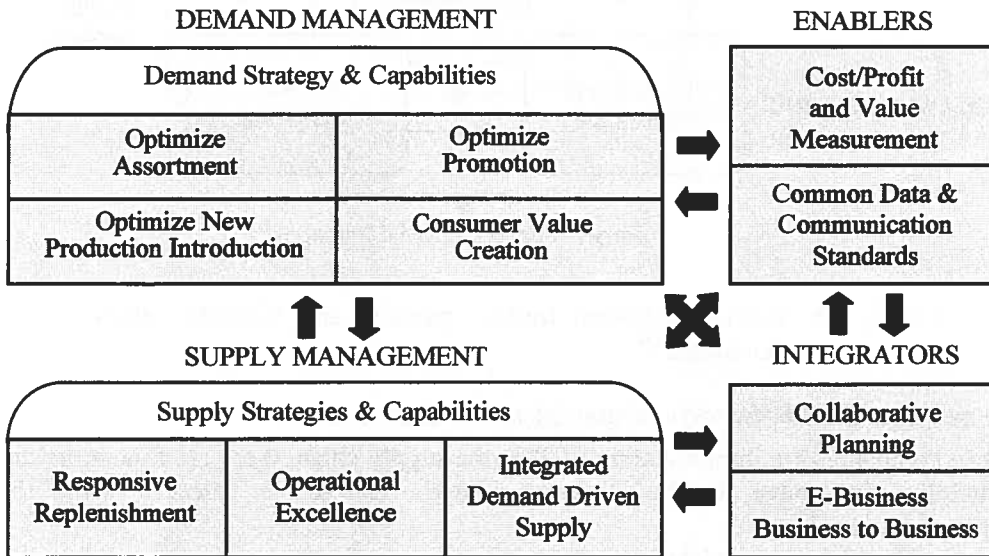


Figure 3.6: The Global ECR Scorecard.¹⁴³

ECR and the Global ECR Scorecard are primarily divided into four focus areas:¹⁴⁴

- *Demand management* – All the actions and judgements that is necessary to understand and affect the demand of products and services. The retailer and the manufacturer can never achieve full efficiency on their own, this since both actors must have access to significant data concerning the whole flow of goods.
- *Supply management* – Concerns different kinds of aspects of how fast and efficient the replenishment of products is through the whole flow of products. Supply management demands that manufacturers and retailers, works cross-functional within the business.
- *Enablers* – Facilitates collaboration between business partners. Foremost intends development and use of IT-support for communication of business

¹⁴¹ FMI Media Backgrounder – Efficient Consumer Response, <http://www.fmi.org/media/bg/ecr1.htm>, 2003-01-10, p. 3

¹⁴² Hasselgren, R. (2003), pp. 10-11

¹⁴³ Global Scorecard.net, http://www.globalscorecard.net/guide_to_ECR/d_guide.asp, 2003-02-12

¹⁴⁴ ECR Sverige (2001), pp. 9-57

data, and support for decisions. The enablers focus on improvements in common data and communication standard, and cost/profit and value measurement.

- *Integrators* – Refers to concepts that enables integration between business partners, such as collaboration with forecasts, collaborative planning of replenishment of goods and e-business.

It is difficult to create seamless links between all actors involved in the supply chain and this has turned out to be harder than expected in the work with ECR.¹⁴⁵ So far the consumers have not actually been involved in ECR, they have just been the target and focus.¹⁴⁶ The major obstacle with ECR is not technological, but organisational, and the barriers can both be cultural and functional.¹⁴⁷ The concept of ECR is still underdeveloped, and in order to be attractive it must reach a wider and a more profound meaning.¹⁴⁸ In an article by Mitchell, he predicts that over the next couple of years the ECR extension will emerge as one of the most advantageous ways for retailers and their suppliers to, for example cut costs and build up new, closer and more trusting relationships. But, he also writes that this is not easy to achieve. Companies must adopt new ways of thinking, both operationally and culturally.¹⁴⁹ One new way is that the collection of information about the consumers can be improved by introducing loyalty card, for example ICA Kundkort and MedMera-kort. This means that the consumers receive loyalty points every time they shop in a specific retail store. The retailers will then organise the information in order to sell it to interested actors, for example their suppliers.¹⁵⁰

Companies in the grocery supply chain have also started working on collaborative planning and forecasting to further elaborate the ECR strategy. The new strategy is called Collaborative Planning Forecasting and Replenishment (CPFR). Instead of waiting for an order from the customer, the retailer provides the goods from information about the consumer demand.¹⁵¹

CPFR – Collaborative Planning Forecasting and Replenishment

Objectives with CPFR

Topics today in the supply chain are mainly integration and collaboration and these two areas have received a lot of attention in many industrial companies. Collaborative Planning Forecasting and Replenishment (CPFR) is an initiative that might realize the benefits of integration in practice.¹⁵² Seifert writes, “*CPFR is an evolution and*

¹⁴⁵ Jordan, P. (2002), p. 65

¹⁴⁶ Mitchell, A. (2001), p. 70

¹⁴⁷ Hoban, T. J. (1998), p. 235

¹⁴⁸ Svensson, G. (2002), p. 512

¹⁴⁹ Mitchell, A. (2001), p. 70

¹⁵⁰ Mitchell, A. (2001), pp. 74-76

¹⁵¹ Holmström, J. & Främling, K. & Kaipia, R. & Saranen, J. (2002), pp. 136-145

¹⁵² Hahtola, M. & Holmström, J. (2001)

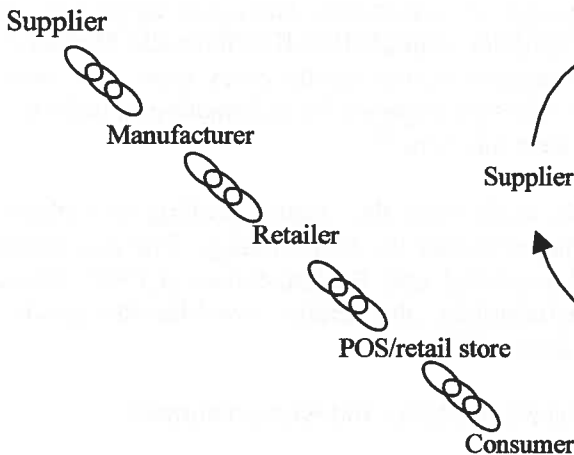
refinement of the original ECR concept".¹⁵³ Further, Julie Fraser writes in Seifert's book that "the core objective of CPFR is to increase the accuracy of demand forecasts and replenishment plans necessary to lower inventories across the supply chain and attain high service levels of the right product in the right locations".¹⁵⁴

Jointly developed forecasts can make it possible for collaborators to integrate their operations to a larger extent and thereby satisfying the consumers demand in a better way. Since both the manufacturer and the retailer have different kinds of information, uncertainty is created, which causes safety stocks to be built up in the supply chain.¹⁵⁵

The CPFR-supply chain

By adopting the CPFR-concept the supply chain can become more efficient. A key enabler for this is to change the structure of the supply chain, from the traditional supply chain, explained in chapter 3.1.1. (The supply chain), to the CPFR-supply chain. In figure 3.7 the characteristics of the two different supply chains are shown.¹⁵⁶

Traditional supply chain



CPFR-supply chain

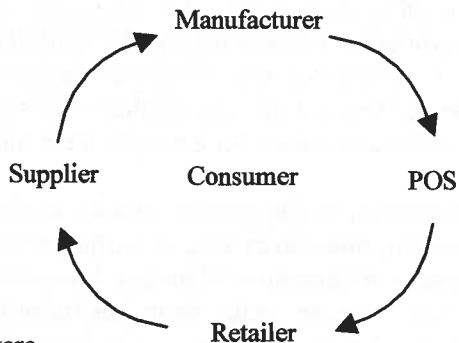


Figure 3.7. ECR Europe and Accenture's interpretation of the different types of supply chains.¹⁵⁷

The CPFR-supply chain is characterised by exchanges of information throughout the entire supply chain. If all trading partners have access to the same information, visibility in the supply chain will be higher, efficiency and the ability to response to the consumer demand will also increase.¹⁵⁸

¹⁵³ Seifert, D. (2002), p. 39

¹⁵⁴ Seifert, D. (2002), p. 87

¹⁵⁵ Hasselgren, R. (2003), pp. 22-23

¹⁵⁶ ECR Europe & Accenture (2001), p. 30

¹⁵⁷ ECR Europe & Accenture (2001), p. 31

¹⁵⁸ ECR Europe & Accenture (2001), p. 31

To be able to collaborate successfully in the supply chain there are some key requirements that is important to follow. Senior management must be committed and aware of the current situation. It is important that all people involved in the process have clearly defined roles and responsibilities. This will result in a smooth workflow and achievements. To collaborate between partners, there has to be a readiness to work together with other actors in the supply chain. A common understanding between the trading partners is therefore essential and they have to be ready for a win-win situation.¹⁵⁹

Another key success factor for excellence in all collaborations and especially in CPFR is the ability and motivation to share data. The shared data enables the actors to act on, for example opportunities and to avoid misunderstandings. Examples of what types of information that may be shared are: business plan, promotion plan, inventory data, POS-data and forecast, production and capacity plan, and lead-time information.¹⁶⁰

To implement CPFR, a large scale of effort and work are required. It is not only the work of collecting all the data; it is the interpretation of it that takes time.¹⁶¹ However, there are several benefits from adopting CPFR. Seifert writes that typical benefits of CPFR are improved reaction times to consumer demand. This by, for example reducing shortages that will lead to a more flexible and more reliable supply chain that, in the end, satisfies the consumes demand more effectively. CPFR also enables higher precision of sales forecasts when the forecast is cooperatively developed.¹⁶²

To succeed in improving the collaboration between the trading partners the partners must, as Dion writes "*get their house in order*"¹⁶³. Companies are working more and more with internal collaboration, since applications like Intranets are being implemented.¹⁶⁴ However, close partnership cannot be forged with many partners, not even large retailers and supplier organisations can forge many close successful relationships. However, the benefits of planning collaboration are only significant when collaboration is possible on a larger scale.¹⁶⁵

The adoption of CPFR

So far, the adoption of CPFR has been slow in Europe. Only few companies have adopted CPFR beyond the pilot stage. A survey among key actors in the European FMCG (Fast Moving Consumer Goods) shows that the majority of the companies consider themselves ready to collaborate, but their trading partners doubt their willingness to exchange information with them. The willingness to collaborate

¹⁵⁹ ECR Europe & Accenture (2001), pp. 31-32

¹⁶⁰ ECR Europe & Accenture (2001), pp. 17-18

¹⁶¹ Corsten, D. & Jones, D. T. & Mitchell, A. (2002), p. 53

¹⁶² Seifert, D. (2002), pp. 51-52

¹⁶³ Dion, C. (2000), p. 1

¹⁶⁴ Dion, C. (2000), p. 1

¹⁶⁵ Holmström, J. & Främling, K. & Kaipia, R. & Saranen, J. (2002), p. 137

between partners in the supply chain increases as the competitive pressure increases.¹⁶⁶

The number of CPFR pilot projects still remains low, but recent pilot projects are promising. However, the CPFR pilot project between Metro, the third biggest retailer in Europe, and Procter & Gamble shows substantial benefits in lead-time reduction, forecast accuracy and on-shelf availability. The lead-time reduction is almost 50 percent, this by sharing objectives, tactics and data between the two companies.¹⁶⁷ ECR Europe has analysed the public records of CPFR projects and they reveal that the CPFR-concept is spread across Europe, but the United Kingdom is a clear leader if ranking the countries. The record also disproves a common prejudice that CPFR is only for the big global actors.¹⁶⁸

In Europe today, the majority of the large companies are convinced of the benefits with CPFR and are committed to expanding its reach. A benchmarking study among nine European countries concerning collaboration showed that, within the grocery industry, reduced out of stock levels at the retail store were giving the greatest benefits of CPFR.¹⁶⁹

VMI – Vendor Management Inventory

Another example of integrating the manufacturer with the retailer is Vendor Management Inventory (VMI), and VMI was introduced in the early 1980s. It was an effort to involve suppliers in the process to, for example improve inventory level, lead times and order shipment accuracy. Providing a direct view of the customers' activities does this.¹⁷⁰ VMI is characterized by the fact that the manufacturer is responsible for maintaining the suppliers inventory levels. In order to do this, the manufacturer has access to the suppliers inventory data. The manufacturer is also responsible for generating purchasing orders.¹⁷¹ By letting the manufacturer take care of the inventory levels and the purchasing, VMI works as a close relationship between customer and supplier. When companies' starts applying VMI, they usually do it with their biggest customers/suppliers.¹⁷²

¹⁶⁶ ECR Europe & Accenture (2001), p. 13

¹⁶⁷ Fitzek, D. (2002), p. 76

¹⁶⁸ ECR Europe & Accenture (2002), pp. 13-14

¹⁶⁹ ECR Europe & Accenture (2001), pp. 33-35

¹⁷⁰ Bruce, R. & Ireland, R. (2002)

¹⁷¹ <http://www.vendormanagedinventory.com/definition.htm>, Vendor Management Inventory, 2003-03-10

¹⁷² Andersson, I. & Jansson, J. & Kåre, C. (2002), p. 1

3.2 The importance of planning within companies

The section “The importance of planning within companies” contains a presentation of different parameters and facilitators that can be useful when planning.

3.2.1 Useful parameters when planning

Consumer behaviour

Knowledge of the consumer and the factors that affects their behaviour is of great importance for all businesses. According to Kotler there are four factors that mainly affects a consumer’s buying pattern.¹⁷³

- *Cultural factors* – These factors make the widest and deepest affection to the buying behaviour. They can be fundamental values, apprehension or behaviour that a person learns from its family.
- *Social factors* – A person’s behaviour is affected by a number of small groups, for example a candidate group. A candidate group are groups that a person wants to belong to and thereby compare it self with.
- *Personal factors* – Consumer’s age and life cycle stadium, profession, financial situation and life style affect personal factors.
- *Psychological factors* – There are four types of psychological factors that affect the consumer’s behaviour, for example learning, and apprehension and attitudes.

From a marketing perspective, consumer behaviour is important when understanding the consumers, and forecasting their demand of products. When changing perspective to the consumers, it is important to inform the consumers about their alternatives, this to avoid to deceive them. It is also important that the consumers have insight in their own behaviour, if they want to spend their income optimally. The development of the Internet has led to that the consumers have gained even more power. By using the Internet, consumers can search for information about prices and qualities of products. This means that the market becomes more transparent to them.¹⁷⁴ Therefore, an understanding of the consumer satisfaction must be developed. Consumer satisfaction is mainly affected by four factors: the products, sales activities, activities after the ime of sale, and the company culture.¹⁷⁵

The environment also affects the consumers. In Antonides et al the authors claim, *“the environmental effects are created through interaction with other variables”*¹⁷⁶. These variables can, for example be shopping situation, buying situation, store atmosphere, and time and season.¹⁷⁷ The shopping situation can be affected by the

¹⁷³ Principles of Marketing Kotler et al. – sammanfattning, pp. 17-18

¹⁷⁴ Antonides, G. & van Raaij, W. F. (1998), p. 1

¹⁷⁵ Molander, P. & Sillén, S. (2000), pp. 19-21

¹⁷⁶ Antonides, G. & van Raaij, W. F. (1998), p. 290

¹⁷⁷ Antonides, G. & van Raaij, W. F. (1998), p. 290

location of the retail store and how easy it is to find a parking place. The buying situation, for example the layout of the store, affects the consumers purchasing behaviour. The atmosphere in the store such as the temperature, point of sale and crowdedness can have a large impact on the consumer's behaviour. If these factors are manipulated, the sales can be affected in both a positive and negative way. Time and season affect when the consumers buy different kinds of food, for example gardening tools are bought during the summer not during the winter season. The marketing of seasonal products is mostly focused around the time that these products are most useful for particular types of consumption.¹⁷⁸ Therefore, it can be important to take notice of the historical data were, among other things, information about fluctuations in sale can be found.

Historical data

There are many actors that ask why, in a world with quick changes, sales history is kept. The answer to this is that this data contains useful information about stable sales patterns, for example seasonality, consumer reaction to a promotion, and differences in sales patterns at different retail stores. In many cases, retailers have pressures to improve profits immediately, which lead to too much focus on the short term instead of the long term.¹⁷⁹

A lot of the data that are available today are inaccurate and inaccessible, for example *“most consumers can recount a situation they bought multiple units with the same price (for example, a container of lemon yoghurt and a container vanilla yoghurt, both the same brand) and the checkouts clerk scanned one of these items multiple times. Clearly, this would cause the inventories of both the lemon and the vanilla yoghurt to be inaccurate.”*¹⁸⁰ Many actors in the supply chain, for example the retailers, do not use tracked data or even track data accuracy, which leads to inaccurate information.¹⁸¹

POS-data – Point-of-Sales data

The information scanned at the checkouts, the Point-of-Sales data (POS-data), give retailers information about what their customer buys and demands.¹⁸² *“POS is defined as the in-store entering and accessing of product and/or customer information in order to facilitate product sale to the customer”*¹⁸³. The use of POS-technology in the grocery supply chain has grown exponentially over the last few years.¹⁸⁴ A study of successful retailers show that those who can achieve and defend a competitive position in the marketplace is dependent on their ability to make investments and utilize information. The use of information technology can both stimulate and support rapid changes in retail organisations, but it is mostly a competitive factor. Weber &

¹⁷⁸ Antonides, G. & van Raaij, W. F. (1998), pp. 297-299

¹⁷⁹ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), pp. 121-123

¹⁸⁰ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), p. 121

¹⁸¹ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), p. 123

¹⁸² Hervey, J. (2001), p.52

¹⁸³ Weber, M. M. & Kantamneni, S. P. (2002), p. 311

¹⁸⁴ Hervey, J. (2001), p. 52

Kantamneni point out that adoption of the information technology should be considered necessary, but not sufficient to achieve indirect benefits, but it may and can affect the long-term competitive advantage.¹⁸⁵

There is a challenge in managing the demand at the retail store, and analysing the information collected through the checkout at various retail stores. One of the problems is managing the inventories when the customer changes his/her needs. A second challenge is to balance the forces of continuous replenishment of products at the retail store, and the costs associated with producing and delivering the products.¹⁸⁶

There are several benefits from using POS-data such as reduced checkout time and error, improvement in inventory management through reduced stock-outs and inventory levels, and an ability to track costs directly to specific products. POS-data also facilitates the control of the inventory levels, thus the system easier can track this level. Finally, POS-data can provide a higher inventory-related customer level with fewer inventories that is fewer stock outs. But Weber & Kantamneni conclude in their analyse that the benefits from using POS-data is not dependent on the level of technology used.¹⁸⁷

Inventory level

Today a lot of companies are sharing real-time data, including suppliers and customers inventory level per number of stock-keeping units (SKU). Unfortunately, these companies often do not know what to do with all data.¹⁸⁸

The goal in many supply chains today is to work closely together in a seamless process. But to achieve this goal the actors in the supply chain have to share information about for example inventory level, demand, inbound and outbound orders, and product characteristics (dimension, location, destination).¹⁸⁹ The retailers order depends both on the retail sales and the retail inventory level.¹⁹⁰

3.2.2 Facilitators when planning

Demand planning

Customer demand planning

Customer demand planning is critical for success within the supply chain. That is, a company must be able to forecast its opportunities to be able to plan the supply chain in an effective way. However, a lot of companies do not understand the importance of information about customer demand in the forecast work.¹⁹¹ The definition of

¹⁸⁵ Weber, M. M. & Kantamneni, S. P. (2002), p. 311

¹⁸⁶ Hoffman, J. M. & Mehera, S. (2000), pp. 365-366

¹⁸⁷ Weber, M. M. & Kantamneni, S. P. (2002), pp. 312-315

¹⁸⁸ Mason, S. J. & Mauricion Ribera, P. & Farris, J. A. & Kirk, R. G. (2003), p. 142

¹⁸⁹ Mason, S. J. & Mauricion Ribera, P. & Farris, J. A. & Kirk, R. G. (2003), pp. 144-145

¹⁹⁰ Kirkwood, C. W. (2001), chapter 4

¹⁹¹ Moon, M. A. & Mentzer, J. T. & Thomas, D. E. Jr. (2000), p. 19

customer demand planning is suggested by Moon et al as: *“a business planning process enabling sales teams to develop product/application demand forecasts as inputs to inventory and production planning, revenue planning, and service planning processes”*¹⁹²

From a leading perspective, to be able to take advantages of demand there has to be a proper way of planning with help from the customers demand. There also has to be a plan and an implementation of it in the supply chain that fulfils the demand. The view from a bottom-line perspective is that effective customer demand planning can help companies reduce costs, for example for inventory, logistics and production.¹⁹³ Today many companies are working with integration between supply chain planning and demand planning. Reasons for this are, for example better value for the consumer, new products and more service for customers, and shareholders demands better return of investments.¹⁹⁴

Many manufacturers’ today delivers from stock instead of distributing products according to consumer demand, this to keep a high service level. The challenge is to forecast the future sales and through this, improve the efficiency of the supply chain and to reduce stock. In figure 3.8, the demand forecasting process can be studied. The result of the process is forecasts for material requirements planning and financial planning. To be able to improve the forecasting process, feedback has to be given to sales and marketing.¹⁹⁵

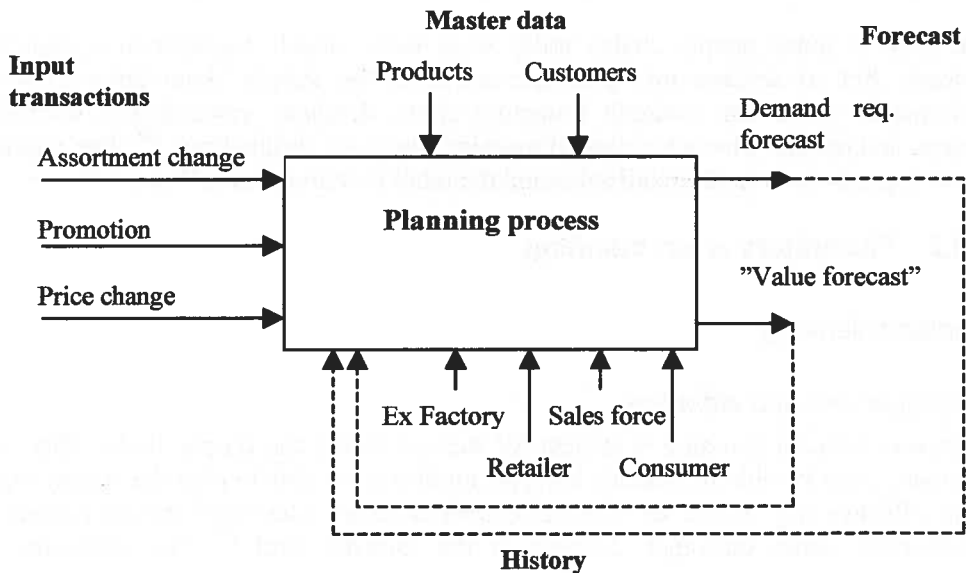


Figure 3.8: Context of the demand forecasting process.¹⁹⁶

¹⁹² Moon, M. A. & Mentzer, J. T. & Thomas, D. E. Jr. (2000), p. 20

¹⁹³ Moon, M. A. & Mentzer, J. T. & Thomas, D. E. Jr. (2000, p. 20

¹⁹⁴ Reeder, G. & Rowell, T. (2001), p. 3

¹⁹⁵ Holmström, J. (1998), pp. 241-242

¹⁹⁶ Holmström, J. (1998), p. 242

Demand forecasting unit

"The conventional approach to forecasting product demand is based on defining a demand forecasting unit (DFU) and analysing historical demand determine the average, trend and seasonal demand components"¹⁹⁷ Figure 3.9 shows the basic model for DFU. A DFU is defined for every category of products, or product portfolios. Firstly, define the aggregation of the product, the demand unit. A demand unit can be described by the ingredients in the product, the brand name and the products dimensions.¹⁹⁸ An example, the boxed pralineés under the brand Aladdin, where the unit is the box, that is the pralines and the ingredients for these, but also all the packaging that is determine for transportation and promotion. Another example could be a brand name that includes several products, here the definition must show whether or not the unit includes the whole brand name or only products within the brand name.

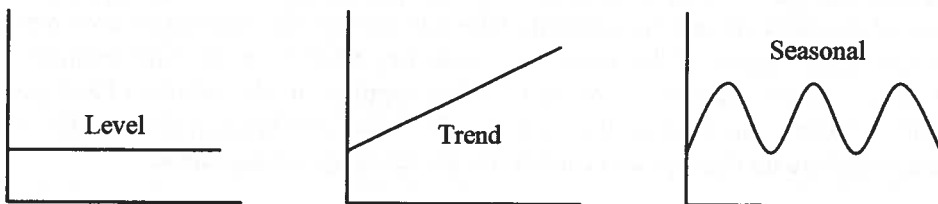


Figure 3.9: Basic time series models for demand forecasting units.¹⁹⁹

Secondly, define the aggregation of customers/consumers, the demand group. The definition can designate the products total market, a group of retailers, the retail chain or geographical groupings. A more detailed definition results in a more resource consuming forecasting process. This because forecasting is required for every unit independent of each other. However, today the forecasting processes are easier due to better computer systems. Further, finding the right levels of aggregation can be important in different ways, for example forecasts can be more reliable if it is based on the total demand instead of the demand from different products.²⁰⁰

The SKU can also define the demand unit.²⁰¹ The differences between SKU and DFU can be originated from the concepts push and pull. SKU assumes that there are supposed to be products in stock, this to be able to deliver products from an unforeseen demand. It is a kind of push effect in which the manufacturer produces products that have to be sold. SKU is not based on forecasting in opposite to DFU that is totally based on forecasts.²⁰²

¹⁹⁷ Holmström, J. (1998), p. 243

¹⁹⁸ Holmström, J. (1998), pp. 243-244

¹⁹⁹ Holmström, J. (1998), p. 243

²⁰⁰ Holmström, J. (1998), pp. 243-244

²⁰¹ Holmström, J. (1998), p. 243

²⁰² Fredrik Nilsson, Department of Design Studies, Division of Packaging Logistics, 2003-02-10

Forecasting

The actors in a supply chain make different kinds of forecasting from different information. The retailer usually only forecasts the sale to the retail stores.²⁰³ Quite few retailers' forecast demand for inventory level per SKU, even though this level is crucial for the suppliers. Why does not the retailers make their own forecasts? Holmström et al say that they do not do this because forecasting is an extensive process when managing up to 30,000 articles and because the retailers do not benefit from doing it when the suppliers have high service levels. But why is it important that the retailers make their own forecasts? Holmström et al claim that efficient replenishment is dependent on it.²⁰⁴

The suppliers' sales goals are often broken down based on the annual budget behind the forecast and the production.²⁰⁵ The suppliers' forecasts are based on historical sales data and this is the decision ground for the production. When the suppliers' uses historical data they do not, for example take into account the new retail store formats. This can only happen if the inventory level per SKU is used. The retailers' co-operation with the suppliers is crucial for the supplier, as the retailers have got the best information. This because they own the POS-data and because they decide which products that are on display, and carries out the category management.²⁰⁶

The sales forecasting process can be managed in different ways based on the fundamental approaches in the company. Mentzer & Kahn have introduced four different approaches. These approaches are not discussed in this master thesis. However, the readers are recommended to read two articles; "State of sales forecasting systems in corporate America" by Mentzer, J. T. & Kahn K. B.²⁰⁷, and "Benchmarking sales forecasting management" by Mentzer, J. T. & Beinstock, C. C. & Kahn, K. B.²⁰⁸.

Problems with forecasting and keys for improvement

Companies forecasting processes can be divided into two specific areas; systems and management.²⁰⁹

Systems: Systems include both personal computer systems and mainframe systems. One of the main problems with systems are that many companies have a lack of integration between the function that provided information, the function that provided the sales forecast and the functions that, in the end, used the forecast. There are often so called "islands of analysis", which means that sales forecasts are made in different steps within the process on separate systems.²¹⁰ This generates costs in money, time

²⁰³ Hasselgren, R. (2003), p. 22

²⁰⁴ Holmström, J. & Främpling, K. & Kaipia, R. & Saranen, J. (2002), p. 137

²⁰⁵ Hasselgren, R. (2003), p. 22

²⁰⁶ Holmström, J. & Främpling, K. & Kaipia, R. & Saranen, J. (2002), p. 137

²⁰⁷ Mentzer, J. T. & Kahn K. B. (1997), pp. 6-13

²⁰⁸ Mentzer, J. T. & Beinstock, C. C. & Kahn, K. B. (1999), pp. 48-56

²⁰⁹ Mentzer, J. T. & Kahn K. B. (1997), pp. 6-8

²¹⁰ Mentzer, J. T. & Kahn K. B. (1997), pp. 6-8

and energy for the company and also a forecast that is inaccurate. To solve this problem the management have to make a forecasting infrastructure, and also provide training about the systems for the personnel involved.²¹¹

Another problem includes the information that is available. Many companies make their sales forecasts with help from databases over the historical ability to supply goods instead of the actual customer demand. The benefits from using demand instead of historical data would be reduction in the differences between the customer demand and the company's productivity. The difficulties in demand forecasting are the access to the information from the customers. One goal is to find a good solution between a company and its customers. There are different systems that can be used to get this kind of information, for example EDI²¹². The result from demand forecasting is that long-term forecasts can easily be made which leads to better customer satisfaction.²¹³

Management: One of the most important keys to improve forecasting is to understand that sales forecasting is not a computer system; it is a management system that takes help from a computer system. The commission for sales forecasting is to show how many products or services that the company can sell in an adequate way. With this help the company can create a satisfied replenishment to meet customer demand.²¹⁴

The most effective forecasting process is the one where considerations are taken to different parts of the company, that is information comes from different functions within the company. The most difficult barrier that has to be broken concerns the unwillingness of working together with other areas in the company.²¹⁵ Moon et al suggests that an independent forecast group should be established to sponsor cross-functional collaborations.²¹⁶

The senior management of many companies regard the forecasting process as important for the business success, but they often fail to reward the personnel that make the forecasts. There are different ways in which the importance of forecasts can be showed for both the developers and the users of the whole forecasting process, for example give the personnel involved in the process adequate training about the entire forecast process, and involve the measures of forecasting performance into the criteria of job performance.²¹⁷ Another way to improve the forecasting process can be through a combination of top-down and bottom-up forecasting.

²¹¹ Moon, M. A. & Mentzer, J. T. & Smith, C. D. & Garver, M. S. (1998), pp. 48-49

²¹² "EDI is defined as the direct computer-to-computer transfer of information (possibly through a third party) between independent organisation", Weber, M. M. & Kantamneni, S. P. (2002), p. 311

²¹³ Moon, M. A. & Mentzer, J. T. & Smith, C. D. & Garver, M. S. (1998), p. 47

²¹⁴ Moon, M. A. & Mentzer, J. T. & Smith, C. D. & Garver, M. S. (1998), pp. 44-47

²¹⁵ Moon, M. A. & Mentzer, J. T. & Smith, C. D. & Garver, M. S. (1998), pp. 47-48

²¹⁶ Moon, M. A. & Mentzer, J. T. & Smith, C. D. & Garver, M. S. (1998), p. 45

²¹⁷ Moon, M. A. & Mentzer, J. T. & Smith, C. D. & Garver, M. S. (1998), p. 50

Top-down versus bottom-up forecasting

A significant question that has to be answered when working with forecasting is; should the company work with top-down or bottom-up forecasting? The answer to this, according to Kahn, is that the choice must be taken from the perspective that is the most valuable for the company. If it is most important to understand the actual nature of the business, a bottom-up forecast method should be chosen. But if it is most important to have a general knowledge of the business, a top-down method should be chosen. However, these two models have several deficiencies that lead to a recommendation from Kahn among others that a compromise between these two methods should be developed.²¹⁸

Let us take one example. At the American clothes retailer Gap, one division combines bottom-up and top-down forecasts. In the bottom-up forecasts, merchandisers and planners predict the demand for each product. The demand generates, for example from current trends and the products fit for the customer. In the top-down forecasts, made by planners, macroeconomic factors basis the forecasts. Since the two forecast approaches are made independent from each other, the different results are reconciled in a meeting between the two groups.²¹⁹

Methodology for sales forecasting audit

There are many different ways of improving the forecasting process. Moon et al describes one methodology for improving sales forecasting within a company. The methodology is based on three phases:²²⁰

1. Audit the situation around forecasting at the company today,
2. Visualize the goals with the improvement and which parts that can be improved in the forecasting process,
3. A way, roadmap, to achieve theses goals and improvements.

Moon et al recommend that individuals outside the company should carry out all of the three phases. The reason for this is to maximize the objectivity and to be able to get information that is hard to get inside the company because of sensitivity around the current management. Another reason is that a data collection that involves interviews tends to be more successful; personnel tend to be more open, if the collectors of the data come from outside the company.²²¹

From the two last paragraphs, Mentzer et al propose some improvement possibilities of the forecasting process, which are summarized in appendix C.²²² Further, the reader is recommended to read more about this in Mentzer et al article "Benchmarking sales forecasting management"²²³, and Moon et al article "Conducting a sales forecasting

²¹⁸ Kahn, K. B. (1998), pp. 14-19

²¹⁹ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), p. 118

²²⁰ Moon, M. A. & Mentzer, J. T. & Smith, C. D. (2002), p. 1

²²¹ Moon, M. A. & Mentzer, J. T. & Smith, C. D. (2002), pp. 4-14

²²² Mentzer, J. T. & Beinstock, C. C. & Kahn, K. B. (1999), pp. 49-56

²²³ Mentzer, J. T. & Beinstock, C. C. & Kahn, K. B. (1999), pp. 48-56

audit”²²⁴. As a lead in improvements of forecasting several concepts have also been developed, between these CPFR and Rocket science retailing.

Rocket science retailing

Today the formula for perfect retailing is “*offering the right product in the right place at the right time for the right price*”²²⁵. Although there are an amount of data that can be used by retailers, for example about point of purchase, buying patterns and customer’s taste, many retailers have a long way to fulfil the formula for perfection.²²⁶ One problem today, according to many retailers, is that with help from the information technology, the collected data are too much and it is not possible to analyse all of it.²²⁷ The Rocket science retailing is supposed to be a roadmap to get the most out of consumer transaction data.²²⁸ According to Fisher et al, there are three ways in which retailers can predict inventory needs:²²⁹

1. To have lots of inventory on hand
2. To actually accurately predict what people want
3. To very quickly replace the goods you have sold

Rocket science retailing is a result of a multi-year study, by Fisher et al, of 32 retailers in purpose to find out how these retailers use information to understand the customers. The authors chose retailers of short life cycle, innovative products, for example shoes, toys, music and consumer electronics, because these seems to be the hardest cases. A lot of knowledge is taken from companies listed on Wall Street’s stock exchange, where a major transformation took place in the 1970s.²³⁰

Many retailers have the belief that forecasting product demand is based on gut feeling and not the use of sales data in a systematic way. However, there are several ways of improving the forecast accuracy, for example:²³¹

- *Update forecasts based on early sales data* – Early product sales are excellent predictors of overall sales.
- *Track and predict forecast accuracy* – Fundamental for improving forecast accuracy is to track errors and to understand why and when they happen. It is also important to know about the margin of the errors to be able to react when the forecast is inaccurate.
- *Use a variety of forecasting approaches* – Many companies limit themselves to one forecasting method and forecasts are made for each item. However, by generating multiple forecasts differences between those forecasts can be helpful when exploring assumptions in forecasting techniques. For example, bottom-up and top-down forecasts can be combines.

²²⁴ Moon, M. A. & Mentzer, J. T. & Smith, C. D. (2002), pp. 1-24

²²⁵ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), p. 115

²²⁶ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), p. 115

²²⁷ Black, D. (2002)

²²⁸ Knowledge at Wharton

²²⁹ Moffitt, N. (1999), pp. 12-13

²³⁰ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), p. 116-126

²³¹ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), pp. 116-120

Companies that observe early sales and respond quickly are also able to reduce the risk of selling out items. However, many planners argue that analyses of sales data are not helpful since logistics and procurements cannot respond fast enough because of manufacturers long lead times.²³²

The core of rocket science retailing involves a marriage between those who either produce or rely on information supplied through technology, and those who rely more on intuition. This leads to a combination where, for example sales data, stocking quantities, changes in consumer demand patterns and developments of new products, influences the supply chain work.²³³

3.3 Characteristics of today's food supply chain

The section "Characteristics of today's food supply chain" contains a description about what the food supply chain integration looks like today, and what kind of planning the different actors in the food supply chain do. The references are a master thesis by Sandquist & Svanberg²³⁴ on behalf of ECR Sweden, and a interview with a person that have been involved in the food industry for several years.

3.3.1 Food supply chain integration

Information sharing

The information sharing that exists in the food supply chain today mainly contains orders and sometimes POS-data. This information is sent from the retail store to the retailer, from the retailer to the manufacturer and so forth in the whole supply chain. This procedure is based on the thought that, for example POS-data is not relevant for other actors in the grocery supply chain if it is not in an aggregated form. In special cases, information about pre-hand orders is shared between the retail store and the manufacturer. Many retail stores have today systems for generating POS-data. Unfortunately there is a lack of useful tools for analysing the data.²³⁵ Further there are not many actors in the food supply chain that are buying the generated POS-data since there is a resistance for this.²³⁶ The attitude towards using information about the sale to the consumer is positive. But it is important that the information is aggregated and complete in order to be able to draw applicable conclusions.²³⁷

All actors in the grocery supply chain agree upon that information about sales to the consumer is valuable when analysing market activities. A prerequisite is that the information can be analysed correctly. This can in the long run lead to an

²³² Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), pp. 118-120

²³³ Fisher, M. L. & Raman, A. & Sheen McClelland, A. (2000), pp. 123-124

²³⁴ Sandquist, F. & Svanberg, M. (1999)

²³⁵ Sandquist, F. & Svanberg, M. (1999), pp. 56-57

²³⁶ Mats Björkqvist, Cederroth International AB, Interview, 2003-04-01

²³⁷ Sandquist, F. & Svanberg, M. (1999), p. 58

improvement of forecasts when having market activities such as campaigns or when introducing new products. If the food industry were more integrated it would be easier to share information within the food supply chain.²³⁸ All actors in the grocery supply chain think consumer from a sales perspective, but not as much from making the consumer satisfied, even though this is stated in company visions.²³⁹ One problem with information sharing in the food supply chain is the fact that most actors see the other actors in the food supply chain as customers or suppliers, especially when negotiating.²⁴⁰ Further, information between the actors is not shared due to the fact that an investment is required, and each actor is not prepared to do this investment for the totality.²⁴¹

Some suppliers express a wish to receive information about the retailer's inventory level per SKU. They indicate that the levels would be useful when making forecasts, both for the production and for orders to the customer. Pre-hand orders are information that would give an opportunity to have better lateral lead.²⁴²

Forecasting

All of the actors in the grocery industry make plans in one way or the other. The planning varies from analytical forecasts to pure estimations. Forecasts can mainly be separated into two groups, one for replenishment to consumers and one for incoming orders from customers. If a consumer's demand and need cannot be satisfied, the manufacturers are those who take the main risk of losing sales. When a product is sold out, the consumer demands immediate replenishment of that specific product. However, for the food supply chain it is very difficult to answer to this demand. Instead, each actor in the food supply chain builds up safety stocks that lead to binding of capital.²⁴³

How difficult a forecast is to establish depends on the fluctuations in sales. If the product is affected by for example campaigns, the likelihood of establishing a correct forecast is smaller than for a product that has a more stable sale. If forecasts could be improved, a great profit can be made.²⁴⁴

It is important that a company has clear role definitions, this to understand what other people in the company works with. An understanding and a good communication between different sections in a company are vital if good and reliable forecasts, and plans could be made. Additionally, some working routines can, when working with information, cause delays when updating the forecasts.²⁴⁵ Even the internal

²³⁸ Sandquist, F. & Svanberg, M. (1999), p. 58

²³⁹ Mats Björkqvist, Cederroth International AB, Interview, 2003-04-01

²⁴⁰ Sandquist, F. & Svanberg, M. (1999), p. 57

²⁴¹ Mats Björkqvist, Cederroth International AB, Interview, 2003-04-01

²⁴² Sandquist, F. & Svanberg, M. (1999), p. 59

²⁴³ Sandquist, F. & Svanberg, M. (1999), pp. 51-52

²⁴⁴ Sandquist, F. & Svanberg, M. (1999), p. 52

²⁴⁵ Sandquist, F. & Svanberg, M. (1999), pp. 57-58

information flow has an affect on the work with forecasts. It is important that vital information is mediated efficiently to the right person.²⁴⁶

3.3.2 Manufacturers' planning

For manufacturers, impulsive buying is a factor that, to a large extent, affects the possibility of making reliable forecasts. Sales forecasts can be a foundation for, for example production planning and market actions. The forecasts are mainly based on sales history, analysis of trend, experiences and sales budgets.²⁴⁷ The forecasts are made after the manufacturer and the customer together have planned future volumes.²⁴⁸

The sales forecasts are continuously followed up when new information arrives, for example pre-hand orders. If the original sales forecast diverges from today's situation in a negative way there are several ways to handle this. For example, the production can be choked but more often, several market arrangements are made. This could be seen as a strange solution since campaigns and suchlike make the forecasting process more difficult. In many cases, it seems more important to optimise the fulfilment of the forecasts than to optimise the forecasts.²⁴⁹

3.3.3 Retailers' planning

Retailers often use data of the industry to perceive trends. To be able to optimise their category management, retailers compare different categories and different offers from their suppliers. Long-term volume judgements of separate products are often made with help from information about different campaigns. Companies using medium-long or short-term forecasts are more able to reduce the inventory level per SKU than those companies who only uses long-term forecasts.²⁵⁰ The retailers often do forecasts on an aggregated level and on top of that they do campaign planning and forecasts. Unfortunately, the quality of these forecasts is not very good.²⁵¹

3.3.4 Retail stores' planning

It is not just manufacturers and retailers that are in need of forecasts; even the retail stores have an interest in analysing their assortment. Forecasts are of great use especially in situations where sales volume is changing, for example during campaigns.²⁵²

For retail stores, it is of great use to establish short-term forecasts as a base for ordering. Ordering is often made from the experience that the person, responsible for

²⁴⁶ Sandquist, F. & Svanberg, M. (1999), p. 63

²⁴⁷ Sandquist, F. & Svanberg, M. (1999), p. 53

²⁴⁸ Mats Björkqvist, Cederroth International AB, Interview, 2003-04-01

²⁴⁹ Sandquist, F. & Svanberg, M. (1999), pp. 53-54

²⁵⁰ Sandquist, F. & Svanberg, M. (1999), pp. 54-55

²⁵¹ Mats Björkqvist, Cederroth International AB, Interview, 2003-04-01

²⁵² Sandquist, F. & Svanberg, M. (1999), p. 55

the purchasing, has about the product and that products demand.²⁵³ The order is laid when the products almost are out of stock in the retail stores shelves, according to an existing retail store shelf planning.²⁵⁴ This estimation is mainly based on history and existing circumstances, for example the weather, campaigns, television programs about cookery and competitor activities, but also from judgements of competitors, suppliers and the market division.²⁵⁵

3.4 Characteristics of the future food supply chain

*The section “Characteristics of the future food supply chain” contains a discussion about how the food supply chain integration will look like in the future, and what kind of planning the different actors will make in the future. The references are from a research project conducted by Cap Gemini Ernst & Young, which primary purpose was to identify potential developments in the food supply chain. The project covered three regions: Western Europe, North America and Asia Pacific, and contained interviews with 65 CEO’s in the global food supply chain and questionnaire answers from 225 retailing and manufacturing executives.*²⁵⁶

3.4.1 Food supply chain integration

During the last couple of years the importance of optimising the food supply chain has grown.²⁵⁷ One reason for streamlining the food supply chain has been to reduce costs, which also enable new and/or improved solutions for the consumer.²⁵⁸ But the market has not yet been enlarged through co-operation among the different actors according to Grievink et al. To achieve this co-operation there are a couple of issues that first needs to be solved:²⁵⁹

- *How can co-operation between the various links in the food supply chain be realized?* – Co-operation between retailers and manufacturers need to be realized if the actors want to reduce their costs.
- *How can standardised information be realized?* – Retailers need to share information about buying behaviour with other actors in the food supply chain.

Collaboration in the supply chain seems evident. “So, if sharing information with your suppliers will lead to better delivery performance, why are retailers so reluctant to hand over this information?”²⁶⁰ It is difficult for a single actor to, on its own, meet the consumers more exacting demand. It takes collaboration with other actors in the

²⁵³ Sandquist, F. & Svanberg, M. (1999), pp. 55-56

²⁵⁴ Mats Björkqvist, Cederroth International AB, Interview, 2003-04-01

²⁵⁵ Sandquist, F. & Svanberg, M. (1999), pp. 55-56

²⁵⁶ Grievink, J-W. & Josten, L. & Valk, C. (2002), pp. 4-11

²⁵⁷ Grievink, J-W. & Josten, L. & Valk, C. (2002), pp. 34-35

²⁵⁸ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 473

²⁵⁹ Grievink, J-W. & Josten, L. & Valk, C. (2002), pp. 34-35

²⁶⁰ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 457

food supply chain. Additionally, in order to be prepared for the next wave of optimisation, partnerships need to be forged.²⁶¹

Power in the food supply chain

According to Grievink et al, three-quarters of all manufacturers indicated that they easily gave into the retailers' power and that they fear the individual power of the retailer. But the consumers will have the real power; they are able to in the future, punish retailers when they have poor service.²⁶²

If an actor in the food supply chain has the ownership this means that that actor can persuade other actors to collaborate with you. This can lead to that the actor in control can, for example impose standards on others. But collaboration and control does not have to be in conflict. As Grievink et al say "*control can be a catalyst to collaboration*".²⁶³

Co-operation within the food supply chain

Food supply chains have to be designed to be able to respond to the consumers change in demand. The partners talk about exchanging information, collaboration in planning et cetera. But according to Grievink et al the hidden part is that the co-operation is more about control. Most actors in the food supply chain focus on ownership and control over the relationship with the consumers, and having the strongest position relative your other partners in the food supply chain. The majority of the respondents in the survey conducted by Grievink et al think that the retailer will be the one controlling the food supply chain. This have been shown over the history, the one that provided the most value in the food supply chain were the one with the real power. However, the manufacturers, according to both retailers and manufacturers, in Grievink et al, will in the future challenge the retailers. If the retailers do not provide an even better service level and through this become even closer to the customers, they will loose its power and influence over the food supply chain.²⁶⁴

Even though retailers and manufacturers have an ongoing power struggle, they try to find a common ground for collaboration. ECR is one initiative to bring partners together, this by breaking down existing barriers between manufacturers and retailers. The food industry has only just begun to see the potentials for collaboration, and the actual implementation of collaborative concepts is even more difficult. Today it is not a common practice to share sensitive information with supply chain partners.²⁶⁵

²⁶¹ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 458

²⁶² Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 28

²⁶³ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 474

²⁶⁴ Grievink, J-W. & Josten, L. & Valk, C. (2002), pp. 459-461

²⁶⁵ Grievink, J-W. & Josten, L. & Valk, C. (2002), pp. 462-464

Major developments in supply chain integration

The retailers are today the dominant actor in the food supply chain, but they do not always demonstrate that they can cope with this responsibility. Even in situations where strong branded manufacturers can balance out the large retailers, both manufacturers and retailers are dependent on another to provide value-adding solutions to the consumers. Both actors must develop and strengthen their brands, and intensify their relation with the individual consumer.²⁶⁶

One important factor that will help the food supply chain to be even more efficient and effective is information. Reliable POS-data will be and are very important for both retailers and manufacturers. The IT-systems have to be made more user-friendly and able to turn raw material into meaningful decision-supporting information.²⁶⁷

3.4.2 The manufacturers role in the future

Product innovation, building a stronger relationship with the consumer and food safety will be major issues for manufacturers to cope with the coming years, according to both retailers and manufacturers. Almost all manufacturers agree upon that more focus should be put on developing a strong relationship with the consumers. To do this the manufacturers will use their brand to create loyalty. But many retailers believe that the manufacturers' relationship with the consumers is less important. The retailer on the other hand wants to be the primary contact with the consumer. Retailers also points out that manufacturers should become more involved in retail operation and offer retailers products that make it easier for them to create a stronger profile or distinguish power.²⁶⁸

The manufacturers could focus on creating a pull supply chain, this by making their production capability subservient to retail and consumer demand, or should the manufacturers focus on marketing and sales, and research and development. Another issue is whether the manufacturer should become a preferred supplier to more than one retailer.²⁶⁹

Both manufacturers and retailers point out that the major mistake manufacturers will do is that they do not develop truly innovative products, and focus too much on their own operations instead of on the whole food supply chain. Additionally, they do not have enough knowledge of what problems and issues the retailer might have.²⁷⁰

²⁶⁶ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 477

²⁶⁷ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 478

²⁶⁸ Grievink, J-W. & Josten, L. & Valk, C. (2002), pp. 416-418

²⁶⁹ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 36

²⁷⁰ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 421

3.4.3 The retailers role in the future

Creating and retaining retail store loyalty, hiring and retaining qualified personnel and making significant use of the available knowledge of the consumers will be the major issues for retailer, according to many manufacturers and retailers asked in the survey. Today large amount of data is available about the consumers and their buying behaviour, but unfortunately retailers fail to use this information properly. The retailers only use a small amount of the available data and they do not share this information with their most important suppliers. According to Grievink et al, the manufacturers are willing to interpret the data and they are also willing to offer valuable suggestions to retailers for changing and improving retail marketing policies. The biggest challenge for the retailers and manufacturers is to use the consumer data to achieve revenue and profit growth, through focused advertisement to the consumers or by changing the assortment.²⁷¹

Retailers say that they focus too much on the day-to-day business and on short-term success, instead of focusing on how their business will be affected in the long run. Manufacturers believe that the retailers focus too much on getting the lowest price and therefore do not pay that much attention on how the manufacturers can provide added value.²⁷² The majority of retail strategies focus almost only on low prices as a competitive weapon, and on promotions that will increase the awareness of a retail stores low price. But, the consumers are becoming more and more sceptical about how a store one week can sell a product for half the price and at a higher price two weeks later.²⁷³

²⁷¹ Grievink, J-W. & Josten, L. & Valk, C. (2002), pp. 414-415

²⁷² Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 419

²⁷³ Grievink, J-W. & Josten, L. & Valk, C. (2002), p. 33

4 Propositions for a desirable food supply chain

In the chapter “Propositions for a desirable food supply chain” propositions are built up on the two first chapters of frame of reference collected. The text contains what we have regarded as important to be able to satisfy the consumer in an even better way than today. 12 propositions are continuously created in order to emphasize what is most important. The propositions are disposed according to figure 4.1. That is, everything start with the consumer demand and ends with an ambition towards consumer satisfaction.

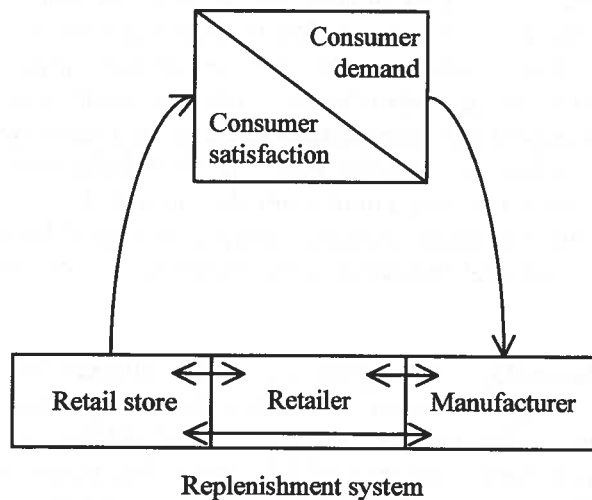


Figure 4.1: Disposition of the propositions.²⁷⁴

²⁷⁴ Figure developed by the authors

4.1 The importance of relationships in the food supply chain

The section “The importance of relationships in the food supply chain” contains an introduction of seven propositions regarding consumer knowledge, collaboration and collaborative planning, with the intention of creating desirable relationships in the food supply chain. The reader may see that there are differences in the characters of the different propositions.

4.1.1 Consumer knowledge

Proposition 1: All actors in the food supply chain should have good knowledge of the consumers and what influences their buying pattern.

If manufacturers, retailers and retail stores far ahead knew exactly what the consumers were about to buy, what quantity and at what moment, it would be easy to create an optimal situation. To be able to find out about this, the consumers also have to know far ahead what to buy and why. This apparently optimal situation would mean that all production and distribution could be made even more efficient. However, this is a situation that is impossible to create, who does not run to the retail store on a Saturday to buy some sweets. But, it is nevertheless possible to try to find more information about the consumers from the factors that affects their buying pattern, which are cultural, social, personal and psychological factors. These factors can be more or less essential regarding which products it is or which the products' target group is.

The information technology development and the Internet has led to that the consumers easily can get access to information about products, retail stores and manufacturers. Through this the consumers have received even more knowledge of the products and their rights. Because of this, campaigns might be seen with more scrutinizing eyes. The consumers' demands have also increased to a large extent. If the manufacturers and the retailers should be able to respond to these demands, it is significant that the knowledge of the consumers is increased.

4.1.2 Information sharing

Proposition 2: Information sharing is essential in order to receive correct facts and knowledge of the food supply chain, and therefore should all actors have access to all relevant information.

The information sharing is affected by what people entrust each other. The difficulties when it comes to receiving information about the consumers may depend on a lack of understanding between people in the food supply chain. This lack of understanding exists both internally and externally; there are barriers between people. There are a number of factors that can affect the occurrence of information sharing between people in a negative way. If personnel were informed about the importance of why

information sharing should happen, both internally and externally, the information sharing would be facilitated.

If the information sharing works satisfactory in the food supply chain this can, for example lead to decreased inventory level. Further, it can lead to decreased variations in ordered volumes and a more viewable way of the actual consumption pattern. If the information sharing does not work properly, the bullwhip effect may appear. This depends on that the actors do not have enough information about each other. But also due to the fact, that a person has the ability to put own values and appreciations in different decisions. If the bullwhip effect appears, companies can only counteract it by localising its origin, and from there try to solve the problem.

The information sharing is built on a deep understanding between the different partners in the food supply chain, which also leads to an effective sift of the information from jointly composed guidelines and goals. The information sharing includes the information necessary for the daily work, but it also includes information that will facilitate knowledge of what happens in the whole food supply chain. If the actors then communicate the information to each other, the understanding and the knowledge of the different parts of the food supply chain and the consumers will increase.

Knowledge of the consumers can facilitate decision making in the whole food supply chain. Within the food supply chain it is the retail stores that probably have the best information about what the consumers actually buy. This because it is where the consumers do their shopping, and it is where the information is stored. If relevant information for all actors, of both positive and negative character, is communicated backwards in the food supply chain, to both retailers, manufacturers and suppliers, the knowledge of the whole food supply chain will hopefully increase.

Proposition 3: The POS-data should be spread in order to increase the knowledge of the actual demand for products in the food supply chain.

The easiest way for companies to receive relevant information about the demand is to use the POS-data. Some POS-data, such as the buying pattern, can be collected when the consumers use their loyalty cards; where companies in return gives the consumers discounts and offers. The POS-data is one of the most important ingredients when working with planning the product replenishment. The communication of the POS-data can be transferred electronically backwards in the food supply chain. By sending the information electronically, all partners receive information regarding the consumers' wishes and demands quite fast.

According to figure 4.2, relevant information, for example POS-data that is generated in the retail stores about the demand, should be spread to all actors in the food supply chain without any delay. However, the different actors should only get the information that they need and should not be loaded with unnecessary information. What is important is that the consumers should be the bases of all planning. A correct

sharing of relevant information between actors in the food supply chain is a good step towards collaboration for consumer satisfaction.

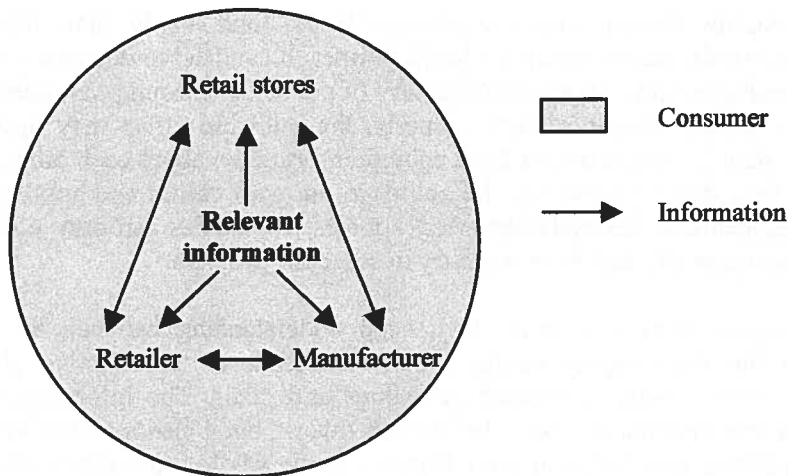


Figure 4.2. Information sharing in the food supply chain.²⁷⁵

4.1.3 Collaboration

Proposition 4: Knowledge of the whole food supply chain should be acquired in order to facilitate the possibility of being able to quickly respond to the consumers' demand.

To have an effective collaboration, that is to answer to the consumer's demands, within the food industry, the ECR-concept has been developed. What we regard as important to emphasize when it comes to this concept is that it should be seen as a mindset and not as a method. From this mindset it is then important that the actors together in each and every relation in the food supply chain design a method to work from. An ECR-collaboration is based on joint goals for the partners, both on a short-term and a long-term basis, and that the companies defines where they are in the collaboration today. Continuous follow-up and editing of the collaboration can mean that the goals of the collaboration do not diverge between the involved partners.

To be and continue to be competitive, the manufacturers can form close relationships with its customers, and thereby satisfying the consumers. Knowledge of the customers' customer and the suppliers' supplier can give information about why the customer and the supplier act in a special way. Thereby an actor can improve in one way or the other and more easily answer to fluctuations that can arise in the consumers demand.

²⁷⁵ Figure developed by the authors.

Proposition 5: It should be every actor's responsibility to investigate what information other actors in the food supply chain could benefit from.

The demand for different kinds of information can be dissimilar between the actors in the food supply chain. Therefore it is possible that one actor possess information essential for another actor without knowing it. Information that can be essential for one actor must therefore be highlighted and shared. Mutual awareness of the actors' possible needs becomes an important attitude. However, the information sharing is affected by the exercise of power in the food supply chain. Today the competition within several areas in the food supply chain has increased. This has led to that the power now is at the retailers, and not at the manufacturers. Power is a phenomenon that exists in almost all relations. The power in a collaboration are to be used in a way that favours all partners. If the power is used in an incorrect way it can jeopardize the whole collaboration. This can, for example be prevented if all partners trust each other, that is trust that everyone always do their best in what every individual partner is best at. When the partners trust each other it is also more likely that the information sharing and the communication is more efficient.

4.1.4 Collaborative planning

Proposition 6: All relations should have joint goals, which should be followed up continuously.

In a collaborative partnership all partners should be ready to co-operate and to create a win-win situation, in order to reach successful results. In the collaboration both investments and gains can arise, but if the collaboration is seen from a long-term perspective, the investments can more easily be accepted. Despite that a decision today can be seen as costly, it can lead to benefits tomorrow. In all relations in the food supply chain joint goals and outlines, both long-term and short-term, should be put up in purpose to secure that everyone works towards the same direction. There should also be continuous updates of these goals and outlines in order to receive an agreement within the food supply chain. These updates presuppose that all partners in the food supply chain are adaptable, and have knowledge of the whole food supply chain, as mentioned before.

Proposition 7: Companies should use one or a few relations as a role model for other relations.

Close collaborations between all companies in all situations are difficult to create. However, what is desirable is that the closest collaborations should be seen as strategic important for a company and these should be the relations that the company is most engaged in. But the remaining relations should not be forgotten, since these relations are also in need of some kind of collaboration. A suggestion to give is that the deepest collaborations could be seen as a role model or as a pilot case for the remaining relations. Further, both advantages and disadvantages that evolve in these collaborations should be seen as learning for the remaining relations. An example is a

company that chooses to work with ECR. Within this concept, collaborate planning is an integrator of all operations that embraces the ECR-concept. But if a company wants to deepen itself in one relation, this deepening falls within the concept of CPFPR. The deeper relations then works as a role model for other relations.

4.2 The importance of planning within companies

The section "The importance of planning within companies" contains an introduction of five propositions regarding planning and useful parameters when planning, follow-ups when planning, collaboration, and consumer satisfaction, with the intention of creating desirable planning within companies in the food supply chain.

4.2.1 Planning and useful parameters when planning

Proposition 8: Draw parallels and learn from the planning of different products.

Different products demand different kinds of planning. This planning is mainly guided by the products' design, but also by the products' field of application. It can also be a difference between products within the same category and company. Therefore a company should not strive towards working the same way with all its products. However, it is important to co-ordinate the different planning of the products in order to benefit from experience and knowledge. But also as far as possible avoid creating a complexity in the joint planning. The function thinking within this planning is exchanged for a work where the coherence is fundamental. Further, the information technology development has meant that the specialist knowledge that previously was invaluable for many work tasks no longer has the same importance. This knowledge can however be used if companies finds a good combination between real data and experience.

Proposition 9: Combine and systemize historical data, POS-data, inventory level per SKU and experience when planning and forecasting the consumers expected demand.

To be able to make future, correct plans it is important not only knowing how many products that has been sold but also at which price and at which inventory level per SKU. Forecasts are a good tool to be able to work with planning in a satisfactory way. They can be based on different kinds of information where each has its special advantage. Historical data shows for example fluctuations in the demand during a year, POS-data shows the actual demand and the consumers' buying patters, and the product life cycle can give a clue about what to expect for the product in the future. It is important not to forget that the inventory level per SKU to a large extent affects the order placement. To create a good and accurate forecast, which de facto is an estimation about the future, it is important to find a good combination between these sources of information.

Something worth mentioning, the more exact a forecast is the more useful it is. The understanding of forecasts, its origin and meaning for the company, can be facilitated through an integration between those who collect the information, those who create the forecasts, and those who use the forecasts. A forecast is not a computer system but a facilitator for controlling the company, for example the forecasts made on an operational level can be joint with the demands from the management.

4.2.2 Follow up the planning

Proposition 10: Follow up the actual sale and planning, in order to create reliable and accurate forecasts.

The same way as it is important to draw parallels between planning of different kinds of products, it is even more important to draw learning from how the individual products behaved previously. Therefore follow-up should exist within several areas, among other things how the product has behaved from a sales perspective, and how the forecasts have corresponded to the actual sale. This in order not to do the same mistake twice, but above all to do better planning and more accurate forecasts in the future. It is important to emphasize that the follow-ups must be carried out continuously in order to receive the best learning's.

Rocket science retailing is a concept that mainly is directed to the retailers, but it contains several factors that also can be used within other areas of the food supply chain. Rocket science retailing shows that the reliability in forecasts can be improved, this by basing the forecasts on early sales data, that the reliability in the forecasts can be foreseen and tracked, and that different forecasting methods should be used. For this to be possible, both internal and external collaboration in the food supply chain have to work satisfactory, regarding information sharing of both data and working methods. To consider all these factors, a method for effective and reliable follow-ups should exist. Further, it is important to convince all partners and functions, which works with forecasting, that follow-up is important. To avoid prejudiced opinions about others' work with follow-ups, the partners concerned should be informed about what happens in the different steps.

4.2.3 Internal collaboration

Proposition 11: Integrate different persons and departments that affect the planning.

The forecasts created can be used as an instrument for controlling. The control at different departments, or even at different partners in a relation or collaboration, can diverge, which requires development of an effective connection between the different instruments. This presupposes that the management of the companies are engaged in this work, and that they secure that all employees involved have clearly defined roles and responsibilities.

4.2.4 Consumer satisfaction

Proposition 12: The goal for all companies should be to satisfy the consumers in the best way.

If a consumer always should be satisfied regarding its demand of a certain product, it would almost mean that all products should be adapted after each and every consumer's wishes and needs, this with reference to quantity, assortment and point of time. This is difficult to achieve for most companies. Instead it becomes important for companies to find a concept that satisfies larger consumer groups.

A company that puts the consumer in the centre will with a quite large possibility create both satisfied consumers and a good reputation. Further, the stakeholders should be satisfied and this will hopefully happen hand-in-hand with that the consumers are satisfied. The sales should therefore be based on the demands from the consumers and from the stakeholders. The stakeholders are however fully aware of what situation the company is in, with basis in market share and consumer demands. Further, the stakeholders have an interest in, except of making a financial profit, also to have satisfied consumers. The sale is based on satisfying a large and important consumer group. For companies it is a question of finding a balance between satisfying the demand for continuous product replenishment and the costs associated with this replenishment.

5 Evaluation of the studied food supply chain

In the chapter "Evaluation of the studied food supply chain" an evaluation of the importance of relationships between companies and planning within companies in the food supply chain is presented. The content is based on the empirical material in appendix B, which is summarized in this chapter and evaluated with help from the propositions for a desirable food supply chain, and the two last subchapters in the frame of reference. The goal with this chapter is to locate differences between the desirable information sharing and planning situation and the empirical material. The chapter is divided into the two main areas in this master thesis. The importance of relationships in the food supply chain is then divided after three different relations; manufacturer-retailer, manufacturer-retail store, and retailer-retail store. The importance of planning within companies is divided into manufacturer's planning, retailer's planning, and retail store's planning.

5.1 The importance of relationships in the food supply chain

The section "The importance of relationships in the food supply chain" contains an analyse of the relationships in the food supply chain studied, with reference to information sharing, and collaboration and collaborative planning.

5.1.1 Manufacturer – retailer

Information sharing

Sharing of facts and knowledge

The information sharing between ICA and Kraft today is quite comprehensive and the relationship between these two companies is fairly close. Despite this there is information that is not shared between them on a regular basis or even at all. No information goes directly from a system at ICA to a system at Kraft. However, almost all the information that Kraft receives from ICA is available through ICA's existing intranet for its suppliers, "Levnet"²⁷⁶.

Today ICA mainly receives information from Kraft about Kraft's service level, the out-of-stock list at a daily basis and how well Kraft fulfils its obligation towards ICA.

²⁷⁶ Levnet is ICA's web place for its suppliers which all suppliers have access to. The web place contains news that involves both ICA and their suppliers, and information about different sections at ICA. – ICA Handlarnas AB (2002), p. 12

Kraft also has daily contact with ICA in one or the other way, where both formal and informal information is exchanged. Besides this, other types of information that are given today are information about products introductions, information about market data and trends, and collaborative campaigns. Information about campaigns, such as estimated volumes and campaign follow-ups, are not shared on a regularly basis between Kraft and ICA. However, this information combined with information about ICA's strategies behind a campaign, would improve Kraft's forecast accuracy, and the product flow planning.

Kraft is often the campaign initiator. This means that it is Kraft's responsibility to secure that the information necessary for the campaign is shared to all involved actors. It is also Kraft's responsibility to secure that campaign follow-ups are made by the different actors and between the different actors. The importance of information sharing is emphasized in proposition 2.

Proposition 2: Information sharing is essential in order to receive correct facts and knowledge of the food supply chain, and therefore should all actors have access to all relevant information.

Today it is quite easy to send information to one another, but it is not the amount of information sent that is important. It should instead be the relevance of the information, for the part receiving it that should be important. In the food supply chain studied, there is valuable information that today is held back for some reasons. To solve this problem several actors in the food supply chain have to be convinced of the importance of sharing information backwards in the food supply chain. They also have to be aware of what information that is available for the different actors, and what information that is desirable. Furthermore, the different actors in the food supply chain have to agree upon what information that should be shared, and when. This to both improve the efficiency in the food supply chain, and to increase the knowledge of what affects the whole food supply chain and its consumers.

Furthermore, knowledge of the products and the consumers is also valuable in order to learn more about the food supply chain. ICA believes that Kraft has a unique knowledge, and both ICA and the whole food supply chain would gain if Kraft more regularly shared its knowledge of products and campaigns with ICA. However, it is not only important for Kraft to give its knowledge to ICA, ICA has to use the information and knowledge continuously.

Sharing of POS-data and information about inventory levels

Today ICA is responsible for collecting and aggregating the POS-data from its retail stores, and all ICA's suppliers have the possibility to buy the POS-data from ICA, However, Kraft does not buy the POS-data from ICA and ICA is not willing to give it for free to Kraft, even though both actors know that POS-data would facilitate the planning in the food supply chain. One reason why Kraft does not buy the POS-data is that it is generated on retail store profile level and country level, which is not an interesting and useful form for Kraft, which ICA is aware of.

Information about ICA's and ICA's retail stores' inventory level per SKU is also something that is interesting for Kraft, in combination with the POS-data, to improve the planning. This information is, above all, interesting for Kraft when there has been a campaign or an activity²⁷⁷ via ICA and this information could be used to plan future sales to ICA. This information can today be given to Kraft, but only when Kraft asks for it. ICA's retail stores inventory level per SKU can be complicated to receive due to the fact that ICA does not own the retail stores. The discussion about parameters that increase the knowledge of the actual demand is emphasized in proposition 3.

Proposition 3: The POS-data should be spread in order to increase the knowledge of the actual demand for products in the food supply chain.

As the situation looks like today, in the food supply chain studied, the POS-data is not spread in order to receive more information and knowledge of the consumers demand. The POS-data is still seen as a competitive advantage for those companies buying it, which in some ways is correct. Perhaps companies that are more willing to satisfy the consumers demand should pay for receiving the POS-data. However, the most important issue for a company should be to satisfy its consumers demand and wishes, and if a company does so, it should be compensated and not paying more money for doing it. But the POS-data has to be in a form that is usable for the companies using it, or that the companies are able to transform the given information into valuable data. In Kraft's case the POS-data should be generated by ICA and distributed on geographical level and retail store profile level or even on retail store level.

If both Kraft and ICA changed focus more towards the consumers, they would see that the POS-data is not only about gaining and losing money, it is about satisfying the consumers. If the POS-data was available to all actors in the food supply chain all actors would benefit, and in the end so would the consumer. This discussion emphasizes the importance of giving the POS-data for free to the whole food supply chain, in order to increase the knowledge of the consumers. However, ICA should not have to pay the whole price for the tools that are needed for the POS-data, or the price for keeping the system work and the tools updated. Therefore, all companies that use the POS-data should pay the prime cost for their part.

The POS-data will not solely solve the problem with satisfying the consumers demand and wishes. To plan more optimal, the POS-data has to be spread together with information about each actor's inventory level per SKU. This will lead to an optimal oversight over the product flow and each actor's inventory level might be reduced. It might be difficult to receive both ICA's and its retail stores inventory level per SKU. However, it is mainly ICA's inventory level per SKU that are useful for Kraft, and these levels might also be the easiest to receive. ICA's retail stores inventory level per SKU are interesting for Kraft to receive in some situations, such as after a campaign, but they will be difficult to get since ICA does not have the mandate over its retail stores. Therefore, it might be a good idea for Kraft to begin

²⁷⁷ An activity can for example be a campaign, advertising or events in retail stores.

with receiving ICA's inventory level per SKU, and in the future even receive ICA's retail stores inventory level per SKU.

Collaboration and collaborative planning

Relations with joint goals

Kraft and ICA do a kind of collaborative planning when they together estimate volumes for a specific campaign or activity, but this planning is not on a very detailed level. According to the respondents at both Kraft and ICA, campaign forecasts are something that neither of the actors is good at. Even though ICA and Kraft together plan how much a campaign will sell, ICA does not commit to a volume during a campaign. This leads to a complicated situation for Kraft, since Kraft has the full responsibility if anything goes wrong in the planning. Some respondents at Kraft say that ICA might lack an understanding about the different parts in the food supply chain. However, a campaign volume commitment might be difficult to achieve as long as ICA foremost negotiates product-price instead of negotiating around other factors in the food supply chain such as product availability, according to some respondents at Kraft. Joint goal, such as a volume commitment, is emphasized in proposition 6.

Proposition 6: All relations should have joint goals, which are followed-up continuously.

Joint goals can be of different character in different relations. One situation where joint goals between Kraft and ICA could be set up is during campaigns. As written earlier, Kraft has today the full responsibility if anything goes wrong, regarding the planning, during a campaign. Although it would be desirable for Kraft if ICA committed to a volume during a campaign, this could be difficult to achieve since ICA does not own its retail stores. This means that ICA cannot commit to a volume that ICA is not sure to be able to sell to its retail stores. One way of solving this problem for ICA could be if ICA's retail stores gave more orders in advance, so called pre-hand orders, some time before the campaign is due to start. With help from these pre-hand orders ICA could renegotiate with Kraft about the volumes before the campaign.

Another way of improving the joint planning is to, in addition to the follow-ups that are done within the different actors follow up the campaigns more thoroughly together. For example, together analysing the differences between the joint goals with the campaign and the actual results. That is, to analyse what went wrong and what have to be done differently at the next campaign. The follow-ups should be a natural part of the campaign. In addition to the preparations before a campaign, where goals for the campaign are set up, and the actual realization of the campaign, the whole co-operation with the campaign should also involve joint follow-ups of the campaign. Another joint goal that all actors in the food supply chain should have and strive towards is consumer satisfaction, which could be facilitated through, for example

collaborative planning. Consumer satisfaction will be further discussed in chapter 5.2.4 (Consumer satisfaction)

Collaborative planning

Today Kraft and ICA have had collaborative planning during special activities, such as during Christmas last year, explained in Appendix B (The relationship between Kraft and ICA). This collaboration turned out very well and is something that Kraft wants to continue with. Kraft would like to collaborate more with ICA during product introductions and during special campaigns, for example through CPFR or joint event management²⁷⁸. However, some respondents at ICA say that good collaboration with the suppliers would be beneficial, but it is hard to achieve with everyone. Additionally, some respondents at ICA say that collaborative planning could be possible for specific articles or when introducing new products. If Kraft and ICA had more collaborative planning, not only for a few campaigns each year, the forecast accuracy could be improved in the long run.

Proposition 7: Companies should use one or a few relations as a role model for other relations.

Kraft believes that the collaborative planning situations that Kraft has had with ICA during some activities, has turned out very well, and might be a possible future way of working. If both Kraft and ICA could see these situations as role models for other planning situations, both actors planning could be improved. This form of collaborative planning could be used when Kraft introduces new products or even be used more often during normal campaigns with the intention of satisfying the consumers better. Yet, it might be difficult to convince ICA to collaborate more with planning, since a new ordering system, called "Store Auto Ordering" see Appendix B ("Store Auto Ordering"), is developing quite fast, and ICA puts a lot of energy on that. This standpoint, that a company puts a lot of resources on one system, instead of putting them on a number of systems or parts of other systems in the food supply chain continuously, can be a common problem.

Valuable information for the actors in the food supply chain

Some respondents at ICA imply that ICA could, more often than today, use Kraft's knowledge of and competence about its products and the consumers during ICA's work, such as when making forecasts. However, both Kraft and ICA has to improve the dialog between each other to make this possible, and to start sharing more information with each other and not hold back too much information.

Proposition 5: It should be every actor's responsibility to investigate what information other actors in the food supply chain could benefit from.

²⁷⁸ Joint event management is a concept were both actors plan activities without paying attention to the normal flow. – Andreas Johansson, Kraft Foods Sverige AB, 2003-04-04

To understand what information other actors in the food supply chain are interested in, a dialog between the actors has to be created and maintained. A dialog between Kraft and ICA exists today, but different people at Kraft discuss with different people at ICA. This can complicate the information sharing between them and the understanding of which information and knowledge that might be useful for different people and actors. One suggestion is that Kraft has a speaking partner at ICA. That is a person who works for ICA, but has the responsibility towards the relation with Kraft, and works mainly with the information sharing between Kraft and ICA. Additionally, there should also be a similar speaking partner at Kraft for ICA, who has the responsibility of collecting information that ICA might need and who also are involved in the negotiations with ICA. Another solution could be that Kraft and ICA jointly have an interactive computer system, a "CustomerNet", where the different departments at Kraft and ICA could communicate all relevant and useful information, and knowledge, which is available for both actors.

5.1.2 Manufacturer – retail store

Information sharing

Information through Kraft sales representatives

Information from ICA's retail stores to Kraft can go two ways, either through ICA or through Kraft's sales representatives. Most of Kraft's contacts with ICA's retail stores are today handled through Kraft's sales representatives. But, the ICA retail store information gathered by Kraft's sales representatives is unfortunately not always used by Kraft. The importance of information sharing is emphasized in proposition 2.

Proposition 2: Information sharing is essential in order to receive correct facts and knowledge of the food supply chain, and therefore should all actors have access to all relevant information.

One negative thing, with the fact that more and more of Kraft's information go through ICA, is that Kraft may loose its relationship towards ICA's retail stores. But as long as Kraft's sales representatives are visiting ICA's retail stores, the information sharing between Kraft and ICA's retail stores will continue. However, it is essential that the sales representatives information is used by Kraft, since they know what the consumers actually thinks about the products. One suggestion to secure this could be to have routines through a computer system, a "SalesNet" such as the proposed "CustomerNet" where, for example information about how a campaign went were continuously gathered. The "SalesNet" should be available for Kraft and its sales representatives. Through the "SalesNet" relevant and useful information, and knowledge should be available and updated by routine. The "SalesNet" could, for example contain formulas that the sales representatives continuously should fill out. However, in the direction that "Store Auto Ordering" is developing, the sales representatives role in ICA's retail stores will probably decrease in the future. Perhaps another constellation with sales representatives have to be developed in the future, to secure that Kraft does not loose contact with ICA's retail stores.

Information about knowledge of the food supply chain

The information that Kraft shares with ICA's retail stores are in many ways the same information that Kraft shares with ICA. However, more and more of the information that Kraft gives to ICA's retail stores are nowadays handled by ICA. The reason for this is that ICA in its turn puts the information out on its existing Intranet, "Slingan"²⁷⁹. The importance of information sharing is emphasized in propositions 2.

Proposition 2: Information sharing is essential in order to receive correct facts and knowledge of the food supply chain, and therefore should all actors have access to all relevant information.

Most of the information shared between Kraft and ICA's retail stores is available on ICA's intranet "Slingan", and "Slingan" is a good way of securing that all retail stores can receive the same information. Today it is up to each retail store to use the system. However, it is vital that all ICA's retail stores understands the benefits of using "Slingan", both for the retail store's own gain, but also in order to satisfy and understand the consumers. This since "Slingan" gives information about the situation in the food supply chain that can be of interest when planning the ordering, and for getting general information.

Collaboration and collaborative planning

Today, there are no particular collaborations between Kraft and ICA's retail stores except through Kraft's sales representatives. Earlier, there was a possibility for ICA's retail stores to do their own campaigns, but over the last years ICA has shrunk this possibility. Today collaborative planning between Kraft and ICA's retail stores can be possible if a retail store, for example has a ten-year anniversary or if the retail stores manager is more enterprising than the majority of ICA's retail stores. This has in some ways meant that a local ICA retail store can have a harder time satisfying the local customers demand and wishes.

Kraft's sales representatives pick more and more products into the retail stores shelves, and make less sales representatives taken orders²⁸⁰. Further, Kraft's sales representatives do not plan together with ICA's retail stores as much as before and some respondents believe that the sales representatives role will be played out in the future. If this happens, Kraft will loose valuable information about the consumers, which is one of the keystones in proposition 1.

Proposition 1: All actors in the food supply chain should have good knowledge of the consumers and what influences their buying pattern.

²⁷⁹ "Slingan" is ICA's Intranet between ICA and its retail stores. – ICA Handlarnas AB (2002), p. 25

²⁸⁰ A sales representatives taken order is a business deal between the supplier, in this case Kraft, and an individual ICA retail store. – ICA Handlarnas AB, (2002), p. 32

Kraft can receive unique information about the customers from its sales representatives. However, as stated before, today this information is not used satisfactorily. If the sales representatives' knowledge and information were used more effectively through the proposed "SalesNet", Kraft could, for example, improve how activities are adjusted to the retail stores and the consumers. This is due to the fact that the sales representatives are the ones who really see how the consumers react about the different kinds of campaigns and if this information was gathered by routine in the same way from all sales representatives Kraft could more easily use the information. The campaigns could be made even better if Kraft had access to the POS-data, which is generated from ICA's retail stores, combined with the retail stores inventory level per SKU. This is because it would be easier to see where a campaign is saleable and not.

It is difficult for ICA's retail stores to have collaborations or collaborative planning with Kraft, except during special occasions. But, perhaps there should not be any collaboration between Kraft and ICA's retail stores. There are at least two reasons for this. Firstly, it is both costly and time-consuming for Kraft to have collaborations with all retail stores and for ICA's retail stores to have collaborations with many suppliers. Secondly, since ICA is between its retail stores and Kraft, most of the agreements must go through ICA.

5.1.3 Retailer – retail store

Information sharing

The information that ICA receives from its retail stores is mainly POS-data and orders, which facilitate the work with forecasts. However, the information from ICA's retail stores about how successful a campaign was is information that ICA might not use sufficiently. If the campaign information from ICA's retail stores were better, and compiled more properly, ICA could be able to forecast its campaigns more accurately.

ICA's retail stores today receive information from ICA about which campaigns ICA will have, when and to what price. This information is available through "Slingan" and on paper, on retail store profile level. Some respondents at ICA's retail stores say that more information from ICA, than given today, is not desirable.

Information from ICA's retail stores to ICA about expected campaign volumes is quite seldom communicated. However, it is information that ICA would like to receive from its retail stores, in order to know how much ICA should order from Kraft. The main reason why this information is not communicated is because the retail stores are poor at making pre-hand orders. However, ICA's retail stores are very good at predicting how much they will sell, but they do not always see the point in communicating this information. Other types of information shared from ICA's retail stores to ICA are mainly information about the sale and results from a campaign.

Proposition 2: Information sharing is essential in order to receive correct facts and knowledge of the food supply chain, and therefore should all actors have access to all relevant information.

Correct and reliable information sharing is important for all companies when planning their work. Unfortunately, ICA's retail stores hold valuable information that they do not share with ICA regarding, for example volumes for a future campaign. This information could be given through pre-hand orders. If this information were shared with ICA, ICA could improve its campaign forecasts accuracy. Today ICA's retail stores know their consumers quite well, but some managers at the retail stores have low incentives why this knowledge might be important for the whole food supply chain, and therefore they are also negative about making pre-hand orders. One way to change this attitude is for the other actors in the food supply chain to inform the managers at ICA's retail store why this information is needed and what it is used for, in the rest of the food supply chain.

The way that ICA has chosen to divide its retail stores is well on the road to try to satisfy the different consumers wishes and demands. It also facilitates the information sharing between ICA and its retail stores, since only useful information is spread to each retail store profile. However, ICA has to convince its retail stores about the advantages of learning and using "Slingan" more frequently, and better than today.

It is a wish from Kraft that ICA's retail stores become better at making more pre-hand orders, since it would facilitate Kraft's possibility to forecast the future, and the retail stores likelihood of receiving the products in the end. One way of doing this is to link Kraft and ICA's retail store together so that when a product is sold at ICA's retail stores, Kraft would receive a signal about it.

Collaboration and collaborative planning

Today ICA tries to have a close connection to its retail stores, but it is no deeper collaboration. ICA and its retail stores plan some activities together, such as before a specific campaign or holiday. Most of the negotiation between ICA and its retail stores occurs through the traders' council. There might be a lack of understanding from ICA's retail stores concerning pre-hand orders. This due to the fact that the retail stores believe that when they order a product from ICA it should also be available at ICA. However, it is the local retail stores that have the best knowledge of the consumers, but they may lack knowledge of the whole food supply chain.

Proposition 4: Knowledge of the whole food supply chain should be acquired in order to facilitate the possibility of being able to quickly respond to the consumers' demand.

It is difficult to make sure that all actors in the food supply chain have knowledge of the consumers demand and wishes. But, it is important to strive towards consumer knowledge in the whole food supply chain. Since the retail stores are the actor closest to the consumers, the retail stores should be the one that have the best information

about what the consumers actually buy, which they today in some ways are. However, ICA's retail stores might lack an understanding about why, for example pre-hand orders should be shared to ICA. This due to the fact that some of ICA's retail stores manager believes that it is ICA's responsibility to have the products in stock, when the retail stores want them. Further, these retail stores manager might lack comprehension about that planning in advance can facilitate other actors planning in the food supply chain, decrease the ability to quickly respond to the consumers' demand, and in the long run secure consumer satisfaction even better than today. The difficulties are in convincing them that even though it takes more time for them to make more pre-hand orders, the likelihood of being out of products will decrease, and both the retail store and the consumers will benefit from that. One way to affect the retail store manager's opinion could be through the traders' council.

Another way of solving the problem with pre-hand orders is to give ICA's retail stores some kind of reward for planning in advance. This reward could be that if pre-hand orders were given, the retail store would be guaranteed the pre-hand ordered products, which is not the situation today. However, if a shortage occurs the retail stores that have placed pre-hand orders will share the volumes between them. The problem with pre-hand orders will probably not be solved with ICA's new ordering system, "Store Auto Ordering". However, the system will hopefully give more accurate orders to ICA.

5.2 The importance of planning within companies

The section "The importance of planning within companies" contains an analyse of the actors internal planning in the studied food supply chain, with reference to planning parameters, follow-ups and collaboration. Several discussions in this chapter are relevant for all the actors in the food supply chain.

5.2.1 Manufacturer's planning

Planning and useful parameters when planning

Internal learning when planning

The customers and the consumers impulsive buying affect the manufacturers planning in many ways. To respond to this, the manufacturers must be able to plan the replenishment effectively. One way of doing this is the way Kraft does today; Kraft plans all activities for each category. This can give an opportunity to focus on the separate categories, but it is important not to forget the connections between the different categories. However, Kraft is not fully satisfied with its campaign forecasts

Proposition 8: Draw parallels and learn from the planning of different products.

Kraft has come far with the thinking that products differ; that different products cannot be handled in the same way. The way that Kraft is working today fulfils many demands of a cross-functional organisation. However, Kraft must not forget that it is also important to take learning's of how the different departments work with the categories, and not just exchange information.

Useful parameters when planning

Generally, most of the planning today is based on forecasts. These are in turn mainly based on parameters such as historical data, analysis of trends, consumer behaviour, people's experience, and sales budgets. This is also the case at Kraft but there seems to be a need for POS-data, at least for some products in some situations, for example for new products, or products that differ more than 50 percent from last weeks sale. However, according to some respondents at Kraft, the POS-data will not solve the problem with the difficulties in knowing whether, for example a Marabou chocolate bar is sold on a mixed pallet or not. Another parameter used when planning at Kraft is if something happens within a category during the year, which affects the budget and in the end the planning. The importance of combining different parameters is emphasized in proposition 9.

Proposition 9: Combine and systemize historical data, POS-data, inventory level per SKU and experience when planning and forecasting the consumers expected demand.

It is important for Kraft to consider what information and which parameters that is necessary in different situations. Too much information is not always the best. The information technology has made it much easier to store historical data, that could be useful when planning, but it has also made it easier to store all available data. This means that it today has become a jungle of both useful and non-useful data. Therefore, it is important to make all available information visible and from that carefully consider which data that is needed for planning and why, and then chose which data should be saved in the future. It is also important to carefully choose which parameters that are needed. However, it is important to choose facilitators and parameters that complement each other. The most useful parameter should be historical sale. Here it is easy to both see the level of the ordinary flow and how much different campaigns differ from this flow. From this the base for the planning is created, and together with information about activities an even more accurate forecast can be made.

In addition to this, inventory level per SKU should be used both in the own company and at the customer. The reason for this is to get an overview of the flows in the whole food supply chain. Therefore, it is important to negotiate around these parameters in the company and between the companies. All actors have to be aware of the advantages that sharing inventory level per SKU can give. Besides historical data and inventory level per SKU, information about where the products is in the product life cycle could be useful. If it is a new product the chances of getting higher sale is larger than if the product's sale is declining.

Follow up the planning

Follow up the planning has become more and more important. However, almost all respondents at Kraft agreed that the follow-ups, especially for forecasts, have to be improved, and be done more frequently. This to see how good the received information was, both internally and externally. Today Kraft has key performance indicators, such as customer service level and forecast accuracy, but the follow-up of these indicators have to be improved in order not doing the same mistake again. As some respondents mentioned, the new forecasting system at Kraft has an opportunity for the user to add information about, for example how successful a campaign was, and how good the forecast was. This kind of discussion is emphasized in proposition 10.

Proposition 10: Follow up the actual sale and planning, in order to create reliable and accurate forecasts.

There are many advantages with follow-ups when planning. The most obvious advantage is that it is easier to learn from the mistakes that have been done, but also that it becomes natural to reflect about what has been done and why. The best way to secure that follow-ups are made is to have a measuring system that take more non-monetary factors into considerations.

The key performance indicators that Kraft has today might not be sufficient. Perhaps there have to be other parameters in the measuring system, to secure that the follow-ups of the work will be done. It would, for example be interesting to compare how good the forecast was for one product during a period of time. Another way to secure that the follow-ups are done is that they become a natural part of the work. For example, the work with campaigns could consist of four phases:

- *The first phase* – Investigate whether or not it is suitable with a campaign at the suggested point of time. If this is the case, investigate what kind of campaign that is most suitable. It is here important to look at previous campaigns that were successful.
- *The second phase* – Design the campaign. It is here important to look at how previous campaigns worked out and from this try to design a concept suitable for the specific situation. It is even more important to look at the prerequisites for similar campaigns to make accurate forecasts about expected sale.
- *The third phase* – The performance of the campaign, which basically means to have the products produced in order to be accessible during the campaign.
- *The fourth phase* – The follow-up phase, this means that there is a follow-up around the results from the campaign. The follow-up should follow a designed routine in order to secure that the information will be useful at a later point of time. This routine might need to diverge in some ways between different products and categories, but it is still important to try to get uniformity.

It is also important to point out that different departments are active in different phases during the work with a campaign, for example the supply chain department

might have a passive role in the first phase, but it may be essential for the supply chain department to be active in the other three phases. The supply chain department's involvement will increase from phase two to phase four. However, although all departments are not active in all four phases, it is of great importance that the knowledge that exists within these departments is used in all phases. Further, these four phases should also be desirable to use when planning campaigns with other actors in the food supply chain.

Kraft's new forecasting system is a valuable tool to follow up the forecasts, if it used in the right way. That is, there has to be some routines about what to write down, but there also has to be time to make reflections that can be useful in the future.

Internal collaboration

Today at Kraft, there are problems receiving correct data from the different departments. Information that should be sent between the different departments is not always sent and sometimes the given information is out of date. According to some respondents at Kraft, the information channel today cannot be changed; still it could be simplified in many ways.

The supply chain department at Kraft is responsible for making it possible to replenish products, and the department is due to this also responsible for making forecasts. However, the fundamental goal for the company, that is to reach the budget, is given to the sales department and from them to the supply chain department. The way the information goes today can in many ways seem too long and too circumstantial.

However, there are also problems concerning information about activities, for example when a campaign is about to start and when the products for the campaign can be bought from Kraft. Different persons or departments can see information in different ways. What has to be done here is to explain exactly which time that is referred to. The importance of integration is emphasized in proposition 11.

Proposition 11: Integrate different persons and departments that affect the planning.

It would be desirable if the supply chain department, the sales department and the customer marketing department could receive information about the goals in the budget at the same time, and not through each other. From this information, it would then be desirable for these three departments to together work out an elementary sales plan, which is designed from the demands of the supply chain department, the sales department and the customer marketing department. If these three departments together worked with this subject, that is the base of the annual work, they would also get an improved understanding about the company's total work.

Today there are frequent meetings between the different departments at Kraft where several kinds of information are shared. These meetings are a very good ground for an

understanding about the different departments work, and for internal collaboration concerning planning. Notice that it is not enough that one of the departments becomes aware of the other department's works. That is, the communication between the different departments, about which information that is available, what information that could be available and what information that is desirable, is necessary in both directions.

Between some departments at Kraft it seems to be a lack of collaboration. This does not mean that these departments do not meet or co-operates; it means that they do not share the right information in the right way. There are, for example at lack of information about campaign volumes on article level. To solve this problem the information that exists within the different departments must be visible for all departments involved in the collaboration. From this there has to be a discussion between the departments about which information that should and should not be shared and when, to increase the different departments knowledge of each other. Here is one more problem, there sometimes seems to be a lack of continuity in the information shared both within Kraft, and between Kraft and its customers. In some cases the information is available and given, but only when someone asks for it, this means that some people or even a whole department might not even know that this information exists.

There are several reasons for why different people and departments see information with different eyes. For instance, the focus in the different departments diverges. The marketing department is focused on when a campaign is about to start while the sales department is focused on when the product starts to sell. These differences in focus are hard to change, and maybe it should not be changed. It is the different departments focus and specialization that creates a unique department. However, the information between the different departments should be standardized, because it will minimize the possibility for this problem to occur.

5.2.2 Retailers planning

Planning and useful parameters when planning

Internal learning when planning

The planning at ICA today is mainly based on forecasting, which is affected by, for example seasonal changes and campaigns. Unfortunately, ICA is not satisfied with the results from its campaign forecasts. One problem seems to be that campaign forecasts are not prioritised at ICA, but all the respondents at ICA say that ICA have to improve its campaign forecast accuracy. However, one respondent believes that ICA, in the future, can get more help with the forecasts, especially during special activities, from the suppliers.

Proposition 8: Draw parallels and learn from the planning of different products.

Even though it is important in many areas to collaborate with other companies, it is important to point out that it is first of all inside companies that planning and forecasting has to be prioritised. Before a collaboration can be founded, the people and departments within the company have to obtain an understanding in those areas that will be a part of the collaboration in the future. For example, if ICA is going to work closely with Kraft regarding campaign forecasts, the departments within ICA, first of all have to understand the importance of forecasts and forecasting, and they also have to develop a united system in which they are working with these forecasts within ICA. When such a system is developed it is also important to take notice of the fact that there is parallels between the planning of different products that must be taken into consideration. However, a good collaboration between Kraft and ICA can only be founded if Kraft has carried out the same internal procedure as ICA. It is important that both companies internal work is satisfactory, before a successful collaboration can be achieved.

Useful parameters when planning

Today ICA's planning is mainly based on parameters such as historical data, POS-data, seasonal changes, experience and instinctive feeling, but it would also be useful to have information about ICA's retail stores inventory level per SKU. However, information about ICA's retail stores inventory level per SKU might be difficult to receive since ICA does not own its retail stores. In the work with planning, ICA uses information from the suppliers about the consumers buying pattern and product information, this to receive information about new trends and where the market is heading. This information is only used in a long-term perspective and there is probably no use for it on a daily basis. Today ICA's vision and strategy is to think consumer, but according to one respondent at ICA, it is a large step between vision and reality.

ICA has developed "Store Auto Ordering" that is supposed to give ICA more accurate information about the actual sale, based on several of the parameters that was previously discussed. According to all respondents at ICA, ICA will in the future probably base all its purchases from "Store Auto Ordering". The information generated from "Store Auto Ordering" will be collected in ICA's own database and will generate a demand for ICA's distribution operations. This demand will then be used to place an order from ICA's suppliers. With this system ICA will also receive orders more frequently. But for the system to work properly the identification of the products has to be 100 %, everything has to be scanned correctly in the retail store. However, "Store Auto Ordering" only works for the normal flow, not for special campaigns. To use a combination of parameters when planning is emphasized in proposition 9.

Proposition 9: Combine and systemize historical data, POS-data, inventory level per SKU and experience when planning and forecasting the consumers expected demand.

As in Kraft's case, ICA may not lack information for making good planning. But, as one respondent remarked, there might be a lack of understanding about how to receive relevant information and how to use it. Therefore it is important also for ICA's different departments to make two things visible; what information and which parameters are necessary for the different departments, and why this information is necessary. From this ICA should design the best possible combinations of parameters that they need to make different kinds of planning in an efficient way.

"Store Auto Ordering" is a significant step towards a more efficient and effective food supply chain. There are a lot of positive things about this system, for example it gives more reliable information about sale, and it reduces the interference of human influences, which in many cases can disturb a system. Further, it leads to more time for personnel to do other things both in the retail stores and at ICA, and hopefully in the future even at the suppliers. Unfortunately, one problem that can be seen with "Store Auto Ordering" is that the manager of the retail store has to supervise the system, if there is an extra ordinary activity. That is, if the manger just let the system order the system can, for example in week 10 order 100 products of an article for week 11. This amount is based on the sale during the last 22 weeks, but the actual demand for week 11 is only 90 products. But, the system make a wrongful judgement due to the fact that there was a successful campaign during week 10.

An auto order system will probably be entirely correct in the future; the hardest part is however to find a system that is advantageous for all actors in the food supply chain. The way to get this kind of system is first to analyse how a system should be designed for the own company. After this all companies in the food supply chain should together design a system that suits the different companies demands. It can be hard to do this in all the food supply chains that one company can be part of. Therefore, it would be suitable to develop some kind of standard system in some important relations, for example with Kraft.

Follow up the planning

ICA tries to follow up its forecasts with previous year sale, and ICA also follow up its service level in a very good way. But ICA does not use all the available historical statistics to see whether a forecast was reliable from a historical perspective or not. Unfortunately, there seems to be a lack of follow-ups of the campaign forecasts.

Proposition 10: Follow up the actual sale and planning, in order to create reliable and accurate forecasts.

ICA is recommended to make the follow-ups a part of the routines in all the work with planning and forecasts. The hardest work with introducing routines is to make them a part of the daily work. When there is a campaign there is a beginning and an end but there are no such thing in the daily work. Therefore it might be suitable to, for example once a week deliver some kind of report about the forecast accuracy in more than monetary terms.

Internal collaboration

At ICA there is some, but not sufficient information sharing between the different departments. However, the discussion that some respondents at ICA had about that all employees should know what happens in the company, but also that there should not be too many people involved in the forecasting process, seem very sound. Unfortunately, the situation does not look like this at ICA today, because a lot of people poke in the forecast system, which can lead to screwed-up forecasts. Hopefully, this situation is something ICA is working with.

Proposition 11: Integrate different persons and departments that affect the planning.

One problem at ICA is the physical separation between the different departments studied. This leads to the fact that the daily, informal communication disappears. It also means that the co-ordination of the departments have to be well structured in order to secure that all relevant information is shared between the departments.

5.2.3 Retail stores planning

Planning and useful parameters when planning

ICA's retail stores are today making plans mainly about the sale. This planning can in some cases generate a pre-hand order to ICA. One very positive thing that the retail stores managers, interviewed in this study have are weekly meetings where last weeks sale, the current situation and the future situation are discussed. The retail stores mainly use experience and instinctive feeling when making forecasts, but also historical data is used when making orders before Christmas and other large holidays.

Proposition 9: Combine and systemize historical data, POS-data, inventory level per SKU and experience when planning and forecasting the consumers expected demand.

Planning and forecasting is important also for ICA's retail stores and therefore it is important that the understanding about this is developed, mainly for the managers at ICA's retail stores. This planning should, for example be based on campaigns and food trends. The planning should also be a base for pre-hand orders that is supposed to be given to ICA at certain occasions, for example before a campaign. However, the managers at ICA's retail stores had different opinions regarding pre-hand orders. Some respondents argued for an increase of pre-hand order or pre-hand forecasts, while the other respondents disagreed. Perhaps there is a lack of understanding why pre-hand orders are important. This lack of understanding has to be worked off, to satisfy the consumers better.

5.2.4 Consumer satisfaction

The opinion about whose responsibility it is to satisfy the consumers diverges between people in the studied food supply chain. But in some way everyone thinks it is the whole food supply chains responsibility to satisfy the consumers. However, there is an opinion that the actors in the food supply chain must have different focus, that Kraft has the responsibility to offer the products that the consumer wants and to have these products in stock, ICA has the responsibility to have the products available at ICA's distribution centres and ICA's retail stores responsibility are to have products in their shelves, when the consumers want them.

ICA's retail stores use information about the consumers buying patterns when the retail store shelves are built up, this to guide the consumers correctly in the retail store. Other ways to satisfy the consumers, according to some respondents at Kraft, are to have activities when the consumers expect it and to work closer to the customers in the future. The discussion above about consumer satisfaction is emphasized in proposition 12.

Proposition 12: The goal for all companies should be to satisfy the consumers in the best way.

In many ways, the food supply chain today works with consumer satisfaction as a main purpose but still, the real purpose for many companies are to make money. This leads to the fact that many negotiations leave consumer satisfaction out of the discussions. To satisfy the consumers in the best way, and thereby improve the profit, it is important to start out from the consumers demand and wishes and from this negotiate about how the different actors in the food supply chain should act, this with the purpose of receiving correct and reliable information about the consumers' demands and wishes. Therefore it is important to find out as much as possible about what the consumers want and what they think about different products.

Today, many companies in the food supply chain have quite a lot of information about the consumers, mainly from the market analysing companies. This information is often sufficient. One additional source of information could however be the Internet, for example if Kraft puts some kind of questionnaire about its products on Kraft's or the products home page, consumers could leave their opinion directly to Kraft.

There are different activities that the actors in the food supply chain arrange in order to satisfy the consumers demand. Which activities these are depend on the actor, and its activities and products. But it is important, in the future, for companies to work with these activities in an ECR-perspective both within and between companies.

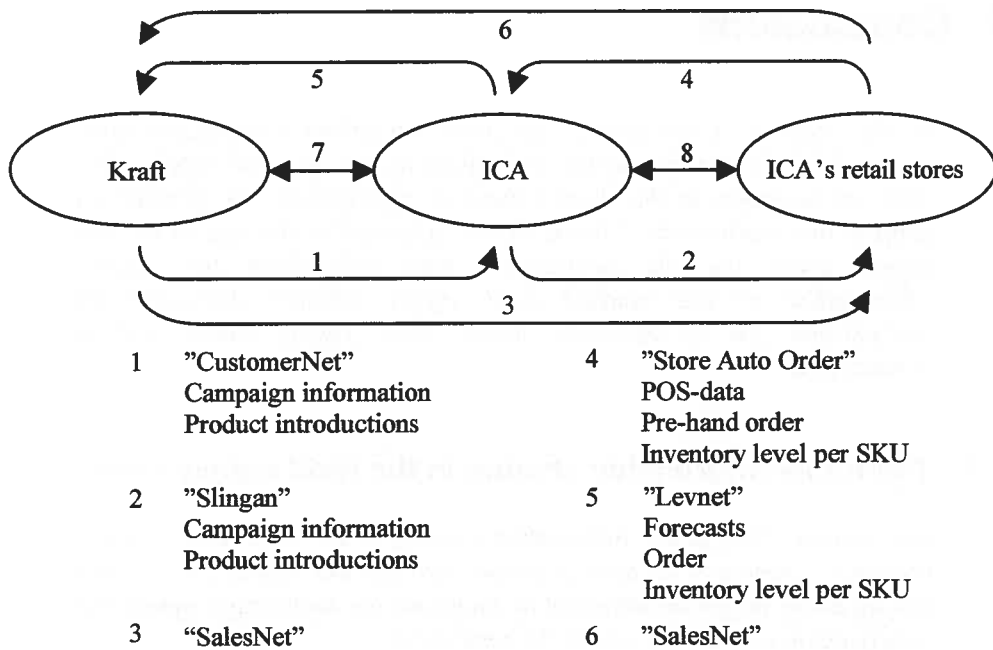
6 Conclusions

In the chapter “Conclusions” the most important conclusions about successful information sharing and planning in the food supply chain that can be drawn in this master thesis is highlighted. The chapter will contain two main areas. Firstly, future information sharing in the food supply chain will be summarized with help from the chapter, “Evaluation of the studied food supply chain”. Secondly, the propositions for a desirable future food supply chain will be summarized.

6.1 The future information sharing in the food supply chain

The section “The future information sharing in the food supply chain” contains a summary of how desirable information sharing in the food supply chain might be designed to facilitate the knowledge of the food supply chain in order to satisfy the consumers.

As the situation looks like today in the studied food supply chain, all available information is not shared between the different actors. That is, the different actors do not have access to all relevant information. However, if the actors do not have a mutual dialog with each other, it is difficult to know what information the other actors are missing and looking for. In order to receive efficient information sharing between the actors in the food supply chain, the information sharing should be highlighted through its own supply chain. Therefore, a desirable information sharing in the food supply chain has been developed by the authors, and is presented in figure 6.1.



7 and 8 Collaborative planning, follow-ups and insights

Figure 6.1: The future information sharing in the food supply chain.²⁸¹

In the future information food supply chain above, eight different parts explain the information sharing:

1. The main information that should be shared from Kraft to ICA should be delivered through the proposed "CustomerNet", that is an interactive computer system, a kind of CRM tool, between Kraft and ICA. Through the "CustomerNet" ICA can receive daily information from Kraft. Besides this daily contact, information about campaigns and product introductions will be shared through meetings, but it will also be available at the "CustomerNet".
2. The information given from Kraft to ICA about, for example product introductions and campaigns should be available at ICA's existing Intranet "Slingan". This means that ICA informs its retail stores about the information that ICA receives from Kraft about products, activities, and other relevant information without any delays.
3. Important information that has to be given from Kraft to ICA's retail stores can be shared through Kraft's sales representatives. This information should mainly consider activities, and information about Kraft's products and

²⁸¹ Figure developed by the authors

assortment. This information should also be available through the proposed "SalesNet" where information by routine should be available.

4. From ICA's retail stores to ICA the main information goes through ICA's new ordering system, "Store Auto Order", combined with the retail stores inventory level per SKU. In addition to this, pre-hand orders should be given to ICA before special activities and occasions.
5. ICA should share daily information to Kraft through the existing "Levnet". ICA should also in addition to this give Kraft information about ICA's inventory level per SKU. Further, "Store Auto Orders", POS-data, ICA's retail stores inventory level per SKU, and the retail stores pre-hand orders should all be aggregated on profile level and/or geographical level and given to Kraft, without delays and human interference. ICA's retail stores inventory level per SKU and pre-hand orders might only be given to Kraft in connection to special activities and occasions. With help from the pre-hand orders given from ICA's retail stores, ICA should give Kraft campaigns forecasts and continuous orders.
6. From ICA's retail stores directly to Kraft the information should be shared through Kraft's sales representatives through the proposed "SalesNet", also this a kind of CRM tool. The information should after, for example a campaign be registered on the "SalesNet". In order to secure that useful information is registered, there has to be routines for how to use the "SalesNet". This information should mainly concern the consumers' reaction to campaigns and new products, but also information about trends.
7. Between Kraft and ICA collaborative planning should occur during special activities and occasions. Within this collaborative planning, follow-ups and learning's should be seen as natural ingredients and therefore be a part of the routines in these situations. To facilitate the information sharing between Kraft and ICA, a speaking partner at both companies should be introduced.
8. Between ICA and ICA's retail stores collaborate planning should mainly be present before special activities and occasions in form of pre-hand orderings.

6.2 Propositions for a desirable future food supply chain

The chapter "Propositions for a desirable future food supply chain" contains a summary of the propositions in chapter 4 (Proposition for a desirable food supply chain). The propositions have in some cases been reformulated from chapter 4, and they are here presented in another order. The changes in the propositions are made in italics.

6.2.1 The importance of relationships in the food supply chain

All work within a food supply chain is based on the fact that there are consumers that want to buy a certain product. Therefore, all work should be based on the consumers demand. To get information from the consumers' means that there has to be a good knowledge of the consumers demand, as emphasized in proposition 1.

Proposition 1: All actors in the food supply chain should have good knowledge of the consumers and what influences their buying pattern.

To obtain a food supply chain that works satisfying means that all the actors in the food supply chain have to, in some way or the other, collaborate and share information, therefore:

Proposition 2: Information sharing is essential in order to receive correct facts and knowledge of the food supply chain, and therefore should all actors have access to all relevant information.

One of the most important kinds of information that should to be spread in the food supply chain is the actual demand of products. This means that:

Proposition 3: The POS-data *combined with inventory level per SKU* should be spread in order to increase the knowledge of the actual demand for products in the food supply chain.

Besides the information sharing in the food supply chain, all actors should have knowledge of the whole food supply chain. To receive this, the actors have to investigate what information they possess that can be relevant for other actors, and for themselves. This is emphasized in proposition 4 and proposition 5.

Proposition 4: Knowledge of the whole food supply chain should be acquired in order to facilitate the possibility of being able to quickly respond to the consumers' demand.

Proposition 5: It should be every actor's responsibility to investigate what information *and knowledge* other actors in the food supply chain could benefit from.

The relations that originate from the work in the food supply chain have different levels of importance, and should therefore also be dealt with in different ways. Nevertheless, what is important is that all relations should work towards the same purpose, that is:

Proposition 6: All relations should have joint goals, which should be followed up continuously.

However, there could be many relations and especially collaborations that can give input to other relations and therefore:

Proposition 7: Companies should use one or a few relations as a role model for other relations.

Many benefits for the food supply chain in the future probably lie in relations and collaborations between the actors in the food supply chain. However, to work in a collaboration the internal work has to be satisfying and therefore, it is perhaps here that the first changes should be made.

6.2.2 The importance of planning within companies

There is of course a lot of different planning within a company; this master thesis has however just treated replenishment planning. The replenishment planning in a company involves many individuals and departments that, in one way or the other, affect the planning, therefore companies should:

Proposition 11: Integrate *and co-ordinate* different persons, departments and subject that affect the planning.

The different departments are in need of different kinds of information in their work with planning, and therefore the information that is available have to be visible for everyone involved. The planning should be based on a combination of different parameters. This is emphasized in proposition 9.

Proposition 9: Combine and systemize historical data, POS-data, inventory level per SKU, experience *and activities such as campaigns* when planning and forecasting the consumers expected demand.

Information that is necessary for the planning of different products differs. As a result, the products should have different planning routines. However, the planning of one product can involve features that are of great importance for the planning of another product. Therefore, companies should:

Proposition 8: Draw parallels and learn from the planning of different products.

However, the only way to really learn from what has been done is to follow up the work with help from the actual results of the planning. Therefore, this should be a natural part of the planning process; as emphasized in proposition 10. This leads to that planning of, for example activities should contain four phases; the investigation phase, the design phase, the performance phase, and the follow-up phase.

Proposition 10: Follow up the actual sale and planning, in order to create reliable and accurate forecasts.

In the end, all work in the food supply chain should have as the main purpose to satisfy the consumers, and good knowledge of them as well as the rest of the food supply chain should be something that all companies should strive for. Therefore:

Proposition 12: The goal for all companies should be to satisfy the consumers in the best way.

As stated in the problem description, a complete food supply chain of actors is necessary to be able to deliver the products to the consumers. To make this food supply chain work in a satisfying way the actors within it has to know each other, how each actor operate, and what information and knowledge that is essential for the different actors. From this each actor has to “get their own house in order”, that is to improve the work with the internal planning. This through integrating and co-ordinating the persons, departments and subjects that affect the information sharing and planning, and design phases that is helpful in the planning. After getting the own house is in order some of the relations in the food supply chain can be developed to collaborations.

6.3 Action plan for a desirable future food supply chain

The chapter “Action plan for a desirable future food supply chain” will highlight the most essential proceedings a company have to make in order to improve the replenishment planning and the information sharing.

First of all, proposition 1 must be taken into consideration. Before any changes can be made within and between the actors in the food supply chain, there has to be an understanding of the consumers and their behaviour, but also an understanding of the factors that influence the food supply chain. Therefore knowledge about the whole food supply chain must be developed.

This knowledge should be the base for improvements within the companies in the food supply chain. The most essential improvement concerns proposition 11 and 9. As in the previous part, knowledge about what influences the replenishment planning and information sharing, both organisational and practical, must be developed before the actual improvement can be made.

The last step concerns relations and collaboration with other actors in the food supply chain. The most essential improvements can be made through proposition 2 and 6. To be able to get an effective and efficient food supply chain, the actors have to open up and share information and knowledge without delays. To be able to improve even more, the relations and collaborations have to be followed up.

One last word from the authors is, do not rush it. It is not important that a deeper collaboration is developed instantly; it is the way it is developed that is more important.

Future research

In the chapter “Future research” topics that are suggested for future research is presented. During the course of our master thesis we have come across several interesting topics that are left unanswered. Hopefully, other students will find these topics and make future research within these interesting areas. There are also areas in our master thesis that can be explored even deeper.

6.4 On-shelf availability

Even though we have studied who has the responsibility to secure that the consumers are satisfied, with reference to right products, in the right retail store and at the right point of time, we have delimited us not to study how the actors can design its products/packages in order to facilitate the on shelf availability. However, it would be interesting to know where, in the food supply chain, the on-shelf availability is most sensitive for disturbance. Therefore, it would be interesting to know what the different actors could do to facilitate the on-shelf availability.

6.5 Private labels

More and more retailers are introducing their own brands, so called private labels, where the production for these products is bought from their suppliers. This situation creates a delicate situation for both the retailer and the manufacturers, as mentioned in the delimitations. Therefore, it would be interesting to know how private labels affect the competition, the collaboration, and the information sharing in the food supply chain.

6.6 Food supply chain control

Over the years both manufacturers and retailers have controlled the food industry. Today the retailers are the actors who have most of the control. But is the retailer the actor that should be in control, in order to respond to the consumers demand and wishes more optimal? Perhaps it should be the manufacturers or the consumers that should control the food supply chain. However, what is most important is that the actor controlling the food supply chain should be willing to take on the responsibility of satisfying the consumers even better than today. Therefore, it would be fascinating to know who should control the food supply chain.

Information sharing

The information sharing process is a complex one, involving a number of factors. The first is the need for a common language and shared understanding of the data. This is often achieved through the use of standardized data formats and protocols. The second is the need for a secure and reliable communication channel. This is often achieved through the use of encrypted data and secure communication protocols. The third is the need for a clear and concise communication strategy. This is often achieved through the use of clear and concise communication protocols.

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Appendix B – Case study of a food supply chain

In the chapter “Case study of a food supply chain”, a summary of the interviews with personnel at Kraft, ICA, and ICA’s retail stores is presented. Since there is a wish in this master thesis to illustrate similarities and differences in personnel’s interpretation of different situations, repetitions can occur. The chapter is divided into three main areas: the interviews with Kraft, the interviews with ICA, and the interviews with ICA’s retail stores.

Manufacturer – Kraft Foods Sverige AB

The material from Kraft Foods Sverige AB is based upon interviews with Per Andréén, Sara Bengtsson, Daniel Driving, Gunilla Engblom, Maria Fagrenius, Annika Holmsten, Andreas Johansson, Leo Soléus, Peter Speiner, Joacim Tempelman, and Peter Unosson at Kraft Foods Sverige AB.

The relationship between Kraft and ICA

Information flow from ICA to Kraft

Kraft receives different types of information from ICA, it is mainly about expected volumes for booked activities. However, ICA’s generated POS-data is not given and Kraft has decided not to buy the POS-data. The reason why Kraft does not buy it, according to some respondents, is because the POS-data is only available on profile or country level, and not on retail store level. One respondent also believes that the POS-data can be a useful tool for ICA when negotiating with Kraft. Further, one respondent says that ICA is charging money for something that would be useful for both actors if Kraft were to get it. However, some respondents mean that it is fair if Kraft paid a cost price for POS-data so that ICA does not have to pay the whole investment by them self.

Another type of information that Kraft is interested in getting from ICA, according to most respondents, is ICA’s inventory level per SKU. Today Kraft can request information about ICA’s inventory level per SKU and ICA’s proposed store orders, but Kraft would like to get this information more frequently from ICA. Information about what the food supply chain looks like, that is what ICA and its retail stores have in stock after a campaign is interesting when planning future deliveries to ICA. One respondent says that something that might be even more important to get besides POS-data and inventory level per SKU would be a speaking partner at ICA.

ICA has loyalty cards that contain information that is of interest for Kraft, but Kraft are unsure about how valuable the information is since ICA does not use the card to its full potential, according to some respondents. The most helpful information that exists in its cards is campaign information, and if ICA and Kraft together used this information when evaluating a campaign the campaigns could be improved, this regarding assortment, time, planning and forecasts. Furthermore, it would be of interest for Kraft to receive information about ICA's strategies behind campaigns but also behind the logistical flow.

Kraft meets ICA physically in some ways at least once a week, and Kraft has almost daily contact with ICA over the phone. However, another respondent claims that Kraft does not receive information that ICA has agreed to share with Kraft on a running basis. Kraft also has meetings running with ICA to coincide campaigns, and gets information from ICA, but only when Kraft asks for it. According to one respondent, no information goes directly from a system at ICA to a system at Kraft. Some respondents' claim that it is difficult to change the way the information goes, but the continuity and the quality of the flow could be changed and improved.

Information flow from Kraft to ICA

The primary information that Kraft gives to ICA today is information about Kraft's service level and how well Kraft fulfils its obligations towards ICA. Kraft sends a daily out-of-stock list to ICA's purchaser. The out-of-stock list is a list that contains information about what products Kraft at the moment cannot deliver, and when Kraft expects to deliver them. Some respondents say that it is better to inform ICA when Kraft has a problem than not informing ICA at all. However, some respondents claim that Kraft could inform ICA even better about these situations.

Furthermore, Kraft gives ICA information about campaign suggestions and what products Kraft plans to introduce. In most cases, according to some respondents, Kraft is the campaign initiator, which means that Kraft gives ICA a campaign suggestion from what Kraft wants and what Kraft believe the consumers wants. ICA also receives information about market data and trends from Kraft. However, ICA has previously been poor at having an own opinion about trends, but this has been improved according to some respondents, since ICA now has its own tool for this. Further, Kraft has come closer to ICA regarding new product launches, but most of the time Kraft is the part that has the most information about the consumers.

Most of the respondents believe that Kraft gives all the information that ICA might be interested in, at least in order to improve the relation between them. Some respondents say that Kraft is the one wanting more information from ICA than the opposite, but that Kraft would like to give more information to ICA if Kraft had the opportunity to it. One respondent believes that Kraft could, for example give ICA more knowledge instead of more information.

Kraft's collaboration and collaborative planning with ICA

Kraft and ICA do some sort of collaborative planning when they together estimate the volumes for a campaign, but it is according to one respondent not planning on a detailed level. However, one occasion that collaborative planning occurred on a detailed level was during the Christmas last year, where every delivery to each distributions centre at ICA was planned in detail, and followed up afterwards. This turned out to be very successful, and this is something that both Kraft and ICA consider doing again in connection to major holidays, according to one respondent.

When Kraft and ICA together forecasts a campaign, Kraft has the full responsibility for the estimated volume. According to some respondents Kraft would like ICA to commit to a volume during a campaign, but as long as ICA does not own its retail store this will be difficult to achieve. Kraft knows that its forecasts before a campaign have to be improved but, according to some respondents, so does ICA. This could be improved if the campaigns were followed up in a better way, and if what might have gone wrong was better analysed. Further, the forecasts are not improved the more people that are involved in creating the forecasts, according to one respondent.

Some respondents' think that ICA negotiates too much on product-price instead of taking more values into account. Values such as knowledge of what the consumer's perspective is about Kraft's products. Kraft would like to see more values when negotiating in the future.

Kraft would like to collaborate more with ICA, especially regarding campaigns and product introductions, in order to improve the flow, for example through joint event management. This means that both actors jointly plan activities without paying too much attention to the normal flow. Instead both peaks and valleys are handled due to an improved understanding and forecast accuracy. But, according to one respondent, joint event management is both time-consuming and it demands a joint system support. However, ICA and Kraft have discussed collaboration mainly regarding product flow, the retail store flow and the logistical flow, but there have only been pilot projects so far. Most of the projects with ICA are difficult to carry through since ICA does not own its retail stores. Some respondents' believes that the retailer, in this case ICA, has the power in the food supply today, and that ICA might lack an understanding about the components in the food supply chain.

The relationship between Kraft and ICA's retail stores

Information flow from ICA's retail stores to Kraft

Kraft's sales representatives handle in general all Kraft's contacts with ICA's retail stores. The sales representative visits ICA's retail stores every other week and they have a good co-operation with the retail stores, according to some respondents. The sales representatives primarily see if the retail store manager still has attention to Kraft's products. Further, they help out during product introductions, this by putting up displays in the retail store. Otherwise, the sales representatives see what the retail store shelves looks like and if Kraft's products are shown proportionally to market

share. The sales representatives also try to influence the retail store manager to buy products. When the sales representative is visiting an ICA retail store and the sales representative and the manager agrees on buying for example a half pallet of Marabou 100 gram, the sales representative enters this information into a computer. This information is then sent to Kraft, assembled over night, and then Kraft can see how much the retail store will order. The assembled information is also sent to ICA's purchase department. The only time that information does not go through Kraft's sales representatives is when Kraft and the retail store manager negotiate price arrangements.

It is the information that comes from the sales representatives that Kraft makes its budget from, according to some respondents, but another respondent says that orders taken by the sales representatives are only an indication about how much Kraft will sell. According to some respondents, the knowledge that the sales representatives has about the retail stores is often unused by Kraft.

One way of connecting ICA's retail stores closer to Kraft, according to some respondents, could be if Kraft would get the POS-data in combination with ICA's retail stores inventory level per SKU. The POS-data could help Kraft and ICA's retail stores to see whether a campaign works in all retail store profiles and where in Sweden the campaign is saleable. Kraft would also like ICA's retail stores to have more planning in advance, making more pre-hand orders. But ICA's retail stores would not make pre-hand orders according to one respondent, because it works today without making them, due to the fact that all actors in the food supply chain have safety stocks. Further, making pre-hand orders take extra time from the personell in a retail store. Some respondents hope that in the future Kraft will be linked together to ICA's retail stores, so when a product is sold Kraft would receive a signal about this.

Information flow from Kraft to ICA's retail stores

Kraft gives ICA's retail stores mainly the same information as they give to ICA, but it may appear in another form. According to some respondents, Kraft also tells ICA's retail stores, through Kraft's sales representatives, how the market is proceeding, how Kraft's products are selling, and give information about product introductions and campaigns.

The respondents disagree about whether ICA's retail stores would like and need more information from Kraft. Some respondents believe that ICA's retail stores would like to know when Kraft's products are out of stock and how a campaign will affect ICA's retail stores. Some respondents also think that ICA's retail stores have to start using "Slingan"²⁸² more effectively in order to improve the communication between the actors in the food supply chain, and to understand the food supply chain.

²⁸² "Slingan" is ICA's Intranet between ICA and its retail stores. – ICA Handlarnas AB (2002), p. 25

Kraft's collaboration and collaborative planning with ICA's retail stores

It is Kraft's sales representatives that make plans with ICA's retail store manager and, according to some respondents, makes a six-month program depending on who the manager is. However, ICA has shrunk the room for its retail stores to make own campaigns, due to joint marketing between the profiles. But if an ICA retail store has a jubilee, the retail store informs Kraft about this, and wants Kraft to do something with the retail store.

Kraft's planning

Planning and useful parameters when planning

Kraft's budget process is on an annual basis. It starts with an original budget in June or July every year, and then the planning for the coming year starts. This long-term planning is the basis for, for example annual contracts with suppliers. The budget process is the foundation for all Kraft's forecasts and all objectives. The first budget is reworked when something happens, such as if a campaign goes better than expected. After this the sales department get an assignment on how much they should sell, and how much they can put on discounts and campaigns during a given period of time. It is the sales department that is responsible for selling the products and the supply chain department's responsibility to make this physically happen. The supply chain department makes the sales forecasts, which are mainly based upon directives from the sales department.

The activities, such as campaigns, are planned for every category. Further, the sales department plan in what media the campaign should be advertised in, what week the campaign should be, and how much the campaign should sell. All Kraft's planning is on an aggregated level that is on country level and not on retail level, according to some respondents. Further, Kraft uses top-down and bottom-up forecasting, according to one respondent. Top-down is used for the largest article in a category, and bottom-up for the other articles. This has turned out to be a good way for improving the forecast accuracy. But as one respondent says, the planning will not be improved the more people that are involved in it.

According to one respondent, planning is one of the hardest things to do and Kraft could certainly do better. On some products, the one's that have a normal sale and flow, Kraft does not have any problems, according to some respondents. But as soon as Kraft does something extra, such as campaigns or product introductions, and everyone puts there feet down, the personnel cannot keep up the pace. One reason for this, according to some respondents, is that the personnel might have received poor information from other departments, or that someone has not trusted the information and used historical data instead.

Kraft's planning is based upon several factors, according to all respondents. The main factor that affects the planning is the budget and in some ways the profitability; the budget is according to some respondents the goal that Kraft should fulfil. Another factor that affects the planning is the historical data. The historical data can be used

from three months to three years back in time. This data is then combined with information about consumer trends, buying behaviour and experience, and if something happens in a category during the year. However, one respondent says that the only thing one knows about forecasts is that they are always wrong.

Kraft receives information about the consumers buying behaviour through buying almost all information available from, for example AC Nielsen²⁸³ and Burke²⁸⁴, according to some respondents. This information is based on investigations in the retail stores or on POS-data. Information about the consumers, that some respondents would like to have, is information through ICA's loyalty cards. However, the history repeats itself, for example consumers buy more chocolate before and during Easter. Further, the Internet is another way of receiving information from and about the consumers.

Information that would improve the planning, according to almost all respondents, is the POS-data. One respondent suggests that POS-data only for new products could be an idea, or if a product differ more than 50 percent from last week. One problem with the POS-data, according to some respondents, is that it is difficult to see whether for example a 100 grams Marabou chocolate tablet is sold from a mixed pallet or not.

Follow up the planning

Almost all respondents agree that Kraft has to do more follow-ups and analyse how good the received information were, and what the information led to, that is to reflect more, both internally and externally. Some respondents say that Kraft has to improve both the forecasts before a campaign and follow up the campaign more properly.

Kraft has different key performance indicators, KPI's, that are measured, such as customer service level and forecast accuracy. But some respondents say that the forecast accuracy has to be improved in order not doing the same mistakes over and over again. One respondent says that, it would be interesting to know if the same mistake for a product is done all the time, for example is the forecast always 10 percent under what in the end was sold. But there has not been time to do these analyses, according to some respondents. One possibility with Kraft's new forecasting system is that one can add a note about how a campaign went and what type of campaign it was and other useful information.

Internal collaboration

The information at Kraft today goes in many steps and, according to some respondents, this is something that has to be improved. But one respondent says that it is difficult to change the way the information flow goes, but the continuity can be

²⁸³ AC Nielsen is a market analysing company that companies turn to in order to receive information about its sales regarding volumes, market share, trends, pricing, campaigns, distribution and consumer behaviour.

<http://www.acnielsen.se/wupPage.asp?id=32&toppenMenyn=1>, AC Nielsen, 2003-04-22

²⁸⁴ Burke is a research and consulting firm that helps manufacturing and service companies to understand and predict marketplace behaviour. <http://www.burke.com/about/>, Burke Incorporated, 2003-04-22

changed and some information that is not received today might be received in the future. However, it is not always the amount of the information that is the problem it is the quality of it, according to some respondents. Information about campaign volumes would be desirable on article level and more automatically, than today. Many of these factors would be improved if the different departments collaborated more, first of all during campaigns, but also for the normal flow, according to some respondents.

One subject that today creates disagreements, according to some respondents, is when the supply chain department give information about that a product is out of stock. The supply chain department then wants this information to be sent on to ICA, but customer marketing can decide not to do this in order not creating an early out of stock. Another problem is when there is a product introduction, according to some respondents. If it is said that the campaign is going to start in week 14 the market department believes that it is then the commercial starts, the sales departments believes that it is then the retail stores start to sell the product, and the customer believes that it is then they can buy the product.

Consumer satisfaction

The respondents at Kraft diverge about who has the responsibility to satisfy the consumers. Some respondents say that Kraft work from a consumer perspective and that it is Kraft's and its sales representatives responsibility to satisfy the consumers. But some respondents say that it is ICA and ICA's retail stores responsibility, Kraft is only responsible for having products in stock when ICA wants it. However, one respondent say that it is everyone's responsibility to satisfy the consumer, but the effect is most significant at ICA's retail store if the products is not in the shelf when the consumer wants it. If a product is out of stock at Kraft, Kraft will get disappointed costumers and consumers.

One way to satisfy the consumer is to have activities when the consumers expect it. According to one respondent, Kraft can satisfy the consumers by being innovative that is introducing new and interesting products. Kraft has to work closer with its customers in the future, to be able to satisfy the consumers better. One respondent says that working with ECR in one form or the other with the customers would be desirable in the future, in order to satisfy the consumers even better. Further, some respondents say that, Kraft and other companies work with ECR due to the fact that all companies tries to be more effective.

Retailer – ICA Handlarnas AB

The material from ICA Handlarnas AB is based upon interviews with Niclas Dahlgren, Anders Nilsén, Johan Rösler, and Magnus Strid at ICA Handlarnas AB.

The relationship between ICA and Kraft

Information flow from Kraft to ICA

ICA and Kraft has a daily communication regarding service level and suchlike. The foremost information exchange today is about changes in the assortment or when something extraordinary happens. Today ICA receives information from Kraft about product introductions. Kraft also sometimes gives information when they together work with a selective campaign or a TV-commercial.

However, according to some respondents, ICA hopes to increase the information exchange between ICA and its suppliers. Some respondents believe, that if Kraft tells ICA at an early stage about changed situations, ICA can react faster and solve the situation.

Information flow from ICA to Kraft

Almost all the information that ICA gives to Kraft is available through ICA's intranet, "Levnet"²⁸⁵. Kraft also has the possibility to buy POS-data generated from ICA's retail stores. One respondent says that the suppliers that buy the POS-data from ICA receive competitive advantages towards the suppliers who do not buy it. However, some respondents believe that, Kraft is more interested in how sales differ from retail store profile and geographically, not on how the total sale was during the last period. This is one reason to way Kraft does not buy the POS-data. ICA's reason for selling the POS-data, and not giving it for free is, according to some respondents, that there is an expenditure to generate the information and that they can make money from selling it. But many of the respondents agree upon the fact that the whole food supply chain would gain if the POS-data were available to all actors in the chain, but they doubt if the suppliers can handle the information correctly. To be able to use the POS-data optimally the actors in the food supply chain would also have to have access to the different inventory levels per SKU in the food supply chain. The inventory levels per SKU are not something that is available backwards in the food supply chain today.

One problem that came up during one interview is that all actors in the food supply chain holds back information, for example the suppliers that buys POS-data do not receive any information about in which retail store a specific product was sold or

²⁸⁵ "Levnet" is ICA's web place for its suppliers which all suppliers have access to. The web place contains news that involves both ICA and its suppliers, and information about different sections at ICA. – ICA Handlarnas AB (2002), p. 12

Appendix C – How to improve forecasting

Mentzer et al propose some improvement possibilities of the forecasting process, which are summarized in the text below.²⁸⁷

To improve forecasting effectiveness on the dimension of functional integration, companies should...

Recognize forecasting as a separate functional area whose responsibility is to provide forecasts at levels and time horizons that are useful to marketing, sales, finance, production and logistics

Encourage common goal setting through communication, coordination and collaboration; enable access to relevant information across functional areas

Provide performance rewards to all personnel involved in the forecasting process based on the impact of forecasting accuracy

To improve forecasting effectiveness on the dimension of performance measurement, companies should...

Measure forecast accuracy at all levels relevant to the functional areas using the forecast

Use a measure of accuracy with which management is comfortable, but recognize that MAPE is the most popular of such measures

Provide both graphical and statistical measures of accuracy

Provide a multidimensional metric of forecasting performance that also measures the impact of the forecast on profitability, competitive strategy, supply chain costs, and customer service

²⁸⁷ Mentzer, J. T. & Beinstock, C. C. & Kahn, K. B. (1999), pp. 49-56

<i>To improve forecasting effectiveness on dimension of approach, companies should...</i>
Obtain top management support for the forecasting/business plan process
Reconcile forecasts and the business plan
Reconcile top-down and bottom-up forecasting
Train forecasting personnel in quantitative analysis/statistics and understanding business environments
Incorporate an understanding of forecasting "game playing" into the forecasting process
Segment out of the forecasting process key customers who can be forecast separately or will participate in VMI programs
Segment products by their demand patterns, importance to the company, promotional importance, life cycle stage, shelf life, product value, customer service sensitivity, and raw material and production order cycle

<i>To improve forecasting effectiveness on the dimension of systems, companies should...</i>
Eliminate "islands of analysis" by moving to a client-server architecture that allows all functional areas involved in or affected by the forecast to have input to the process
Develop common ownership of databases and information systems
Provide the ability to obtain customized on-screen and printed reports on demand
Enfold key customers and suppliers into the forecasting information system to allow supply chain staged inventory based on POS demand forecasts

- Om detta sker
 - Vilken planering görs tillsammans med grossisten och varför?
 - Vad baseras denna planering på?
 - Vad vore önskvärt att den baserades på?
 - Sätts det upp gemensamma mål inom de planeringssamarbeten som finns?
 - Om detta sker
 - Följs dessa mål upp?
 - Om detta inte sker
 - Varför?
 - Vore detta önskvärt?
- Om detta inte sker
 - Varför?
 - Hade detta varit önskvärt?
- Vilken planering är inte önskvärd att göra med grossisten och varför?

- Relationen mellan butik och producent

- Hur får ni information från butik gällande till exempel kampanjer?
- Vilken information får ni från butik och varför?
- Kostar denna information något?
- Vilken information är önskvärd att få från butik och varför?
- Vilken information ger ni till butik och varför?
- Hur skickar ni denna information?
- Tar ni betalt för denna information?
- Vilken information har ni möjlighet att ge till butik?
- Vilken information tror ni att butiken behöver?
- Varför behöver butiken denna information?
- Vilka relationssamarbeten arbetar ni med idag?
- Vilka relationssamarbeten är önskvärt att arbeta med?
- Varför är dessa samarbeten viktiga för er?
- Finns det samarbeten som är viktigare än andra?
- Vilka är dessa och varför?
- Sker det någon planering tillsammans med butik?
- Om detta sker
 - Vilken planering görs tillsammans med butiken och varför?
 - Vad baseras denna planering på?
 - Vad vore önskvärt att den baserades på?
 - Sätts det upp gemensamma mål inom de planeringssamarbeten som finns?
 - Om detta sker
 - Följs dessa mål upp?
 - Om detta inte sker
 - Varför?
 - Vore detta önskvärt?

Appendix A – Interview plan

In the chapter “Appendix A – Interview plan” the case study questions will be found. However, it is only the manufacturer’s questions that are showed, but the retailer’s and the retail store’s questions are built up in the same way.

Interview – manufacturer

Name:

Company: Kraft Foods Sverige AB

Job title:

Goal with the interview, what to achieve and why: The goals with the interviews, at the manufacturer, are to understand how collaboration, information and the sharing of the information to and from the manufacturer affect the planning of the replenishment. Further, we want to know how the manufacturer receives knowledge of the consumers buying pattern and what the manufacturer does in order to satisfy the consumers.

Relationer

- Relationen mellan grossist och producent

- Hur får ni information från grossisten gällande till exempel kampanjer?
- Vilken information får ni från grossisten och varför?
- Kostar denna information något?
- Vilken information är önskvärd att få från grossisten och varför?
- Vilken information ger ni till grossisten och varför?
- Hur skickar ni denna information?
- Tar ni betalt för denna information?
- Vilken information har ni möjlighet att ge till grossisten?
- Vilken information tror ni att grossisten behöver?
- Varför behöver grossisten denna information?
- Vilka relationssamarbeten arbetar ni med idag?
- Vilka relationssamarbeten är önskvärdt att arbeta med?
- Varför är dessa samarbeten viktiga för er?
- Finns det samarbeten som är viktigare än andra?
- Vilka är dessa och varför?
- Sker det någon planering tillsammans med grossisten?

- Om detta inte sker
 - Varför?
 - Hade detta varit önskvärt?
- Vilken planering är inte önskvärd att göra med butik och varför?

Försörjningsplanering individuellt för producenten

- Vilken planering genom till exempel prognoser gör ni idag internt och varför?
- Vilken planering vore önskvärt att göra och varför?
- Hur samarbetar ni internt med planering?
- Vilken information baserar ni er planering på och varför? (historisk data, trender, lagernivåer, eller verklig efterfrågan dvs. POS)
- Vilken information skulle ni vilja ha vid planering och varför? (historisk data, trender, lagernivåer, eller verklig efterfrågan dvs. POS)
- Hur påverkar kampanjer och trender planeringen?
- Hur påverkar intressenterna er planering?
- Görs det någon uppföljning av den planering som gjorts?
- Om detta sker
 - Vilken uppföljning görs?
 - Vilken uppföljning hade varit önskvärd?
- Om detta inte sker
 - Varför?
 - Hade detta varit önskvärt?
- Hur får ni reda på information om konsumenternas köpmönster?
- Vad används denna information till?
- Är denna information nödvändig för planeringen?
- Vilken information om konsumenternas köpmönster skulle ni vilja ha?
- Hur skulle ni kunna få tag på denna information?

Konsumenttillfredsställelse

- Hur försöker ni att säkerställa att konsumenterna blir nöjda med avseende på att det finns rätt produkter i butiken vid rätt tidpunkt?
- På vilket sätt är det önskvärt för er att arbeta med att tillfredsställa konsumenterna?
- Anser ni att det är ert ansvar att konsumenten blir nöjda med avseende på att det finns rätt produkter i butiken vid rätt tidpunkt?
- Om inte, vems ansvar är det?

The first step in the process is to identify the information that is needed for collaborative planning. This information should be shared between all parties involved in the planning process. The next step is to develop a plan that takes into account the needs of all parties. This plan should be flexible and able to adapt to changing circumstances. The final step is to implement the plan and monitor its progress. This involves regular communication and collaboration between all parties. The goal is to ensure that the plan is successful and that all parties are satisfied with the results.

where the retail store is located. One reason for not sharing this information is, according to one respondent, that the suppliers might use this information and go directly to the retail store with, for example different offers.

One respondent at ICA says that ICA could give Kraft its forecasts about the future need, if Kraft wants them. However, the respondent believes that Kraft and other suppliers have an enormous experience and knowledge of how its products sell during different point of times. However, today ICA only uses Kraft's unique knowledge when planning campaigns, and during product introductions.

ICA's collaboration and collaborative planning with Kraft

Collaborative planning between Kraft and ICA occurs today only in correlation with holidays and specific events, or when the supplier changes the every day procedure. But this is not something that occurs every week, according to one respondent. After, for example a campaign, ICA has some follow-ups with the supplier regarding if both actors are pleased with the campaign, and what they could improve. But one respondent claims that when ICA compares forecasts with the outcome ICA are not very good at making campaign forecasts. Further, the respondent believes that ICA could use the supplier's knowledge and competence more often when creating forecasts.

ICA works today closer with about 10 suppliers to receive information about, for example trends. Some of the respondents believe that a good collaboration between the suppliers and ICA would be beneficial, but that it is hard to achieve with all suppliers. Additionally, the respondents think that ICA has to improve its dialog with its suppliers and share more information. When this communication between ICA and its suppliers are established one respondent believe that ICA has come a long way.

One respondent says that collaborative planning would demand more administration and resources than it would gain the companies, but perhaps collaborative planning would be possible with specific articles or when introducing new products. A tool that would foresee ICA's demand more exactly is desirable in the future, according to some respondents. This information would at a first stage be available to ICA's suppliers so that they in their turn could use it.

The relationship between ICA and ICA's retail stores

Information flow from ICA's retail stores to ICA

ICA mainly receives information from its retail stores checkouts, that is POS-data and orders. This information is then analysed and used in order to improve ICA's work, according to some respondents. Information about campaigns is also exchanged if a retail store has a local campaign, but ICA very seldom receives information about this. But when ICA has a national campaign via TV, ICA wants to know how much the retail stores plans to order from ICA so that ICA can order from Kraft.

According to some respondents, the retail stores are quite poor at giving these pre-hand orders to ICA. One way to solve the problem, according to some respondents, could be that the retail store should not feel forced to give ICA a pre-hand order, instead they should give a forecast. The respondents believe that most retail stores are quite good at predicting how much they will sell. Further, the respondents believe that if the retail stores better understood the food supply chain and the importance of giving forecasts or pre-hand orders, the food supply chain could be improved.

Today the retail stores make orders manually, that is for example using hand-terminals, the Internet, or phoning in the order to ICA. This can lead to variations in volumes over the week and creates an uneven load at ICA's warehouse, according to some respondents. When the retail store places an order via the Internet, the retail store is able to see if ICA has that specific product in stock, but the retail store is not able to see whether it will get that product or not, that is a retail store can not reserve a product.

Information flow from ICA to ICA's retail stores

ICA informs the retail stores about which campaign they will have, when, to what price ICA recommend the products should be sold and in what media the campaign is going to be in. This information is available both electronically through "Slingan", the Intranet between ICA and ICA's retail stores, and in paper. But, ICA does not give the retail store any information about how much they should order, because the retail stores have this information in their own computers, according to some respondents.

ICA's collaboration and collaborative planning with ICA's retail stores

Today ICA does not have any deep collaboration with its retail stores. There is a traders' council (Handlarråd) whom ICA negotiates with. According to some respondents, some retail stores believe that it is not their job to plan ahead. They believe that the products should be available at ICA when the retail store orders the products. Other retail stores understands that ICA need to have an order well in advance. One respondent says that ICA needs to convince the retail store about the importance of giving forecasts in advance. But hopefully, according to the respondents, ICA's new ordering system "Store Auto Ordering", see chapter Y, will change this since the retail stores own computer will place an order when it is necessary.

One respondent says that ICA tries to work close to the retail stores, but it is quite difficult since the retail stores are not owned by ICA. The traders owns everything in the retail store, ICA has only the mandate of the ICA-brand. ICA supports the retail stores. If any retail store has a hard time, ICA tries to help that retail store out, says one respondent. The local retail store is the one who knows the most about the local customers.

reality. One respondent says that the new system, "Store Auto Ordering", will more or less give this information since it emanates from the retail stores checkouts.

One respondent believes that ICA has all the information that is needed for creating reliable forecasts. The problem is that there might be a lack of knowledge of how to receive this information and when, and that people might forget that this information exists. However, a signal that gives a warning before every holiday about which products that have high frequency at this holiday and thereby should be taken into extra consideration, would be desirable according to some respondents.

Ways to improve ICA's planning, according to some respondents, are to find a tool that can foresee ICA's need more exactly. The new system, "Store Auto Ordering", will improve the order accuracy from the retail store, this due to the fact that the order is automatically controlled not manually handled. "Store Auto Ordering", according to some respondents, will improve some of the issues that ICA wants to improve, and in the future, ICA will not push products to its retail stores, instead the retail stores demand will tell ICA what to purchase.

Follow up the planning

According to one respondent ICA follow up some forecasts, such as campaigns, where ICA measures the accuracy of its forecasts. Today ICA does not use all the available historical statistics to see whether the forecasts were reliable from an historical perspective or if there is a large uncertainty factor. However, the most common thing is that the person creating the forecasts knows how products behave/act, but ICA has started to compare its forecasts with last year's sale. The only thing that ICA follows up in all directions is its service level towards the retail store, according to one respondent.

Internal collaboration

Within ICA today there is some exchange of information between departments, but according to some respondents, the communication inside ICA has to be improved. It is important that one knows what happens in the company and that all employees have the same standing and expectations towards ICA's suppliers. But when it comes to making plans and forecasts, the respondents believe, that as few people as doable should be involved and the available system should be used as far as possible. According to some respondents, a lot of people at ICA today poke in the system, which leads to screwed-up forecasts.

Consumer satisfaction

According to one respondent, the retail store is responsible for its goods shelf, but the product also has to be available at ICA otherwise the consumer will not be satisfied. But, on the other hand, ICA cannot influence what the retail store should buy from ICA or not. That is, according to one respondent, one reason why ICA has chosen to profile ICA through different retail store profiles.

ICA's planning

Planning and useful parameters when planning

The planning that ICA does today is mainly to keep the systems updated, this partly by letting the system work by itself and partly by making forecasts. Using information about seasonal changes and campaigns is a part of the forecasts. This information is mainly based on experience and on gut feeling. Making a forecast for a campaign is something that all respondents believe that ICA is not very good at. The worst thing that could happen, according to one respondent, is that ICA cannot deliver to its retail store. If this happens ICA's service level will decrease, and both ICA and Kraft will lose money and reputation. The next worst thing, according to one respondent, is if ICA has too much in stock. ICA tries to become more efficient in its goods flow and its service level is what is most important, according to one respondent.

All respondents believe that ICA should improve its estimation on how much a campaign will sell. One respondent says that ICA might not prioritise the work or that ICA does not have the right tools, but hopefully in the future ICA will seek help from the suppliers with the campaign work.

ICA's planning today, according to all respondents, are based on historical data, some parts of ICA also use the POS-data from the retail stores, the increase in volume so far this year, and experience and instinctive feeling. The respondents say that information about the retail stores inventory level per SKU would be useful, but today this information is not available given that ICA does not own the retail store. According to one respondent, the retail stores inventory level per SKU in relation to its sale, and when the retail store wants products would also be valuable information. However, when "Store Auto Ordering" is implemented this information will be used when planning. The new system will make it easier for ICA to react sooner; today we react when the order arrives to ICA, says one respondent. Further, the system will know when the consumers buy a certain product, when the products have to be in the retail store, and use the available delivery times.

When it comes to the consumers buying pattern it is not very interesting to look at changes from day to day, but on a longer perspective, such as which retail store a consumer chooses and which assortment. But in most cases the suppliers tell ICA about new trends since the suppliers are the ones who know its products the best, according to some respondents. ICA buys additional material about the consumers buying pattern from external companies, such as SIFO²⁸⁶. All this information is helpful when finding out where the market is heading. ICA's vision and strategy is to think consumer, but as some respondents say; it is a large step between vision and

²⁸⁶ SIFO is an international consultant and investigation company that contributes with decision grounds that can increase a company's competitiveness.
<http://www.sifo.se/sections/sections.asp?id=6>, SIFO, 2003-04-22

Retail store – ICA's retail stores

The material from ICA's retail stores is based upon interviews with Kent Haglund at ICA Kvantum Lund, Kent Jönsson at Maxi ICA Stormarknad Löddeköpinge, and Per-Ove Persson at ICA Supermarket Linero. Per-Ove Persson was only interviewed about "Store Auto Ordering".

The relationship between ICA's retail stores and Kraft

Information flow between ICA's retail stores and Kraft

ICA's retail stores receive information from Kraft about product introductions, price adjustments, and about future activities. But, according to one respondent, this information comes more and more seldom from Kraft's sales representatives, since the information nowadays goes through ICA's Intranet, "Slingan". One respondent wants more and better information regarding the products, for example when new products are introduced.

ICA's retail stores collaboration and collaborative planning with Kraft

The sales representatives, not only Kraft's, had a different role five years ago. But since more and more is centrally negotiated from ICA, the sales representatives role has started to disappear and lose its function, according to some respondents. The sales representatives pick more and more products into the retail store shelves, do some sales planning with the retail store and reports to Kraft about what the market and ICA's retail stores look like, according to the respondents. The sales representatives are more involved if an ICA retail store has an event, for example a ten-year anniversary. The respondents at ICA's retail stores say that they try to have an open relationship towards its suppliers.

The relationship between ICA's retail stores and ICA

Information flow between ICA's retail stores and ICA

Most of the information that ICA's retail stores get from ICA is available through ICA's Intranet, "Slingan". The information mainly concerns campaigns and product prices. However, the information available today is divided in the different profiles, which leads to a lack of synergies between the profiles according to one respondent.

The information given from ICA's retail stores to ICA is mainly about the sale, the results of a campaign and if there are any problems. One respondent says, that more information from ICA is not desirable, "Slingan" is comprehensive and it is up to the individual retail store to decide how much of the system that should be used. All ICA's retail stores have access to "Slingan". According to one respondent, ICA does not have access to ICA's retail stores inventory level per SKU, and the respondent believes that ICA does not need that information either.

ICA's retail stores collaboration and collaborative planning with ICA

Today ICA's retail stores do some planning together with ICA, for example before a specific campaign or holiday. In those cases, some retail stores make pre-hand orders, to be sure about receiving the products, according to one respondent. However, one respondent believes that the retail store could make more pre-hand orders, and a way to persuade the retail stores to do this could be to introduce a rewarding system. The reward could be that the retail store would be guaranteed the products if a pre-hand order were made. One respondent think that ICA has come closer to ICA's retail stores; ICA has started to listen more to its retails stores.

ICA's retail stores planning

Planning and useful parameters when planning

ICA's retail stores do both forecasts and sales planning, but mainly sales planning according to one respondent, and this respondent says that this information is available backwards in the food supply chain. The ICA retail stores interviewed has weekly meetings with its managerial group where they go through the past sale and what the future looks like. ICA's retail stores also do pre-hand orders if they are about to order large volumes. The information used to create a pre-hand order is mainly experience and instinctive feeling. Historical data is, according to one respondent, only used for pre-hand orders when making pre-hand orders before, for example Christmas and Easter because it is so long between the occasions. Any other type of planning or information when planning is not of interest, according to one respondent. However, the other respondent says that ICA's retail stores today are more aware about trends, but they could be interested in getting more information about this.

Consumer satisfaction

Today ICA's retail stores receive information about trends from Kraft, AC Nielsen, the television, and magazines, according to the respondents. The consumers buying pattern is helpful when the store shelves are built up in order to guide the consumers in the retail store. If a retail store notices that there are unprofitable retail store shelves the shelves can be reorganized. Both respondents claim that securing the consumers satisfaction is a collective responsibility in every retail store, but in each retail store it is in the end the managers responsibility. Campaigns can attract more consumers to the retail store and might satisfy the consumers even more, but a campaign is an economical lost for the retail store, according to the respondents.

“Store Auto Ordering”

ICA will in the future work with an ordering system called “Store Auto Ordering” (Autoorder i Butik in Swedish). The system is built up as follows: The computer in the retail stores keep track of the retail store’s historical sale 22 weeks backwards and tries to form an opinion about the future by working with the available data from the check outs, last weeks delivery plan and the retail stores inventory level per SKU. The system will make an order when the quantity of a specific product goes under a certain level, but a person has to push enter for the order to be sent to ICA.

Kraft’s opinion about “Store Auto Ordering”

Some respondents at Kraft believes that “Store Auto Ordering” can work on products that do not have large season variations or campaigns, it may work on for example O’boy and Philadelphia cream cheese, but not on Marabou chocolate bars & tablets. This due to the fact that a Marabou chocolate is an impulsive buys. But, according to some respondents, the daily flow today works without ICA needing “Store Auto Ordering”. According to some respondents, the personnel that are making the orders at ICA’s retail stores have routines for it, and do the ordering quite fast. One respondent believes that it is difficult to see the advantages with “Store Auto Ordering”, perhaps ICA wants to gain time, but it may also create more problems such as maintaining the computer system and longer lead times. Longer lead times because Kraft’s sales representatives no longer can take orders in ICA’s retail stores. The system “Store Auto Ordering” is quite young and there may be teething problems, but according to one respondent it is too soon to make a statement about the advantages and disadvantages with the system. According to one respondent, “Store Auto Ordering” will give Kraft some kind of POS-data, or perhaps an ability for Kraft to see into ICA systems what an ICA retail store de facto orders from ICA. There might be opportunities with the system in the future, depending on how the system develops. However, one respondent believes that, it requires large investments for both ICA and ICA’s retail stores and it requires that correct information is put into the system.

ICA’s opinion“ about “Store Auto Ordering”

ICA has tried the ordering system out on a number of retail stores during a year and a half and one respondent says that the test results are surprisingly good, but it is not a tool that will supply the retail store to a 100 percent. According to all respondents, ICA will in the future base all its purchases from “Store Auto Ordering”. The information generated from “Store Auto Ordering” will be collected in ICA’s own database and will generate a demand for ICA’s distribution operations. This demand will then be used to place an order to ICA’s suppliers. The forecasts to the suppliers will, with the new system, be aggregated per distribution warehouse, and it will become easier for ICA to inform the suppliers when and where ICA wants the products to be delivered, this in order to secure ICA’s service level better, according

to some respondents. But for the system to work properly the identification of the products has to be 100 %, everything has to be scanned in the retail store.

One problem today is that ICA does not have the mandate to look into the retail stores business, but with the new system ICA will be able to see more of the retail stores operations. One reason for ICA's retail stores to implement "Store Auto Ordering", according some respondents, is that the retail store does not have to take time to plan and make orders instead the personnel in the retail store can use the time in the retail store. But the retail store still has to make and create the plans and forecasts for campaign and other special events, since "Store Auto Ordering" works only for the daily flow of products.

ICA's retail stores opinion about "Store Auto Ordering"

All the respondents agree that "Store Auto Ordering" could be a useful tool in the future. But the respondents that do not have "Store Auto Ordering" are afraid of letting a computer do its orders. One of the respondent claims that the system still is not built for larger retail stores.

The respondent, who today has "Store Auto Ordering", has about 80 percent of the assortment connected to the system, and is very satisfied and says that it is much better than the old ordering system. Products that are not connected to "Store Auto Ordering" are for example dairy products, and fruit & vegetables. Advantages with the system are that the retail store easier keep track of products disappears from the retail store, it increases the product availability on the store shelves, it is much easier to have a stand-in employee and "Store Auto Ordering" orders better than a human being because everything is in the system. According to the respondent, a retail store will save about five or six hours a week when using the new system. So far the respondent cannot see any disadvantages with "Store Auto Ordering".

"Store Auto Ordering" can take care of several campaigns, but not campaigns that create real peaks and valleys, according to one respondent. In order to secure products for these campaigns, the retail store has to make a complementary order using the old system. According to the respondent who has "Store Auto Ordering" ICA will gain more from the system than ICA's retail stores. However, the respondent believes that "Store Auto Ordering" will become a success; the question is how fast ICA can implement it. Indirectly Kraft will gain from "Store Auto Ordering" due to the fact that ICA's forecast will improve over time and become more reliable.