

INNOVATION IN DISTRIBUTION CHANNELS
AN EVOLUTIONARY APPROACH

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AKADEMISK AVHANDLING

Som för avläggande av ekonomie doktorsexamen
vid Handelshögskolan i Stockholm
framlägges för offentlig granskning
fredagen den 18 september 1998, kl 10.15 i
sal Ruben Handelshögskolan, Saltmätargatan 13-17



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STOCKHOLM SCHOOL OF ECONOMICS
EFI, THE ECONOMIC RESEARCH INSTITUTE



A Dissertation for the
Degree of Doctor of Philosophy, Ph.D.
Stockholm School of Economics 1998

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ISBN NR 91-7258-487-4

Keywords:

Distribution channels
Marketing channels
Innovation
Evolution
Retailing

Distributed by:
EFI, Stockholm School of Economics
Box 6501, S-113 83 Stockholm, Sweden

Elanders Gotab, Stockholm, 1998.

ACKNOWLEDGEMENTS

Although I tend to regard this thesis as *mine*, it is only with the help of many people that it has come into being. I would like to thank some of you here.

Let me first thank my three advisors for their invaluable support. Lars-Gunnar Mattsson, inspired confidence, challenged my ideas and shared his knowledge about theory and the empirical field. Lars-Erik Gadde provided apposite and insightful comments in good humour. Staffan Hultén, suggested this line of inquiry and provided support along the way, both as my advisor and as a research colleague.

I would also like to express my gratitude to Torsten and Ragnar Söderbergs Stiftelser, whose financial support was essential to this research project.

Working with historical material has taught me the joys of archive research. Not only are archives a source of written material, but one meets knowledgeable and helpful people there. I am very grateful to Bengt Drugge at the Hakon archives, Yvonne Winblad at Konsumentföreningen Stockholm's archives, Thomas Karlsson at Praktiskt Butiksarbete and Carina Lindström at DLF. Nils Erik Näslund of Dagligvaruleverantörernas Förbund took time to answer my questions and gave me access to their archives and at Handels Utredningsinstitut I also had the opportunity to talk to Barbro Johansson and Folke Larsson, the persons behind some of the HUI investigations. In collecting archive material for the case descriptions, I have enjoyed the good companionship of Hans Kjellberg whose research interests are tangent to mine.

Nils-Erik Wirsäll has been an invaluable source of inspiration and facts. Among the generous persons who have taken time to read and give helpful comments on the material I would especially like to direct my gratitude to Anders Forssell, Johny K Johansson, Carina Holmberg and Patrik Hidefjäll. C G Engström and Barbro Thuresson generously shared reference material. I would like to thank Håkan Lindgren for support and inspirations and for making the EHF seminar series an inspiring forum for presenting and discussing research on trade.

I have presented earlier versions of the chapter on the introduction of the self-service format on three occasions - at the 1997 *Nordic Workshop on Interorganisational Research*, at the *EHF Symposium on Innovations, Competition and Institutions in Trade* and at the *Prins Bertil Seminar on Evolutionary Economics and Empirical Research*. I wish to express my gratitude both for the opportunity to present my work at these occasions and for the many constructive comments and reactions.

In 1995 and 1996 I worked with Staffan Hultén on two MTC Research Reports on daily goods retailing. This work was a starting point for my work in this empirical field and knowledge gained in those studies was also useful in this thesis, especially with respect to the chapter on the all-channel. The financial support for those studies from *Svensk Servicehandel*, *Livsmedelsekonomiska Samarbetsnämnden* and *Stiftelsen Lantbruksforskning*, is gratefully acknowledged, as well as the important contribution of MTC acting as a link between research and industry. Financial support from *Tore Browaldhs och Jan Wallanders Stiftelser* in an earlier stage of my work is also gratefully acknowledged.

The D-section at the Stockholm School of Economics has provided a supportive and stimulating environment to work in. For this I would like to thank my colleagues: Per Andersson, Gunnar Alexandersson, Karolina Brodin, Olle Hammarkvist, Susanne Hertz, C F Helgesson, Michael Kaplan, Karl Oskar Källsner, Dimitrios Ioannidis, Anders Liljenberg, Anders Lundgren, Bengt Mölleryd, Lena Nordenlöw, Ivan Stehota, Kristoffer Strandqvist, Magnus Söderlund, Bertil Thorngren, Mats Vilgon. A special thanks to Susanne Östlund, as a friend and as a colleague.

Rune Castenäs is truly a doctorate student's best friend, not only for being a wizard of doctorate student financing, but also for his interest and encouragement. Ann-Charlotte Edgren has been very helpful in practical matters. I am also very grateful to George Cook, who not only checked my English writing but also offered helpful suggestions and ideas "beyond the call of duty".

My parents and my sister Karin have cheered me on when courage faltered, as have many thoughtful friends - thank you! Finally, I would like to thank Sten Nyberg for ideas, inspiration and support.

Stockholm in August, 1998.

Anna Nyberg

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PART I

CHAPTER 1

Background and purpose

Introduction

Over the past fifteen to twenty years¹, there has been a renewed interest in dynamic aspects of the economy, an interest extending to several areas within the social sciences, i.e. economics and economic history, as well as business economics and organisation theory. Not only is this interest represented in several fields, it also brings together scholars from these fields. Accordingly, work within this area has the benefit of drawing on a broad and diverse body of theory. Common ideas and aims, perhaps better described as a "a bundle of ideas"² than as a coherent theoretical approach, relate to describing and understanding economics as a process, to allowing institutions (other than the market) and history to be taken into account, and to seeing how entrepreneurial and innovative activities shape development of the economy. The study of innovations and technological development plays a central role, in contrast to the more narrow treatment of innovations in mainstream economics.³

¹ Although it would be misleading to attribute this renewed interest to one particular work, Nelson & Winter's (1982) book was very influential in fuelling research and discussion early on and 1982 could arguably be considered one starting point for this movement.

² Langlois (1986) p 2. It should be noted, however, that theory and consistency in the individual sub-fields have certainly progressed since the publication of his book.

³ The view is sometimes expressed that technical change in neo-classical economics is merely a residual factor in the growth function. Although this view is exaggerated, it is also true that the mainstream has focused until recently on other aspects of economic science.

My own starting point is in marketing, specifically in the theory of distribution channels. Recent years have witnessed relatively little interest in dynamic aspects of developments in functional and institutional structures of distribution channels. I would argue that focusing on dynamic aspects of the channel can provide additional valuable insights to the theory. Therefore, this book will focus on the area of dynamics of innovation creation and adoption in distribution channels. Distribution accounts for a substantial portion of economic activity in modern societies, and development and performance in distribution are consequently of importance to the economy as a whole. It is thus valuable, both for our understanding of distribution channels and for our understanding of economic development as a whole, to further our knowledge about such issues as innovation adoption in distribution channels, and the interdependence between distribution channel structure and the characteristics of innovations adopted.

Evolutionary economics

In the present work, I will use the term *evolutionary economics* to describe my overall theoretical approach. That is to say, I use an evolutionary approach to understand innovation and change in distribution channels, drawing on evolutionary ideas from several different fields. However, although there are evolutionary aspects to each of the different explanatory models represented by these approaches, these aspects are not necessarily the main focus of interest in each of them. Therefore, my use of evolutionary economics as an overall heading refers to the present work. It is not intended to indicate that it would in general be appropriate to consider evolutionary economics the overall category of which the other approaches are sub-categories. In an overall scheme, it would be more appropriate to regard evolutionary economics as a sub-field together with the others.⁴

Interest in the dynamic aspects of the economy is shared by evolutionary economists, neo-institutionalists, neo-Austrians, neo-Schumpeterians economic historians, among others, as well as researchers who focus on innovations and technical change within the area of industrial network research in marketing. As

⁴ An alternative choice of terminology would have been to follow Langlois (1986, p 2) who proposes, with some hesitation, "New Institutional Economics" as apposite. Although certainly a possibility, it has not acquired the status of being the collective name for the group of ideas, but neither has any other. Instead, the practice has evolved of composing and naming groups according to the particular aspect in focus.

indicated by the number of *neo* prefixes, their interest is not a new one, but constitutes a return to and a development of important earlier work⁵. The sub-groups within the bundle are also inter-twined and overlapping.⁶ Methodological approaches range from the highly formal analysis of evolutionary game theory to the qualitative and inductive reasoning of economic history. Often similarity of methodological approach will put scholars of adjoining sub-fields closer together than those in the same field.

These theoretical approaches are sometimes grouped together in the name of their opposition to neo-classical economic theory. Although opposition to neo-classical economics is certainly prevalent, such classification is misleading, for two principal reasons. Firstly, the main point of interest of the work is in finding explanations for empirical and theoretical phenomena - not in criticising what someone else has found. The latter may be an effect of finding what one considers to be a better explanation than that provided by dominant theoretical approaches. Secondly, although much of the work within this field is outside mainstream economics, it has also come to have a profound impact on economics. Thus, although the differences as compared with the undergraduate textbook version of neo-classical economics may be striking, the common ground with current academic work in economics is growing.

Some earlier studies of distribution innovations

Evolutionary economics can further our understanding of the development of institutional and functional structures in distribution channels, and of the mutual influence between distribution channel structure and the characteristics of adopted innovations. At the same time, the study of innovations in distribution channels constitutes, from an evolutionary point of view, an empirical area relatively less explored using this approach.

⁵See e.g. Langlois (1986) p 10 or Nelson & Winter (1982) p 45 for discussions of relationships to earlier work.

⁶To exemplify some of the links, Nelson and Winter's (1982) work emanates partly from their earlier work on technological change. Like much of the work on technological change, it builds on a Schumpeterian perspective, as his work awards such a prominent position to innovation in driving development and economic growth. Furthermore: "The view of competition held by Schumpeter and the modern neo-Schumpeterians is shared with economists who explicitly regard themselves as evolutionary. ... Moreover, this vision is strongly emphasised in the modern Austrian approach developed by Hayek, Mises, Kirzner and others." (Magnusson, 1994)

Although an evolutionary approach to the study of distribution innovations is relatively new, and although the subject of innovations has not been very prominent in distribution channel theory, forerunners do exist. For the present, we will simply mention a few contributions representing predecessors among distribution channel theorists and in other fields, in order to give an idea of the types and variety of studies that exist. Each of these predecessors has adopted a different view of innovation and of evolution. For example, Silk and Stern (1963), compare some of the great marketing innovations and innovators of the nineteenth and the twentieth century, noting that "innovation is a dynamic phenomenon, the characteristics of which have varied over time". They also find corresponding differences in the characteristics of the innovators themselves, between the nineteenth and the present century. Bucklin (1972), offers a comprehensive description and analysis of development and innovations in channels of distribution during this century, primarily from a US perspective. Chandler's (1977) work on the role of the large-scale business enterprise in the early development of the capitalist economy also describes those innovations in distribution which contributed to mass distribution and to the entry of the modern business enterprise in trade. Gattorna (1977) proposes a new model to couple innovation and channel development, which draws on systems, cybernetic, information theory and theoretical ecology. Walsh (1993) analyzes technological and organisational innovations in supermarkets from a sociological point of view, emphasising the effects of innovation on the nature and quality of work in the store. Of particular importance to the present work is Wirsäll (1982), who catalogued and analyzed innovation patterns in Swedish retail trade from the 1950s to 1980. He comments both on the lack of studies of retail innovations and on the difficulties of adapting existing innovation theory to innovations in the retail trades, noting:

Very little has been written about innovations and the diffusion of new ideas in the retail trades. Industrial innovation, on the other hand, is a subject addressed in several journals, notably in the U.S.A., Germany, and France.

It is difficult to draw parallels between industry and trade, since those industrial innovations referred to generally concern inventions used in production at one or a few manufacturing units. Innovations in trade relate to different kinds of tools and ideas, the use of which often concerns both employees and customers. Everyone is faced with a new situation, which may also affect the customers' choice of store. Within trade, many units are affected, within manufacturing few.⁷

⁷ Wirsäll (1982) pp67-68, my translation from the Swedish.

The situation today, relative to the one Wirsäll comments on in 1982, is both different and similar. As concerns innovation theory, much has happened. Modern innovation theory attaches much more importance to the context and the antecedents of an innovation, as these are seen to influence both its characteristics and its acceptance. Such a view of innovations as a part of a context rather than as a distinct invention used in a specific manufacturing process, would seem to make the theory more amenable to drawing parallels between industry and trade. Yet innovation in distribution is still a somewhat neglected area of study. This is surprising considering the importance of distribution costs in the economy, and considering the fact that innovations in distribution are recurrently shown to, or suggested to, hold great potential for efficiency-improvement and restructuring.

Research objective

The theme of the thesis is to explore the role of innovations in influencing evolution in distribution channels. Distribution channel structure and structural development are shaped in evolutionary processes, where change occurs within an endogenous evolutionary process as well as through adaptations in consequence to external changes. Change can thus result both from an ongoing search for and testing of new ideas and development of existing ways of operating among the actors of the channel, and from adaptation to outside changes.

One objective of the present study is to adapt the evolutionary economics framework normally used in connection with innovations in product or production processes to interpreting and analyzing innovation processes in distribution channels. The adapted model will then be used to analyze two empirical cases.

The innovations in two analyzed cases have both been important in shaping distribution channel structures in their industry. A second objective is therefore to improve our understanding of these particular innovations and their adoption processes.

The third objective is to learn from the study of these particular innovations something about innovation in distribution channels in general. In particular, it is expected that applying a new theoretical framework to the study will point to

important aspects that would not have been distinguished in the conclusions of a conventional analysis.

Delimitations

I will describe and offer an analysis of the developments in two distribution innovations. As the main focus is on the innovations and their effects on the distribution channels, the analysis is mostly held at the channel level and with a channel perspective (as opposed to individual actor or dyad perspective). However, in order to understand the processes of change, the capabilities and strategies of the constituent channel members also need to be taken into account, and therefore analyses at lower levels of aggregation are also included. Furthermore, relatively little attention is paid to consumer reactions or to effects on the nature and quality of work except where such reactions or effects are directly relevant to the developments in the channel.

Distribution in one particular product area and one national market has been chosen as the empirical basis, namely grocery trade and retailing in Sweden.⁸ The two innovations that have been chosen to constitute the basis for the empirical study are the self-service format and what I have termed the “all-channel” distribution structure. By focusing on one industry in one national market, some of the differences between industries and the associated interpretation problems can be avoided. This results in a clearer picture of the important factors driving the processes. On the downside, by limiting the empirical basis, it is difficult to distinguish generally occurring phenomena from particulars of the industry studied.

Method and limitations of method chosen.

To explore the issues at hand, established concepts and tools from modern evolutionary economic theory will be applied. Such an approach suggests the existence of such a thing as a coherent, well-defined, all-agreed-upon body of theory from which one might easily extract the required implements. As is clear from the above discussion, such is not the case. However, within the existing heterogeneous body of work it is possible to discern a number of concepts - tools of analysis - that have been used in several works to describe and understand the processes of development, adoption and success of innovations in their economic, social and industrial context. These concepts are, I propose, consistent

⁸Although, in the former case, comparisons are made with the corresponding developments in the US.

with fundamental views among evolutionary economic theorists. Furthermore, while these tools have primarily been used to analyze technical innovation in production systems and physical products, I propose that they may also fruitfully be applied to processes of technical and organisational innovation in distribution channels.

In the course of the investigation, many choices have been made with respect to the method. One of the most basic choices is the one between formal analysis on a model level and an empirically based analysis. The fact that I have made the choice to analyze historical material means that I will be able to put broader, less specific questions to the material but also that the answers to those questions will possibly be less generally valid, as they are derived from the particular occurrences in these historical cases.

The two innovations that are described in the empirical chapters have each had a profound impact on the distribution channels related to grocery trade and retailing in Sweden. However, the adoption of these innovations also occurs over a rather long period of time, the first having started to take hold in Sweden as much as half a century ago. One problem associated with making a longitudinal study over such an extended period of time is that I will be writing about events that took place before I was born or at least before I paid much attention to either grocery distribution or other aspects of industry or economy. In interpreting information about the two cases, I lack the knowledge base of someone who had been part of the particular events, or even of the time in general. For example, the very public nature of shopping in a traditional service store was a facet pointed out to me by someone who had that experience. Another problem is that many gradual changes and readjustments in organisations and operations take place over time that cannot be taken into account in the necessarily broad description.

Furthermore, I have concentrated on intra-industry sources. This focus entails a risk of under estimating the influence of developments in other industries or in the political climate in general.⁹ There are also additional problems related to interpretation of information. The information pertaining to the cases is primarily collected from secondary sources, although supplemented with some

⁹ For example, a study by Jörnmark (1998) brings out the influence of social democratic ideology and city planning policy on the development of Swedish grocery distribution, and is a good example of how a broader empirical base can be useful.

interview material. In the former case, archive material, and research and trade press from the time have been important sources. The use of secondary sources always requires particular considerations in order to correctly interpret their content. The case of grocery distribution in Sweden is no exception, especially since this is an area of industry that has been politicised, in several respects, during most of the period studied.

Firstly, concern for consumer interest has led to the undertaking of several government investigations into the efficiency and degree of competition of the distribution organisation during the time period studied. During this period there have also been expectations or threats of changes in the legal environment that would have negatively affected actors at different levels of the grocery industry. Price levels of groceries and other aspects of grocery distribution output have also been popular targets of criticism in media and popular debate.

Grocery trade is politicised not just in the sense that it is at the focus of popular debate and government investigation and regulation. In addition, the two biggest actors are ICA, a wholesale organisation owned by a federation of private retailers and KF, the union consumer cooperative societies, which operates the wholesale organisation of the independent consumer societies. Because ownership of the “central” wholesale organisations is decentralised to the retail and the consumer levels respectively, the organisation of decision making in these firms is much more democratic than in a traditional business firm or in a chain store operation. The owners will want to influence the strategy and operations of these wholesale organisations in ways that are beneficial to them not only in their capacities as owners but in their capacities as consumers or retail store owners, respectively, as well.

All-in-all, this means that trade publications will have had incentives to maintain a certain level of self-censorship, with a view to what was publicly acceptable and would not lead to negative effects in terms of trade image, legal changes, or internal dissent. The politicised nature of this industry has to be taken into account when interpreting published information.

On the other hand, a precise advantage of the high level of public and social interest in the performance of the grocery distribution is the large number of government investigations and academic research that it has attracted. These constitute a valuable source of information, not because they are necessarily unpoliticized, but because they are written from another perspective.

Sources

I have primarily relied on secondary sources for the empirical material. There are five main sources of written information.

1. As mentioned, there have been a number of *government investigations* of the grocery trade (*Varudistributionsutredningen*, 1955:16; *Koncentrationsutredningen IV*, SOU 1968:6; *Distributionsutredningen*, SOU 1975:69-70; *Livsmedelsutredningen*, SOU 1987:44; *SPKs rapportserie* 1989-1992). These have investigated such issues as price levels and competition at different levels of the distribution of groceries, the availability of service for consumers, the “block” structure of Swedish grocery trade, and the increasing size and changing location patterns of retail units.

2. A number of *research reports and company histories* have also been very useful references. Some of these focus on specific phenomena in the context of Swedish grocery trade, such as assortment and packaging (Sjöberg and Hansson, 1955), “SA/VA”, joint promotion, (Lindh, 1976; Ossiansson, 1997) or DPP, Direct Product Profitability (Elg and Johansson, 1992). Another group of research focuses on new retail forms in Sweden, such as the self-service format (Persson, 1955), shopping centres in town centres (Falk and Julander, 1983) or externally located (Forsberg, Hagson and Tornberg, 1994). Other useful studies were Mattsson’s (1969) study grocery retailing and integration, and company histories of the main actors: KF (Kylebäck, 1983, 1989), ICA (Schuster, 1989) and ASK/Dagab (Orre 1985; Törnroth, 1993).

3. *Trade press*, such as ICA-nytt, ICA-tidningen, Supermarket, Kooperatören, Fri Köpenskap and Livs were scoured, both for information on the particular innovations of the study, and for views expressed at that time by the actors. Reading trade press also served to form a picture of the everyday life of grocery retailing during the time-period studied.

4. I was generously given access to the *archives* of Konsumentföreningen Stockholm, Hakon-bolaget (ICA), Handelns Utredningsinstitut (HUI) and Dagligvaru-leverantörernas Förbund (DLF). These archives contained internal and published investigations, records of internal meetings and newspaper clippings.

5. Through discussions with a *network* of fellow researchers on Swedish grocery distribution, I have also gained insights and received many useful references. Information and suggestions for references have been given, in addition to my advisors, by Nils-Erik Wirsäll, C G, Engström, Hugo Kylebäck, Jan Jörnmark, and Lars Kaiser. I have been given copies of and information on unpublished

material and to old published material that would have been difficult or impossible to locate otherwise.

In the case of the former of the two innovations studied, I have also had the benefit of comments from a number of people that have extensive knowledge of the self-service transformation, in some cases because they were personally actively involved in the process.¹⁰

Key Concepts

A number of words have been used that have a precise meaning outside their everyday use. Although the concepts they denote will be discussed more fully later on, this may be a good time to make a few basic clarifications.

1. Evolution, development and change.

Change comes from the Latin word *cambire*, which means to barter, while evolution comes from the Latin *ex + volvere*, to roll out. The word development is made up from the old French *dé*, apart and *voloper*, to wrap, that is, to unwrap.

(Summarised from Webster's New World Dictionary)

Change, in its original meaning, means replacing one thing for another. But it is also used to denote transformation, taking on other characteristics, and it is in that sense that the word is generally used in this text, such as in the case of *technical change*. This is also close to how the words evolution and development are used; in everyday language, the three words are used to describe very similar phenomena and may be used as synonyms for each other.

In this work, the word *evolution* is never used in this everyday meaning. Instead, the term evolution is only used to denote change through a specific process. The evolutionary process is mainly driven by two forces, namely 1) variation generation and 2) selection. From a model point of view, evolutionary models share the characteristic that change is endogenous, that is, part of the model rather than an exogenous force disrupting and causing adjustments.

Development, finally, is here used in its general meaning, to denote an unfolding of events and development is often used as a synonym for change. In

¹⁰ In particular, the chapter on the self-service transformation has benefited from comments by Nils-Erik Wirsäll and from participants at the EHF symposium on "Innovations, competition and institutions", Stockholm 1997.

everyday language, development sometimes also denotes improvement. In this text no such meaning is attached.

2. Innovations, inventions and antecedents.

An innovation is something new, a new product, service or process, or a new use for an existing one. Suggesting that an existing product, service or process may be considered an innovation if put to a new use, raises the issue of imitation, specifically how to distinguish innovation from imitation. On the one hand, especially in the case of distribution channels, where a new solution is adopted into a new market by existing actors and into an existing system, this often entails so much rethinking of the original solution that, in fact, it may be considered an innovation in the true sense. The distinction is also very much a question of focus (Silk and Stern, 1963, p 183). For example, in discussing the relationship between ease of imitation and firms' willingness to invest in R&D towards innovation, Huff (1997) considers generic drugs imitations of name brands. On the other hand, from a marketing point of view, one may consider generics as a product class an innovation. And in studying the diffusion of the McDonalds concept across the world, we may well ignore the particularities that this innovation has taken on in individual national markets. However, in studying the adoption and spread within a particular market of this concept, its effects on other similar organisations, etc. we may be justified in considering it an innovation in its own right, albeit inspired by similar innovations in other geographical markets.

Some authors make a distinction between inventions and innovations. The invention then is the new idea, while the innovation refers to the commercial manifestation of the invention. There is thus a chronological order where the invention is a necessary precondition for the innovation (e.g. Gattorna, 1977, p 2). In practice, this distinction is often hard to make. There is seldom a clear, consecutive process from idea to the commercialised product, but the process goes back and forth, and several stages may be running in parallel (Kline and Rosenberg, 1986). In this text, the term innovation is used to denote a new product, process or service, regardless of its stage of commercialisation. In the few instances where the word invention is used, it is as a synonym for innovation, not to denote another concept. Furthermore, in relation to a focal innovation, an earlier idea may be considered an antecedent, but that, again, is a matter of perspective, and does not change the fact that the earlier idea may also have been an innovation in its own right.

3. *Innovations and the distribution channel*

The distribution channel consists of the set of functions that are needed to bridge the gap between production and consumption, transferring goods or services from producer to consumer.¹¹ These functions may be divided between the producer and the consumer, but often additional actors perform some of the functions. Two aspects of distribution channels structure may be distinguished, namely *functional* and *institutional* structure respectively, where the "...functional structure of the channel may be regarded as the number and types of functions to be found in the product and title flows. The institutional structure is the division of functions among separate organisational entities..." (Bucklin, 1966, p 11).

Innovations in distribution channels may relate to either of these two aspects of channel structure, i.e. how the functions of the distribution channel are carried out, or how these functions are divided among the actors of the channel. The innovation may entail the inclusion of additional types of channel members, or the exclusion of existing ones. New horizontal combinations is another prevalent type of innovation, i.e. joining - or splitting up - distribution of different types of goods at one or more stages of their distribution channels. The inspiration to a distribution innovation often comes from an existing solution in another product or geographical market.

A better understanding of innovations and evolutionary processes in distribution channels entails furthering our knowledge of how the specific channel actors, and other actors involved in various related functions, shape the characteristics of a particular innovation itself as well as whether and how it is adopted and diffused. It also entails understanding why a particular version of an innovation is successfully introduced and adopted and why its antecedents were not.

Structure of the study

The text is divided into three parts. Part 1, Chapters 1-4, lays the basis by summarising relevant areas of existing theory on evolution and on distribution channels. Chapter 2 will summarise the schools of thought that have been influential over the years within the field of distribution channel theory,

¹¹ For an exposition on the history of the term, and a discussion of different possible definitions of the distribution channel, see Bucklin (1966), pp 1-6.

particularly with respect to their views on change in the channel. Chapter 3 summarises theory on evolution, both as used in biology, and as used in the description and understanding of economic and industrial systems. In Chapter 4, these two groups of theory are brought together, presenting a theoretical framework for the analysis of innovation processes in distribution systems.

Part 2, Chapters 5-6, describes the empirical work. Chapters 5 and 6 present two case studies of distribution channel innovations, namely (1) the introduction of the self-service system in Swedish grocery retailing in the 1950s, and (2) the development of the "all-channel" innovation in Swedish grocery trade in the 1960s through 80s, and its subsequent demise in the 1990s. These cases represent different types of change, and change at different levels. In the first case, change at the retailer level is at the focus, although influenced and influencing change in both consumer behaviour and in wholesaling and manufacturing operations. In the second case, change occurs in the degree of both horizontal and vertical integration in the channel as a whole. Part 3 consists of the last two chapters. Chapter 7 integrates the concepts relating to evolution in distribution channels developed in Chapter 4, with the empirical descriptions of Chapters 5 and 6. Chapter 8 presents the conclusions of the empirical and theoretical discussions, and discusses directions for future research.

CHAPTER 2

The Distribution Channel

Introduction

This chapter attempts to do two things.¹² The first aim is to describe the basics of distribution channel theory, in particular theory on determinants of structure and development. To do this, some of the main topics of investigation and schools of thought in the history of distribution channel theory will be. The description will be chronologically structured and will largely discuss the different aspects of channel theory in the order in which the field developed. However, reference will also be made under each heading to later work on the same subject. The second aim of the chapter is to draw from the description of channel theory a typology of change, as it may occur in distribution channels or be characterised in channels theory.

Distribution channels - brief history of thought.

The microeconomics approach.

The first contributions within distribution channel theory were made by economists and initially this work was not considered as a new discipline, but as an integral part of economics. Today, these early scholars of distribution channel theory are often viewed as one group. Together with later scholars also working within an economics framework, they are referred to as forming the microeconomic approach¹³. The earliest writers in the group start by establishing

¹² The discussion will be brief and focus on areas of importance for the overall subject of the thesis, and therefore this review is neither complete nor necessarily representative of all of the development in this area. For some excellent reviews on the subject in general, see e.g. Sheth, Gardner & Garrett (1988), Bartels (1965), and on the subject of innovations in distribution channels, Gattorna (1977)

¹³ Or similar terms, for example, Stern and Reve (1980) use the term 'economic approach', and in

the fundamental tenets of channel theory, with each sub-group adding to the picture. Within the microeconomic approach, three schools may be distinguished, focusing on the role of institutions, functions and commodities respectively in determining channel structure and development.¹⁴

*Institutions*¹⁵

The institutional school emerged in the United States during the first decade of this century. Writers within this school responded to a popularly held scepticism at the time, as indeed still today, concerning the usefulness of middlemen. Middlemen were commonly considered, especially among consumers, to add more cost than value. LDH Weld, arguably the founding father of the institutional school (Sheth, Gardner and Garret, 1988, p 74) in 1916 published his book *The Marketing of Farm Products*, in an attempt to address some of "... the astonishing misconceptions on the part of the general public" (p vi). At that time, little was known about the actual system of distribution from the farms in the midwest to the markets on the east coast. To find the answer to such questions as "Who handles the goods?", and "What do the various actors do?", extensive studies were made of the way that the farm products travelled, often by actually accompanying the products on their train journeys. Weld argues:

..., it is at least true that there is ample economic justification for a subdivision of the marketing process among specialised classes of dealers; that in some cases lower cost and greater efficiency may be gained by further specialisation; and that in other cases it may be possible to reduce the cost by combining the functions of two or more middlemen into the hands of one single middleman. The functions of marketing have to be performed, however many separate middlemen there are; the problem is to find the most economical combination of functions. (p 21-22)¹⁶

This last point is one that remains central in distribution channel theory. It is often formulated as "you can eliminate an intermediary but you cannot

Carman (1980) Heide (1994) and Arndt (1983), the term 'microeconomic paradigm' is used.

¹⁴While some authors treat these schools as one group, other scholars distinguish additional groups. For example, Sheth, Gardner & Garrett (1988) draw a distinction between a regional, a functionalist and a managerial school of thought in addition to the above mentioned sub-groups of the microeconomic school of thought.

¹⁵Institutional schools seem to exist in most every discipline of the social sciences, and the term has a different meaning in each of them. In this case, it denotes a focus on "the *organisations* that actually perform the functions required to move the goods from the producer to the consumer." (Sheth, Gardner and Garrett [1988], p 74)

¹⁶This quotation is taken from Sheth, Gardner and Garret (1988), p 75

eliminate its functions".¹⁷ Viewing the firm as "...engaging in a series of distinct operations" (Stiegler, 1951), it could be said that some of these operations (i.e. functions) will have marginal cost that decreases with scale, and others will have marginal costs that increase with scale. Therefore, each of the operations will have its distinctive points of minimum production costs, which means that for some of the operations it would be reasonable for a firm to perform them on its present scale. Other operations need to be performed on a larger scale for minimum cost, and thus are better performed by a specialised firm and transferred through the market (McCammon, 1963, Stiegler, 1951). Sometimes several smaller firms jointly own such an operation requiring larger scale. Changes in the level of demand, and consequently in the scale of operations, can thus lead to changes in the distribution channel structure, resulting in an increase or decrease in the degree of vertical integration.

Where some given process requires a scale of production considerably greater than the smaller firms in an industry can achieve, this process tends to be separated off from the main industry, and all the smaller firms get this particular process performed for them by an outside specialist firm. ... This method of escaping the limitations of particular processes by breaking the continuity of production from first to last within a single firm, I am going to call Vertical Disintegration. (Robinson, 1931)

The economic justification for the existence of intermediaries does not only rest on the possibility to *lower costs* through functional specialisation by intermediaries. The idea that the activities performed by intermediaries may also *add value* to the product is first raised by Weld, who considers marketing to be a part of production. This point is elaborated on by another of the early institutional marketing theorists, Ralph Starr Butler, who introduces the idea of intermediaries creating utilities.

Another great function of middlemen is to create utilities. There are four kinds of utilities. Elementary utility is illustrated by the qualities in wheat which enable it to support life. Form utility is given to wheat when it is ground into flour in order to make it palatable. Although these two utilities are essential ... Place utility must be added to it. ... Even possessing elementary, form and place utility, the flour cannot be used unless it also has time utility - the quality of being available for use when it is needed. ... Middlemen produce place and time utility.¹⁸

¹⁷Stern & ElAnsary (1992), p 11. The quotation marks are used in their text as well, emphasising the almost proverbial character of this sentence in distribution channel theory.

¹⁸ Butler (1923), p 20-21. Quoted in Sheth, Gardner and Garret (1988), p 75.

Although the distinction of different types of utility is useful, the idea that certain actors necessarily produce only certain types of utility is more problematic. - "The notion is here rejected that one of these aspects of utility can be associated with production and the other with marketing." (Alderson, 1957, p 210) For example, in the traditional grocery stores, the retailer would buy a sack of sugar and then weigh and package in smaller bags suitable for the customers. In the self-service store, the manufacturer has taken over the function of packaging in smaller sizes, and the creation of this type of form utility is performed by the manufacturer. (Goeldner, 1962) Thus, while the provision of this form utility is necessary, the creation of it can take place either at manufacturer level or at later stages in the marketing process. Distribution (and marketing in general) is considered to create time, place and form utility.

Thus, intermediaries arise in the channel when they perform necessary functions more efficiently than either producers or consumers. What, then, are these necessary functions, "utilised to move a product and its title from production to consumption" (Bucklin, 1966, p5)? That question was the focus of attention of those early writers looked upon as forming the functional school.

2. *Functions.*

The first classification of marketing functions is made by Arch Shaw in 1912. (Sheth, Gardner & Garrett, 1988, p 53) He lists the following functions of the distribution channel, again motivating this line of inquiry with determining the role and value of middlemen:

To understand what seems to be the present tendency to go around the middleman as well as to consider the problem of the merchant-producer with reference to the use of middlemen in distribution; it is necessary to analyze the functions performed by the middlemen. Roughly the general functions may be listed as follows:

1. Sharing the risk.
2. Transporting the goods.
3. Financing the operations.
4. Selling (communication of ideas about the goods).
5. Assembling, assorting, and reshipping. (Shaw 1912, p731)¹⁹

Later writers offered alternative lists of functions, for example, Vaile, Grether and Cox (1952), in their widely-used textbook, suggest the following list: *Physical*

¹⁹ Quoted in Sheth, Gardner & Garrett (1988), p 53.

possession, Ownership, Promotion, Negotiation, Financing, Risking, Ordering, Payment. A definitive list has yet to emerge and as a later writer within the microeconomic school, Bucklin (1966), remarks: "Without doubt this idea has been the subject of more controversy than any other in marketing." (p 10) It is worth noting that the Vaile, Grether and Cox (1952) list is reproduced in a modern-day textbook of distribution channel theory, Stern and El Ansary (1992). However, it is not necessarily correct to interpret the longevity of this particular list as a sign of agreement on this classification. A more likely explanation is that the *idea* of necessary channel functions has retained a topical interest among marketing scholars, while attaining the optimal formulation of functions has not.

Despite this controversy, Bucklin (1966) chooses to build his analysis of the determinants of market structure precisely around these troublesome functions because, he claims²⁰, "functions are the basic determinants of structure." He defines (p 12 - 14) five basic functions of the distribution channel, namely: *communication, ownership, inventory, transit, and production.* The inclusion of production in the list of functions is unusual among functional writers, but is logical when related to the above discussion of form utility creation in the distribution channel. Similarly, Kristensson (1946) argues: "It is not appropriate to compare different firms' production- and distribution structure separately. The classification will always be arbitrary, and the comparison must comprise both the production- and the distribution structure."²¹ Bucklin (1966) also distinguishes a distribution channel's functional from its institutional structure. The *functional structure* describes the number and types of functions that occur in the channel, and the sequence in which they occur, while the *institutional structure* describes how these functions are divided up among the actors in the channel.

3. *Commodities*

The last sub-group of the microeconomic approach to be taken up here is the commodity school. This school of thought directs interest towards the question of how differences in the characteristics of the goods to be consumed influence the consumers' demand and therefore the functional and institutional structures. To quote one early proponent of this school:

²⁰ Referring to Alderson (1957), p75

²¹ p 50. My translation from Swedish.

In the learned fields, scholars are primarily interested in behaviour and classify their materials in the way most satisfactory to furnish proper comparisons of behaviour. ... We may then take our cue from the biologist and work back from behaviour or functions to a system of classifications of commodities which will be most helpful in a systematic study of the range and variety of those functions. (Rhoades, 1927, p 8).²²

The best known of the classification systems to emerge from this approach is probably Copeland's (1923), which distinguishes three classes of goods, based on differences in consumers' shopping behaviour. He also shows how each type of shopping behaviour translates into particular demands on distribution channel structure. Copeland's classification of goods into convenience, shopping, and specialty goods is still used today.

Convenience goods are those customarily purchased at easily accessible stores; ... The consumer is familiar with these articles; and as soon as he recognises the want, the demand usually becomes clearly defined in his mind. ...

Because of the desire of consumers to purchase this type of merchandise at easily accessible stores, the manufacturer of a convenience article must aim to secure distribution of his product through a large number of stores in each territory. ... consequently, to obtain this widespread distribution it is customary for most convenience goods to be sold through wholesalers.

Shopping goods are those for which the consumer desires to compare prices, quality and style at the time of purchase. ... Ordinarily a special trip is made to the shopping centre for the purpose of buying such merchandise. ...

The number of stores, furthermore, is much smaller than the number of convenience stores. The average size of the shopping store is large and its credit generally strong. This facilitates the marketing of shopping goods directly from manufacturer to retailer.

Specialty goods are those which have some special attraction for the consumer, other than price, which induces him to put forth special effort to visit the store in which they are sold and to make the purchase without shopping. ... specialty goods are especially suited to distribution by direct sale from manufacturer to retailers. The manufacturer of specialty goods ... often also finds it advisable, through his national or local advertising, to assume part of the burden of focusing the demand on individual stores.

Copeland's work shows 1) how there are differences in the nature of consumers' demand for different types of goods. 2) That these differences are reflected in the

²² Quoted in Sheth, Gardner & Garrett (1988), p 36.

consumers' purchasing behaviour which forms the basis for the categorisation. 3) Each category of goods is reflected in a particular retail structure, and each of these retail structures in turn 4) puts specific demands on the total distribution channel structure.

Building an integrated economic model of channel structure.

Each of the three sub-groups of the microeconomics approach discussed so far provides its particular set of insights to certain of the economic determinants of distribution channel structure. Bucklin (1966) brought these strands together, and added others, in order to build a total model integrating the economic determinants of channel structure. His model may be summarised as follows:²³

1. There are a number of functions which are necessary to bridge the gap between production or consumption.²⁴ (cf functional school)
2. These functions may be performed by the consumer, by the producer or by intermediaries. (cf institutional school, adding the role of the consumer)
3. The output of the commercial part of the channel can be described in terms of *lot size, delivery time, or market decentralisation*. (cf institutional school)
4. There is functional substitutability between output and functional structure, that is, the same particular output can be attained through different combinations of functional performance.
5. The consumers' demand for commercial channel output depends on the total channel cost of the desired goods (i.e. including the consumers' costs). The market demand for the commercial channel output depends on the consumers' valuation of the output, (cf commodity school) and on the relation between the consumers' cost of buying such output from the channel, or organising it oneself.

Combining these five elements, Bucklin shows that it is possible to determine a *normative channel*. This normative channel represents the most efficient organisation of functions under a given set of circumstances, that is, that organisation which minimizes total channel cost, including consumers' costs. The *extant channel* for the same set of circumstances is not likely to be organised in the same fashion, but competition between channels will provide incentives for channel members to undertake structural changes that move the channel

²³Chapters I and II.

²⁴Bucklin, as mentioned above, proposes a categorisation of five functions; transit, inventory, ownership, communication & production.

towards the organisation of the normative channel. However, for a number of reasons, any optimal structure will remain a point of attraction and an impetus to change, but it is not likely to be the resulting structure. For example, changes outside the channel itself, such as changes in transportation costs or interest rates, will have effects on the optimal structure. Furthermore, the actors in the industrial system have imperfect information of, and limited access to, alternative channel solutions. In other words, rather than leading to a steady-state equilibrium position, the existence of an optimal (normative) channel structure leads to ever-present incentives to change in channels of distribution.

The microeconomics school as represented by Bucklin (1966) thus paints a picture of a distribution channel under ever-present incentives to change its institutional and functional structure. Yet these important incentives to change still leave some questions unanswered, such as, to quote McCammon (1963):

This type of analysis, however modified, inevitably assumes that the firm's behaviour is determined by cost/revenue considerations, and thus it leaves unanswered some or all of the following questions:

Why is change resisted by marketing institutions even though it appears to offer economic advantages?

Why do "uneconomic channels of distribution" persist over extended periods of time?

Why do some firms accept change rapidly, while others lag in their adaptation or refuse to change at all?

Answers to these and related questions depend upon an analysis of sociological and psychological barriers to change, ... (p 291-292).

That is, although economics-based analyses had advanced the theory of distribution channels greatly, there was also a growing discontent with the economic paradigm in explaining many types of important channel issues, such as shown by the above quote. The solution, as indicated, was to begin to draw on other disciplines within the social sciences for explanation, and the result was the emergence of the behavioural school of thought in channel theory.

Some key concepts of the behavioural approaches to distribution channels

McCammon is unusually well suited to perform the role of link between these two approaches, as "a strong case can be made for including McCammon among those very few scholars who successfully bridged the gulf between the institutional [i.e. microeconomic] and the organisational dynamics

[i.e. behavioural] school of thought" (Sheth, Gardner and Garrett, 1988, p 79).²⁵ McCammon (1963) notes that the "emergence and acceptance of new practices is a complex process which has been analyzed extensively in the agricultural sector of our economy and in the medical profession." However, he finds conducting the same analysis on marketing fields, such as wholesaling or retailing, to be a more difficult matter, as the "diffusion process in marketing is more complex ... because the counter strategies of non-adopters have to be considered as well as the spread of the innovation itself." Taking these complications into account, McCammon (1963) reviews writing on innovations in marketing and in other fields, such as group theory and systems theory. His purpose is to explore sources of innovation and barriers to change in distribution channels, and in summarising his findings, he proposes eight hypotheses "about the factors which determine the rate at which new practices are accepted".

1. The rate of diffusion depends on the innovation itself. Innovations that involve a substantial capital investment, a major restructuring of the firm's relationship with its customers, and a sizeable number of internal realignments are more likely to be accepted slowly than those that involve relatively minor intra- or inter-firm changes.
2. The innovator is likely to be an "outsider" in the sense that he occupies a marginal role in a given line of trade and is on the outskirts of the prevailing sociometric network. ...
3. A firm will respond incrementally to innovation unless its core market is threatened. ...
4. The higher the entrepreneur's aspirations, the more likely he is to initiate or accept the innovation.
5. The acceptance of innovation is not always permanent. A firm may emulate an innovator as a part of a transitional strategy. ...
6. Innovation will be accepted most rapidly when it can be fitted into existing decision-making habits. Innovations which involve an understanding of alien relationships or which involve new conceptual approaches tend to be resisted.
7. Influentials and innovators are not always the same firms. ...
8. Greater energy is required to transmit an innovation from one channel to another than is required to transmit it within a channel. The diffusion of innovation therefore tends to be confined to a given line of trade, before it is adopted by another. The supermarket, as an illustration, became dominant in the food field, before this method of operation was employed by ready-to-wear retailers.

²⁵Sheth, Gardner and Garrett (1988) discuss his work, particularly the 1963 article, among the microeconomics (institutional) school of thought. Yet, Kotler and Cox, include the same 1963 article in their 1972 reader, where one of their expressed principles for inclusion was "articles that illustrated the best in modern marketing analysis, particularly as derived from the use of behavioural and quantitative concepts."(p. xiv)

We will use these hypotheses as an introduction to the review of behavioural approaches to distribution channel theory. The topic of McCammon's discussion is at the centre of interest of the present thesis and we will have reason to come back to this article again in Chapter 4, in relation to the discussion of evolutionary ideas of innovation in distribution channels.

McCammon accepts that economic factors play a role in determining channel structure, but he also advocates the inclusion of other types of influencing factors in the analysis, in order to further the understanding of channel development. Later developments within the behavioural school follow a similar pattern. However, although there is generally an acceptance of *some* role for economic factors, the emphasis is clearly on the impact of behavioural variables. Among the major works within the behavioural approach to distribution channel theory is the 1969 book of readings edited by Louis W Stern, "Distribution Channels: Behavioural Dimensions." In the introduction to this book, Stern comments:

The relevancy of the systems concept to channel analysis is now generally accepted; a distribution channel can be meaningfully perceived as a set of components interacting with each other to achieve common objectives. Further, a channel may be fundamentally viewed as a social system, of which an economic system is merely an important subset. ... Because channel systems exhibit characteristics, they should become the focus of a more pronounced interdisciplinary approach. (pp 1-2)

The texts are structured around four concepts - *role*, *power*, *conflict*, and *communication*. These concepts also cover a large part of the work in the behavioural school as a whole. In particular the concepts of power and conflict are central, and the central position of these concepts can be seen to emanate from the underlying systems view. Adoption of a systems view of the channel highlights the interdependence of the participating actors. Interdependence is a source of both power²⁶ and conflict. It therefore becomes central within this approach to understand how power and conflict affect channel development and structure.

Conflict. The underlying cause of conflict in distribution channels is summed up by Stern and Gorman, as follows:

"When a channel of distribution is viewed as a social system, the members of such a system are, by definition, caught up in a web of interdependency. The actions or behaviour of any one member have

²⁶Emerson (1962), in an article that has become very influential, proposes that power is related to dependence such that, to the extent that A is dependent on B, B also has power over A.

consequences for the level of output (measured in terms of individual goals) achieved by the others. This dependency relationship represents the root of conflict in channels of distribution." (Stern and Gorman, 1969, p 156)

Although the underlying cause may be the same, we may nevertheless distinguish different fields of conflict. Carlsson and Kussofsky (1966, p 117), in an investigation of conflicts surrounding the launching of distributor's own brands, identify three fields of conflict in distribution channels. These are *goal conflicts*, *decision conflicts* and *communications conflicts*, where decision conflicts "arise as a result of the fact that one or more organisations feel the need to control or participate in the decisions about the marketing of [a particular product type]".

Furthermore, symptoms of the underlying conflict are more likely to flare up in certain situations. To quote but a few of the examples of such situations cited by Mallen (1964):

"A supplier may force a product onto its resellers, who dare not oppose, but who retaliate in other ways, such as using it as a loss leader. Large manufacturers may try to dictate the resale price of their merchandise; ... Resellers complain of manufacturers' special concessions to competitors and rebel at the attempt to control resale prices. ... a manufacturer may wish to promote a product in one manner or to a certain degree while his resellers oppose this. Another manufacturer may wish to get information from his resellers on a certain aspect... There is also conflict because of the tendency for both manufacturers and retailers to want the elimination of the wholesaler." (p126)

In addition to these conflict-prone situations, Alderson (1965) notes that "Tensions build to a peak in times of change. Stress is created during the emergence of new forms of distribution or by reshuffling of functions within the channel."²⁷ The emergence of new forms of distribution corresponds to Mallen's (1964) concept of "innovative intertype innovation", that is, competition between different types of distribution which occurs as a result of innovation²⁸. According to Palamountain (1955):

This competition I call, somewhat clumsily, intertype, and define it as the competition between different methods of distribution. It is really a special application to distribution of what Schumpeter calls the process of "Creative Destruction." ... Within distribution the agents of "Creative destruction" are the chain store, the mail-order house, the department store and the

²⁷ p 205 of Stern (1969) reprint

²⁸ As pointed out by Bucklin (1972), the term *intertype*, was first used by Grether (1939), P 12.

supermarket. It is competition of these new media, and not horizontal competition, that has played a creative role, introducing technological advances and reducing costs. (p38-39)²⁹

How, then, can conflict be avoided or resolved? One commonly proposed way is that the conflicting interests of channel members can be brought in line if there is a channel leader. Mallen (1964) discusses three options:

The channel can adjust to its conflicting-cooperating environment in three distinct ways. *First*, it can have a leader (one of the channel members) who "forces" members to cooperate, this is an autocratic relationship. *Second*, it can have a leader who "helps" members to cooperate, creating a democratic relationship. *Finally*, it can do nothing, and so have an anarchistic relationship. ...

Advanced in this paper is the hypothesis that if anarchy exists, there is a great chance of the conflicting dynamics destroying the channel: If autocracy exists, there is less chance of this happening. However, the latter method creates a state of cooperation based on power and control. This controlled cooperation is really subdued conflict and makes for a more unstable equilibrium than does voluntary democratic cooperation."

The existence of a channel leader means that there is a structure in which one actor has power over the other. Mallen's distinction between democratic and autocratic leadership corresponds to the use of coercive versus non-coercive power bases discussed below. And, although power *may* be used to handle a conflict situation, power also has its own problems, as we shall see.

In the case of innovative intertype competition, one way to handle this type of conflict is through the use of political and legal action. Historically, political pressure has been successfully used by representatives of existing business in order to push for legal restrictions of threatening innovations in distribution. Examples of such cases include restrictions against travelling sales representatives (Hollander, 1964), chain-stores³⁰ and externally (i.e. outside city

²⁹ "In the case of retail trade the competition that matters arises not from additional shops of the same type, but from the department store, the chain store, the mail-order house and the supermarket..." Schumpeter (1943), p 85.

³⁰For example, "The depression of the 'thirties, the fears of small retailers faced by the rapid development of multiple shop firms and variety chain stores, and the emergence of Fascism combined to lead to agitation and, in many cases, legislation against large-scale retailing in the decade up to 1940. ... Pressure for such action came for the most part from the small shopkeepers. Only in the United Kingdom and in Sweden did the legislators, after hesitation, decide to take no action. As a result of this legislation the growth of large-scale retailing came to a complete standstill in Germany and Austria and was almost stationary in Belgium, France, and Switzerland in these years." (Jefferys & Knee [1962], p 56)

limits) located supermarkets³¹. Existing business have also applied political means against new forms of distribution without recourse to the legal system. For example, in many industries there have been boycotts of those manufacturers and wholesalers that agree to supply cut-price outlets³². These political campaigns for legal action against, or boycotts of, new distribution forms have often been conducted by trade associations of the established businesses (Palamountain, 1955; Assael, 1968).

Power in vertical relationships.

That the concept of power, and vertical power relationships, is particularly important in the study of distribution channels is pointed out by Palamountain (1952)³³. In discussing the characteristics of different types of conflict, he points to power as a clearly distinguishing characteristic of vertical relationships:

"It is apparent that a principal factor differentiating vertical conflict from horizontal and intertype competition is that it is so directly a power conflict. ... In the plane of vertical conflict, ... power relationships are direct, obvious, and important to the extent that the market is imperfect."
(pp 52-53)

There are differences in how the concept of power is understood and studied in economic and in behavioural analyses. Beier and Stern (1969), who study power in distribution from a behavioural perspective, point to an underlying difference in focus of interest.

The concept of power, as it applies to distribution channels, has typically been studied from the viewpoint of classical economic theory. ... a firm operating in an oligopolistic industry often is judged more powerful than a firm in a competitive industry, because, it is reasoned, the former can probably exercise greater control over the variables influencing customer patronage (e.g., price), exclusive of those variables which are beyond the control of any given firm (e.g., market demand).

³¹In France, for example, a ban has recently been introduced on the establishment of externally located hypermarkets.

³²Among Swedish furniture retailers, for example, there was an agreement in place since before the war, and through the better part of the 1950s, to boycott any manufacturer who sold to non-affiliated retailers. This threat of boycott was very successful in curbing the business viability of cut-price furniture retailers. That is, this threat *was* successful until IKEA came to the scene, managing to build its competitive advantage precisely around the methods forced by the boycott structure. (see Mårtenson, 1981)

³³ Palamountain who published his dissertation "The Politics of Distribution" in 1952 is thus another of those actors that link economic and behavioural approaches to the study of distribution channels. While his analysis is clearly economics-based, it came to influence the writing on power in the behavioural school, in particular because it showed the special relevance of the power concept to vertical relationships.

... economists have dealt primarily with the *outcomes* of power struggles. The behavioural scientists are generally more concerned with why given outcomes occur. (p 92)

Beier and Stern use a classification made by two sociologists, French and Raven (1959), to analyze how each of five power bases may apply to distribution channels. Of the original five power bases; reward power, punishment power, expert power, legitimate power, and referent power, Beier and Stern find that it is only the first four that seem readily applicable to distribution channels. *Reward power* accrues to a channel member from the ability to grant wider margins, to make promotion allowances, etc., while *punishment power* in distribution channels mainly takes the form of withdrawing rewards. The link to dependency is most clear in the case of reward and punishment power. For example, in an oligopolistic or oligopsonistic market,

"power is generated primarily from (1) the small number of firms and (2) the barriers to entry. Differentiation, if it exists, serves to reinforce this power. Here, the dependency of other channel members results from the limited number of alternatives available to them, ...

... the amount of horizontal competition and differentiation ... determine vertical power relationships. Within a marketing channel these factors may be used as levers in influencing middlemen and / or manufacturers to direct their behaviour in a specific manner." (pp 98-99)

The third base is *expert power*. Expert power may be directed both upwards and downwards in vertical relations. For instance, a manufacturer or a wholesaler may assume the role of expert in relation to the retailers by providing sales training, by arranging product knowledge courses, or by undertaking market research. On the other hand,

"Information and communication are vital links in the channel, and power may accrue to the member who controls this flow. A manufacturer or producer is highly dependent on the balance of the channel for information concerning consumer demand. The retailer occupies a preferred position in the channel because of his close contact with the consumer." (p 101)

In the case of legitimate power, finally, there are two main bases of such power that are applicable to distribution channels. Firstly,

"Within a non integrated channel of distribution, there is no formal hierarchy of authority. However, individual firms may perceive such a hierarchy to exist. For example, the largest firm could be considered the leader by other channel members. If this is the case, then legitimate power may be available to the large firm. It is not clear, however, that such a base of power will be highly significant in the channel."

And secondly,

"Legitimate power can occur in the channel of distribution through the action or protection of some governmental agency. Thus, the system of laws allows firms to maintain agreements such as franchises and other contracts. In addition, patents and trademark laws give the owner a certain amount of freedom and justification in supervising distribution of these products." (p103)

Unbalanced relationships

What, then, happens when a supplier - buyer relationship is unbalanced? How should the more powerful actor use this power, and are some power bases better than others? What about the less powerful actor? Is this a situation that has to be accepted, or should we expect the weaker actor to try to make the relationship more balanced? And how could that be done?

Let us look at the position of the more powerful actor first. It has been suggested by several authors, that certain power bases are preferable to others. Specifically, the use of reward or punishment power bases (coercive power bases) has been dissuaded, for two reasons. Firstly, in contrast to coercive bases, using non-coercive power bases will "tend to elicit an internalisation of, and an identification with, the system's goals and values"³⁴ The second reason why non-coercive should be preferable is proposed by Lusch (1976). In an empirical study, he found the use of coercive power bases to be positively correlated with conflict, while non-coercive bases were negatively related to conflict. He drew the conclusion that this meant that "Noncoercive sources tend to reduce channel conflict whereas coercive sources tend to increase it." (p 388) Others (e.g. Etgar [1978], Frazier and Simmons [1986]) reject Lusch's conclusion, and instead argue that the correlation between conflict and coercive power use exists because coercive power is only used as a last resort, in situations of conflict. Some empirical studies seem to support the idea of coercive power as a last resort means.

Turning now to the less powerful actor, Beier and Stern refer to Emerson (1962) for three possible actions that such actors may use to reduce, or even reverse, the power differential. These are that the less powerful actor 1) withdraws from the relationship or is driven out of business, 2) seeks alternative sources/customers and 3) seeks ways to make the supplier/buyers more dependent on one's own success. The first case could occur if the more powerful actor uses power to mount unreasonable demands of the weaker party. The second case we recognise

³⁴Kasulis and Spekman (1980), p 190. They conveniently assume correspondence between the "system's goals and values" and those of the more powerful actor.

as empirically quite prevalent. The third option could be achieved, for example, if an initially weaker retailer becomes very successful, thereby increasing its share of the wholesaler's total sales. If none of these routes are possible, Palamountain (1955) suggests an additional option.³⁵

"... power has multiplied in many of the newer marketing channels. Power is a two-sided relationship, and organisation tends to breed counter-organisation. Dominance by one end of the distributive chain often promotes grouping at the other end, for those subordinated to economic power will naturally tend to organise in attempts to create and use economic or political power. ...power has come to rival economic factors as the governing element in the vertical relationships of distribution. (pp 56-57)³⁶

Counter-organisation may take the form of the less powerful actors coming together to create a more balanced power situation, using any of the four power bases mentioned. For example, take the case of a fragmented retailer level market, linked to a small number of wholesalers or manufacturers. The small retailers may form a buying group to increase their buying volume and bargaining strength. This effectively reduces the number of buyers, and thereby creates a more balanced situation in terms of the retailers' ability to use reward or punishment power. They could also increase their expert power by pooling resources in order to conduct their own market research, product knowledge training, etc. To the extent that this is correlated with perceived channel leadership by the other channel actors, legitimate power can be increased by the retailers appearing as larger and more proactive. Furthermore, as an example of an action that is more clearly directed towards increasing legitimate power, we may consider the launching of an own brand for the retailer group. Finally, legitimate power may be attained through the retailers' group forming their own wholesale organisation or buying an existing one. That is, through vertical integration.

³⁵This work, as well as that of JK Galbraith on countervailing power, is also referred to in Beier & Stern.

³⁶Palamountain's (1955) ideas of organisation breeding counter-organisation are very similar to JK Galbraith's (1956) concept of countervailing power. They were developed independently of each other, but at about the same point in time. Palamountain takes issue with Galbraith's "... apparent belief that the mere existence of countervailing vertical power almost automatically promotes the public interest,...". (Stern [ed] 1969, p 133)

Bringing economic and behavioural explanations together

Vertical and horizontal integration from a systems point of view

At the beginning of this chapter, we discussed that institutional theorists considered economic factors to be the primary determinants of distribution channel structure. In particular, patterns of increasing or decreasing marginal cost to scale of production determine which functions firms will tend to conduct internally, and which activities will tend to be separated off to be performed by a specialist firm. Now, with the insights from oriented scholars, we have added that vertical integration may also be used as a way to handle "the web of interdependency" in which the channel members are trapped, and the resulting conflicts and power struggles that characterise the channel. It seems, then, that the time has come for a model that takes both these types of determinants into account.

Mattsson (1969) brings together economic and behavioural considerations in his analysis of vertical and horizontal integration and its effects on channel efficiency, and we will mention two of his conclusions here³⁷. He also points to the strong connection between vertical and horizontal integration.

Firstly, Mattsson distinguishes between three types of integration, namely institutional, decision and execution integration.³⁸ Previous work on integration had tended to focus on the institutional integration. Mattsson's analysis shows that the degree of decision and/or execution integration better describes the operational characteristics of the channel. Furthermore, although the three types of integration tend to be rather closely correlated in the empirical investigation, there are no theoretical reasons why the level of institutional integration should *necessarily* constitute a good indicator of the level of execution or decision integration. For example, while in some cases it may be motivated from a production efficiency point of view, to increase coordination, i.e. decision and execution integration between two functions within the channel, such coordination neither requires, nor necessarily follows from, institutional integration.

³⁷The theoretical model is applied to Swedish grocery trade in the late 1960s, and we will therefore have reason to come back to this work in Chapter 6.

³⁸ Institutional integration refers to integration through ownership ties. Decision integration refers to the location of decision power in a channel, while execution integration refers to the organisation of implementing decided activities.

Secondly, both decision integration and execution integration are considered to be continuous variables. Previous work on integration had typically considered integration a discrete variable for which only a few values were possible. Mattsson makes a point of the fact that each of a given set of functions may be integrated to a greater or lesser degree, and that even small changes can have an impact on channel efficiency. In order to capture the multifaceted nature of the integration concept, several measures of the respective types of integration are used. In the empirical cases, ranking of the different channels depends on the combined integration level, where the component measures may often be contradictory. For example, execution integration is measured by, among other factors, activity transference and exclusiveness. We might envisage a situation in which an activity such as price marking of goods is completely handled by, i.e. transferred to, the central unit. This is thus an indication of a high degree of integration through activity transference. Suppose this central unit handles and pricemarks goods not only for the affiliated retailers, but for non-affiliated retailer customers as well, i.e. the relation is not exclusive. If the share of business of the affiliated retailers is low in relation to total central unit business, this is an indication of a lower degree of vertical integration in terms of exclusiveness.

Although the individual component results are too complex to go into here, the main point is that channel efficiency is a function of the level of integration in the channel and that changes in any of the component measures of integration will affect total channel efficiency.³⁹ We may therefore draw the conclusion that since the degree of integration affects channel efficiency, integration also affects the competitiveness and viability of a specific channel as compared to a competing one organised in a different fashion. While Mattsson studies integration between actors at two successive channel levels at a time, he does so from a systems point of view. Conclusions are based not only on the direct effects for the individual actors, but on the indirect and channel-wide consequences as well.

So far, the dominant perspective has been one where the whole channel is considered. Although the focus of empirical studies often has been on two levels and the interactions between these, the effects on and of these for other parts of

³⁹It is not possible to theoretically derive the net effect of a certain change, as this depends on a number of simultaneously occurring positive and negative effects, which in turn depend on characteristics of the functions and resources of the particular channel. (pp 211-216)

the channel are considered. In the following sections, we will discuss theoretical approaches taking other perspectives, both more inclusive and more restrictive as concerns the numbers and types of actors included in the analysis. Another difference between the perspectives discussed so far, and the ones to be discussed, should also be pointed out. In later years, the number of scholars focusing primarily on distribution channels has decreased. Instead much of the important work within distribution channels theory is produced by scholars that have their basis in other areas of business and organisations studies. This means, among other things, that it is harder to delimit schools of thought with respect to this period than earlier ones.

We start with a discussion of the transactions cost analysis applied to distribution channels. This approach in its original form is clearly dyad focused, but when applied to distribution channels, many channel theorists make allowance for the special circumstances of the channel. The network approach then widens the perspective to include relationships to actors outside the channel, which have an impact on the participant firms and on the channel as a whole. Finally, we look at the retailing evolution approach, which although it takes intertype competition into account, limits its focus to one horizontal level, namely the retail level.

Vertical integration from a dyad point of view

In 1975, O E Williamson reintroduced the role of transaction costs in shaping the structure of market relations⁴⁰. Transactions cost analysis (TCA), attempts to show how the level of vertical integration is determined by the level of transaction costs in an exchange. Transaction costs arise in exchange relations primarily due to the economic consequence of limited rationality, uncertainty concerning the future and opportunism, in combination with limited numbers of sellers and buyers. For example, "Vertical integration is favoured in circumstances where small numbers bargaining would otherwise obtain - whether this prevails from the very outset or because once the initial contract is let, the parties to the transaction are effectively 'locked in' at the recontracting interval." (Williamson, 1975, p 104). Since the 1980s, several authors have made interesting contributions applying TCA to distribution channel problems.

⁴⁰First brought up by Coase (1937).

One example is Anderson and Coughlan (1987), who explore the issue of "make or buy" with respect to distribution channel choice in international market entry. That is, should the entering firm use local distribution agents (buy), or establish its own channel in the new market. Anderson and Coughlan investigate the overseas distribution operations carried out by US-based firms, to determine the role of transaction-specific assets (as specified by TCA) in the choice of integrated or independent channels. Their results show that integrated channels are used for products whose distribution requires the development of specialised skills and working relationships, and thus are consistent with the predictions of transaction cost analysis.

An article by Heide and John (1988) adds some complexity to this issue by noting that TCA normally treats each exchange dyad as separate, while in distribution channel theory, the exchanges are typically seen as occurring in interrelated levels of exchange. They address some of the resulting problems by combining TCA with dependence theory (e.g. Emerson 1962; Beier and Sterns 1969, see above). Specifically, they look at the dependence situation resulting from the building up of transaction-specific assets. For example, a wholesaler who needs to undertake transaction-specific investments relative to a manufacturer will be dependent on this manufacturer for future business, in order to be able to repay the investment. Thus, the wholesaler will be in a relatively disadvantaged bargaining position relative to the manufacturer. TCA would predict that in this situation, the exchange would be internalised, in order to handle the risk of opportunistic behaviour. The authors show how the type of dependence-balancing actions identified by dependence theory may serve as an alternative or a complement to the vertical integration predicted by TCA. Thus, the wholesaler may attempt to reduce its dependence on the manufacturer by strengthening the link to the end user, thereby becoming more difficult to replace for the manufacturer.⁴¹

A third example of TCA as applied to channel theory is Dwyer and Oh (1988), who investigate the differences among three forms of hardware channels. They argue: "Governance structures are believed to vary in their ability to support different types of strategic aims... Hence, it may be possible to match structure

⁴¹Yet another way to limit dependence on one supplier by building an offsetting relation to another actor, is to use second sourcing. However, in the type of situation described above, this may not be a viable alternative, given the high transaction specific initial investment.

with strategy in discriminating ways."⁴² They find some empirical support for this reasoning, in that predictions based on TCA regarding how the channel forms would differ with respect to likelihood of adopting a niche strategy, and regarding the degree of differentiation based on wholesaler affiliation, are borne out. Thus, independent retailers, with their relatively more limited resources, are shown to be more likely to adopt niching strategies. Similarly, dealer coops emphasise differentiation through group advertising and distributor brands, as predicted by their relative advantage in terms of being organised in an ownership structure which mitigates opportunism.

In summary, then, TCA adds to channel theory, by pointing to transaction-specific assets as a source of power in the channel. This aspect is what leads the manufacturers in Anderson and Coughlan's (1987) study to use integrated channels for products whose distribution entails asset specificity. But channel theory also contributes significantly to TCA by pointing to the role of related exchanges in determining the need for vertical integration in a focal exchange. Thus, Heide and John show how an intermediary can offset power imbalances in one relation by investing in another, vertically related one.

A markets-as-networks approach to distribution channels.

This approach views the economic system as constituted by a network of relationships between firms and other economic actors. The interest is to a lesser extent than in traditional marketing focused on an individual firm. Instead focus is directed at the interaction between firms, and the development of relationships. The firm has limited resources and is dependent on access to other firms' resources. Actors are assumed to be heterogeneous and there will normally be a limited number of possible exchange partners. As a result, buyer-seller relations tend to be long-term, and the network exhibits a high degree of stability.

The stability of network relations does not mean that there is no change. In the theoretical approaches discussed so far, as well as in everyday language, stability and change are considered opposites. In network theory, stability and change are instead considered complementary and interrelated concepts. To quote Gadde and Håkansson (1992):

⁴²p 26. Cf Mattsson (1969), above.

... we would argue that there is a strong mutual dependence between change and stability. In fact, some kind of stability is a necessary prerequisite for change, as some kind of change is necessary to preserve stability in another dimension.(p168)

It may be useful to contrast the view of relationships in networks with the view of relationships in distribution channels in the theoretical approaches discussed so far. In the emersonian view of dependence as the obverse of power, dependence will naturally be seen as something negative, to be avoided or at the very least balanced out. The network approach does not share this normative/negative view of dependence. Actors are seen as *always* being dependent on other actors, and this dependence is mutual although not necessarily symmetrical. The focus is instead on understanding how development takes place within these relationships of mutually dependent actors. Gadde and Håkansson (1992) continue:

For example, the introduction of a technological change will usually require a certain stability in the relationship between actors. In addition it will often lead to increased stability in the relationship between the actors. For example, a distributor might be doubtful about investing in a new computerized information system unless the relationship with the producer is regarded as stable. When the investment is undertaken the relation between the firms will in fact be strengthened, i.e. stability has increased. (p168)

In this situation TCA would predict vertical integration, and a power-dependence perspective would suggest balancing the dependence by strengthening the link to a subsequent level of exchange. Network theory suggests that the deep relationship, the mutual dependence, is indeed the reason why the actors dare to enter into an even deeper relationship. The transaction-specific investments are protected by already existing transaction specific assets, and in turn leads to further potential investments.⁴³

Work within the network approach, although it has some of its roots in distribution channel theory, often goes beyond what we normally consider the distribution channel, but takes the role of other related agents into account as well. For example, consider Gadde & Mattsson's (1989) discussion of auto manufacturers' adopting a "total performance strategy". This strategy, which we may consider an organisational innovation, involves a deepening of the relationship between manufacturer and dealer, and requires the dealer to make

⁴³ For a discussion of the differences between TCA and the network approach, see Johanson and Mattsson (1987).

substantial investments in order to fulfil its role in the new system. In light of the theoretical approaches we have discussed so far, we would expect the dealers' reaction to depend on their potential to offset the increased dependence on the manufacturer through strengthening the link to the customer, and we would not be surprised if a total performance strategy involved some degree of vertical integration through manufacturers investing in dealerships. That a network analysis widens the perspective is indicated by the following excerpt:

The reactions will partly be due to the perceived consequences of entering a closer integration with a specific manufacturer, but also on the expected outcome of the competitive threat from the functional specialists. Also auto-manufacturers must regard the trends concerning the functional specialists with different glasses. On the one hand they are a threat to the existing system - on the other hand they are, in fact, a real sign of a strive for total performance - but from the consumer point of view. They do exist because the old system didn't fill the needs of the whole market. (p14)

Gadde and Mattsson's (1989) analysis points not only to the importance of the manufacturer-dealer relationship, but discusses as a crucial point the effects that the new system can be expected to have on the dealers' competitive position relative to outside actors, as exemplified by the functional specialists.

Retail Change

Up to now, the schools have been presented in more or less the chronological order in which they appeared. However, the work that has been brought together under the heading of *retail change* spans the time of all of the above schools. There are examples of studies of new forms of retailing and life cycles of retail formats, among the earliest marketing literature, and such studies are still done today. In addition, one type of work that may also be discussed under this heading, is retailing change as studied in geography or in town planning oriented work. (e.g. Bromley & Thomas, 1993) Here development of retailing formats and locations are seen as influencing, being influenced by, and occurring in the context of economic and social change. For example, the rise of large, out-of-centre discount retailers relies on the consumer mobility resulting from widespread car ownership. It also threatens service levels in centre locations which negatively affects the disadvantaged consumers, those that do not have access to private cars. This area of research has, and has had, an impact on government planning policies and therefore on the regulatory environment of the grocery trade. It is therefore a research area that is also important from an empirical point of view in this text.

As indicated by the name, it is within this school of distribution channel theory that we find the most examples of studies and theory on innovation and change, although limited to one level of the distribution channel, the retail outlet level.⁴⁴

The innovations in retailing that have been studied include, to name a few, the supermarket (Zimmerman, 1955), the discount house (Oxenfedt, 1960), mail-order (Kristensson, 1949), flat-package furniture retailing (Mårtenson, 1981), and non-store shopping (May and Greyser, 1987).

The best-known theory on the determinants and pattern of retail change is probably the *wheel of retailing*. Originally formulated by McNair (1958), it poses that new retail formats compete by offering lower prices but limited service. Initially this strategy is successful, and therefore attracts others to open similar low-price stores. As the number of low price stores increases, competition in this segment also increases, leading them to start using non-price means of competition. Increasing the service level raises costs, and eventually they will resemble their predecessors, offering a higher level of service at corresponding prices. Again, a niche will open in the market for low-price and low-service retailers.⁴⁵ This pattern will repeat itself in a wheel-like fashion. Although more an observation of repetitive phenomena than a formal theory, it has intuitive appeal. There is a historical pattern in the appearance of new retail formats, in which many of the newly launched formats compete with low prices and limited service, but eventually upgrade service and raise prices. On the other hand, there are also examples of the opposite, such as the convenience store, which from its inception competed by offering a high service level in terms of decentralisation and time availability, but relatively high prices. The wheel of retailing and similar theories, such as the "retail life cycle" (Davidson, Bates and Bass, 1976) have received both following and criticism over the years.⁴⁶

Among the alternative theories of retail change proposed are theories based on ecological models (Markin and Duncan, 1981; Etgar, 1984). These models explicitly reject the closed system nature of the wheel theories, and instead

⁴⁴ There are also some, although much fewer, examples of similar studies in the evolution of wholesaling formats.

⁴⁵ See also Converse et al (1952) p 431, for an earlier discussion of this phenomenon.

⁴⁶ Critics include McNair himself, in McNair and May (1976). For a comprehensive review of antecedents, developments and criticism of "the wheel", see Brown (1988).

suggest that retailing organisations be considered "...as being involved in an evolutionary process through which retailing organisations best suited to their environment survive and succeed while those which do not fit are doomed to die and disappear from the retailing scene." (Etgar, 1984, p 49)⁴⁷. The view of evolution in these approaches closely emulates the Darwinian model of evolution in biology. Thus, there is a clear "division of labour" in which the institutions provide the variation and the environment selects. As will be discussed in Chapters 3 and 4, an alternative conception of evolution in economic systems, is one where the role of the institutions themselves in forming part of the selective environment is more clearly emphasised.

Before concluding this review of distribution channel theory, we will bring up one more contribution, namely Wilkinson's (1990) paper "Towards a Theory of Structural Change and Evolution in Marketing Channels." Although Wilkinson takes his cue partly from retailing change, in particular from the contributions by Etgar (1984) and Markin and Duncan (1981) discussed above, he widens his analysis from a retail level focus to a channel perspective. In contrast to the previously discussed ecological approaches, Wilkinson also emphasises the interdependence - *coevolution* - of the distribution system and its environment. Drawing on advances in dynamic systems analysis and urban dynamics, he offers examples of how analytical and simulation models may be used to expand our understanding of structural change and development in distribution channels.

A typology of change in distribution channels.

Based on the above review of distribution channel theory and the represented ideas on the determinants of distribution channel structure and development, several different types of change may be isolated. Although the different schools of thought differ with respect to the areas of change and the characteristics of change that they emphasise, together they offer a comprehensive list of the types of change that can occur in distribution channels. Thus, we will begin with a review of the different *areas* of change within distribution channels, and then turn to differences in the *characteristics and characterisations* of change.

⁴⁷ Cf Bucklin (1966), as discussed on pp 22-23.

Areas of change

Firstly, we may distinguish change that affects the number or identity of the actors involved in a channel from change that involves the functions performed in the channel. This is referred to as the channel's **institutional** or **functional** structure, respectively (Bucklin, 1966). For example, if a manufacturer starts to bypass wholesalers, instead selling directly to retailers, the functions previously performed by the wholesaler will have to be divided between manufacturer and the retailer. In this case the institutional structure of the channel will be affected, because one type of actor is no longer included in the channel. The functional structure of the channel, however, is not necessarily affected, since the same functions may still be performed in the same order and amount.

Economic factors as determinants of functional and institutional structure, and structural change, are central topics of the microeconomics approach. In the behavioural school, this type of structural change is not at the focus of attention, although one may argue that there is a correspondence between the *role* concept of the behavioural school and the *functions* concept of the microeconomics school. The emphasis on longevity of relationships in the network approach directs focus towards functional rather than institutional change. In retail change, innovations in retailing often regard the number and types of functions that the new retail format performs relative to the traditional format.

Secondly, we may also distinguish between **vertical or horizontal** change. Vertical change in the distribution channel occurs when functions are shifted upward or downward between channel actors, when certain types of actors are added or excluded, or when the degree of vertical integration is changed. Horizontal change occurs in the structure at a particular level of the channel, in numbers or types of retailers or wholesalers. These types of change may be interrelated so that, for example, with the horizontal change of decreasing numbers and increasing size of retailers, these retailers become better able to perform functions that were formerly performed by wholesalers, and in turn this leads to a vertical shift of functions towards the retailer level (Mattsson 1969; Filser and McLaughlin, 1989).

In the microeconomics school, the emphasis is on change in the vertical structure, such as inclusion or exclusion of intermediaries. The behavioural school, through its interest in power relationships between channel members, also focuses on vertical change, while the retail change literature, by its nature, directs attention to horizontal change. Although the network approach takes

both horizontal and vertical relationships into consideration, and although change may occur in either dimension, there is possibly more focus on vertical relationships and vertical change.

Thirdly, distribution channel change may occur **within** a channel or **between** channels. One form of change in distribution channels that has already been discussed is that which involves shifting the functions associated with transferring a certain good between the actors in the channel, such as when a dairy starts to deliver cheese cut up in consumer-size packages, rather than leaving that function to the retailer. However, change may also occur between channels, when one channel replaces or complements another in the transfer of a certain type of good, for example, when music recordings start to become available at gas stations, and not just in the specialised retail outlets where they used to be sold.

While the microeconomics school focuses on change within a given channel, the concept of intertype competition that becomes more pronounced with the behavioural school focuses on change between channels. New retail formats also constitute new channels and thus the retail change literature as well is directed at change between channels.

Fourthly, change may take the form of shifts in **relative power** between actors in the channel. Empirically, change over time can often be discerned regarding which level of the distribution channel that is typically the most powerful. For example, Chandler (1977) notes that the general wholesalers of the late 1800s, were relatively large actors situated between large numbers of producers and retailers. This gave them a powerful position, and we may consider them to have been the channel captains⁴⁸ at that time. However, "Mass retailers began to replace wholesalers as soon as they were able to exploit a market as large as that covered by the wholesalers" (Chandler, 1977, p 224). Thus, once technological and infrastructural conditions allowed the retailers to become bigger and less dependent on the wholesalers, their power increased. Eventually they not only assumed the channel captaincy role from the wholesalers, but in many cases completely drove them out of the channel, or even out of business altogether.

⁴⁸ C.f. Mallen's (1964) discussion of the channel leader, quoted on pp 27-28.

The microeconomics school has been criticised for assuming that the manufacturer is the only actor with power to effect change in the channel (e.g. Filser & McLaughlin, 1989). I do not agree with this criticism, and would instead propose that power is a relatively unimportant concept in this approach. Any actor's use of power to drive the channel structure in an inefficient direction would be cancelled out in the long run by virtue of diminishing the relative competitiveness of that channel relative to more efficient channels.

Similarly, the network approach pays relatively little attention to issues of power or changes in relative power. On the other hand, all relationships are seen to involve mutual - although not necessarily symmetric - dependence. The deepening of a relationship normally means that each party increases its dependence on the other party. For example, a JIT delivery system results in an increase in the degree of interdependence. With an "emersonian" view of dependence as the inverse of power (Emerson, 1962), this would be a troublesome side-effect of the JIT efficiency gains. From a network perspective, the emphasis is more likely to be on the increase in *interdependence*, and on interdependence and trust as bases for further changes aimed at increasing the value of the relationship.

Retail change literature also pays relatively little attention to power issues, and it is thus only in the behavioural school that power is one of the most central concepts, and that factors influencing and changing the bases of power are explicitly considered.

Characteristics and characterisations of change

Fifthly, we may distinguish between change as a **continuous** process of adjustments and **revolutionary** change. Intra-channel relationships often are long-term and adjustments take place within these relationships. Even when the channel consists of more short-term exchanges, the basic characteristics of the channel are maintained, although adjusted. In the words of McCammon (1963)⁴⁹: Marketing channels and institutions must adapt continuously to their environment in order to avoid "economic obsolescence". Most of the required adaptations are tactical in nature. Channel alignments, for example, can usually be maintained over an extended period of time by effecting a series of minor, though necessary, revisions in marketing practice. ... Thus institutional change in

⁴⁹ Quotation refers to Joseph Shumpeter, *Business Cycles*, New York: McGraw-Hill, 1939, p 10.

marketing tends to be a process in which firms and channels manoeuvre for short-run advantages and in which they adapt almost imperceptibly to environmental disturbances.

In addition to this continuous change, revolutionary change in distribution channels will sometimes occur. McCammon (1963) continues:

The sudden appearance of new products, new methods of distribution, new types of competitors, and new sales approaches, may imperil existing institutional relationships. These abrupt departures from the *status quo* can disrupt prevailing patterns of competition, alter cost-price relationships, and "enforce a distinctive process of adaptation" on the part of threatened organisations.

Continuous and revolutionary change are probably better envisaged as end-points of a scale than as two different types of change (Kline and Rosenberg, 1986, p 294). Distribution channel theory in most of the work referred to above emphasises change as taking place continuously, in small steps. Work on retail change constitutes the exceptions to this tendency, as the newness, and sometimes revolutionary nature, of the change is typically emphasised.

We may also distinguish change as, or modelled as, primarily **internally generated** from change as primarily a result of **adaptations to outside changes**. The retail change and the microeconomics approach, respectively, make good example models that emphasise opposite types of change in this respect. In the *wheel of retailing* model, the retail structure is constantly under pressure to change, but the driving force of that change is completely within the specification of the model. In Bucklin's characterisation the channel is also under constant pressure to change, but the reason for the change in the extant channel is primarily that external changes lead to a change in the normative channel. In the behavioural approach, conflict and changes in an actor's relative power occur primarily as a result of the actions of the parties to the interaction. Similarly, the emphasis in TCA is on change as a result of *actions* rather than *reactions* of the channel members.

Finally, there is a dichotomy between change as being primarily **cyclical**, and change processes as **developmental**. In the former case, structural change is perceived as moving the channel structure between a number of known possible states in a cyclical (or pendular) fashion. In developmental models, change is described and viewed as a development from one structure to a new one, where each new structure is dissimilar from any that has existed before, and where the forces driving this change are endogenous to the model.

The most typical example of a cyclical model is the wheel of retailing, but much of other theory on retail change is also cyclical in the sense that it involves change between a number of known, pre specified states. The later developments on ecological and evolutionary theory on retail change obviously are examples of developmental models. In the microeconomics school, there are many examples of cyclical conceptions of channel development, where change is perceived as constituted by, for example, the inclusion or exclusion of one institutional level. On the other hand, as we move towards behavioural theory there are an increasing number of examples of work which is more developmental in that it, for example, pays attention to the role of innovations in driving change (e.g. Alderson, 1957; McCammon, 1963). In the markets-as-networks approach, there are economic incentives for the parties to a relationship to strengthen it and to allow the exchange that takes place within the relationship to be transformed over time. Many of the resulting changes, such as joint new-product development, or allowing mutual trust to take the place of costly contract procedures, are examples of developmental change.

In the next chapter, evolutionary thinking as used to understand processes of change in biology, culture and economic and technical systems will be discussed. Following that, in Chapter 4, we will bring together the threads from Chapters 2 and 3, to see how the concepts of evolutionary economics can be translated to the realm of change in distribution channels.

CHAPTER 3

Evolution in Industrial Systems.

Introduction

The aim of this Chapter is to discuss how evolutionary theory can be used to describe and understand processes of change in the economy and among economic agents. In its everyday application, evolution is perhaps mostly associated with biology, and particularly with Darwin's theory on the origin of species. However, ideas of evolutionary systems predate Darwin, and in fact economic theories of evolution may have influenced Darwin's formulation of the evolution of species. Notebook evidence indicates that he was influenced by both Adam Smith and especially by Thomas Malthus.⁵⁰ Ideas concerning evolutionary systems have a history not only before Darwin but also outside biology. To quote Metcalfe (1997):

That evolution is a core concept in biology does not mean that it is an inherently biological concept. Evolution can happen in other domains providing that the conditions for an evolutionary process are in place. Thus, as economists applying evolutionary ideas to economic phenomena, we can learn from the debates on evolutionary biology in order to understand better the logical status of concepts ... without in any sense needing to absorb the associated biological context. (p 2)

In the recent resurgence of interest in evolutionary theory of economic change, rather than going back to the earlier economic roots of the idea, Darwinian evolution and related ideas are often taken as a starting point for models of economic change, or used more loosely as a metaphor for change in economic systems. For that reason, we will begin this Chapter by briefly summarising the basic building blocks of evolutionary theory as used in biology. Before turning to

⁵⁰ "For example, Boyd & Richerson write: "After several false starts, in late September [of 1838] Darwin read Malthus and for the first time grasped the idea of evolution by inherited variation and selective retention." (p 1)

evolution in economic systems, we take a look at some ideas concerning evolution in cultural systems. Cultural evolution constitutes a sort of middle ground between biological and economic evolution, in terms of how and when transfer of individual characteristics and capabilities takes place. The main part of the chapter then offers a summary of evolutionary theory as used to describe economic change and technological innovation processes.

Foundations of evolutionary theory in biology

One way to describe the basic tenets of evolutionary theory in biology is through its history, and we will do so by pinning this history to the contributions of three individuals, who all presented their ideas and findings during the 1800s.⁵¹ This admittedly leads to a simplified account, and one that disregards contributions by other scientists, both pro- and anti-evolutionists, who at the time were important in shaping and timing the presentation of evolutionary theory.⁵² Nevertheless, for the purposes at hand, it is a reasonable simplification.

First of the three was a French naturalist - Jean Baptiste Lamarck (1744 - 1829).⁵³ He is mostly associated with a formulation of gradual transformation of species through the "inheritance of acquired characteristics", although that was not the most central aspect of his theory. A change in the environment of an organism also changes the demands on and the needs of that organism. That in turn produces an "inner want" of the organism to meet the new demands through new or altered "structures" of its body, such as a giraffe that stretches its neck to be able to reach leaves higher up in the tree. A characteristic thus acquired to meet environmental needs will then be inherited by subsequent generations, producing a gradual increase in neck length until the modern species has evolved.

The next contributor was, Charles R Darwin (1809 - 1882).⁵⁴ He was at difference with the view that the variation results from differential acquisition of

⁵¹ This section and the following one draw on Savage (1977), pp 21-26, 65 - 57.

⁵² See, for instance, Bowler (1996) for an account of the historical and political process that led up to Darwin's publication of *The Origin of Species*, the resulting debate and eventual acceptance of it. He shows how Darwin's theory itself and its presentation were influenced by the scientific debate of his time and the reactions to those that had presented evolutionary and materialistic views before him.

⁵³ The major part of Lamarck's work on evolution dates from the period 1815-1822, although his first paper on the subject appeared as early as 1801.

⁵⁴ *On the Origin of Species by Means of Natural Selection* was published in 1859.

characteristics in the organism, and that the role of the environment is to function as an incentive for the organism to acquire new traits. Instead he proposes that organisms are born with a variety of characteristics and that the role of the environment is to provide a mechanism of selection among the variation produced at birth. All organisms exhibit variation, and also produce more offspring than can survive. Through natural selection, those individuals that are better fitted to the environmental demands are more likely to survive and reproduce. The characteristics of the fittest are thereby preserved and transferred to the next generation.

Darwin was not able to explain how the transfer of characteristics from one generation to the next is accomplished, which J. Gregor Mendel (1822 - 1884), did through discovering the principles of heredity. The respective contributions of Darwin and Mendel complemented each other, together providing a theory of evolution based on the interaction of heredity and natural selection. This combined theory not only postulated that selected traits would be inherited, but was also able to show how the system of heredity worked.

Three primary forces of biological evolution

There are three basic forces that drive evolution, whether we are interested in evolution within a species, or the evolution of new species from old.⁵⁵ Savage (1977) describes these three forces as follows:

1. *Mutation* A change in gene frequency may be ... through spontaneous change (mutation). Mutation as an evolutionary force is the ultimate source of new alleles and new gene combinations. Variation provides the hereditary material to be moulded by the impact of the other two forces. In most instances other factors contribute to the effect of variation by modifying and amplifying the effect of spontaneous gene mutation.

2. *Natural selection*. ... The impact of the total environment on the reproduction of gene combinations is the force of *natural selection*. The effects of natural selection change as the environment changes, so that slightly different environmental conditions in each generation favour slightly different gene combinations. Natural selection moulds the genetic variation present in a population, but it cannot directly produce new genes or gene combinations.

⁵⁵The two processes are referred to as sequential and divergent evolution, respectively. Divergent evolution takes place over a longer period of time than sequential, and also requires the impact of additional forces, such as some form of isolation, to occur.

3. *Genetic drift*. In many small populations completely random fluctuations in the frequencies of certain allele or gene combinations may occur, even under constant environmental conditions. These fluctuations constitute *genetic drift*, which also makes its impact felt through random effects on the genetic variation already present in a population. (pp 56-57)

Thus, the first force accounts for the variability that Darwin observed, and understood the effect of, but couldn't explain. It is in elucidating the specifics of this force that Mendel and his followers have made their contributions. The second force operates much as Darwin predicted. However, "[e]vidence from naturally occurring populations strongly suggests that variational difference between populations within certain species cannot have been stabilised by selection. In these population systems, various genetically regulated characters show random variation from population to population, without apparent correlation with changes in environmental (selective) factors." (Savage 1977, p 88) This phenomenon is accounted for by the third force, genetic drift. Lamarck's ideas of inheritance of acquired characters provided a reasonable intuition to the explanation of hereditary evolutionary processes. In the case of biology it turned out that it was not correct, but it has nevertheless had an impact on thinking outside science. Bowler (1992), in a fascinating account, shows how Lamarckism has been invoked to defend theories in subjects ranging from social development to racism. Today, Lamarckian ideas influence thinking on evolution in systems where acquired traits are in fact transmitted, such as in cultural evolution and in the evolution of new technologies.

Comparing genetic to cultural evolution processes.

Obviously, there are a number of important differences between an evolutionary process based on the inheritance of mutation-generated variation in populations of living organisms and evolution in an economic and industrial system, such as the acceptance and diffusion of a technological innovation. In particular, one might object that the variation exhibited among business firms is the result of differences in strategy and deliberate choices made by these firms.⁵⁶ One way to partly address that problem is to look at cultural systems, where evolution is driven by a combination of heredity and learning. For example, new cultural traits can be generated through a learning process, and many of an individual's cultural characteristics are adopted more or less voluntarily. When organisations decide whether or not to adopt a technological innovation, the resulting process

⁵⁶ Although, the degree to which the firm has complete freedom of choice may be questioned. This is done especially in the "population ecology" school. See, e.g. Hannan and Freeman (1977).

of adoption appears to bear more similarity to the spread of cultural traits than to genetic inheritance. Similarly to genetically transmitted traits, however, cultural transmission functions as an inheritance system, and the cultural traits of an individual will influence that individual's ability to survive and reproduce. To quote Allen (1988)

In the biology of simple beings, genetic reproduction ensures that the 'information' about successful strategy resulting from advantageous genetic variability can only be passed on to descendants. But, of course, an entirely new phase of evolution is reached once information can be 'perceived' and imitative modes of behaviour are possible. The fulcrum of evolution passes from 'genetics' to 'perception - judgement - behaviours' (p 109)

Boyd and Richerson (1985, p 7-8), in discussing the differences between genetic evolution and cultural evolution, describe the following differences. (1) In genetic evolution, the mating system consists of genetic transmission of traits from parents to offspring. Cultural traits, on the other hand, can be transmitted from many other individuals as well, such as teachers, grandparents or persons holding prestigious positions in society. (2) Enculturation does not necessarily take place from older to younger, but may also be horizontal, as when adults copy other adults or young people imitate their peers, and in some cases adults may even imitate children. Also, because cultural trait transmissions can occur at different times, their generation length can also vary, allowing, for example, fashions or technical innovations to take hold rapidly. (3) Cultural traits are acquired throughout the lifetime of the individual, rather than at one point in time and before birth as in the case of genetic transmission. This means that genetic mechanisms can affect the probability of acquiring a certain cultural trait, and that an already acquired trait can affect the probability of acquiring traits at a later stage.⁵⁷ (4) Finally, because cultural transmission involves acquired traits rather than inherited traits, the resulting effect is a kind of "Lamarckian" evolution, in which learned traits may be inherited and where selection will work to increase the frequency of some, more adaptive, learned traits over others.

The forces of cultural evolution

The forces of genetic evolution shape the composition of traits in a population by generating variation of traits, and by favouring reproduction of certain genes

⁵⁷Cf the discussion on p 59 ff of an actor's existing assets constituting a disincentive to adopting a competence-destroying innovation, and the discussion of path dependence, p 71

over others. The end product of genetic evolution is a population that is better fitted to its environment, although genetic drift may counteract the force of natural selection. We now need to determine the forces of cultural evolution, i.e. how is variability generated, how are cultural traits reproduced, and what are the mechanisms that work to favour certain traits over others. Again, we enlist the contribution of Boyd and Richerson.⁵⁸ They propose five forces of cultural evolution, namely:

1. Random variation
2. An analogue of genetic drift
3. Guided variation
4. Biased transmission
5. Natural selection

Random variation is the cultural equivalent of mutations, a force which generates variation through chance. An example would be the errors that are gradually introduced in the oral tradition of historical events. Boyd & Richerson propose that the rate of error production through random variation in cultural evolution is higher than the mutation-generated variation in genetic transmission. Chance can also influence which cultural traits that are observed or remembered, and this constitutes an analogue to genetic drift.

The third force is guided variation. Consider a population in which the young individuals learn an initial set of behaviour from their elders. This initial set of behaviour will then be modified through the learning experience that these individuals have. Therefore, in the next round, the population will exhibit a different set of behavioural rules, and it is this modified set of rules which in turn will be transferred to the next generation of young individuals. Because learned experiences are incorporated into the culturally transmitted behaviour rules in each generation, the force of guided variation will increase the frequency of variants favoured by learning, even in the absence of natural selection. Note that this process is analogous to the Lamarckian view of evolution mentioned earlier. Even though the transfer of the initial set of behaviour to the young is unbiased and depends only on the relative frequency of traits in the adult population the frequency of the various traits will change as a result of learning in the adult generation. Thus, it is the learning and the incorporation of these learned traits into the transmitted culture that constitutes the evolutionary force,

⁵⁸ This section draws on Boyd & Richerson (1985), pp 9-11, 133-137

not the transmission in itself. The transmission in itself will not lead to any change in the makeup of characteristics in the population, provided it is random and unbiased. This leads us to the fourth force, namely biased transmission.

The fourth force relates to the rules that individuals may have in choosing which other individuals to imitate. If the young always choose to follow the same set of behaviour as their parents, then the result will be unbiased transmission. However, once we allow the offspring to choose which set of behaviour to adopt, based on their evaluation of the alternatives, then transmission will become biased and itself an evolutionary force. There are three types of biased transmission mechanisms. (a) The "naive", i.e. still unenculturated, individual may try out the different behaviours that are available, and chooses the one that seems to work best. This is costly and may be rather an inefficient rule, since time spent trying out different behaviours might be better spent perfecting one of them. (b) To evaluate the potential role models' degree of success, and choose to take after the most successful individual, may be more time-efficient. However, it is not evident that the behaviour that is best for one individual is best for another, and furthermore, it is not always clear by which criterion "success" should be measured. For example, is success as a rock singer also a good indication of making good choices regarding whether to use recreational drugs. (c) Another time-efficient strategy is to use the rule of adopting the most common behaviour. This rule will lead to a good choice of method only if there is some other process which ensures that the most common method is also the best one. In total, the evolutionary force of biased transmission depends on the degree of variability that is initially present.

The fifth force is natural selection. Boyd & Richerson, following Campbell (1965, 1975), argue that natural selection is a general principle which may occur in many circumstances. Provided that there is some form of inherited variation, and that this variation impacts the ability to survive and reproduce, then natural selection will favour some variants over others.

"Since cultural variants are inherited and many, if not all, culturally acquired behaviours have an effect on human survival and reproduction (both genetic and cultural), some cultural variants will increase relative to others. ...

Natural selection acting on cultural variation can cause the evolution of different behaviours from those one would expect as a result of selection acting on genetic variation when the pattern of cultural transmission is different from the structure of genetic transmission. If such structural differences exist, the behaviour that enables an individual to his chance to enculturate cultural

offspring may not be the behaviour that will maximize the transmission of genes to the next generation."

To summarize, over time the forces of cultural evolution, just as the forces of genetic evolution, work towards making the population better fitted to its environment. However, the "environment" to which fitness is increased, is not necessarily the same in both processes, so that better cultural fit may worsen the genetic fit of the same individual. For example, consider the behaviour patterns of a catholic priest. Because of his position and behaviour, he is respected in his society, and therefore in a position to enculturate a large number of individuals. However, that same position and those behaviour patterns are unlikely to be conducive to genetic reproduction. Furthermore, it is important to emphasise that the adaptation is to the local environment of the individual. An individual's adaptations to a particular environment may make that individual very unsuitable for survival and reproduction (genetic or cultural) in another environment, or if a change occurs in its usual environment. In both genetic and cultural evolution, there are also forces that can have the opposite effect to adaptation, maladaptive change processes, or processes of change that cannot be explained by selective forces. Maladaptive processes may occur through genetic drift or its cultural analogue and through some forms of biased transmission.

Finally, the importance of time should be noted. Adaptation and change processes occur only over very long periods of time, especially in the case of genetic change.⁵⁹ But also in the case of cultural evolution, the time involved in changes is important. This is quite obvious, since the advantage of culture over trial-and-error learning is that it offers a more cost efficient way of adapting to a relatively stable environment. A cultural population bases its behaviour pattern not only on recent experiences of its environment, but also on the experiences of its ancestors, as transmitted through culture. A cultural population will therefore by definition be slower to change than a non-cultural population, and thus the very essence of culture is the introduction of a mechanism that lags response to change.

⁵⁹Nobel laureate in economics, Reinhard Selten notes that biologists view gene substitution by mutation to be a very slow process, because successful mutants are very rare. It is considered unlikely that *mutations* have effected change in human behaviour even in the 10 000 years since the spread of agriculture, which leads Selten to make the rather pointed observation: "This means that biologically man may still be a hunter and gatherer not very well adapted to the necessity of long run planning. This may be the reason why some Ph.D. dissertations take much longer than planned." (1991, p 8)

Comparing cultural evolution to evolution in economic systems.

The concepts from theory on cultural evolution as presented so far would seem to be relevant for describing and understanding such economic processes of change as technological development. For example, guided variation appears relevant both because we may expect that human curiosity and striving for improvements are important generators of variation, and because variation generated through learning, if considered valuable, will tend to spread through imitation by other individuals in the population. We also know that biased transmission is relevant to diffusion of innovations. For example, Rogers & Shoemaker (1971) found that the social status of the individual introducing an innovation was an important determinant of whether it would become accepted. Furthermore, differences among firms regarding adoption of an innovation will create variation among them. As the adoption choice has an impact on their capability to succeed and survive, the force of natural selection will act on the population of firms in favour of those that have made the best choice in terms of adaptiveness.

However, in several respects, there also seem to be important differences between the two types of evolution. Firstly, there are differences concerning the result of the evolution and adaptation process. In populations of organisms, if a new variety is successful in terms of being better adapted to its environment, selective forces will lead to an increase in the number and share of individuals that exhibit this particular. However, drawing an analogy between a mutation and an innovation, the adoption of a successful innovation by a firm may lead to a similar pattern of an increasing share of firms that also adopt that particular innovation. But the effect may also be, especially in the presence of patents or economies of scale, that the innovating firm is able to grow and gain market share, perhaps becoming many times larger than its competitors. Or the effect may be that competing firms respond by striving to block the innovation in question, if successful counteracting the apparent success of the innovator. Some of the factors that influence other firms' reactions to one firm's successful adoption will be discussed further below.

Furthermore, firms are not organisms or individuals, and they are more than the individuals that work in them. Firms may formally live for a very long time while changing every aspect of their composition and mission. And even if a firm gets "eaten-up", i.e. acquired, it often continues to live in the sense that its business continues to be carried out by the same employees. Thus, in some respects, the subsequent longevity of the adopting firm, rather than the number

of adopters, may be a better indicator of the success of the innovation. Also, when a small, innovating firm gets acquired, in many cases that can be taken to be a sign of the success of the innovation, and could well be what the entrepreneur had in mind from the start.

Finally, we have drawn an analogy between innovations and mutations. Although valid in some respects, there are also differences that need to be taken into account. While a mutation by definition is carried by an organism, an innovation may appear without any individual in the population necessarily adopting it. Perhaps the innovation is therefore better described as a *potential* mutation, not resulting in an *actual* mutation until or unless it is adopted. Furthermore, the same population of firms that constitutes the potential adopters of the innovation (potential mutation), often also constitutes an important aspect of the selection mechanism of the environment.

Evolution in the Economy and Technological Innovation

In the above discussion of evolution in biological and cultural systems, each of the forces of evolution was discussed separately. In this section we instead summarise the forces of evolution under two headings, namely (1) variation generation, and (2) selection. For example, rather than treating biased transmission as a separate force, such evaluation rules will be considered under the discussion of selection. We believe that this simplification is defensible in the interest of clarity of argument, and it is our contention that even with this simplification, we will cover the relevant forces in our discussion.

I will describe the evolution processes as occurring through variation generation and selection in two rounds. This structure is in a similar vein as the distinction between *ex ante* and *ex post* selection made by Dosi and Orsenigo (1988), or that between *adoption* and *diffusion* analysis made by Metcalfe (1988). Dividing the evolution process into different rounds or levels, is another way to handle the multifaceted nature of organisational variation generation and adoption and the selection mechanisms that work on these processes.⁶⁰

The model I will use is as follows. Firstly, variation creation occurs in that innovations "appear" and become available for adoption (cf "potential

⁶⁰McKelvey (1994), for example, describes the development and commercial launching processes of genetically engineered human growth hormone as taking place in three separate but very inter-related and interdependent environments: the public, the basic scientific, and the economic.

mutation"). For various reasons, some of these innovations will become adopted by certain of the actors in the industrial system (cf "actual mutation"). This is the first round of selection. Adopting the innovation constitutes changing some aspect of the adopting actor, making them different from the non-adopters. Thus, the first round of selection in turn creates variation among the actors. This variation forms the basis for a second round of selection. In this round, "market competition and other forms of more discretionary selection (such as choices by government, financial institutions, etc.) sort out the behaviours, products, techniques, and organisational forms which - on some economic and/or institutional criteria - are 'preferred.'" (Dosi and Orsenigo, 1988, p 13)

The clear chronology and separation of the stages of the evolution process as described above should not be overstated. For example, both the development of innovations and the choice to adopt a certain innovation in the first round will naturally be influenced by expectations of the selection criteria in round two. That is, the selection process itself causes variation generation to occur. The main advantage of this description is that it delineates a number of questions that need to be answered. The following discussion of the evolution process will be structured according to these questions. Firstly - what are innovations, and where do they come from? Secondly, what factors affect the innovation-actor match? That is, why are certain innovations adopted by certain actors? Thirdly, given that the adoption of innovations by some of the actors creates variation among the actors, what are the mechanisms which affect the second round of selection, where innovations are selected based on the performance of their adopters?

Innovations - sources, content and magnitude

There are two basic forces that drive innovation, competition and "entrepreneurial spirit". Competition between firms leads to search for differentiation and improvements in order to attain competitive advantage. While competition is a basic driving force of a market economy as such, entrepreneurial spirit refers to an individual characteristic or ability. Schumpeter (1943) describes this personality trait and its function in driving innovation as follows:

"...the function of the entrepreneurs is to reform or revolutionise the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening up a new source of supply of material or a new outlet for products, by reorganising an industry and so on. ...

To undertake such new things is difficult and constitutes a distinct economic function, first, because they lie outside of the routine tasks which everybody understands and, secondly, because the

environment resists it in many ways that vary, according to social conditions, from simple refusal either to finance or buy a new thing, to physical attack on the man who tries to produce it. ... This function does not essentially consist in either inventing anything or otherwise creating the conditions which the enterprise exploits. It consists in getting things done." (p 132)

The degree to which individuals drive innovations is debated. For example, Schumpeter, above, put a great deal of emphasis on the role of the entrepreneur as an individual. One way to describe innovations is thus to focus on the role of one person as inventor, and on the independence of the innovation on the already existing. According to such a view,

"inventions emerge in a fully developed state from the minds of gifted inventors. In this heroic theory of inventions, small improvements are ignored or discounted and all emphasis is placed upon the identification of major breakthroughs by specific individuals - for example the steam engine by James Watt, or the cotton gin by Eli Whitney." (Basalla, 1988, p 21)

This view, especially in its extreme form, receives little academic credit today. Indeed, Schumpeter continued the above quotation by predicting that the role of the individual entrepreneur was being reduced, as innovation became routinized and as teams of trained specialists generated technical progress in predictable ways. It is certainly true that some inventions and innovations represent substantial "leaps" in relation to the existing level of technology, and that certain individuals have been most important in the development of some of innovations. However, increasingly attention is focused on the continuous elements of technological evolution. Innovations are to a large extent new combinations of existing forms and concepts. It is recognised that knowledge of antecedents to an innovation is important for understanding the characteristics of the successful innovation. Furthermore, the antecedents may very well possess many or practically all the physical characteristics of a product that later becomes accepted as an innovation.

Recognition of the significance of Whitney's cotton gin depended on the growing demand at home and abroad for cheap cotton and the limited availability of slave and paid labourers to process the raw material manually. In a society dominated by woollen or linen cloth, or in one in which manual labour was freely available, Whitney's machine would not have served as the prototype for a spate of more powerful and effective gins. In either of those societies, the cotton gin would have been a mechanical curiosity without social, economic, or technological influence.

Thus, the significance of an invention cannot be determined solely by its technological parameters - it cannot be evaluated as if it were a thing unto itself. An invention is classified as "great" only if a culture chooses to place a high value upon it. Likewise, the reputation of its inventor is tied to

cultural values. In either of the alternative worlds just described, Whitney would not be honoured as a heroic inventor; he would be ignored or at best looked upon as the eccentric builder of a trivial device. (Basalla, 1988, p 34)

In continuing, we will discuss the innovation concept in somewhat greater detail. In particular, we present two dimensions of innovations, *content* and *magnitude*. We also discuss how innovations are linked to the related concept of *development blocks*. (Dahmén, 1988)

Content. The most common distinction is between product innovations and process innovations. In the case of physical products, this distinction is usually relatively straightforward, at least in theory. Thus, Gore-Tex is a product innovation, while the Bessemer oven was a process innovation in steel production. However, even in the case of physical products, though, the distinction is to an extent a matter of perspective - organically grown food being a case in point.

In the case of intangibles, the distinction becomes even more blurred. Miles (1996, p 23), notes that "An oft-cited peculiarity of services is that product and process are hard to differentiate." He goes on to propose a new category of innovations, delivery innovations.

"The supplier-client interaction is often a site of innovation, especially in the delivery of the service to the client. In fact, it is useful to think about a third category of delivery innovations. These may be changes in 'front-office' or field activities, or changes in remote delivery of services to clients via new IT."

Another category of innovation that is sometimes distinguished, is "organisational innovation". This is an innovation in how an organisation is organised.⁶¹ An example is the multi-divisional form of firm organisation, which allows a more efficient operation of the large and diversified firm. (Chandler, 1966, Armour and Teece, 1978). Often, organisational innovations could also be considered process innovations. The multidivisional form *is* a way to organise the overall production process of the firm, although a separate category is arguably clearer. On the other hand, when consultant firms sell

⁶¹ The term organisational innovation is also used to denote implementation of innovations in the context of organisations. For instance, "Organisational innovation is the successful implementation of creative ideas within an organisation. Within this definition, the ideas in question can be anything from ideas for new products, processes or services within the organisation's line of business to ideas for new procedures or policies within the organisation itself." (Amabile, 1988, p 126)

management innovations such as Total Quality Management that is an example of organisational innovations taking on product characteristics (Kimberly (1981, Czarniawska-Joerges, 1988).

It should be noted, that for the purpose of describing and understanding evolutionary processes in the industrial system, there is no fundamental difference between innovations in physical products and innovations in organisational forms. Thus, in the following, the term innovation will be used to refer to new combinations in general, whether they occur in "behaviours, products, techniques, or organisational forms." (Dosi & Orsenigo, 1988, p 13)

Magnitude. The magnitude of an innovation may be related to two dimensions. One dimension describes the *degree of improvement* relative to existing technology, where continuous and discontinuous are used to describe the end-points of this dimension. The second dimension describes the *effect* of an innovation on other parts of the system of which it is (going to be) a part.⁶² Often these two dimensions of innovation magnitude are intertwined in discussions of innovation, as they no doubt are in practice. For example, Teece (1988) starts out with a simple distinction between *autonomous* and *systemic* innovation, where "an autonomous innovation is one which can be introduced without modifying other components or items of equipment. ... A systemic innovation, on the other hand, requires significant readjustment to other parts of the system." (p268) This distinction is thus made entirely with reference to the second dimension, the degree to which other parts of the system will be affected by the introduction of the innovation. However, later in the same article, a third type of innovation is introduced, a "paradigm shift", which is described as follows; "Occasionally, fundamental breakthroughs in science and technology occur which do not build upon incumbent firms' competencies." (p 276) This type is defined in terms of the first dimension - distance to existing technology, and no reference is made to the extent of the effect its eventual introduction will have on the existing system.

Rosenberg proposes a somewhat different distinction. It is similar to the second dimension above, in that it considers the magnitude of an innovation to be a function of its effects on existing structures. However, rather than focusing on

⁶²A third dimension is described by the distinction between drastic and non drastic innovations. This dimension relates to the innovation's effect on production costs, and thus to the price that the innovator may set. A drastic innovation allows the innovator to set prices below the cost of its competitors, thereby capturing the whole market. (Arrow, 1962)

the perceived need to affect other parts in order to achieve the introduction of the innovation, he defines a major innovation in terms of its *potential* to spread to other parts of the system.

A major innovation is one that provides a framework for a large number of subsequent innovations, each of which is dependent upon, or complementary to, the original one. ... another way of explaining these connections is that each constitutes the initial of a long sequence of path-dependent activities, typically extending over several decades, in which later developments cannot be understood except as a part of a historical sequence. (Rosenberg, 1994, p 15)

Thus, an autonomous innovation could turn out to be a major innovation, if it holds the seed to many related and dependent innovations. This definition of a major innovation corresponds well with the Dahménian concept of development blocks, described as follows;

The focus on complementarities and structural tensions makes the "*development block*" concept fall into place. It refers to a *sequence of complementarities which by way of a series of structural tensions, i.e. disequilibria, may result in a balanced situation.* (Dahmén, 1988, p5)

The role of perspective should also be pointed out. Whether magnitude is viewed in terms of the size of the leap or in the effects of introducing the innovation, it will be different depending on who's perspective is taken. To quote Langlois and Robertson (1995):

When there is autonomous innovation within a system, manufacturers and consumers may give different answers to the question of whether the result is a variation on an existing product or an entirely new substitute product. From the standpoint of drivers, the successive changes from cotton to rayon, and then to nylon and finally polyester tire cords between the 1940s and the 1970s were autonomous. ... To the tire manufacturers, however, the systemic nature of the changes was overwhelming, as each involved the displacement of existing firms and the rise to leadership of [other firms] ... The adoption of radial tires, on the other hand, was an even more significant (or systemic) product innovation from the perspective of the tire makers themselves, and they were soon overtaken by an innovator (Michelin) that had been unimportant until then in many markets. (p 76)

This discussion of perspective ties in with the discussion of whether an innovation is competence enhancing or competence destroying for its potential adopter. The point is taken up in the next section.

Selection round 1 - innovation - actor match

Based on the discussion so far, we may posit that there is no one category of particularly innovative actors⁶³, nor are there intrinsically adoptable innovations. Instead, the main determinant of whether an innovation becomes adopted, lies in the degree to which it is well matched to a potential adopter's existing assets. In the discussion of enculturation, it was noted that an already acquired trait may affect the likelihood of acquiring another trait at a later stage. Similarly, the existing assets of a firm will have an impact on the likelihood of its adoption of a certain innovation.

...besides having enough income to invest in the equipment, there are other more intangible assets that the would-be producer *must* possess or acquire. So the characteristics of the buyer (or imitator) will have enormous influence on the cost of the technology to that particular firm. What this means is that production technologies have no single price tag. (Perez & Soete, 1988, p 464)

Given that the cost of adopting an innovation will differ according to the firm's existing assets, the incentives to adoption will differ between types of innovation and from actor to actor. What we need to determine, then, is the types of matches between innovation and actor that are more conducive to adoption. We will discuss three factors that affect the type of innovation that an actor is likely to adopt, namely (1) whether the actor is an insider to the industry, (2) the type of production system the actor is a part of, and (3) the size, and degree of vertical integration of the actor.

Insiders and outsiders

One fundamental distinction has been advanced by Anderson and Tuschman (1990), namely the extent to which an innovation is competence-enhancing or competence-destroying for the potential adopter. According to Anderson and Tushman a competence-destroying innovation "renders obsolete the expertise required to master the technology it replaces.", whereas a competence-enhancing innovation "builds on know-how embodied in the technology it replaces."

The concept of an innovation being competence-destroying or competence-enhancing is only relevant to the actor that possesses competence in the area in question. Only to the actor that is already incumbent in an industry can an innovation be competence-destroying or enhancing, as it is only the incumbent

⁶³Although there are individuals and individual firms that are more innovative than others. That is not the same as there being correlate characteristics of certain groups of firms, that supposedly are always associated with a higher degree of innovativeness.

that can have made technology specific investments into capital and organisational capabilities. Since only the insider has to take into account the value of competence and capital rendered useless when evaluating an innovation, adopting a competence-destroying innovation will be relatively more costly for the insiders of an industry, than for an outsider. Due to this "sunk cost effect" it may be profit-maximizing for an incumbent to stick with its existing technology even when the profit-maximizing decision for an entering firm would be to choose a different technology (Besanko, Dranove and Shanley, 1996, pp 581-584). We should therefore expect insiders to be disinclined to adopt competence-destroying innovations. According to Utterback (1994), this prediction is borne out empirically, as competence-destroying innovations have been observed to come almost exclusively from outsiders.⁶⁴ On the other hand, should a competence-enhancing innovation become available, we should expect incumbents to jump at the opportunity to further strengthen their position against outsiders.

When a competence-destroying innovation becomes available, insider firms will not only be reluctant to adopt it, they also have incentives to attempt to stop its introduction or to deter it until a more favourable time. Depending on the strength of the incumbents and the potential value of the innovation, they may be more or less successful at this.

The gas industry very quickly recognised the potential threat of incandescent lighting and acted to thwart its progress. The gas "monopoly" (as Edison called it) publicly belittled the significance of electric lighting, exaggerated its dangers, and used political influence with regard to safety standards and municipal charges for power distribution in ways that would impede its progress. In New York City, for example, gas proponents tried to persuade city aldermen to charge a fee of \$1,000 per mile of underground power distribution, a fee that did not apply to their lines.⁶⁵

In addition to competence, other types of assets, such as production equipment or relations to customers and other actors, may also be threatened by an innovation, thereby making insiders unlikely adopters of the innovation. For example, Utterback (1994, p 72) notes that it was GE together with Westinghouse who first developed the fluorescent lamp. Yet, because they were concerned for their existing customer relationships to the power utilities, they refrained from

⁶⁴ This is consistent with Tushman and Anderson (1986), but the results of Anderson & Tushman (1990) are more ambiguous. In the latter study, entrants were found to outnumber incumbents in pioneering competence-destroying innovations, but the difference was not statistically significant.

⁶⁵ Utterback (1994), p 65

promoting the new technology. The power utilities, whose sales would be negatively affected by the introduction of an energy-saving lamp, were important customers to GE and Westinghouse, buying not only lamps, but generators and other equipment as well. Pushing the new technology would hurt the market for these products, due to the reduction in energy consumption. By alienating the utilities, it also risked hurting GE's and Westinghouse's positions in the market. On the other hand, "Sylvania, a bit player in the lighting industry at the time with only 5.5 percent of lamp sales and no prospects for expansion, had no concerns about offending the power utilities and went into fluorescents aggressively, eventually capturing 20 percent of the new and growing market."

Thirdly, insiders will be disinclined to adopt efficiency-enhancing innovations when market demand is inelastic, unless they expect to be able to raise margins. If not, the only effect of introducing the innovation will be to lower gross sales and have no positive effect on profits. Again, outsiders are not constrained. On the contrary, by adopting the innovation and using their lower costs to undersell the incumbents, they will be in a position to capture market share from them. (Langlois and Robertson, 1995)

Finally, incumbents by definition, have a business to run and normally this should be expected to take up their time. If they wish to maintain the stream of income from their existing business, they need to tend to it, and to search for continuous improvements of these operations. Searching for radical, discontinuous innovations is another matter and probably the two activities are hard to combine. "Owners and managers of dominant firms who are deliberating in their pursuit of radical innovation are remarkable and few." (Utterback, 1994, p 162)

The above discussion is intended to show that incumbents should be expected to be *less likely* to adopt and propagate certain types of innovation than are entrants, because the associated costs tend to be higher for the former group. This does not mean that they are never instrumental in the success of such innovations, because they may be. As Anderson and Tushman (1990) argue in explaining a mixed presence of incumbents and entrants as pioneers of a number of competence-destroying innovations:

"The process of setting industry standards may require a combination of new thinking and institutional experience. Perhaps new entrants are required to initiate the creative destruction that makes an entrenched technical regime obsolete, but established firms contribute to the creation of

technical order from the intense ferment triggered by competence-destroying technical change." (p 625)

Modular or interdependent systems⁶⁶

The distinction between autonomous and systemic as a characteristic of innovation magnitude has already been discussed. In this section, that argument is continued by the introduction of a distinction between modular and interdependent systems of production. The characteristics of the system of production affects whether autonomous or systemic innovations will be favoured. Crafts production may be used to exemplify an interdependent system of production, whereas industrial production is an example of a modular system. In the latter, the stages of production have been separated, and each stage may be organised independently of each other stage, under the constraint that the output from each stage must be compatible with the subsequent stage. Under this constraint, production methods at each stage may be changed, and innovations may be introduced to increase efficiency.

By allowing specialist producers (and sometimes specialist users) to concentrate their attention on particular components, a modular system thus enlists the division of labour in service of innovation. ... Systemic innovation would be more difficult in a modular system, and even undesirable to the extent that it destroyed compatibility across components. We would expect, however, to see systemic innovation *within* the externally compatible components. The internal "stages of production" within a modum ... can vary greatly from manufacturer to manufacturer so long as the component continued to connect easily to the network. (Langlois and Robertson, 1995, p 75)

In the crafts production, the opposite holds true.

The artisan must be adequately skilled in all the tasks necessary to complete the product. This implies a certain degree of flexibility. Innovation of a stage-specific, efficiency-enhancing sort is ... less characteristic of crafts production. But innovation of a more systemic sort is likely: for the artisan, systemic innovation - innovation across the stages of production under his or her command - is in fact autonomous because it affects only the activities of this one person. (ibid, p 22)

Effects of firm size and of degree of vertical integration on innovation adoption

Dosi (1988), building on Schumpeter (1943) proposes that there has been a change in the innovation pattern over the last century, so that the role of the individual has been reduced in favour of formal organisation. This, he claims, is the result

⁶⁶ Langlois & Robertson (1995) use the term *closed* where I use *interdependent*. I have chosen to deviate from their terminology to avoid confusion because 1) closed has a different meaning in organisational theory and because 2) as concerns the distribution channel specifically, it is clearly an *interdependent* system, but definitely not a *closed* one.

of the "increasing complexity of research and innovative activity". Certainly, the capital requirements involved in much of today's research will favour large organisations, and even cooperation between large organisations⁶⁷. On the other hand, examples abound of the important driving force of small firms and even individuals in industries such as biotechnology or computer. Thus, while we might expect a positive correlation between *firm size* and innovation magnitude⁶⁸, the pattern is not as clear as that between insiders and outsiders. In addition, as Dosi also notes, a significant share of innovative activity occurs as a result of learning-by-doing and learning-by-using, where firm size is not of significance.

Another characteristic of the firm that is considered to have an impact on its ability and interest in adopting innovations, is its degree of *vertical integration*. In a system of free-standing actors, adoption and implementation of systemic innovations may be hindered by difficulties of coordinating investment by and distributing gains to the actors involved. Vertically integrated firms would therefore be more likely adopters of systemic innovations, as argued by Teece (1988).

... integration facilitates systemic innovations by facilitating information flows, as the coordination of investment plans. It also removes institutional barriers to innovation where the innovation in question requires allocating costs and benefits, or placing specialised investments into several parts of an industry. In the absence of integration, there will be a reluctance on the part of both parties to make the necessary investments in specialised assets, even if this could yield mutual gains. (Teece, 1988, p 269)

As discussed in Chapter 2, vertical integration does not necessarily require ownership ties. Non-ownership forms of vertical integration may also have an impact on a firm's likelihood of adopting an innovation, as noted by Robertson and Gatignon (1987):

In industries where suppliers and customers have a high degree of vertical dependence, such as airframe manufacturers and airlines, there may be a propensity to coordination and interlocking relationships (Schoorman, Bazerman and Atkin 1981). Such interlocks reduce uncertainty by increasing the flow of information. It would be expected that high degree of vertical integration is positively associated with more rapid diffusion. (p 186)

⁶⁷ For instance, in the automotive industry, the development costs are such that all firms rely on strategic alliances for some of this work. (Andersson and Nyberg, 1998)

⁶⁸ At least up to a point. Several studies have found that the largest firms supply less patents than what would correspond to their market share. See Scherer (1980) p 420

To summarise, adopting a given innovation will entail different costs and benefits for different actors, depending on their existing asset structure. This leads to a correspondence between actor type and the likelihood of adopting a certain type of innovation.

1. In particular, insiders will change their way of operating by continuous, learning-by-doing type innovations, but they are less likely to search for or adopt major, radical innovations. This is because such innovations often are competence-destroying or threaten other existing assets of incumbent firms, and therefore entail relatively higher costs of adoption for insiders than for outsiders. Outsiders are more likely adopters of efficiency-enhancing innovations in situations where competitors control margins and market demand is price inelastic.
2. Firms that are part of a modular system of production are more likely to adopt autonomous innovations, while firms in interdependent systems favour systemic innovations.
3. Finally, vertically integrated firms are more likely to adopt systemic innovations, and large firms may be relatively better endowed to adopt radical innovations.

Selection round 2 - actor selection and market outcomes.

To continue the analogy with mutations introduced earlier, let us consider that an innovation becomes available in a market. The innovation that has become available constitutes a "potential mutation". When the innovation has been selected by an actor, it becomes an "actual mutation" which creates variation in the population of firms.⁶⁹ Those actors that adopt an innovation become different from those that do not, and differences between the innovations adopted translate into differences among the adopters. In the second round of selection, innovations are selected based primarily on the competitive strength of their adopters relative to that of non-adopters and adopters of other innovations.⁷⁰ This competitive strength depends only partly on the value of the

⁶⁹ Although this is by no means the only reasonable perspective. An alternative perspective is suggested by Selten (1991) "Not the firms but the production methods are the animals under selective pressure. The behaviour of the firms is the environment of the production methods. Production methods are born and may die." (p12)

⁷⁰ Thus competition functions not only as a force generating innovative activity, but also as a selection mechanism. To quote Schumpeter: "The same apparatus which conditions for performance ... also selects ... This combination of the conditioning and the selective function is not a matter of course. On the contrary, most methods of social selection, unlike the "methods" of biological selection, do not guarantee performance of the selected individual, ..." (1943, p 74) (This quotation

adopted innovation, and it is not possible to determine a given innovation's success based only on its technical superiority relative to other solutions.⁷¹ In fact, examples abound where the selected solution is technically inferior to other existing solutions. When a technically superior innovation fails, it may be due to lack of fit in relation to the commercial system, competitors, supporting organisations, etc. Another reason why an innovation fails is if it doesn't fit in with the expectations and value systems of the consumers.⁷² The selection of an innovation will depend on its strength *in the context* of the adopting organisation, the actions of surrounding firms, and the reactions of the consumers. An actor contemplating adoption of an innovation must try to predict the actions and reactions of others - competitors and customers. It is these actions and reactions that constitute the selection environment, i.e. the selection process is endogenous. This is analogous to the local adaptation resulting from natural selection in biological or cultural evolution.

Furthermore, as noted by Utterback (1994):

An established technology that has not previously been challenged may be capable of creating tremendous improvements when seriously threatened. The great increase in lighting efficiency caused by the Welsbach mantle is a prime example. Newcomers with radical innovations should assume that entrenched competitors with financial resources will respond vigorously with innovations of their own. (p74)

Thus, an innovative technology must be competitive not only in relation to the established technology, but also in relation to the *potential* of the established technology. An innovation may be considered a success if the firms that adopt it survive and prosper. The innovation does not necessarily become the only, or even the most common version, but may well exist in parallel with earlier and later versions. For example, regular bicycles have survived (although with a diminished market share) in parallel with both racing bikes and mountain bikes. However, in some cases, only one or a very limited number of versions survive, and the concept of a *dominant design* refers to that situation.

refers to the selection mechanisms for individual success within the capitalist system)

⁷¹ "Technological variety across firms is the basis for competitive advantage. The competitive strength of different technologies, in conjunction with certain strategic attributes of firm behaviour, determine how the rival technologies diffuse relative to one another." Metcalfe (1988), pp 567-568

⁷²Cf Rogers (1962) for a discussion of the use of sociological models in explaining the diffusion of innovations.

Dominant design and isomorphism

In the early stages of the innovation process, "the era of ferment" (Anderson and Tushman, 1990), many different and competing designs are launched by different actors, each offering a different solution to the problems at hand, and each incorporating a different set of features.

For variation and selection to cumulate in an evolutionary process, there must be a retention mechanism; a successful variation must be preserved and propagated (Campbell, 1969). A dominant design is the second watershed event in a technology cycle, marking the end of the era of ferment. A dominant design is a single architecture that establishes dominance in a product class (Abernathy 1978; Sahal, 1981). Once a dominant design emerges, future technological progress consists of incremental improvements elaborating the standard and the technological regime becomes more orderly as one design becomes its standard expression. (Anderson and Tushman, 1990, 613)

"A dominant design drastically reduces the number of performance characteristics to be met by a product by making many of those requirements *implicit* in the design itself" (Utterback, 1994, p 25). That is, the dominant design of a product or service is the one that is commonly accepted, that customers expect and that is taken for granted. However,

"The emergence of dominant designs, unlike technological discontinuities, is not a function of technological determinism; they do not appear because there is one best way to implement a product or process. Rival designs are often technologically superior on one or more key performance dimensions. ...

We argue that since a single technological order rarely dominates all other technologies or important dimensions on merit, social or political processes adjudicate among multiple technological possibilities" (Anderson and Tushman, 1990, p 616)

What determines which of the available technologies becomes the dominant design? A dominant design may be established in a number of ways. 1) The most obvious reason for a design to become dominant is that it is simply the best solution. However, there are also many examples of dominant solutions that are not optimal in a technological sense. One reason why a technologically inferior design can become dominant, is that in many cases the economically optimal choice is uncertain or depends on the choices of other actors.

2) When the economically optimal choice depends on the choice of other actors, this can lead to a situation where uncertainty about which design will become dominant slows down adoption. For example, consider how the consumer acceptance and purchases of video cassette recorders was delayed until a standard had evolved. "The central feature of standards is that they permit the generation

of economic variety because they set limits on that variety.” (Metcalf, 1994, p 266). While the standardisation element implied in the dominant design can be important for acceptance of a new technology and for further technological development, such a standard may be difficult to arrive at in the absence of a clear-cut optimal choice. A number of mechanisms exist, which may break this dead-lock

a) Government may impose standards that the actors have to adhere to⁷³, or b) standards may be formally agreed upon by representatives of different actors within the industry. Standards may also c) evolve over time through other mechanisms. For example, one actor may have enough market power that it becomes in the interest of many other actors to adopt that firm’s version, thereby contributing to making it the industry standard. Important determinants of a firm’s ability to make its own solution the dominant design, are the complementary assets it has access to, and its ability to mobilise other firms in support of its own technology.

3) There are also boundedly rational or non-rational factors that may drive the development of a dominant design. a) Organisations may choose to imitate other organisations as a way to deal with uncertainty. In a situation where, for example, the optimal choice of design is difficult to determine, imitating a successful organisation would seem to be a good way to raise the odds of making the right choice. Of course, whether this actually is a good strategy depends on the extent to which the success of the organisation imitated is a result on its choice of design, and even if it is, on the extent to which complementary resources are necessary for success.⁷⁴ b) Mimetic behaviour may also occur because certain aspects of formal structure or practices become institutionalised, i.e. they “take on a rulelike status in social thought and action” (Meyer and Rowan, 1977, p 341). By conforming to such institutionalised practices and procedures, an organisation increases its legitimacy. For the first organisations adopting a certain innovative practice, the decision may well have been built on considerations of technical or administrative efficiency. However, once that practice has become institutionalised, such considerations will tend to play a smaller role (Zucker and Tolbert, 1981). For example, in a study of contracting polices among Welsh

⁷³ Standards may also be important in situations where inspection of the finished product is difficult. For example, concerns for consumer health have led to legislation on standards regarding food production and distribution.

⁷⁴ Cf the discussion earlier on biased transmission of individual behaviour. An individual may make the choice of which behaviour to adopt by taking after the individual that seems most successful.

District Health Authorities (DHAs), Hughes, Griffiths and McHale (1997), noted that a most of them included penalty clauses in their contracts with service providers. This practice may well be explained in terms of contracting efficiency. However, a majority of the DHAs also admitted that certain providers had been given assurance (some in writing) that the penalties specified would not be imposed. The authors note that "The discrepancy between public documents and private understandings suggests that it is not the incentive structures created for individual providers that are paramount: what appears more important is the public visibility of penalty clauses as a symbol of the DHA's commitment to meeting centrally imposed goals."

Collateral assets

By collateral assets is meant such assets as are needed to reach the final consumers and to facilitate their acceptance of the product, for example a well-known brand name or access to distribution outlets.

A firm in possession of collateral assets such as market channels, brand image, and customer switching costs will have some advantage over its competitors in terms of enforcing its product as the dominant design. The experience of IBM in the personal computers is a case in point. There were plenty of firms with PCs on the market in 1981, the year in which IBM first offered its personal computer. To the buying public, the name IBM had tremendous brand value: as a huge firm, its entry meant that replacement parts and service would be available and that applications software would begin to appear, encouraged by industry standards that would conform to IBM's machine. (Utterback, 1994, pp 27 - 28)

Collateral assets not only affect the chances that an actor will succeed once the innovation has been adopted. Expectations of success will also influence the choice of whether to adopt a certain innovation or not. In the section on innovation adoption we argued that the insider firm may be less inclined to adopt an innovation that threatens existing assets or competencies. The above discussion of collateral assets points to the converse case, i.e. where the competence-enhancing properties of an innovation make incumbents relatively more inclined to adopt. The access to collateral assets, and their enhancement through the innovation, makes the innovating incumbent more likely to succeed than an outsider.⁷⁵ Thus, existing assets may have both a facilitating and an inhibiting effect on the likelihood that an incumbent firm's proposed

⁷⁵The expectations of such relative advantage should thus make the incumbent more likely to adopt a competence-enhancing innovation. Empirically, competence-enhancing innovations come from insiders and outsiders in more or less similar numbers. (Utterback, 1994)

solution gains dominant design status. The firm considering adopting an innovation will take these into consideration in evaluating an available innovation.

The endogeneity of the selection process ranges between 'hyperselection' (and thus self-fulfilling prophesy of one or a group of agents) and total counter-intentionality ('if everyone else thinks and behaves like me, my behaviour will be selected out'). The endogeneity of selection rules is, of course, an essential characteristic of *behaviour-dependent* and *path-dependent* evolutionary paths. (Dosi and Orsenigo, 1988, p 24)

McKelvey (1994, pp 82-89) shows how the respective collateral assets of the two pharmaceutical firms Kabi and Novo led them to different evaluations of a proposal put to each of them, to cooperate with Genetech in developing genetically engineered human growth hormone and insulin respectively. Both firms were currently producing the respective substance by conventional methods and so had collateral market and technological assets regarding the product as such. Both firms also perceived market growth potential for their products, but limitations on potential supply. In short, the two firms were in many respects in the same position. The one difference between them, in terms of existing assets, led them to opposite decisions regarding genetic engineering.

Novo was not interested in Genetech's offer - not only because genetic engineering techniques were very uncertain and Genetech an unknown start-up but also because Novo was already exploring a different mega-technology option for human insulin. They were exploring the use of enzymes to transform animal insulin into insulin chemically identical to human insulin. Novo had much experience with enzymes, and to them, this seemed more likely to pay off. Novo long questioned the *economic* viability of recombinant DNA techniques.

Thus, although Novo had a lot of collateral assets that would have increased their potential success in launching the new product and production process, the fact that it was competence-destroying in terms of enzyme expertise, made them chose against it. They did not seem to doubt that genetic engineering could become a successful technology. However, *their own* position made them consider themselves better able to promote enzyme-based technology, and if this technology succeeded and became dominant, their collateral assets in that area would put Novo in a favoured position relative to firms with less enzyme experience.

Mobilising the assets of others

Collateral assets can be substituted for, or complemented by, an innovating firm's ability to mobilise other firms in support of the innovation it is launching. JVC's success in gaining dominant design status for its VHS system of video cassette recorders has been attributed to the use of what Cusumano, Mylonadis and Rosenbloom (1992) have termed *strategic manoeuvring*. Its competitor, Sony, was a larger firm with more collateral assets. In addition, Sony's Betamax system was technically superior. JVC compensated for its own limited resources by forming alliances with other firms in the industry, licensing its technology. This way the VHS system gained momentum and was spread much faster than JVC's internal resources and collateral assets could have allowed. More importantly, the combined resources of JVC and its alliance partners allowed them a greater competitive strength than Sony, who eventually had to give up its own system in favour of the VHS system.

Path-dependence and lock-ins

We have argued that incumbents can successfully delay or stop the introduction of an innovation that is threatening to their existing competence. The newcomer, although possibly using a superior technology, also needs to wrestle with the teething troubles that come with the new technology, and to build up the necessary collateral assets, before the full potential of the new technology may be realised. However, the position of the established technology relative to superior new technologies may be even more entrenched in the presence of externalities. One of the best-known examples of this is the case of the QWERTY keyboard, as recounted by David (1985).⁷⁶

In brief, the argument goes as follows. The QWERTY keyboard represents a layout that is inferior in terms of the typing speed it allows, and this inferiority has been known since at least the 1940s. Nevertheless, it has remained the standard through generations of typewriters and even into word processors and PCs. The reason for this situation is that even a relatively weak initial market leadership by the QWERTY keyboard represented a sufficient incentive for aspiring professional typists to choose to learn this type-setting. And the more typists that learned QWERTY, the more reasonable it would be for an employer

⁷⁶This example has been criticised, mainly because the superiority of the alternative keyboard is questionable (Liebowitz and Margolis, 1990). Although the critics may be right in a technical sense, David nevertheless provides an argument that even a truly superior alternative would probably not have replaced the QWERTY, due to the strong force of externalities.

to choose typewriters with this type of keyboard, making it even more reasonable for an aspiring typist to learn this type-setting, and so on. Thus, the externality constituted by the pool of QWERTY-trained typists (and later consumers) has resulted in a lock-in into an inferior technology. This lock-in is not dependent on the incumbent firms' interests, as is shown by the fact that the QWERTY remains the standard even for the keyboards of today's personal computers, manufactured by relative newcomers to the "typing industry". When path-dependent developments and behaviour result in such a lock-in situation, this doesn't necessarily preclude all further evolutionary progress, however. The result can also be that the market becomes segmented and that different solutions co-exist in specialised markets.⁷⁷

To sum up, the success of an innovation may be described in terms of its degree of acceptance, where the status of dominant design constitutes one success measure. When a dominant design arises as a result of market processes, the innovator's collateral assets, and ability to mobilise the resources of others, are important determining factors. When a dominant design exists, the introduction of a technically superior innovation may be stopped by active resistance by incumbent firms, using the competitive advantage afforded them by their perfection of the established technology and their command of collateral assets. Furthermore, in the presence of network externalities, the industrial system as such may hinder the introduction of a superior technology, regardless of the attitudes of incumbent actors.

⁷⁷ "... path dependent behaviour can also result in the coexistence of species which have specialised and occupy different ecological niches, in each of which further evolution is possible." (Silverberg, 1988, p 550)

CHAPTER 4

Evolution in Distribution Channels.

Introduction

This chapter brings together theory on evolution in economic systems as introduced in Chapter 3, and theory on distribution channels as summarised in Chapter 2. The aim is to "translate" the concepts and ideas of evolution in economic systems to the issue of evolution and innovations in the distribution channel. For marketing to draw ideas from biology has historical precedents, as the following quote from Alderson (1957) shows:

"Some of the key concepts of this book are drawn from the interplay between economics and biology. Darwin's great hypothesis about evolution was inspired in part by the writings of Malthus, an economist and population theorist. Today ecology is a recognised branch of biology and might be loosely defined as the economics of plant and animal societies. Ecology in turn is currently contributing to a deeper understanding of organised behaviour systems in human society. (p 64)

The structure of this chapter will conform to that of the discussion of evolution in industrial systems in the previous chapter. That is, evolution is described as occurring through the interacting forces of variation generation and selection, these forces driving evolution on multiple levels. We will develop on this pattern, discussing the particular consequences for change and innovation that follow from the inter-organisational character of the distribution channel, and using examples from distribution channels for illustration.

The unit of analysis

As already discussed, we will attempt to maintain a channel perspective in the descriptions and analyses of innovations. However, neither "innovation", nor "the channel" are entirely unproblematic as units of analysis. Robertson and Gatignon (1987) remark:

Diffusion research in marketing has placed its major emphasis on the characteristics of consumer *innovators*. Variables most likely to characterise consumer innovators for technology are higher income; higher education; younger, greater social mobility;... The focus on innovators is similar to the focus in the organisational behaviour literature on the characteristics of firms that are most likely to innovate - that is to adopt early. (p 179)

They go on to propose an alternative model that takes into account not only the characteristics of the innovation and the potential adopter, but also what they call supply side and contextual factors. Among these factors we may especially note the role of marketing.

It may be argued that there is a prevailing bias in most diffusion research since it accepts the innovation as a given and studies customer reactions *after* market introduction. This ignores the role of customers in influencing product design ... [and] the role of marketing in moulding customer reactions based on which benefits are emphasised with which market segments. (pp 187-188)

The idea that the characteristics of the innovation are not fixed, but shaped in interaction with the potential adopter ties in with the view expressed in the previous chapter, of innovations as evolving through processes of variation generation and selection. The role of marketing in shaping perceptions of the innovation, emphasising different benefits towards different segments of potential adopters, is an interesting addition.

The demand side, consisting of the adopter, is also complex. Even in consumer oriented marketing, it is acknowledged that in many situations the adoption decision is not made by an individual, but by a group of individuals. One example is household purchase decisions (e g Kotler, Armstrong, Saunders and Wong, 1996), where the outcome depends on an interplay of individual motives and group interaction. Similarly, an organisation's decision process consists both of individual and group decision processes. The adoption decision process takes place within the context of structural and resource characteristics of the organisation and its environment (e g Amabile, 1988; Dean, 1988).

As discussed in Chapter 2, the distribution channel is comprised of a set of separate but interdependent organisations, each driven by its individual motives and conditions for survival and profitability. Even in the case when ownership ties exist between different organisations within a channel, conditions and incentive structures at different levels of the channel are likely to vary. In some situations, common interests, long term interdependence, power, and contractual relations all and each can contribute to the individual firms in the

channel acting as a unified organisation. In these situations, it may be a reasonable simplification to describe activities on a channel level, as though there was a unified channel organisation. That said, one channel actor's adoption of an innovation will affect and may create conflict with other channel actors. The choice of adoption will need to take into account the expected reactions of other channel actors into account as the success of the adoption often critically depends on their reactions. Unless this basic characteristic of the distribution channel is considered, understanding processes of innovation and evolution in distribution channels will be difficult.

Finally, before turning to the "translation" of the evolutionary model to the context distribution channels, we may note that two additional, interrelated areas of conflict and competition - horizontal and intertype - also have an impact on channel evolution. Quoting Palamountain (1955):

What we find, then, is a complex interlocking of all three planes of conflict or competition. Vertical power has important consequences on horizontal and intertype competition at the weaker end of the distributive chain. A manufacturer's power may enable him to control retail competition. A retailer's power may enable him to prevent competition among manufacturers from having any benefit for the consumer. On the other hand, vertical power is limited by competition at the dominant end of the distributive chain. In addition, it is checked by power at the other end of the distributive channel. This vertical conflict may produce competition between retailer and manufacturer for consumer patronage: e.g., competition between standard and private brands. Here the power of both retailer and manufacturer may be checked by their joint subordination to the consumer's power - his power to choose. (p 77).

Innovations in distribution channels - sources, content and magnitude

Sources. As in the industrial system in general, there are two basic driving forces behind the appearance of innovations in distribution channels, namely competition and "entrepreneurial spirit". In order to sustain their viability and competitiveness, and/or because they see entrepreneurial opportunities, firms experiment with new ways of doing business. Retail outlets in the same area compete by slightly differentiating their offer, a transportation firm offers warehousing as an additional service in order to become a more attractive partner, etc. Each structure is associated with a particular cost to the consumer.

Consumer demand for a product depends on the total channel cost to the consumer and consists of the price paid for the good, plus the "consumers' costs" (Bucklin, 1966). Consumers' costs include those costs incurred by the consumer for transportation to and from the outlet, time, costs for storing goods in the

home, etc. These costs depend on what assets the consumer has access to, and also contain an element of valuation. For example, transportation costs will be different for car-owners and for non car-owners, and the valuation of time will depend on the alternative use of time. This means that one and the same outlet will in effect provide the same goods at different cost to different consumers. Furthermore, since the competitiveness of different channels depends on the total channel costs, the heterogeneity of consumers together with market segmentation by the firms, will favour a similar heterogeneity of channel structures.

This problem of adjusting the service package, or bundle of services, to the price structure and to consumers' desires is often solved in a market by the development of varieties of stores offering similar merchandise but various assortments or bundles of services. Thus, with appropriate variety of service offerings, groups of consumers can select their retailer source to obtain the assortment of services which best suits them. The self-serve cash and carry method of retailing thus stands in contrast to the clerk service, credit and delivery method. ... In a retailing system which is well fitted to the desires of consumers, all major homogenous groups of consumers can find stores of the type best adjusted to their wishes. Minor groups with somewhat heterogeneous wishes accommodate themselves to the majority decision or remain dissatisfied. Should such a group become sufficiently homogenous and sufficiently large, it offers an opportunity for a retailer to offer services which attracts them under conditions of price or cost which will retain their patronage. Through this process there is an evolution of the service combinations to meet the desires of the consumers. (Converse, Hueghy & Mitchell, 1952, p 354)

Innovations in distribution channels may take the form of truly new ideas, involving a complete re-examination of the potentials and objectives at hand. The underlying source of such a completely new idea may be a change in the available *distribution technology*. As an example, consider the decision by Aaron Montgomery Ward and George A. Thorn in 1872, to form a company that was to sell a wide selection of goods by mail.⁷⁸ This innovation in distribution relied to a great extent on the improved communications, especially railways, that were developing during this time.

Product and production process innovations may also be the underlying source of truly new ideas in distribution channels. US Time Company became the

⁷⁸Until then, firms that sold mail-order had only carried single lines in limited quantities. Montgomery Ward were the first to sell a wide variety of goods exclusively by mail, and grew to nation-wide coverage within a decade. (Chandler, 1977, p230).

world's largest wrist watch producer in just ten years⁷⁹ after the decision to sell its inexpensive Timex brand watches through the alternative channel of mass merchandise outlets instead of the jewellery stores that were the traditional retail outlets for watches.⁸⁰ This alternative channel, though, had hardly been considered, or possible, had it not been for cost-saving innovations in product design and production.

Another source of inspiration to innovations in distribution channels is from alternative means of operations that are used in other product or geographical markets. For example, the "Book-of-the-Month" idea to sell books through a "club", offering a periodic selection of new books, has been adapted to sell a number of other articles, such as records, videos and cosmetics. Similarly, American style fast-food restaurants are influencing the way restaurants are operated all over the world.

Content. Looking first at the distinction between innovations as related to product or process, how may we classify innovations in distribution channels? As mentioned in the previous chapter, Miles (1996) notes that this distinction is often problematic in the case of service sector innovations, and distribution channels turn out to be a case in point.

The self-service format can be used to illustrate the role of perspective in determining the character and content of an innovation. On the one hand, based on a view of the channel as bridging production and consumption, the introduction of the self-service format consists of transferring the performance of some of the distribution functions from retail store to consumer. Thus, the self-service format constitutes a process-related organisational innovation. On the other hand, changing the perspective to considering what is the product of the retail store, another picture emerges. In that case, the self-service format represents a product-related innovation, in which the product offered by the retail store is very different in a traditional service store as compared to in the self-service store.

⁷⁹ Although the company traces its origins to the Waterbury Clock Company, founded in 1857.

⁸⁰ That is, in effect transforming watches from specialty to shopping goods, in the terminology of Copeland (1923).

Another way to differentiation among innovations in distribution channels would be to follow Wirsäll (1982), who distinguishes intangible from tangible innovations. In his survey of innovations in Swedish grocery retailing between 1950 and 1980, Wirsäll found intangible innovations to dominate. Together, innovations relating to business and functional organisation, and assortment and sales methods, account for up to 80 per cent of the innovations in the period. Innovations in tools and in packaging make up the rest, with packaging innovations being most important in the beginning of the period and tools-related innovations increasing in number in the latter part.

Magnitude. Due to the nature of the distribution channel as a system of mutually dependent actors, innovations will tend to be systemic. Even innovations that would be relatively minor in terms of distance to the existing level of technology or in another circumstance, would be major in terms of the number of actors affected. When the surrounding actors institute changes to accommodate an innovation, additional physical or processual innovations often occur as a result. This means that innovations in distribution channels also tend to be major in the sense that they have potential to spread throughout the system, and in that they hold the seed to other innovations.⁸¹ This in turn means that it is often difficult to discern the initial innovation out of a group of innovations that seem to appear simultaneously and that depend on each other for their realisation. On the other hand, innovations that are major in the sense that they represent a substantial leap from the existing technology are rare in distribution systems, as in the industrial system in general.

Although major innovations are more easily noticeable, their relative impact on channel structure should not be overestimated. The cumulative impact of small changes can be substantial over time. As one example, Filser & McLaughlin (1989) note an important trend:

Although gradual, a continuing shift of many functions, historically performed in retailers' "backrooms", to suppliers and other channel members, has occurred in the US food system over the last several decades... Numerous examples can be cited: Beef cutting and packaging have increasingly shifted from retailer meat departments to processors, fresh vegetable trimming is shifting from retail produce counters in many cases to the field, increasing amounts of advertising and promotional material are now carried out by manufacturers on retailers' behalf. (p 211)

⁸¹ Cf Rosenberg's definition of a major innovation and Dahmén's concept of the development block.

Similar trends also appear elsewhere, slow and gradual change resulting in quite substantial structural change. The examples given in the quote above are of shifting functions backward, taking advantage of economies of scale in earlier channel stages, and possibly of transport economies. Shifting of functions also takes place in the opposite direction, from manufacturers or wholesalers towards retailers or consumers. In Sweden, for example, consumers select and bag their own fruit and vegetables today, and pre-packed fruit and vegetables are virtually non-existent, whereas they were the norm twenty years ago. Another functional change is that a substantial share of grocery stores now have facilities for baking bread on site, although the great bulk of bread is still baked by specialised bakeries. Similarly, Gadde (1993, p 51-52) reports a slow but pervasive trend of vertical disintegration in business-to-business markets, where manufacturers have increasingly begun to rely on independent distributors over the past twenty years.

Finally, the perception of the magnitude of an innovation will differ with the perspective of the actors in the distribution channel as much as it does in a general industrial context. ECR, efficient consumer response, is an example. This is a computerized system for tracking purchases in stores and aligning ordering and assortment accordingly. From the point of view of the retailers, wholesalers, and even manufacturers, this is a major innovation, which can have an impact on the operating procedures and costs of retailers and wholesalers (Fisher, 1997). From the consumers' perspective, on the other hand, the introduction of ECR will over time lead to some changes in assortment, pricing and availability of goods, but overall will probably hardly be noticed.

Selection round 1 - innovation to actor match

As we argued in Chapter 3, there is no one category of particularly innovative actors, or particularly adoptable innovations. Whether an innovation becomes adopted, and the type of actor by whom it gets adopted, depends on the degree to which it is well matched to a potential adopter's existing assets. However, because distribution channels have certain common characteristics, it is possible to be somewhat more precise regarding the types of characteristics that will tend to make an innovation more or less easy to adopt in the context of the distribution channel. We will also be better able to say something about the

circumstances under which channel actors are prone or reluctant to adopt an innovation.

Position in the channel

The firm's position in the channel is important in determining the reaction to an innovation. Specifically, we argued that the nature of the innovations as competence destroying or enhancing will lead to different costs of adoption for insiders and outsiders. Therefore, whether an actor is an insider or an outsider will affect the likelihood that it adopts a certain type of innovation. This chapter expands that discussion to the context of the distribution channel, but also by taking differences between actors *within* the channel into account. The discussion draws on McCammon's (1963) intra-channel barriers to innovations. He discusses four factors that, he hypothesises, constitute such barriers. These are: (1) Reseller solidarity, (2) Entrepreneurial values, (3) Organisational rigidity and (4) Market segmentation.

McCammon writes that "Resellers in many lines of trade often function as a highly cohesive group, bargaining with suppliers and adjusting to their environment collectively as well as individually." Given that, we would expect *reseller solidarity* to reduce the likelihood that a reseller within the group will adopt an innovation that results in negative consequences for other resellers, because this would be considered disloyal to the other retailers. Take the case of an existing retailer who considers opening a new, large-scale out-of-town outlet. The new outlet will need to attract business from a wider geographical area, and therefore will compete with retailers in the same business that were formerly too far away to be competitors. It may also negatively affect the conditions for other retailers in the same town, by making town shopping as such less attractive. In this situation, concern for solidarity may lead the retailer to decide against opening an external store. Reseller solidarity may also strengthen incumbents' ability to defend their position against innovating entrants. Positive feedback loops⁸² may occur if reseller solidarity against change leads to low turnover among resellers, thereby laying the foundation for even greater reseller solidarity because the actors become even more familiar with each other.

However, while reseller solidarity may constitute a disincentive to innovation adoption among existing resellers, it will not necessarily dampen the rate of

⁸²Positive in the sense of being self-reinforcing, not necessarily positive from an economic or social point of view.

innovation adoption in the channel or industry as a whole. If reseller solidarity varies between levels in the channel, for example retailers may feel more solidarity towards other retailers than wholesalers do towards other wholesalers or towards the retailers that they sell to, then the appearance of a promising innovation may be expected to create tension in the system. One example of such a situation is the introduction of self-service retailing in Sweden. The first reaction among independent retailers was generally negative, and the risk of creating price competition among existing retailers was specifically brought up. Still, in spite of retailer scepticism and solidarity, wholesalers were able to drive the innovation towards acceptance, by creating tension in the system and by facilitating transformation. This example is discussed in Chapter 6. The situation of asymmetric degrees of solidarity - and innovation propensity - between different levels in the channel may also prove a fertile ground for generating intertype channel competition. A manufacturer who encounters reluctance from its present wholesalers may attempt to find alternative channel partners who are more interested in the new way of doing business. If successful this will result in the formation of a new channel, in which the new technology is used.

Entrepreneurial values may also play a role in determining the response to an available innovation. To quote McCammon: "... the small retailer (and presumably other small businessmen) will resist innovation, because they value "stability" more highly than growth"(McCammon, 1963). Although there is empirical evidence in support of retailers being less innovative than wholesalers (Wittreich, 1967), there is also evidence of the opposite situation. Retailers in many businesses are very large firms, or part of large voluntary chains, franchise organisations, etc. Although such firms as Toys 'r Us, H&M, or Boot's may come first to mind, we need not go as far as that to find retailers or voluntary chains that are large enough that they can be expected to be governed by a different set of values than the "mom-&-pop" stores of the past. We may also expect this to have an impact on the size characteristics of the manufacturer or wholesaler that they are interested in dealing with, or even *if* they want to deal with an intermediary. Nevertheless, the basic point is that entrepreneurial values may differ among channel actors, and that this variation may be correlated with firm size. Change in size of firms at one level of the channel can therefore influence change in both firm operations and market structure at another channel level.

When the degree of innovation-mindedness varies between the different types of actors in the channel, tension will be created in the channel. We have already discussed that this tension may lead to attempts at persuading the reluctant

partner to adopt the innovation, or to searching for a new partner. However, in the presence of *market segmentation*, actors that we would normally expect to be likely innovation adopters, based on their size and value characteristics, may instead turn out to be innovation averse. Market segmentation allows the firm to choose a segment where competition is lower and where entry is less likely. If the market is considered "safe" from entrants, an innovation-averse strategy may seem more attractive. Still, if market segmentation allows an industry to retain old-fashioned methods of operating, this will over time result in an increasing efficiency gap relative to related industries that are less segmented. Eventually the market potential for more efficient firms in these industries may be expected to lead to entry. To the extent that there exists a credible threat of potential intertype competition, the drive to innovate will persist even in the segmented market.

Modular or interdependent systems

As discussed in Chapter 2, the degree to which the production system is modular or interdependent will affect whether autonomous or systemic innovations are favoured. Since distribution channels typically are characterised by strong interdependencies between the actors, systemic innovations will be difficult to adopt and implement unless it is acceptable by the whole system, and therefore autonomous innovations are easier to adopt than systemic ones.

To understand the patterns of innovation adoption in a distribution channel, it is thus not enough to consider only the characteristics and attitudes of one focal firm. Expected consequences for related actors will have to be traced and evaluated in making the adoption decision, since implementation can also be hindered by *unavailability or unwillingness of other firms* to cooperate with. Other actors whose participation is necessary for the new or altered channel may be unwilling to cooperate due to reasons related to their own resource structure or other individual firm characteristics. They may also be prevented from participating in the new channel by existing long-term contracts or commitments to other parties.

The inter-relatedness of the first and second rounds of selection is especially pronounced in the case of innovation in distribution channels. This also means that it will be interesting for an actor contemplating adoption, to search for ways to "isolate" an innovation, that is make it more autonomous, in order to test the effects of its adoption, or to increase the adoptability of an innovation.

Effects of firm size and of degree of vertical integration on innovation adoption

In Chapter 3, we referred to an argument which says that, because innovating nowadays is so resource demanding, large firms are more likely than small ones to be innovators. As in industrial evolution in general, this reasoning goes against the many examples of successful innovations made by small, upstart firms. Perhaps retailing is among the industries where this is the most common, with the successes of WalMart, Dell and IKEA as prime examples of how a small firm with a great idea can overcome initial disadvantages of size.

Still, the examples of these successful firms does not mean that advantages to size do not exist in the case of distribution channel innovation. There are two principal ways in which *firm size* may be positively related to an individual firm's likeliness to adopt an innovation. Firstly, some types of distribution channel innovation require large initial resource investments, and a large firm is often more likely than a small or upstart firm to control or to be able to acquire the necessary capital or human resources. As an example, consider the capital requirements necessary to fill the shelves of a large-scale, externally located electronics retailer. Such an innovation in retail format obviously is easier for a large firm to adopt. In the case of this particular innovation, it is also interesting to note the positive feedback to this endeavour. A firm that has successfully adopted this type of innovation in one location will be better positioned to establish a second outlet. Thereby, in the absence of corresponding market growth, the success of the new format may lead to a very rapid transformation of both outlet size and ownership structure in a business previously dominated by small retailers.

A second reason why size advantages may exist in implementing distribution channel innovations is that a large firm often is better able to secure necessary cooperation of others. A large firm will often also be large in relation to the other firms in the channel or prospective channel, and to the extent that this corresponds with having a large share of the cooperating firms' business, the large firm will be better able to persuade the other firms to cooperate in adopting an innovation than a small firm would be. In the case of an existing channel, this could be interpreted as resulting from a power differential. More relevant to the building up of a new channel are the potential gains from cooperating with the large firm. The larger firm, by virtue of its greater resources, may be viewed as more likely to succeed in the implementation of the innovation. The large firm may thus be better able to attract channel cooperation for its innovation, simply because cooperating with it is considered less risky an operation.

That firms' degree of *vertical integration* may also have an impact on their propensity to adopt innovations has also been mentioned. In economics, a high degree of vertical integration is considered to be a potential barrier to entry (Caves, 1992, p 43). Barriers to entry can generally be expected to be associated with lower innovativeness of a market, for two reasons. Firstly, incumbent firms are likely to enjoy a relatively low degree of competition and therefore to have less incentives to enhance their existing competence through innovation. Furthermore, because barriers keep entrants out, competence destroying innovation will also be less likely in a market where firms exhibit a high degree of vertical integration.

However, as argued in Chapter 3, a firm's degree of *vertical integration* may be positively related to its willingness and ability to adopt systemic innovations. And innovations in distribution channels, as we have observed in this chapter, are often of a systemic nature. Thus, quite opposite to the case in general, firms' degree of vertical integration may have a positive effect on the propensity to adopt innovations in distribution channels. For example, Tesco in the UK have developed a new type of delivery truck especially for deliveries to its smaller, inner city stores. The new truck is compartmentalised and therefore can deliver both hot and cold goods at the same time. (Smith and Sparks, 19--) This is typical of an innovation whose adoption is facilitated by vertical integration. Although it raises total-channel efficiency and therefore competitive ability, the substantial initial investment falls on the wholesaler level alone. This innovation will clearly be less attractive to a non-integrated wholesaler, who has to face a higher degree of uncertainty about the future actions of the retailers.

As previously pointed out, vertical integration does not presuppose ownership integration. Distribution channels in different businesses display a diverse array of non-ownership means of vertical integration. Robertson and Gatignon (1987) note:

In industries where suppliers and customers have a high degree of vertical dependence, such as airframe manufacturers and airlines, there may be a propensity to coordination and interlocking relationships (Schoorman, Bazerman and Atkin 1981). Such interlocks reduce uncertainty by increasing the flow of information. It would be expected that a high degree of vertical coordination is positively associated with more rapid diffusion.

This relationship may be demonstrated in the medical equipment and drug industries where interlocks between suppliers and leading edge teaching hospitals advance the acceptance of medical innovations. ... (p 186)

Selection round 2 - actor selection and market outcomes.

The firm that decides to adopt an innovation will become different from those that do not, and thus the adoption creates variation in the population of firms. This leads to a new round of selection, where it is not the innovation as such but rather the population of firms, or in this case the alternative channels of distribution, that are exposed to the selection mechanism.

In this second round, success of an innovation in distribution channel can be described as depending on acceptance in three stages.

Firstly, it depends on the degree to which the innovation is accepted and can be implemented internally in the adopting organisation. This acceptance is a necessary condition for the efficiency or effectiveness potential of the innovation to be realised.

Secondly, to the extent that the innovation has systemic requirements and consequences, it must also be attractive, or at least acceptable, to the other organisations in the channel. Again, the extent to which it is accepted by the other actors determines the degree to which its potential benefits may be realised. If it is an innovation that is purely channel-internal in focus, it is enough that the customer is not negatively affected for status quo to be maintained. In the case of such "channel autonomous" innovations, the success is determined by the effect on margins and profits within the commercial channel.

Thirdly, if the innovations are directed towards the consumer, the advantages to the final customer resulting from the change must make the channel that has adopted the innovation superior to the existing alternatives.

Because the success of an adopted innovation in the second round depends on a complex set of factors, the antecedents of an innovation may possess many or practically all of the characteristics of the later successfully introduced innovation. When this happens, the reason for the failure of the antecedents to win acceptance is often explained as being a matter of "wrong timing". Although this may sound simplistic, the idea is that the innovation did not fit in the existing structure in such areas as technological level, and user and producer demands and characteristics. That is, it was not attractive or acceptable to the necessary agents. Therefore not enough of its potential could be realised for it to develop superiority to existing alternatives. With hindsight, we can then see that had the innovation been introduced at a later stage in time, and given the evolution that subsequently occurred in the related areas, it would have won.

Similarly, when innovations are brought from another geographical or product market, it is often difficult to discern all the necessary success factors. As an example of the latter difficulty, the author remembers an awkward experience at a self-service restaurant in the Sukarno-Hatta airport in Jakarta in the early 1990s. Self-service had been introduced, presumably because it was considered a modernity, and with inspiration from other international airports. The potential customers, travellers in an international airport, could also be expected to be used to the concept. However, the number of employees had not been adjusted according to the demands of the new system. Instead the high employment policy normal in a low-wage country was maintained. Rather than remaining idle and thus risking their employment, the surplus workers took up the job that they saw available, namely to serve the guests. This resulted in an adaptation of the self-service system where a "waiter" insisted on pushing the tray along the self-service counter, placing the requested food items on it and carrying it to the table, while the role of the guest was reduced to walking idly, and somewhat uncomfortably, beside. Although the introduction of this new concept may possibly be considered to have succeeded in lending a western/modern air to the restaurant, it was certainly not successful in the otherwise normal objectives of raising employee productivity, cutting wage costs and speeding up the guest's process from entry to eating.

Dominant design

Just as there are dominant designs for products or services, there are dominant designs of distribution channels. In the context of distribution channels, dominant design can refer to 1) total channel composition or 2) one horizontal level of the channel. For each of these, specifications must be made as to a) type of good or b) type of distribution.

Thus, 1a) the dominant channel composition for puppy dogs is direct distribution while cars are typically sold through indirect distribution. 1b) Factory outlets are an example of an originally direct channel⁸³, while auction houses are intermediaries.

2a) At retail outlet level, the dominant distribution channel design for a product class refers to such aspects as whether the product is immediately available or has to be ordered, whether its characteristics are pre-determined or can be influenced

⁸³ Although increasingly the term is used by intermediaries who sell surplus or defective goods from a number of manufacturers.

by the customer, and with what other goods a product is sold. For example, most people would be upset to learn that the shoes they just bought will in fact not be available until two weeks later. Few would be surprised if it were to happen when buying a car. We expect prescription glasses to be manufactured exactly according to our specifications, while we accept a sweater if it fits reasonably well. And we expect holiday trips to be booked through specialised agents, not at the local news-stand⁸⁴.

2b) For a certain type of distribution, the dominant design at retail outlet level will refer to factors such as prices, location, return policy, lay-out of outlet, service, etc. We expect the big department store to stock the plates we bought last year, but we don't expect that of the outlet store. We expect to be able to return the jacket bought through a mail-order catalogue, but not the one bought at a bargain basement. And we expect the mail-order catalogue to be sent to us periodically, the products in it to be presented in a certain order, and the printed price of the catalogue to mean absolutely nothing, since we always get it for free.

Today, the dominant design of many channels is coming under threat, as advances in information technology, and other technological advances, make innovations in channel designs possible. For example, today lens manufacturing equipment is available which is small enough for in-store use, allowing the store to deliver most glasses within an hour. While it is still only a few optometrist stores that have invested in such equipment, eye wear may be starting on the same path that film processing has already taken. In film processing and development, the dominant channel is arguably now one where prints are delivered within the hour, because the retailer has taken over the manufacturing role that the big, centralised labs used to have. In other channels, such actors as wholesalers or export/import agents are proclaimed to be vanishing institutions, as improved communications facilitate direct contact between manufacturer and retailer or final user. Although some indicators support such an evolution, in the majority of industries it has yet to happen.

When a dominant design evolves, it may come to replace an existing one, as ready-to-wear clothes replaced tailor-made, or it may become the dominant

⁸⁴Though the last example also illustrates the potential power of an innovation that breaks with a dominant design. Express-resor in Sweden lowered its costs by doing away with high-margin travel agents and instead distributed its catalogue through news-stands/convenience stores. Although the firm was short-lived, its demise apparently was not due to lack of demand for travel at the unconventional outlet.

design of an alternative, parallel channel, as mail-order parallels retail stores for many types of goods. Mail-order is also a good example of how resilient a dominant design may be. Even today, when information technology allows displaying of goods at an internet site and ordering via e-mail, rather than in a catalogue, the basic characteristics of the internet site conform remarkably closely to the established mail-order catalogue format.

Collateral assets

A collateral asset is an asset that may allow its owner to gain acceptance for an innovation more easily. Brand names and distribution channels are frequently mentioned examples of collateral assets. To show how a distribution organisation's collateral assets may facilitate gaining acceptance for an innovation, we will use as an example the introduction of pre-payment cards in Swedish grocery retailing. In 1990 ICA introduced its pre-payment card. ICA is the biggest Swedish grocery retail organisation⁸⁵ with a market share of about 35 per cent of the total grocery market.⁸⁶ The card is connected to an account where the card-holder deposits funds in advance of purchases, at a considerably higher interest rate than that offered by banks for transaction accounts. The card can be used to pay for purchases in the affiliated stores, but money may also be withdrawn at the discretion of the cardholder. Special offers are also made, available only to cardholders. For the individual retailers and for the central organisation issuing the card, the main potential advantage is increased customer loyalty and better precision in reaching a targeted market. In addition, the deposited funds give the organisation access to capital at below the normal borrowing rate.

The introduction of the card was very successful, and the other two major retailers soon followed suit with their own cards. Today, over 2 million ICA-cards have been issued, and more than 1/5 of all purchases in ICA stores are paid for with the card. (Wennberg, 1996). For a firm to have a large number of its customers place a portion of their monthly salary on automatic transfer into the firm's own account *in advance of purchases* is obviously an enviable situation for any business operation. One could imagine that many other businesses contemplated launching a similar scheme. Antecedents exist; for example a

⁸⁵ Actually an association of independent grocers, which also owns its wholesaling organisation.

⁸⁶ 33,9% in 1995, about the same in 1990.

travel agency had already launched a card with basically the same characteristics⁸⁷, and there have been imitators in other industries as well, but none have had the same impact. There are at least three reasons for the success of ICA, all of them related to ICA's collateral assets. For the same reasons, most firms in other businesses cannot expect to be as successful. Firstly and unrelated to collateral assets, grocery shopping represents a substantial portion of the consumers' budget, and consumers also have a good knowledge of the characteristics of the different stores in their vicinity. They are therefore fairly well able to judge the attractiveness of the system, reducing uncertainty relative to evaluating a business where one makes less frequent purchases. Secondly, ICA is a long-established well known organisation. The legitimacy and trustworthiness embedded in this ICA brand name will have been important in persuading people to entrust ICA with their money. Finally, there are around 2 200 stores affiliated with ICA,⁸⁸ and this decentralised network is important in ensuring the usefulness of the card to the consumer.

Mobilising the assets of others

An innovating firm not having sufficient collateral assets on its own can substitute for or complement them, by mobilising other firms in support of the innovation it is launching. For example, a Swedish grocery retailer's assortment is normally a combination of goods that are ordered and delivered from a wholesaler, while others, such as dairy, bread and tobacco, are ordered and delivered directly from the manufacturer. A wholesaler who wants to induce its retail customers to adopt computerized ordering, can make its offer more attractive by designing a system which allows the direct-delivery manufacturers to attach their ordering system.

Another way of mobilising the assets of many parties is through trade organisations, who can speed up the introduction of a new organisation of distribution. The following quotation shows an early example of this role of trade organisations, in bringing about the separation of wholesale activities from retail activities.

Frequently firms that had originally combined wholesaling and retailing in a single operation, selling both to consumers and to the trade, came to specialise in one branch or the other. ... Such

⁸⁷ According to Wennberg (1996), p 18, the ICA-card was inspired by this card, launched by the travel agency Ving-resor,

⁸⁸ In 1997. In 1990 there were about 3000.

specialisation probably was hastened by the retail trade associations which became common in the 1880's. They pressed their members not to buy from jobbers who sold at retail and normally excluded such firms from membership. (Barger, 1955, p 69)

Path dependence and lock-in

Path dependence plays a role in the evolution of distribution channels as well as in the general industrial systems. Bucklin formulates this as follows:

To understand the basis and rationale behind any retail system, is to know what it was previously like and how it evolved into its present state. This is partly because much of any system is not significantly different from what existed in the recent and distant past. Many of today's institutions function in ways that if not identical to those of yesteryear are but superficially different. Also, a review of the changes in a system will provide insight into the controlling forces beyond that obtainable from a description of the status quo. (Bucklin, 1972, p 43)

He goes on to give the following example of how in historic times, the limitations of human travel on foot influenced trading laws regarding the location of periodic markets.

In England, where most markets tended to operate on Sundays, laws eventually set out the distance between potentially competing markets to at least 6 2/3 miles. This elementary idea of a trading area was based on the notion that a full day's walk was about 20 miles. Distances beyond that would not enable the trader to get to the market in time to conduct his business and return home the same day. (Bucklin, 1972, pp 45-46)

With increasing specialisation and volume of trade in the economy, some of these periodic markets became permanent and eventually developed into towns. It is interesting to consider that some of the towns that still exist today, are located where they are because hundred of years earlier, that place happened to be within a legal distance of another periodic market.

Another example of the persistence of particular a design in distribution is the lay-out of grocery stores. Before the advent of adequate packaging of milk, bread, meat and dry goods, Swedish health regulations required that these different types of food be sold in separate stores. Typically, two or three of these specialised stores were located next to each other. When it became possible to sell the foods together, the wall between the stores was often simply knocked down. Today, looking at even the most modern of Swedish supermarkets, the organisation of the goods in the store is still reminiscent of the separation of foodstuffs required fifty years earlier. There is a milk-store, a bread-store and a meat-store, although

now under the same roof.⁸⁹ The earlier organisation was carried over to the new format because it influenced which goods consumers had learned to and expected to find next to each other. Even if it could be shown that a different store lay-out could potentially be more efficient, the cost of re-learning will raise the required improvement of an alternative lay-out. The old lay-out is thus preserved because consumers have “invested” in knowledge of the present lay-out. But not only is the specialised store lay-out preserved in modern supermarkets, should I choose to do my grocery shopping over the internet, the same lay-out is reflected even in the virtual store.

Lock-in effects in distribution channels may be illustrated by the problems that for a long time were associated with introducing organically grown foods, in mass-retailing stores.⁹⁰ Many consumers preferred organically grown produce, since they regarded both the production technology and the finished products to be superior to conventionally grown foods. However, the major retailers were not very interested in carrying them, and in the few stores that did, consumer demand was actually very limited, because although many consumers were prepared to pay somewhat more for the organically grown foods, the retail price was substantially higher than the conventional alternative.

The high price differential depended primarily on three factors. Firstly, the production costs were higher, both due to higher costs and lower yield per acre when growing the foods, and due to the fact that processing, such as milling, was done on a smaller scale. This price differential was further increased by the time the products reached the shelf, through the system of using relative markups. Secondly, the high price resulted in low demand, and therefore profitability per unit of used shelf space in the store was low, again putting upward pressure on the price. Finally, the distribution channel was centred around realising economies of scale in ordering and delivery, which involved limiting the number of suppliers. The large-scale focus made it especially costly to make the exception of including the small producers of organically grown foods.

Part of the price differential could be overcome, should the conventional producers start to sell the organically grown foods. Although the cost disadvantage of lower yield would remain, the processing could be carried out

⁸⁹ I am indebted to Carina Holmberg for this observation.

⁹⁰ This example is described in Lundgren and Nyberg, 1994.

with more cost-efficient, large-scale equipment. For the retailers to include organic foods in their assortment would then be bringing in a new brand from an established supplier, rather than having to increase the number of suppliers. These factors would reduce the price differential and thereby increase the market potential of the goods, which in turn would reduce the need for retailers to add a higher margin because of low turn-over. However, the established producers had little reason to be interested in adopting organic foods. Although this product group might have potential, it would also require a costly introduction period, would cannibalize on existing products, and clearly the threat of entry from outsiders was virtually non-existent. In fact, the longer the time went by, the better the existing distribution system would function, and the higher the alternative costs associated with introducing organic foods.

The market was thus locked in a position where a technology was not used and products were not available, although they were considered superior to the existing by some consumers. It also seemed that there would be a market for them, if one could only somehow achieve the jump in volume that would allow them to be sold at a reasonable price. Looking back, we know that this was true, but it was nevertheless a persistent stalemate. The eventual break out from this stalemate could be partly attributed to one of the three major retail actors. For a combination of ideological and marketing reasons, this retailer decided to forsake short-term profitability in the interest of opening a new market niche while at the same time supporting organic farming.

So far we have discussed disincentives to innovation adoption and success that are either related to the incentive structure of the potential change agents, or to the characteristics of the innovation. Factors which explain why certain actors will tend to be unwilling or unable to initiate or participate in the change processes. We might call these *inhibiting factors*. But it is also possible that change processes or adoption of innovations are hindered by the *active opposition* of certain actors.

Active opposition to the success of an innovation.

If an external firm succeeds in introducing an innovation, the incumbent firms will be affected through lower profits, through having to adopt the innovation, or even by being forced out of the market. It is therefore often in the interests of an incumbent firm to prevent the introduction of such an innovation. History is full of examples of incumbents trying, not necessarily successfully, to prevent an innovation from being introduced. There are three types of reactions to a new

technology that may be considered active opposition, namely: (1) improvement in the existing technology, (2) legislative action, and (3) boycotting the new product or service.

Firstly, a common reaction is for the firms representing the established technology to attempt to institute efficiency improving innovations based on the existing technology, in order to resist the new technology. A technology that has been more or less stagnant may exhibit remarkable innovative progress as it comes under threat from a competing technology. In the face of a threat not only to the profitability, but indeed to the very survival of one's business, it is hardly surprising that the incumbent firms have often met the innovations or other attempts to change with ambitious resistance. Legislative action is another form of active opposition. As mentioned in the previous chapter, the "gas monopoly" used legislative action as one way to oppose electricity. As the following quote shows, legislative action also has a long history as a way of opposing distribution innovations.

Already during the opening years of the present century, dry-goods merchants felt the competition from the department store, and the hardware trade complained bitterly of the wickedness of the "catalogue houses". Hence came efforts to impose special taxes on department stores and to prevent the introduction of parcel post. ... As before, the independents reacted by pressing for legislative curbs upon the interlopers - especially chain-store taxes and resale price maintenance. (Barger, 1955, p 73)

Historically, among the most popular weapons of the established against the new is the boycott. For example, through the 1940s, an agreement existed between manufacturers and retailers of furniture in Sweden, which stipulated that the retailers would not buy from, and manufacturers not sell to, actors that were not party to the agreement.⁹¹ Should an outsider try to enter the retailing market, for example by offering lower prices, the members would join forces to drive that firm out of business, notably by not delivering to that firm. Collective funds existed, which could be used to compensate a member for losses incurred in such an effort. In many cases, itinerant merchants were also prevented from renting showrooms and from advertising in local newspapers. This organisation of the trade was successful in limiting unorganised furniture trade and in keeping competition and prices at comfortable levels.

⁹¹This agreement and its consequences are described by Mårtensson (1981)

However, impediments to change can result in a build-up of development potential, and such an environment may result in even more far-reaching changes than a more adaptive environment. The structure screens out minor innovations, which results in a successive build-up of tension between the existing state and the potential of technology and management. It is ironic, that the incumbent firms in some cases, by actively opposing the innovations they could have assimilated, instead contribute to the emergence of major innovations that are a much more severe threat to their own viability. Revzan remarks:

... , blockages may be visualised as the activities of one or more links (business units) in a particular channel to protect the economic status of that channel by placing barriers (blockages) in the way of competing channels. ... Such blockages may have only very temporary success, or they may have elements of permanency, or they may generate their own destruction by giving alternative channels and their own linkages considerably more motivation than might otherwise be expected. (Revzan, 1961, p112)

As an example, one might argue that the latter turned out to be the effect of the established Swedish furniture retailers' opposition to new entrants and new forms of retailing. Eventually an entrant emerged that had made an innovation powerful enough to surmount these formidable entry barriers. That actor - IKEA - had been forced and guided by the restrictions posed by the incumbent firms into making a radical distribution innovation. For example, because the major furniture producers were reluctant to deliver to independent retailers, IKEA had to rely on small manufacturers. But to divide the large production between many small manufacturers necessitated that IKEA take on a number of the functions normally performed by the manufacturer. By adopting these functions normally performed by the manufacturer, and by relying on many different, easily replaceable suppliers, IKEA was put in a stronger bargaining position vis-a-vis its suppliers and thereby better able to attain lower prices than other furniture retailers.

These and other characteristics of the IKEA concept made for an innovation in furniture distribution, such that it posed a definitive threat to a large segment of the established furniture retailers. Thus, one may argue that the restrictions served to "weed out" minor innovations and competitors that the established actors would in fact have had the strength to meet in competition. The restrictions helped shape an innovation that represented a much greater leap in comparison to the established trade, and one that was very much harder for

them to compete successfully against. We may compare this effect with one proposed by Marshall (1925)

The longer retailers generally have delayed to follow a fall in wholesale prices, the more striking is the effect which an ambitious firm can attain by prominent offers of large quantities of the commodity at a very low price: and for a long time to come the remaining retailers may find themselves crowded out.

This chapter aimed to translate the theory of industrial evolution presented in Chapter 3 to the context of evolution in distribution channels. The purpose was partly to explore the applicability of concepts from the study of industrial evolution and innovation to distribution channel evolution. I think that translation is successful enough to warrant turning the resulting ideas on evolution in distribution channel to two empirical cases, starting with the introduction of the self-service format in Swedish grocery retailing.

PART II

CHAPTER 5

Introduction of the Self-service Format in Swedish Grocery Retailing

Introduction

Massive retail trade is commonly associated with eager forms of competition. But some of its methods were pioneered by workmen's cooperative societies, in which the spirit of brotherhood strengthened the policy of economy. (Marshall, 1919)⁹²

This chapter looks at what is arguably the biggest and most pervasive innovation in Swedish grocery retailing, namely the introduction of the self-service store format. The inspiration for this innovation was knowledge about the success of self-service stores in the United States. We will start by briefly describing the early self-service developments in the US, where the first attempts at its introduction took place about thirty years before its introduction in Sweden. When the innovation was introduced and adopted in Sweden, the economic and social circumstances were very different from the US. The Swedish version of this innovation was therefore different in several aspects. In describing and analyzing the introduction of the self-service format in Sweden, we will be using the concepts introduced in the previous chapters.

Two sets of actors will be at the focus of the description. One is the consumer cooperative societies, in particular the Stockholm society, KFS⁹³. KFS, as we shall see, was instrumental in bringing the self-service store format to Swedish grocery retailing. KFS held a central and influential position within the consumer

⁹²The quotation obviously does not refer to the introduction of self-service grocery retailing in Sweden per se, but as we shall see, it is quite relevant nevertheless.

⁹³*Konsumentföreningen Stockholm*

cooperative movement in Sweden and was the first to open a self-service grocery store.

The other set of actors is centred around the wholesaler Hakon, a retailer-sponsored wholesaler⁹⁴ and was one of the bigger wholesalers in the then fragmented market. Hakon was one of four regional wholesalers cooperating in the ICA organisation. Today the ICA group is more tightly integrated and in 1997 accounted for about 35 % of total Swedish grocery retail sales (Svensk Dagligvaruhandel 1997/98, p 15).

Today, one would expect the so-called "Third block" to be represented in a description of the Swedish grocery retailing market. However, in the 1950s, that association had not yet been formed, and it was normal to treat the market as being constituted of private and cooperative retailers. I have therefore chosen to limit my description to just one representative of private retailing. Among the private firms and organisations at the time, the Hakon group was arguably the most influential, not only as concerns the introduction of the self-service concept.

The self-service innovation defined

As with other major innovations, the self-service "revolution" is inter-twined with - dependent on and giving rise to - a number of other innovations. Although these innovations are difficult to isolate empirically, we may nevertheless theoretically distinguish a core concept of what self-service is. 1) At this core of the self-service innovation, performance of the task of picking the desired goods from the shelf is transferred from the retailer to the consumer. That is to say, the "picking function" is shifted forward in the channel. The shifting of this one function is the absolute minimum of the self-service innovation but, in my opinion, one other element needs to be included in the core.

2) In order to make it possible for customers to select their own goods, a change was needed in the physical design of the store. In the traditional, counter-service store, the goods were shelved behind the counter, where only the retailer or shop assistants could have access to them. Some goods were stored in a back room, and others were stacked high up where a ladder was needed to access them. In the

⁹⁴ I. e. a wholesaler owned (at least partly) by the retailers it supplies.

self-service store, goods need to be accessible to the customers, and they are therefore displayed on shelves along the walls or on free-standing shelf units - "gondolas". These two elements, the transfer of the picking function and making the goods accessible to the consumer, combine to form the core of the self-service innovation.

It should also be pointed out that the self-service concept places new demands on the competence of the consumer. In the service system, the retailer was available for information and advice. In the self-service system, the consumer not only must be able to locate the desired goods but also must be able to choose between the available alternatives. Thus, in order to adopt the new shopping style, the consumer must have, or acquire, the necessary competence.

As we shall see, in the case of the US this core does not seem to be an innovation in itself viable, and arguably could therefore be considered an antecedent of the self-service innovation rather than itself the true innovation.⁹⁵ Although not in disagreement with the observation as such, we will nevertheless argue against proposing a more demanding definition of the self-service innovation. As discussed in Chapter 3, the success of any innovation depends on the technological, social and economic circumstances of its time. To quote Basalla (1988, p 34) once again, "*the significance of an invention cannot be determined solely by its technological parameters*" Thus, the existence of an unsuccessful antecedent of the self-service innovation, which possesses the same basic characteristics, is not surprising but quite normal in the world of innovations. Furthermore, although empirically the minimum change of our core definition turns out to be complemented by other elements, the nature of these other elements varies between nations and types of self-service stores, but the core is always present.

Antecedents of self-service

1. The US

The first self-service store, Piggly Wiggly, was opened in Tennessee in the United States in 1916, and its inventor, Clarence Saunders, actually succeeded in

⁹⁵In the case of the US, we must also point out the existence of an intermediary form of retailing, namely *self-selection*. This system was typical of non-grocery chain stores but existed, to a greater or lesser degree, in food retailing as well. This system retains the service counter, but customers choose from open display counters, and hand their selection to a clerk for wrapping and payment. As compared to this system, the main difference in the self-service system is the check-out payment. (Hollander and Omura, 1989, p 316)

patenting the idea.⁹⁶ A picture of the original store shows remarkable similarities in lay-out to the stores of our time, although it was quite small in terms of size.⁹⁷ Wicker baskets were provided at the entrance, and the customers then followed a serpentine path between the display gondolas, leading them past all of the merchandise towards the exit teller. This first store got quite a number of emulators, at least in name. By 1929 there were over 3 000 stores operating in a franchise-like manner under the Piggly Wiggly name⁹⁸. However, Nystrom comments (1930, p 111):

In many instances, stores started on the self-service basis have been gradually reverted to the regular type. Employees quite naturally begin to assist customers in making selections of suitable merchandise whenever called upon, and there is but a short step beyond to full sales service.

Bucklin attributes the limited success of these first self-service stores to indivisibilities in personnel in combination with store size. At the then normal size of operations, the minimum staffing of one or two persons still afforded enough time to serve customers. Thus, the shifting of part of the service function resulted in no savings for the store but in an under use of the personnel who, rather than be idle, reclaimed the service task. Thus it would seem that in order to be a success, the self-service innovation needed to be combined with a larger volume of goods.

Another antecedent of the self-service concept was the development of displays for marketing purposes, which occurred even during the time that the traditional stores were the dominant design. The following observation was made by a representative of Swedish retailing, travelling in the United States in 1931.

Everywhere noticeable is the American spirit of promotion, which among other ways is shown in the ample display of goods. Far out into the side-walk, fruit, fresh vegetables, etc., are displayed (not an example to take after), and in many stores the service counters have been replaced by display counters and glass cabinets. Nothing is put away in drawers or on out-of sight shelves, everywhere glass lids and other arrangements in order to display as much as possible. (Nygren, 1931)

⁹⁶ Some sources, e.g. Schulz-Klingauf (1961) p 202, also mention a couple of stores in California that opened in 1912. However, the most influential at the time seems to have been Saunders.

⁹⁷This picture is reproduced in Wirsäll (1982), p 60 - 61.

⁹⁸Bucklin (1972), citing Nystrom (1930), pp108 -111

2. Sweden.

Some sources claim that the first attempt to introduce the self-service concept in Sweden occurred in 1924 (Nygren, 1931). Presumably, they refer to a bakery store operated by KFS, which was launched as "The store without counter" (Gjöres, 1924). Display fixtures in the middle of the store provided visibility of the goods to the customers, but not access. Although it had done away with the counter, thus adopting one of the attributes of the self-service format, service was still carried out by sales attendants. Apparently short-lived, this store may nevertheless be considered an antecedent of the self-service concept in Sweden.

A second antecedent attempt took place during the second world war, and this time it was two consumer cooperative stores offering very limited assortments. Each store was part of a group of specialised stores, one located in the small town of Motala, and the other on Odengatan in central Stockholm. These self-service stores were designed to sell only dry goods, while the neighbouring stores sold meat and vegetables, respectively. At the time, these stores were occasionally referred to as a self-service store - particularly when refuting claims to having opened the first self-service stores, from private retailing. Those private stores were considered "... *not self-service stores in the sense that we would use the term*" (Wendel, 1947) However, once the Odengatan store had been converted into a "proper" self-service store, its predecessors were referred to as self-service departments. It is also mentioned that they were designed to provide an opportunity to gain experience in anticipation of opening the self-service store, in the true sense of the word.

Background to Swedish introduction

Before the war, both the consumer cooperative organisation, KF, and organisations of private retail trade had sent representatives abroad at various times to gather new ideas for retailing and wholesaling operations. This practice was reintroduced after the war. In 1946 and 1947, emissaries from private trade as represented both by the retailers' trade organisation (*Köpmanufakturbundet*) and by Hakon, one of the leading wholesalers to private grocers, made visits to the United States. And in 1946, KF was rejoined by a former employee who had worked in US retailing during the war.

Reactions to the self-service concept in the Hakon group.

Hakon was a retailer-sponsored wholesaler and the organisation's retailer councils - "Förtroenderåd" - served as an important management and information instrument. These regional councils consisted of representatives

from both the grocers in the area and from wholesaler management. In February of 1947, a letter from Hakon's representative travelling in the US, Nils-Erik Wirsäll, was discussed in each of the councils. The letter detailed his impressions of US retailing, particularly the self-service system. An examination of the records from these meetings shows that, while no one was outright negative, few believed self-service stores to be an innovation relevant for their particular area. In fact, 12 out of 14 preserved council minutes recommended that Hakon establish an experimental self-service store together with local retailers - "*in an area where the conditions are more suitable*". There was a general feeling that the new format would only be viable in large towns, because of the high fixed costs particularly attributed to the need for bigger stores and therefore higher rent. It would be suitable, it was argued, to open a self-service store in one of the newly constructed residential areas, so as to avoid competition with existing private retailers. The potential risk of price competition is mentioned occasionally. An area where concern was more often voiced was the perceived increase in risk of shoplifting when the customers could have direct access to the goods. The risk was also brought up that introducing the new system would entail losing the "personal touch" that was viewed as an advantage of private retailing in comparison with cooperative stores.

On the positive side, it was difficult at that time for the retailers to recruit employees. Their margins were small and it was hard to compete with the better wages obtainable in industry. A few of the councils pointed out the marketing potential - "The counter is thus a misplaced barrier between the customers and the goods." (Kopparbergs Förtroenderåd, 1947) This point is also taken up later, in other circumstances, by consumer interest groups, who feared that the consumers would overspend when not restrained by the limitations of the old system (Wirsäll, 1996). Several persons mentioned that it would be an important advantage to introduce the new system ahead of the consumer cooperative societies.

As it turned out, nothing came of the idea at that time, and although the wholesaler organisation within Hakon continued to advocate the idea, a majority of the associated retailers remained sceptical for some time to come. The wish to avoid the potential conflict is clearly shown in the treatment of the topic in the members' journal, ICA-tidningen. For example, a few years earlier, in a series of articles on self-service in the US, the author is quite positive both towards the format as such, and towards its potential in Sweden, among other

things referring to the cooperative experiments. Nevertheless, the articles are each headed by an editorial *caveat* such as that quoted here:

This article must not be so interpreted, that ICA-tidningen wants to advocate the self-service store. ... We have included this article in order to give our readers a small orientation in the developments of retailing in America and other states as we believe this interests them, if not in such a way as to want to follow the example. There is much reason to believe that the self-service system does not have a future in Sweden, the mentality of the Swedes being different from that of the Americans. ... (ICA-tidningen 1/43, pp 20-21)

Before this time, however, another concept had been introduced, namely the *open display*. "If possible from hygienic standpoints, the customer should be able to touch the merchandise, which - as is generally agreed - is especially conducive to sales" (ICA-tidningen, 1942). Although the article also mentions that retailers in the United States had driven this idea further, the open display is clearly presented, and in later articles referred to, as a separate and uncontroversial concept.

Reactions in the consumer cooperative organisation.

The person within KFS mostly responsible for bringing the ideas of self-service to the organisation was Henry Nilsson, who had also worked at KF before the war. He came back from the US in 1946, after studying distribution at Harvard Business School, and later working in US grocery retailing for five years. When he came back to KF, the consumer cooperative organisation already had some experience of the self-service ideas. His suggestions were very quickly put into effect through the transformation of the existing Odengatan store. The experiences gained in the previous self-service attempts were also important as a reference point in dealing with local health authorities, whose permission was required to bring the different food groups of the specialised shops together into one store (Kylebäck, 1997)

On the whole, the KFS records reflect a much more positive impression of the new concept than the Hakon documents. In a 1948 article, only two concerns are expressed - the effect on shoplifting and how the old and the young would be able to cope with the new system. However, according to the person interviewed, a manager at the Stockholm consumer cooperative society, experiences at the new stores proved these concerns to be unfounded.

One reason for the positive attitudes reflected in the KFS material may be that these records pertain to investigations of various aspects of the concept and its future developments, performed within the central organisation, and to articles in internal newsletters. Another reason may be that many of the Hakon records are somewhat earlier and refer to discussions of an abstract idea, while the KF material refers to existing stores and to actual experiences.

First successful introduction of self-service

1. United States

A number of critical factors were needed before successful implementation of the self-service concept would be possible. Increases in the volume of goods and a price advantage relative to the traditional stores were needed, and a number of external factors contributed in making this possible: Firstly, the possibility to sustain a large volume was improved over time as urbanisation increased. To quote Barger (1955): "Large-scale retailing ... is an urban affair" (p 71). Secondly, consumer mobility increased during these years, as car ownership and public transportation became more common. Thirdly, the storage capability of the consumers increased, as ice-boxes were replaced by refrigerators in the home, and as urban homes became larger.⁹⁹ Fourthly, packaged goods and brand advertising reduced the role of the retailer in assuring quality and in "breaking bulk", and concurrently product variety increased. Furthermore, there were changes in disposable income levels, first the reductions during the depression, and later increases that sustained higher consumption levels and thus a growing market. However, by the end of the thirties there were still areas where self-service had not become a great success, particularly in the central and eastern parts of the United States, partly because some of the major chains did not accept the idea. The last contributing external factor was the shortages of labour during the war, which provided the definitive push, so that by the end of the war practically no larger service stores remained (Nilsson, 1946).

Bucklin places the effective introduction of the self-service format in the early 1930s. A number of stores were opened across the United States at this time. They were cut-rate stores, known as "pine-boards" (Lewis, 1968, p 31) because the goods, often still in their shipping cartons, were displayed on long wooden benches, or in laundry baskets or wood crates. The prices were significantly lower, margins slashed from 30 down to 10 percent, and these stores attracted customers

⁹⁹The second and third factors are mentioned by Bucklin (1972), p 87.

from as far as 150 km away. First among these cut-rate stores was Michael Cullen who opened the first of his "King Cullen" stores in 1930 in a former garage. He was said to offer the lowest prices in the country, often only half of his competitors' prices, and with the massive unemployment of the depression, this was especially important (Schulz-Klingauf, 1961, p 204). Thus, as Bucklin points out, the depression played a role in the growth of the self-service store, the economic hardships increasing the consumers' price sensitivity.

The economies of self-service could only be attained with large-scale operations, *but the necessary volume could not be obtained without price saving to consumers sufficient to break their existing shopping patterns.* (Bucklin, 1972, p 86. Italics mine).

2. Sweden.

It was the consumer cooperative movement that introduced the self-service format in Sweden and their strategy in the way they did so was quite different from that used by self-service stores in the US. The new format was introduced to the consumers as "quick-purchase" (*snabbköp*) and the emphasis was indeed on the reduction in waiting time as compared with the traditional stores.¹⁰⁰ Three factors influenced the time savings of the new format. Firstly, the time for a purchase in the self-service store is largely determined by the customer, as it depends on speed in locating goods and the amount of time that each purchase is deliberated. Secondly, it also depends on the layout of the store and of the skilfulness of the check-out personnel. A knowledgeable and determined customer, shopping in a well-organised store with a quick check-out teller might thus save a considerable amount of time, while an indecisive customer in a poorly organised store might actually take longer. In any case, the time spent deciding on a purchase is qualitatively different from that spent waiting one's turn at the service counter or in the check-out line. Thirdly, a substantial proportion of the service stores were specialised, so that the customer had to divide purchases between two or three stores, while the self-service stores typically were integrated. Thus, time savings often also included savings in travel time between the stores.¹⁰¹ A KFS memo (# 3, 1951), drawing on a survey of household consumption made by *Socialstyrelsen* in 1948, finds that most

¹⁰⁰ Roland Artle makes this point in an analysis in 1952, at a time when the new format was still in its quite early stages. (1952, p 158)

¹⁰¹ While the need to visit several stores is reduced with the self-service concept, this is only indirectly a result of the self-service format. The direct cause is the lifting of those health regulations stipulating that various food groups must not be sold together. The conditions enabling this deregulation were related to advances in packaging. However, these advances in packaging were largely driven by the needs of the expanding new store format.

housewives made at least one grocery purchase per day, and on average purchased 10 items. Waiting time per item was estimated at 1 minute in the service and 1/2 minute in the self-service store. Given the small number of items purchased on each occasion, the time savings in absolute terms are not as large as in relative terms. However, this relative difference becomes increasingly important as the consumers' ability to carry goods home improved, as the possibilities to store goods in the home increased, both these factors tending to raise the average number of purchased items per shopping trip.

Rather than exploiting the potential for price cuts that the new format offered, a uniform price-level was maintained across store formats. There were several reasons for the decision not to compete on price.

Reasons for KFS and other consumer cooperative societies to maintain uniform prices.

Firstly, there were ideological reasons not to lower prices, because it was considered unfair that cooperative members should be met with different prices depending on the type of store they had access to. Furthermore, the self-service stores were very positively received, and members were looking forward to the day when one would open in their neighbourhood. To have lowered prices in the self-service stores would have meant that some members not only got preference in being able to shop in a modern store, but received lower prices into the bargain. Lowering the prices would also have risked creating discord among members, since the building and transformation of stores used up funds that could otherwise have been refunded to members. That is, all the members in the area shared the cost of building the self-service stores, but lowered prices would only benefit those living close to the new store (Eronn, 1951).

Secondly, the increased margins in the self-service stores led to profits which could be reinvested into continued transformation of the existing retail shops. Thus, not lowering prices permitted a quicker transformation of the stock of retail stores than could otherwise have been achieved. Later, this surplus was also used to build up the cooperative industries. Again, the objective was long-term consumer benefits. By owning the industries that supplied the goods, the consumer cooperatives, and consequently the consumers themselves, could appropriate the producer surplus. It was not until the end of the 1950s that the increased efficiency of the new format began to be reflected in the price levels (Wirsäll, 1996).

Finally, price was probably less important as a means of competition than it had been in the US.¹⁰² The Swedish conditions were very different from those of the US consumers of the 1930s. In the first few years of the period, there were still some shortages and rationing remaining from the war, but in the main this was the time when the Swedish economy was entering its golden age. GNP more than doubled in the twenty years from 1950 to 1970, and the grocery trade kept pace with the rest of the economy (Ingelstam, 1995; Wirsäll, 1982). Thus, far from experiencing the economic hardship that had made US consumers price sensitive in the 30s, the disposable income of Swedish consumers increased by 80% in the period when self-service was introduced and grew in Sweden.

Another reason for the relatively low degree of price competition was that resale price maintenance (RPM) was legal and practised on packaged goods, although the effect of RPM should not be overstated. Firstly, RPM was less of a constraint for the cooperative stores, since they had a substantial share of KF-owned suppliers, where they were able to control retail prices. Furthermore, the share of manufacturer packaged goods in the stores was still relatively small.

Advantages and disadvantages of self-service to the consumer

Thus, the self-service format gained acceptance and consumer patronage in Sweden not through price advantages, but through other perceived advantages to the consumer of the new format. Some of these advantages were part of the initial appeal of the self-service store, others were added later and made possible by the existence of this format. The first of these advantages was the time efficiency of the new format. In the traditional store, each customer would tell the shop assistant which products he/she wished to purchase. The shop assistant would fetch the products one by one, weighing and packaging for each individual customer. The immediate appeal of the "quick-purchase" store should thus not come as a surprise. To quote from a KF-publication:

Even though the members in general have not yet realised that self-service means lower costs and therefore will lead to lower prices after the build-up phase, they do know that self-service is - quick-purchase. (Eronn, 1951)

Related to this, in many cases, was the integration of several specialised stores, enabling the customer to buy different types of food all under the one roof instead of having to visit several stores.¹⁰³

¹⁰² Cf the fear voiced in the Hakon protocol, that self-service "would lead to price competition".

¹⁰³Self-service was also introduced in some of these specialised stores, particularly in bread-shops.

The second consumer advantage, present from the beginning, was that it allowed the consumer the time and the possibility to pick up and compare the products, deliberate a purchase, and have a change of mind. Although bigger shops would normally have several shop assistants, there were clearly physical restrictions as to how many could work behind the counter. Not only did customers often have to wait in line, but once it was their turn, others were waiting behind and it was difficult at that stage to have second thoughts. With counter service and with so many people waiting, it took some courage to ask the shop assistant to fetch a cheaper brand in place of one already fetched or to make some last minute changes in the order. Self-service made the shopping situation much less public. (c f Hollander and Omura, 1989)

Newspaper articles from that time evidence a number of minor complaints regarding, for example, queues at the check-out, the difficulty in finding one's way about in the store, the lack of personal service, and the risk of buying too much. As late as 1961, an article in an evening newspaper (Aftonbladet, January 31, 1961) claimed that the self-service format was only suited to experienced housewives. Generally speaking, however, the attitude towards the new system would seem to have been positive.

Although not an integral aspect of the new format as such, in practice many of the new or transformed self-service stores attempted to introduce policies of not offering home deliveries or purchases on credit in conjunction with the new format. Because these services were generally provided free of charge, their withdrawal may be considered a consumer disadvantage. On the other hand, because they were offered for free, they would have been over-consumed relative to consumers' valuation of them, resulting in an excessive cost charged through higher price of the merchandise. Thus, provided it was correspondingly reflected in the prices, the withdrawal of these services would constitute an advantage from the consumer's point of view.

Retailer advantages and disadvantages of self-service

The economic impact of the core innovation is somewhat uncertain. In particular, size differences seem to be important in determining the economic benefits for the retail store in adopting self-service. Two early evaluations will be summarised in order to indicate the effects.

1. In a 1950 evaluation of two co-op stores that had been rebuilt to self-service one year previously (KFS #18, 1950), total cost increases are distributed between the two as follows: increased central packaging costs (27% / 40%), interest and amortization on rebuilding costs (25% / 26%), increased salary costs, etc. (26% / 7%)¹⁰⁴, increased theft (14% / 18%), and increased cost for store packaging material (8% / 9%).

These cost increases have to be weighed against the benefits, primarily the increased sales in both stores, in one amounting to as much as 53%. Determining the impact the new format had on this increase is, however, quite difficult. Corrections have to be made for those increases that would have taken place in any case, primarily as a result of lifting the rationing of certain types of food. From the point of view of total business, a correction has to be made to cater for the effect on sales of business drawn off from neighbouring co-op stores. When these corrections are made, depending on which margin is used to calculate the surplus on the sales increase, the final result lies somewhere between a small loss and a very small surplus. The two stores each had sales in excess of SEK 500 000 per year after the rebuilding, which makes them fairly big at the time. According to figures from Kommerskollegiums företagsräkning 1951 (Lindblad, 1953) the average annual sales of all self-service stores in 1951 amounted to approx. SEK 364 000.

Although the direct result is weak, the evaluation is nevertheless positive towards the new format. The main reason is the fact that the customers/members were positive, and that some of the increased sales were drawn from private retailers. Among the factors that also contributed to the positive results were that the larger size of the self-service stores would eventually reduce the number of store units, and the associated administrative costs, that the *relative* wage costs would be lower¹⁰⁵, and that the work would be more specialised, and therefore more easily structured and monitored. On the downside, the introduction of the self-service format had resulted in greatly increased demands on centrally located staff of the KFS organisation.

¹⁰⁴The increased salary costs were partly of a temporary nature.

¹⁰⁵In the service store, enough shop assistants must be present to meet the peak demand. In the self-service store, even these early ones with limited availability of manufacturer packaged goods, the personnel can prepare for the expected demand by pre-packaging, thus spreading the work more evenly over the day, and reducing the personnel requirements.

2. The second evaluation (Persson, 1955) is made at a somewhat later date, the empirical data refers to 1952 and 1953, and covers a larger material, namely a number of Hakon associated self-service stores whose accounting was handled by the group's accounting service (Hakonsköpmännens bokföringscentral AB). All of the 20 associated self-service stores are included, plus a sample of about 1/3 of the traditional stores.

It was possible to trace the effect of transforming a traditional store to self-service, using five of the stores in the material. Of these five stores, the two biggest stores - both with annual sales in excess of SEK 500 000 - clearly show increases in absolute profit following the transformation. A third, with about 400 000 in sales, also shows an increased absolute profit, but also doubled sales, and a substantial share of the profit increase is attributable to the volume increase.¹⁰⁶ For the two smallest stores, the profit is lower than before the transformation. The costs involved in the transformation are not immediately comparable to those of the transformation of the cooperative stores, but seem to be at a relatively lower level in the private stores.

Analysis of absolute profits in traditional and self-service stores of different sizes (Persson, 1955, p 51), shows significant differences only as regards stores with annual sales in excess of SEK 500 000. In this size-class, it is the self-service stores that show the largest profits, the difference constituting about 1,5% of the total sales of these stores. However, the difference in gross margins of these stores compared to the traditional stores is large enough to explain the whole difference in profit. According to the data, it seems unlikely that higher prices are the cause of the better margins, but the material cannot distinguish whether the difference should be attributed to a different assortment, better purchasing prices or lower costs in other respects.

To sum up, the two evaluations cited indicate that the direct benefits of introducing self-service were rather limited. Other evaluations confirm that the benefits are size related and that sales over SEK 500 000 are necessary for realisation of the potential benefits. In stores of that scale, some salary savings are also noted. (Kylebäck, 1983, pp 99-100).

¹⁰⁶Although part of the volume increase could presumably be attributed to the new format.

The differences in size and sales among stores were substantial, and differed among private and cooperative stores. In 1955 average annual sales of all stores (traditional and self-service) was SEK 275 000. However, these average sales varied between SEK 450 000 for the cooperative and SEK 195 000 for private, non affiliated stores. ICA stores (of which Hakon stores were a part) had average annual sales of SEK 250 000. Hakon and KFS stores differ in size as well, and these differences in size persist in the converted self-service stores, and to some extent in the newly constructed ones as well. Even in 1960, converted KFS self-service stores are over 30% larger than Hakon stores, although newly constructed KFS stores are only just over 4% larger than their Hakon counterparts (KFS #710, 1960). Thus, the conditions for and potential benefits of introducing self-service varied substantially between different stores and ownership forms, especially in the case of converting older stores.

Still, the potential of self-service retailing seems to have been felt by a majority in both private and cooperative retailing and wholesaling. As pointed out by Artle (1952), many of the potential benefits were not yet available, for example many problems relating to packaging remained to be solved. The positive expectations regarding the new format are evidenced by the fact that new construction of service stores had practically ceased as early as the beginning of the 1950s.¹⁰⁷ To quote a 1950 editorial in ICA-tidningen (#10): "Developments have made it possible to replace the question 'Is self-service appropriate in Sweden?' and instead ask 'How is the transformation to be implemented?'"

The role of the central organisations

In the consumer cooperative society of Stockholm, KFS, the central management controls a large number of retail stores¹⁰⁸. KF, the union of cooperative societies, is the wholesale organisation of the consumer cooperatives, but retail development is also part of its mission. As central organisation of all the Swedish consumer cooperatives KF has influence, but it does not hold hierarchical power over the societies. Among the private retailers within the Hakon group, Hakon holds a somewhat similar position. Hakon is a retailer-

¹⁰⁷Persson (1955), notes that it would be valuable to contrast the investment cost data for self-service stores with a comparable material on service stores. Unfortunately, this is not possible because, he writes, "In recent years, very few stores in the relevant size classes have been constructed for traditional service." (p 75)

¹⁰⁸ KFS only has a hierarchical power over stores in its region. However, it is the largest consumer cooperative society in Sweden, and as such had relatively large resources for research and the ability to test new developments.

sponsored wholesaler, i.e. a wholesaler partly owned by the retailers it delivers to. In both cases, it is these central organisations that initiate and take part in driving the process. Why is Hakon an active and driving force in converting private retailing to self-service?¹⁰⁹ And, by implication, what are the reasons for KF to be involved in this transformation, other than purely in its role as contribution to retail development among the consumer cooperatives? There are two main reasons.

Firstly, driving the transformation of the retail stores fell within a more general efficiency-directed transformation of the distribution system within the Hakon group. In the same time period, Hakon launched the so-called "Hakon's New Deal", and started building one-storey warehouses. (a) Hakon's New Deal was a program directed at making the wholesaler to retailer interaction and exchange more efficient and increasing retailer loyalty. Its main points were the introduction of a volume bonus on purchases, raising the minimum level of yearly purchases, reducing the wholesaler assortment from 4.000 to 2.500 items, introducing written ordering from retailers to the wholesaler, and reducing deliveries to once weekly (Wirsäll, 1950). Among its intended, and realised, results was the weeding out of a number of very small retailers, and a higher purchase share among those remaining. It also reduced wholesaler sales costs, by reducing the need for sales rep's visits and for telephone order-taking. (b) The one-storey warehouses were more time and labour efficient, allowing increased mechanisation such as the use of fork-lifts and standardised pallets (Wirsäll, 1982, p 64). They were located outside the centre, near traffic inter-sections that could reach a number of towns, rather than in the centre of one town.

Both these programs were directed at attaining economies of scale, and by implication would raise the relative costs of cooperating with very small retailers. The self-service stores, by virtue of their larger sales volumes, allowed the total system to realise the potential of the other two innovations better.

Secondly, Hakon's leadership held the belief that the self-service format was the store of the future. Thus, it was natural for them to promote this format among Hakon's retailer owners. Had they failed to accomplish the transformation of the retailers, it would have resulted in Hakon being the supplier to a group of retailers with an ever declining share of the Swedish grocery market. For these

¹⁰⁹Hakon is not the only wholesaler to private retailing active in promoting self-service. ASK, an association of wholesalers to private retailing (later developing to form the wholesaling core of the so-called "Third block"), is also active in a similar fashion.

reasons, it was rational that Hakon should promote the transformation to self-service among its members. Not only were they relevant to Hakon but, by the same token, they constituted additional reasons for KF driving the self-service transformation among its retailers.

In the case of KFS, the central organisation had a hierarchical position that could be used to establish the new format, at first in a few chosen locations. In the case of private retailers, Hakon, lacking the hierarchical position, had to rely much more on persuasion and education of retailers by finding progressively-minded retailers to lead the process and by describing its potential in internal newsletters, for example. One means of persuasion was the competitive threat of the cooperative self-service stores. Another was the potential to lower wage costs by up to 25%¹¹⁰. Personnel accounted for about 8 percent of total costs, which was a high share of the total margin. Perhaps more importantly, there was a shortage of labour, and it was difficult for the retailing trade to attract personnel, especially in competition with the better wages offered by industry.

Of course, once the process got under way, and the consumer advantages became evident, consumer and member demand drove additional individual private retailers and local cooperative societies to invest in self-service stores. The role of the respective central organisations changed. In addition to development of the format and the various auxiliary tools and processes, an important role of the central organisations became that of securing locations for expansion, particularly in the rapidly developing new residential areas.

Growth of the self-service format

In spite of any hesitation and scepticism that may have been present in the beginning, the new format soon started to exhibit remarkable growth in private as well as in cooperative retailing. As can be seen in table 1 below, the advantages of self-service led to the number of newly established self-service stores or transformed traditional stores growing by the hundreds every year, for almost twenty years.

¹¹⁰Although this possibility did not seem to be important among the earliest stores, the increased availability of centrally or manufacturer packed goods, together with the rising size of the stores made savings possible. According to Wirsäll (1996), savings of 1,5 - 2 percentage points were expected.

Table 1: Establishment of self-service stores in Sweden, 1947 - 1969¹¹¹

year	Number of stores			Change per year		
	coop.	private ¹¹²	total	coop	private	total
1947	2	0	2			
1948	21	na	na	+19		
1949	63	na	na	+42		
1950	131	68	199	+68		
1951	313	259	572	+182	+191	+373
1952	582	449	1031	+269	+190	+459
1953	833	564	1397	+251	+115	+366
1954	1140	765	1905	+307	+201	+508
1955	1479	946	2425	+339	+181	+520
1956	1785	1220	3005	+306	+274	+580
1957	2051	1462	3513	+266	+242	+508
1958	2350	1751	4101	+297	+289	+588
1959	2647	2108	4755	+299	+357	+654
1960	2896	2555	5451	+249	+447	+696
1961	3097	3002	6099	+201	+447	+648
1962	3169	3655	6824	+72	+653	+725
1963	3176	4495	7671	+7	+840	+847
1964	3108	5089	8197	-68	+594	+526
1965 ¹¹¹	2911	5449	8360	-197	+360	+163
1966 ¹¹¹	2722	6354	9076	-189	+188	-1
1967	2568	6255	8832	-154	-99	-253
1968	2493	6164	8657	-75	-91	-166
1969	2387	6193	8580	-106	+29	-77

Sources: Örtengren and Stjärnström (1958) for 1947-49, and Nilsson and Frankman, HUI (1969).

Although impressive, in absolute numbers alone the growth fails to tell us the whole story of the self-service transformation of grocery retailing. The share of self-service purchases to total grocery purchases is not as well documented, but we do have some observation points to give us a hint of the pace. In 1951, self-service stores were estimated to account for 6 % of total grocery purchases, this

¹¹¹ The HUI data on the private stores is based on two sources, and the figures for 1965 and 1966 therefore are not comparable. The increase of 188 for the private stores is based on the figure for the previous source for the overlapping year, 5 647.

¹¹²Private = ICA and other non-consumer cooperative.

figure going up to 8-10 % by 1952 (Stockholmsstidningen, 1952). Örtengren and Stjärnström (1958) estimated that by that time about 25% of total sales were going through self-service stores. The fact that the self-service stores only constituted about 15% of the total number of stores at the time, gives an indication of the size differentials relative to traditional stores. Two years later, self-service stores accounted for 25% of the total number of stores, and 36% of total grocery sales (Aktuell Ekonomi 14, 1961). The dramatic increase continued during the next two years, and by the end of 1962, self-service stores accounted for 50% of grocery sales. Finally, in 1970, self-service stores accounted for 90% of grocery sales (Bundesstelle für Außenhandelsinformation, 1971). Thus, in less than twenty years, self-service had gone from representing 10% to representing 90 % of total retail sales. This evolution also placed Sweden as a forerunner among European nations in terms of self-service grocery retailing (Nilsson, 1950; Wirsäll, 1960).

Related Innovations and Development of the Format

Increasing size of stores

The first cooperative stores chosen for new construction or conversion to self-service were relatively large. However, as the concept caught on, more and more local consumer cooperative societies wanted to try the new format. As a result, the average size of new cooperative stores (whether converted or constructed) became smaller in the period up to 1953, but after that the average size increased (KFS #519, 1957). Private retailing shows a somewhat similar pattern. The first stores to convert were the most progressively minded¹¹³, and some of them were also among the larger of the group. However, the emphasis from Hakon in showing low-cost ways of converting and on emphasising that self-service was possible in all types of stores, led to many small stores being among the early private self-service establishments. A popular series of articles in the Hakon newsletter was called "Self-service for a fiver", which gives an indication of the type of transformations that were advocated.

From the mid 1950s, there was growing consensus that self-service alone was not enough, but that the size of the store was equally, if not more, important in determining the efficiency and profitability of the operations.¹¹⁴ Several

¹¹³According to Wirsäll, he and other Hakon representatives trying to drive the self-service conversion, concentrated on the most progressive among their retailers, because the chances of them converting was the highest. They expected that the example set by these retailers would work in their favour when convincing the more reluctant ones. (Wirsäll, 1996)

¹¹⁴ For example, KFS #174,1952 quotes a travel report from the Rationalisierungs-Kuratorium der

investigations such as those described above, pointed to the fact that the larger stores were more profitable, and that one should avoid constructing or rebuilding smaller stores. One KFS report puts the minimum scale for a general self-service in terms of employees at 5-6, and in terms of sales area at 100 - 150 m² (KFS #193, 1953). In a 1961 KFS paper discussing "the series of service stores to be rebuilt starting from 1961", it was noted that for certain of these stores, it should be expected that they would be economically viable for only 7-10 years (KFS # 747, 1961).

Whereas there was still some conversion of specialised stores (bread, meat, etc.), it was increasingly considered preferable to build a new general grocery store, to replace a group of specialised stores.¹¹⁵ KFS, because of its clear hierarchical decision structure, was in a better position to build up an efficient store structure; closing a number of small stores in an area and opening one large to replace them. However, among small private retailers, similar arrangements could sometimes be attained through agreement within a group of closely located stores, where the youngest retailer, or the one with the best financial resources, would buy out the others. Because of the low profitability of many small stores many of those who closed their stores became better off than before. Also, due to the age structure among small retailers, some owners of small stores chose to go into retirement (Livs, 4/1964) The cooperative societies also had a legitimacy problem when closing stores, that the private retailers did not have.

Rationalising the store structure, in a cooperative society, by closing or selling small stores must be done according to a plan, ensuring that members don't get the impression that their just demands for reasonable walking distances are being ignored. ... A badly run private store will automatically be weeded out through bankruptcy. A store within a chain operation or in a cooperative society, on the other hand, may theoretically be subsidised indefinitely (KFS # 399, 1955).

At that time, there was a strong urbanisation trend taking place in Sweden. This meant that there was also a growing need for newly constructed stores. As the share of newly constructed self-service stores increased, the restraints posed by

Deutschen Wirtschaft: "The question of whether the stores should be big or small, is thus far more decisive than the question of self-service or service." This report is from is one of a number of trips made by nation-groups of European trade representatives to study US retailing. These trips were organised and financially supported by the US under the auspices of the Marshall Plan. They were an important source of retailing and other trade innovation diffusion from the US to Europe.

¹¹⁵ The possibility to integrate stores was partly dependent on the advances in packaging, due to health regulations. Eventually, it also became possible to have counter-service of meats within a general self-service store.

existing stores became less important. The new residential areas were planned by local government, and it became very important for the central actors to be awarded store permits in these new areas.

Increasing the assortment

Increasing the size of the store not only allowed for efficiency in terms of utilisation of staff and localities, it also allowed the store to present a much wider and deeper assortment of goods¹¹⁶. The increased assortment provided time savings and convenience advantages to the consumers, and was therefore appreciated. For retailers, it was a way of reducing reliance on the low margin foods and adding higher margin goods to the assortment. Although the department stores had already shown that a wide and deep assortment could be attained within the traditional service system as well, the cost and price advantages of the self-service system became more pronounced with the increasing size of the operation. And among the service grocery retailers there had never really been any attempts to match the increased assortment of the big self-service stores.

In Sweden, the broadening of the assortment was partly due to changes in health regulations. In the US, even the traditional grocery stores had offered a much broader assortment as is shown in the following excerpt from the same travel report as referred to earlier, written by a Hakon representative travelling in the US in 1931, when service stores were still the dominant design.

Immediately striking to a stranger is that the so-called groceries ... in general are less specialised than they are with us. In addition to what we consider grocery trade, they generally carry delicatessen meats, tobacco, paper, etc. (Nygren, 1931).

With technological advances, increased general affluence and the gradual disappearance of the war-time shortages, the supply of and market for new products grew at an explosive pace. More and more non-food items were also introduced, partly in order to compensate for the low margins on food. The innovation of combining the assortments of a number of specialised stores, and selling them under one roof, must be credited to the department store.¹¹⁷ Although, as has been mentioned above, this innovation had been adopted by

¹¹⁶ A wider assortment contains more different types of goods, while a deeper assortment contains more varieties of a particular type of good. See Kihlstedt (1961), pp 43-45.

¹¹⁷ An innovation which by the 1950s was celebrating its first centenary.

food-stores somewhat earlier in the US, it is not until this time that it spread to Swedish grocers. The wide assortment was appreciated by the consumers, and as such a wide assortment would be difficult to offer in a counter-service store, it further secured the position of the self-service type of store. Had the self-service conversion not taken place, it is unlikely that the traditional service stores could have accommodated the expanded assortment, and the alternative would then have been an increase in specialised service stores to sell the new goods. That development is likely to have had much less impact than the one that actually occurred. Consider, for example, the much lower size of the frozen-foods market in France, where these foods are sold in specialised stores, than in the UK or Sweden, where they were made a part of the assortment of the regular stores. (Sutton, 1991)

The journal "Progressive Grocer" gives the following statistics regarding US supermarkets

1928	887	items
1946	3000	"
1950	3750	"
1955	4723	"
1957	5144	"

In Sweden, a manager from a smaller super market chain (Metro) recalls: "[I] examined the purchasing records of several grocery firms for the period 1956 - 1959 and found that only 40% of the new items proposed to the purchasing committee were accepted. However, these 40% constituted an addition to the assortment of 250 items per year. Some of the new obviously replaced other items that were withdrawn from the assortment at the same time. The number of such items is ... approximately 100. ... the grocery firm receiving a net addition of 150 new items per year" (SSLF-tidningen 9/1960, p 25).

Packaging

Moving the picking function forward automatically affects the packaging function and how it is carried out. For most types of goods, these two functions had traditionally been performed together. For example, the retailer would measure flour into a bag or wrap up a piece of meat according to the customer's request. For certain types of goods, it is also possible to shift the packaging function over to the customer. Today, this is the dominant design in the case of fruits and vegetables, for example, but this is quite a recent development. For many types of goods, this is not possible and self-service leads instead to a

separation in time - and often place - of the two functions, picking and packaging. That is, the goods that the customer selects require to be pre-packaged, either in the store, at a central packaging unit, or by the manufacturer.

1. United States

In the United States consumer packaging of goods by manufacturers¹¹⁸ had been introduced and expanded before and quite independent of the self-service development. Manufacturers' consumer packaging was primarily driven by: 1) mass manufacturing and the desire of manufacturers to establish their own customer loyalty through advertising and the development of brand names, and 2) consumer suspicion of the retailers' honesty led to preference for manufacturers' brands. Even during the time when stores offered counter-service, many packaged goods were displayed and accessible to the customers, who took them personally to the counter for payment.¹¹⁹

2. Sweden.

In Sweden, at the time when self-service stores were beginning to be introduced, the share of manufacturer packed goods was relatively small, especially outside the dry-goods segment. A large part of the packaged goods sold had to be packaged in the store. Packaging materials were a major obstacle, due to the often prohibitive cost, or because adequate material simply was not available to retailers in Sweden.

Overall, advances in packaging technology were important in making possible the expansion of the self-service format. Conversely, the expansion of the new format constituted a major market growth opportunity for the packaging industry. That this view of the interdependence of retail format and the packaging industry was shared by industry representatives at the time, is indicated by the packaging firm Åkerlund & Rausing's supporting of research on changes in retail structure (Sjöberg and Hansson, 1955). Milk packaging came to have a central role. Milk was typically measured up for each individual customer, and health regulations prohibited milk to be sold together with other goods. The advent of, first, bottled milk and later Tetra Pak's launching of aseptic

¹¹⁸As opposed to delivering in bulk and letting the retailer break bulk and package goods in the lot sizes the consumers desired.

¹¹⁹That the development of manufacturers' consumer packaging and manufacturers' brands had occurred much earlier in the US than in Sweden is clear from an account by Henry Nilsson (1946), referring to impressions from a trip to the US in 1939.

paper packaging for milk, were important as the manufacturer packaging of milk made it possible to include milk into the general grocery store assortment.

The issue of where packaging could be carried out with most efficiency was discussed and researched from the beginning. The following two factors combined to determine whether packaging should be carried out in-store or earlier by the manufacturer or at a central location:

- a) The greater the distance between the point of packaging and the point-of-sale consumer purchase, the higher the degree of *speculation*¹²⁰, but
- b) the closer to manufacturing that packaging took place, the greater the efficiency in terms of labour input, and thus wage cost savings.

For most types of groceries, demand fluctuations are not very important. Thus, for non-perishables, it is favourable both from the retailer's and the wholesaler's points of view that packaging be pushed backwards in the distribution channel, favouring central packaging over in-store-packaging (KFS #164, 1952), and eventually manufacturer packaging over central packaging. By moving the packaging away from the store, the self-service format arguably also paved the way for the expansion of manufacturers' branded goods.

Self-service sales of meat and fruit and vegetables

That group of goods, which causes the most problems in the self-service store, is vegetables, fruits, berries and root vegetables. Their short shelf-life, together with the unpredictable variations in demand, lead to constant losses (KFS #401, 1955).

Judging from the number of reports and investigations concerning the pre-packaging of fresh meats, it seems that this food group was nearly as difficult to handle. In the case of meats, this was also an area where limited possibilities existed to learn from the US, as self-service of meat was uncommon there as well. For example, in a 1940 self-service handbook from the US, self-service of meat is not even mentioned as a possibility, and in a 1949 survey of US supermarkets, only 13 % had full self-service of meat (KFS #22, 1950). It was not until the mid-1960s that self-service became the rule in the meat department of US grocery stores. (Walsh, 1993, p 63) The two groups shared the same basic problems, namely preserving the goods, and customers' doubts about the quality of the pre-packaged goods.

¹²⁰Cf Bucklin's (1965) terms speculation and postponement. Speculation occurs whenever a production takes place in anticipation of consumer demand.

With both meat and vegetables, evaporation of water from the goods is a problem as it leads to loss of weight and to spoiling. Vegetables will already have visibly shrunk after about 5-10 % water-loss (KFS #21, 1950), and meat surfaces take on a dried out and unappetising look. In a service store, the stock was smaller and most of the fruit and vegetables could be stored under conditions that preserved the goods better¹²¹, while only a small amount was brought out for display. In the butcher's shop, the windows would be constantly sprayed with water, keeping the temperature down and the humidity up. Also, the meat would only be cut up at the request of a customer, thereby reducing the surface exposed to the air. However,

When moving from service to self-service, all goods should be packaged, in order to make it possible for the customer to choose without having to stand in line (KFS #164, 1952).

Goods for sale in the self-service store would, of course, normally be pre-packaged. Pre-packaging in a moisture retaining material goes some way towards solving the problems relating to both these food groups. However, it also creates its own problems. For one, fruits and vegetables are living and breathing, and therefore any material used to package fruits and vegetables must not be air-tight, or the goods will spoil due to lack of oxygen. The water retaining capacity of fruit and vegetable packaging materials will therefore be restricted by the need to ventilate.

A more important problem is that when the customer cannot be present at the packaging of the goods, it becomes important to be able to inspect the package itself. This means that the goods must be packaged in transparent material. Cellofan, which was first manufactured in France in 1912, was developed to attain heat-sealing and water-retaining properties by 1930. At that time, then, a material existed, which basically answered to the needs of self-service for meat and vegetables. Other transparent materials, and other variants of cellophane, later emerged to meet increasingly specialised needs. However, at the time these materials began to be needed for use in Swedish self-service stores, they were too expensive. The remaining war-time shortages, combined with the strong dollar, made the prices of certain imported transparent films prohibitively high in Sweden (KFS #164, 1952), although some simpler materials were produced locally. The price level and the shortage of adequate transparent material at

¹²¹Cool and dark, etc.

reasonable prices, contributed to hindering the self-service sale of fruit and vegetables, and fresh meat, in Sweden.

Although prices gradually fell, even 1951 an examination found packaging costs for store-packaged meat and cheese averaging 3.8%, in certain stores as high as 4.5%. Considering that the total gross margin on these products stood at around 16-22%, it is not surprising that packaging costs were a cause for concern (KFS #70, 1951).

Customer reluctance to buy pre-packaged meat or fruits and vegetables is not only explained by the need to use transparent materials. Self-service in the cooperative sector came in for questioning. In a 1950 examination of 15 cooperative self-service stores, it was determined that service sales of fruits and vegetables were clearly preferable (KFS #31, 1950). Even when transparent materials were used, self-service sales were relatively lower than in a service store or department. Taking into account only the increased sales associated with introducing service, the added salary expense was more than covered. In addition, the loss due to spoiled goods or torn packages was reduced, less expensive packaging material could be used, and the stores would look more attractive. Thus, at that stage, the customer reluctance to buy fruit and vegetables in the self-service format seems to have been the determining factor.¹²²

In private retailing, with its emphasis on simplicity, initially there would seem to have been less concern over packaging of fruit and vegetables. ICA-tidningen advocates that customers should select and bag fruit and vegetables themselves. As to the problem of dehydration, one article in ICA-tidningen suggests that the retailer build display cases that allow sprinkling water to run off. The illustration shows a retailer sprinkling produce by means of a bottle with a perforated top. The problems with self-service of meat persisted even as late as in 1965, when self-service was well established as a store format, accounting for 55-60% of total grocery trade, and when centrally packed meats were available to retailers. A debate on self-service of meat attracted attention at a "Supermarket Conference", and the positions are very diverse, several grocers being of the opinion, after

¹²²To a certain extent this may be explained by the fact that it was the smaller stores that had self-service of fruits and vegetables. Demand for this food group may be relatively higher in the larger store due to its better assortment and turn-over.

having tried it, that self-service meat was simply not possible in their area (Fri Köpenskap 8/1965).¹²³

It is interesting to note, that although these two food groups share the same problems relating to their self-service sales, today two completely different designs for their sales dominate. In the case of meat, service sales have retained an important share of sales, most of the bigger stores providing service on the meat counter. Fruit and vegetables, on the other hand, are not only self-service, but are also packaged by the consumer. In many countries, fruits and vegetables are also weighed and price marked by the customer.¹²⁴

Tools and methods of self-service stores

Reports of investigations and experiments from the early years give evidence of every aspect of self-service store operations coming under scrutiny. Questions such as - should the check-out cashier sit or stand; is the "touch method" of registering the items more efficient, and which price-marking devices are the most time and cost efficient for different sizes of operations. Substantial development efforts went into the development of various tools and equipment, such as cash registers, check-out counters, shopping baskets and carts, "see through" mirrors to detect shop-lifters, etc. Some of these tools were developed by the organisations' own retailing service agencies. These agencies also scoured the market at home and abroad, and worked together with outside manufacturers. Modern methods, such as time and motion studies, were used in determining the relative advantages of different tools or methods of organising.

Response of the established technology

An established technology that has not previously been challenged may be capable of creating tremendous improvements when seriously threatened. The great increase in lighting efficiency caused by the Welsbach mantle is a prime example. Newcomers with radical innovations should assume that entrenched competitors with financial resources will respond vigorously with innovations of their own (Utterback, 1994, p 74).

¹²³ In fact, Supermarket as late as 1976 (#3, p22) reports on a small-town retailer who had met massive customer resistance when opening a new store without manual service of meats.

¹²⁴This system was introduced in Sweden, and was fairly common for a few years in the 1980s. However, the problems associated with customers forgetting to mark their purchases, or mismarking them, were considerable. Improvements in the efficiency of the check-out weighing equipment have resulted in the practice of customer weighing and pricemarking having now virtually disappeared from Swedish stores.

During the 1930s, when self-service started to gain ground, but before it became the dominant form of retailing, elements of self-service were adopted by the service stores in the United States. (Nilsson, 1946) Although partly driven by other mechanisms (see above p 118), it also served to increase the productivity of the established system. Furthermore, the attractiveness of the service shop was enhanced by offering the packaged goods and an expanded assortment, and in all this can be seen the response of the established technology. In Sweden, the "victory" of the self-service format was clear relatively early on and the laggards were often the small, old and unprofitable shops. Therefore, the response of the established technology in Sweden was relatively weak. Two examples deserve mention, however.

A: Pre-printed shopping lists

An experiment aimed at raising the efficiency and relative competitiveness of traditional counter-service stores was introduced in private retailing, namely in the Hakon's group. The idea was launched under the motto "Hakon's help the household shopping", and consisted of a pad of pre-printed shopping lists which the retailers gave their customers. The customer would mark which of the approximately 75 pre-printed items were desired and there was also room to add other items. One would then drop the list off at the store and come back for the goods later.

Customers' selecting and deliberating is a big problem in the service store. It increases the service time, not only for that particular customer but for everyone waiting to be served as well. The self-service system eliminates this problem by making the individual customers' purchasing processes independent of one another, and in fact encourages the customer to move the decision process from the home to the store, thereby also increasing the number and share of impulse purchases (KFS #134, 1952). The system of the pre-printed shopping list represented another way to address the problem, also making the individual purchase processes independent of each other, but in this case it entailed forcing the decision process to be concluded at home.

That the pre-printed shopping lists were seen as a way to counterbalance the trend towards self-service is evident in the following excerpt from the minutes of one of Hakon's local retailer councils, where the new system is discussed (Borlänge Förtroenderåd, 1951; italics mine):

It was emphasised that it is vital for private trade to make an effort to persuade the housewives to make planned purchases. The costs of distribution are the topic of much public debate, and we have

now begun to increase the efficiency of the distribution channel from wholesaler to retailer. Now, together, we must start on the next part of the channel. [Further on, one participant remarks:]

Yes, it actually seems that the central leaders have let up a bit on the self-service principle.

The advantage from the customer's point of view was that it reduced waiting time in the store, time that could be used for other errands. Working women could drop the list off in the morning and pick up the shopping after work. From the retailer's point of view, it made it possible to spread out the work load better over the day. It was also expected that the list would make the customers concentrate their purchases to one or two per week, rather than coming every day.

The new system received some positive attention in the daily press. Several papers printed conspicuously similar articles, presumably based on a press release by Hakon. The articles emphasise the new system's potential for disciplining the housewife away from "petty purchases that are a waste of time and money". Another advantage for working women was not having to queue in the store after work, with the family at home waiting for dinner.

B. Tempo-stores

Tempo-stores were an adaptation of the traditional counter-service format, which increased efficiency without compromising the element of individual service. In one version, the customer might enter through a regular meat-shop, but did not pay for purchases made there. Instead, such purchases were brought in a basket to the adjoining grocery store by a shop assistant. The customer would then walk along the service counter and could also personally select certain goods from the other side, giving them to the shop assistant, who put them in the basket. The shop assistant also fetched the requested items from behind or on the counter, and put those in the basket. When the customer had finished, the shop assistant brought the basket to the cashier. All goods were pre-packaged and price-marked.

Tempo-stores were opened in Germany, Switzerland and in Norway. In 1955, there were 900 Tempo-stores in Germany (KFS #387, 1955). The main advantage in relation to the traditional counter-service store was the reduction in waiting time. Furthermore, turn-over per employee could be increased, assortments expanded, and more pre-packaging was possible. In Norway, they were considered to make it possible to offer a better assortment in the depopulating

city centre of Oslo, where it was considered not possible to open a self-service store. Although this type of store was both the subject of memos and visits by KF representatives, no Tempo-stores were opened in Sweden.¹²⁵ However, semi-self-service was common, that is to say, the store had the lay-out of a self-service store, but the customer who so wished could choose to have an attendant actually pick the goods (Wirsäll, 1996).

It is also interesting to note that queue-numbers were not standard in the service stores. Under the old, specialised service store system, a shopper would often have to visit several adjoining stores to complete a shopping trip, each time having to wait in line to be served. Queue-numbers, which would have been a way of partially mitigating the disadvantages of this time-consuming system, were sometimes offered on the busy Fridays and Saturdays (ICA-tidningen, 1945), but didn't gain general acceptance until taken up by the service sections of the self-service stores.

Failed development attempts

There were a number of attempts, both in the US and in Sweden, to introduce different versions of an even more modern store. In the US, Clarence Saunders attempted to repeat his success with the self-service store by introducing the automated store which failed, however, soon after it was opened (Bucklin, 1972).

As far as Europe was concerned, I know of no case of a fully automated store actually opening, although the idea was discussed. Vending machines were used as an after-hours complement to the stores and for other purposes, and in some cases a substantial assortment of goods was offered outside grocery stores. "The spread of self-service shopping is also making it much easier and cheaper for automatic vending machine operators to obtain the pre-packaged merchandise they need" (Jeffreys and Knee, 1962, p 108). However, the cost of the machine itself was substantial and eventually, vending machine operating hours also became regulated (at least in Sweden), which meant that it became even more difficult to get enough volume of trade out of them to cover their costs.

In 1963, a punch-card store was opened in Stockholm. Only one item of each product type was displayed, and next to it a bunch of punch-cards. The customer

¹²⁵The very up-market grocery retailer Arvid Nordquist, with one outlet in central Stockholm, had the lay-out of a self-service store, but an attendant would accompany each customer, and carry the basket with the selected goods through the store and to the check-out.

took the number of punch-card corresponding to the number of the desired item and when ready, went to the cashier, who ran the cards through a "Bull-machine" Instructions were simultaneously given to the person in the back store, who picked out the goods and made up the order while the customer was paying. Economy in staff was the main purpose, as such a store could literally be run by "a man and a boy". However, the punch-card store would not appear to have been a success and was very short-lived. The Bull-machine itself cost SEK 50.000 per year which represented a substantial investment, although there was some suggestion that the experiment was sponsored by Bull.

Curiosity

History tells us that all truly great inventions will be met with fear and suspicion as threatening the laws of nature. This happened with railway trains as well as with electricity, and had it not been met with similar reactions, the self-service format of grocery retailing would not have qualified to be regarded in the same category. The following excerpt from an article in a Swedish paper about the advent of the new self-service concept serves to prove, once and for all, that the self-service format fulfils any and all the qualifications of a great invention!

[The psychologist James Vicary] placed concealed film cameras at several points in a store, in such a way that they would show how many times per minute a customer blinks. The number of times a person blinks is considered a good indicator of the degree of inner tension. A person with normal vision will blink on average 32 times per minute. Under strong tension, the blinking frequency will increase to 56-60 per minute.

[The] results are astonishing. ... he expected the frequency of blinking to increase. Instead [it] was reduced, in some cases dropping as much as to 14 blinks per minute. Vickary explains this as resulting from the women having fallen into a light trance. Many of the women were in such a trance as to pass friends without noticing, much less the film cameras whirring close to their faces. (Dagen, 19/3, 1959)

Epilogue

In the above text, I have cited the end of the 1960s as the concluding years of the self-service revolution.¹²⁶ This is not altogether true, because a small group of service outlets remained, namely the kiosks. A typical kiosk assortment focused on newspapers, tobacco and sweets, and a sales-person served the customer, who remained outside, through a window. These are at the fringe of what is normally considered to be the grocery trade. For example, there was some debate among

¹²⁶By this time 90% of groceries are sold through self-service stores. 1970 is also the last year that the HUI publish data on the numbers and share of self-service stores.

mainstream retailers even in the early fifties as to whether the kiosks should be allowed to purchase from grocery wholesalers. In Sweden they kept service retailing as their dominant form until the beginning of the 1990s. Today this format, one of the last bastions of service retailing, has fallen. This happened as part of a process where again the delimitations of what constitutes the "real" grocery retailing and who should be allowed to purchase from whom are debated. Today, the kiosks have typically widened their assortment to include more of convenience store products and no longer leave their customers standing outside, letting them come inside to a small self-service store.

Of the service retail survivors that remain in Sweden today, most have a very marginal market share, such as market-halls, butchers, fish mongers, bakeries, and cheese stores. The only major store type within the grocery area that still retains the service format is Systembolaget, the state wine and liquor stores. A few experimental self-service stores have been opened, and these have met with positive consumer reactions. In spite of this, there is considerable reluctance to drive a transformation towards a larger share of self-service stores, mainly due to concerns that demand and impulse purchases may increase, which is not considered desirable on social grounds.

Discussion

The potential benefits driving the introduction and success of the self-service format are of two kinds, those relating to individual actors and levels in the channel and those relating to the total channel efficiency and effectiveness. Certain costs were also associated with the new format. Also, for shorter or longer time, the realisation of some of these potential benefits was hindered. Some of the hindering factors were within the control of the actors themselves, but for the most part, they were factors that were controlled by other actors or the need for a technological breakthrough. In the following pages we will summarise these benefits and hindering factors, and show how they affected the development of the self-service format in Sweden.

Effects at consumer level. There are four main consumer benefits related to the self-service format; waiting time, assortment, privacy and price. As discussed earlier, determining the degree to which waiting time was reduced is not entirely unproblematic. It is clear that the time spent in a self-service store is mainly the result of individual customer choice, whereas the time spent in the service store depends to a large degree on the actions of other consumers. Some time savings of the new format can also be attributed to the larger assortment made possible in

the self-service store. Over time, the self-service store developed the idea of one stop shopping, partly because realisation of the potential retail store benefits of the self-service format depended on increasing the size of the store. The wide and deep assortment of the new stores also held an intrinsic value to many customers, over and above what was represented by time savings. Furthermore, part of the time spent in the store was used to deliberate purchases in private, and the possibility to do this is a third relative advantage of the self-service format.

In Sweden, lower prices were not used by the self-service stores as a means of competition relative to the traditional stores.¹²⁷ However, over time as price competition increased in grocery retailing, some of the savings made possible by the self-service format could be forwarded to consumers.¹²⁸

The self-service system does place new demands on the consumers' competence. We may quite from a radio course in household management.

"On the other hand, [the self-service format] does require more knowledge about the goods and a more active participation on the part of the customer in selecting and purchasing the goods. However, this knowledge is growing, and the aim of this radio series is precisely to increase the housewives' and families' buying expertise." (Larsson, 1950)

Furthermore, in the traditional system, a common way for housewives to save time was to send children to the store. Among the consumer costs of the new format should be mentioned that it made it more difficult to send children to the store, partly because of the higher demands on the person doing the purchases, partly because many self-service stores did not offer credit. Anecdotal evidence suggests that this cost was at least partly balanced out by the benefit to the children of no longer having to take valuable time off from playing.

Effects at retail store level.

For an individual retail store, adopting the self-service format is associated with sales increases. One initial reason for the sales increases was that the self-service

¹²⁷ Lindström (1952) notes as the only exception, that AB Tempo, had lowered prices on some goods in their self-service stores.

¹²⁸ For example, in a 1959 television debate on the "price-war" in the grocery trade, the self-service format is mentioned by retail trade representatives, as one of the new retail formats that has helped drive price competition. However, another participant, Professor Östlind, observes that "... the self-service stores have in many cases also needed a push from outside in order to let the consumers share the lower costs in the form of lower prices." (Sveriges Radio, 1959, summarised in KFS# 591)

stores were able to draw custom away from traditional stores. Another reason was that the grocery stores increased their assortment to include products previously offered by other specialists stores, including non-food stores.

The self-service format also entails opportunities for some cost savings. Some cost savings occur because the customer performs certain tasks that were formerly performed by an attendant. A more important source of cost savings was through bringing several specialised outlets together into one store, thereby reducing the need to employ one attendant in each store. This provided a relief from the shortage of labour which was a problem for retailing at the time. Savings are also made possible by spreading the work load more evenly over the day, and by allowing a larger share of work to be carried out by female employees who are lower paid and work part-time.

For individual retail stores, a substantial initial investment was necessary for converting an existing store or building a new one. In order to repay this initial investment, it was necessary that the self-service store have sales that were substantially larger than those of the average store at the time. That is, the minimum optimal scale of a self-service store was larger than that of a traditional store. Achieving the necessary sales increases were one of the reason why self-service stores sought to expand their assortment.

The introduction and gradual diffusion of the self-service format coincides with rapidly increasing GNP in Sweden. Theory would lead us to expect the share of grocery purchases to decline with rising standards of living. The fact that this doesn't happen indicates that the grocery retailing sector was providing consumers with an increasingly valuable assortment. It is the self-service format that allows and drives stores to offer consumers an ever bigger and more attractive assortment.

Wholesaler level effects.. It was important for individual wholesale organisations that their retail store customers adopt the self-service format, in order to strengthen the long-term survival potential of the wholesaler.

The self-service format was associated with a redistribution of tasks among the actors of the channel. Many pre-packaging tasks (e g cheese) that were more efficiently performed on a larger scale than that of an individual store were taken on by the wholesale organisations. This gave them an opportunity to expand their role in the channel and thus to increase their sales.

Another development which provided the possibility for wholesalers to expand their role in the channel was the increased competence and resource demands put on retailers in operating the new format. The assortment expansion required new types of expertise, for purchasing and marketing of the new assortment and for establishing and operating a larger store. Wholesalers expanded their role in the channel by providing some of the required competence. One way that they did this was by making a corresponding expansion of their assortment, so that the retail stores could increase their assortment without increasing their number of suppliers. The wholesale level organisations also provided courses and information material on the new product groups and on the operation of self-service stores. In addition, wholesale level organisations took on a role in providing financing of conversion or new construction at retail store level, either by internal funding such as in the case of the KFS or, as in the Hakon case, by assisting in obtaining loans.

Finally, the diffusion of the self-service format led to an increase in the average size of stores and to a reduction in their number. This was important to wholesale firms in general, because it allowed them to realise the economies of scale in their own operations that had been previously hindered by the fragmentation of their market and the smallness of many of their customers.

Manufacturer level effects. Individual manufacturers and importers found a market for a vast variety of new products and product varieties in the self-service stores. This development was made possible by the new format, but was fuelled by improvements in the standard of living.

In addition, the packaging industry and the self-service stores were mutually strengthening each others' expansion. Innovations in packaging found a market in the self-service stores, but they were also crucial for the continued expansion of the new format. For example, to quote Walsh (1993): "There was no market for pre-cut meat in brown paper, but there was one for plastic-wrapped meat...".

Overall, the redistribution of channel functions entailed in the new format led to an increased role for manufacturers. Although some of the packaging tasks were taken up by the wholesaler level, an increasing share of pre-packaging was carried out at manufacturer level. The more that goods are packaged by

manufacturers, the larger the scope for such manufacturers to build up knowledge of and loyalty towards manufacturers' brands among consumers.¹²⁹

Interrelationships among developments and among channel actors. As has already been indicated, the self-service developments depended on a number of interrelated actions and processes. We will end this section by summarising some of these interdependencies here. For example:

1) •The consumer benefit of being able to select products in private was accompanied by a cost reduction for the retail stores. This cost reduction was partly the result of the consumer accepting a task performed by the retailer until then.

- For self-service to be attractive to the consumers, many types of goods needed to be packaged in new ways, and in many cases the required materials were initially very expensive.

- Therefore, in some cases the potential benefits to both consumers and retailers could not be realised, because the cost of packaging surpassed the retailer's savings and the consumer benefits of prepackaging combined.

- The potential benefits, hindered by lack of suitable packaging materials, provided an incentive for the packaging industry to develop these materials.

- The self-service system also provided a growth opportunity for the packaging industry beyond simply accommodating the requirements of the new format. Self-service of goods by consumers from the shelf made it possible for the package as such to assume a new role in marketing, as products could be made more attractive by an interesting package. What is more, a new form of packaging could in effect constitute a new product, as in the case of deep frozen vegetables or paper packaged milk.

2) •Similarly, other manufacturers and importers of goods benefited from the transformation of the retail structure. Technological advances combine with higher incomes in turning specialty goods into shopping goods (e g pots or china) and shopping goods into convenience goods (e g nylon stockings). And they all find an outlet in the new self-service grocery stores.

- The retailers on the other hand benefited from the expansion in products and product varieties, because they needed to increase the scale of their operations in

¹²⁹ In this particular case, the strengthening of manufacturer brands was over time counterbalanced by the increasing strength and initiative of distributor organisations, including both the strengthening of distributor and store identity, and the building up of distributor brands.

order to cover establishment costs and to reap the full benefit of the new format.

- In fact, even the rate of introduction of new products is not enough. Newly constructed or converted stores are considered temporary, in expectation of the availability of an assortment that will require an even larger store.

- And in between, the wholesale organisations were taking on new roles. Wholesale organisations increase their importance in the channel by taking over tasks previously performed by retailers, such as packaging. They also expand functions they had performed earlier or take on new ones. For example, wholesale organisations provide financing and education, and take on a more active role in influencing retail level assortment through evaluating new products.

Other examples could be summarised based on the case description above. However, I think that these two examples show clearly enough, that the self-service innovation is a complex and systemic innovation affecting and depending on developments on all levels of the channel and in society in general. Let us instead turn to another innovation that has had a pervasive influence on the evolution of grocery distribution in Sweden, namely what we have called the "all-channel". As will be clear, some of the developments surrounding the self-service innovation are themselves important antecedents of the all-channel.

CHAPTER 6

The All-Channel - an Innovation That Shaped Swedish Grocery¹³⁰ Distribution for Twenty Years.

Introduction

The innovation to be discussed in the following chapter is one which I have termed the "all-channel". The all-channel is introduced into, and gradually replaces, an established system where different types of goods are distributed in different ways, directly from manufacturer to retailer or through specialised wholesalers - and where different types of stores, in terms of ownership, size or assortment, are supplied through different channels. The all-channel innovation builds on 1) economies of scale, 2) advantages of size, and 3) economies of integration. It is manifested as an integrated channel, distributing all types of daily goods to all types of grocery stores.

The all-channel becomes the dominant design in Swedish grocery trade through the gradual formation of three blocks, each representing one such homogenous, integrated all-channel. This grocery distribution system structure is subject to attack from competing innovations at several points in the time period described. Partly as a result of some of these attacks, but perhaps equally as much as a result of its inherent characteristics and ways of dealing with threatening innovations in retailing and distribution, the all-channel becomes an increasingly unstable distribution organisation. As a result, in the 1990s, in the short time of about half a decade, the all-channel collapses and is replaced by a specialised system where different types of goods are distributed in different ways, and stores are supplied through different types of channels depending on their

¹³⁰ Over time, the assortment of the grocery stores is widened to include many other types of food and also non-food items. I will continue to use the terms grocery store and grocery distribution to refer to these stores in order to maintain consistency within this text. In Swedish trade press, the term "daily goods", *dagligvaror*, gradually replaces grocery as a general term.

characteristics. A return to the previous system - and a vindication of cycle theories of distribution evolution? Nothing could be further from the truth! But the successive incorporation of a number of different retail formats in the channel led to an increasing degree of heterogeneity and polarization at the retail level, which in turn led to inefficiencies. As these inefficiencies became more pronounced, they also made the all-channel vulnerable to an innovation in distribution organisation, dedicated channels, which was better adjusted to using technological developments in other areas in order to increase the efficiency of distribution in the context of the polarized structure of store size distribution that had developed.

What is the all-channel?

The all-channel innovation refers to a particular empirical phenomenon, namely the distribution system for groceries in Sweden as it was built up and existed during the 1960s and through to the 1980s. The term all-channel is not an established one. It is constructed so as to give a flavour of the nature of the phenomenon it denotes, in a vein similar to such terms as *all-purpose* or *all-weather*. **The all-channel supplies 1) all types of grocery stores with 2) all types of goods.** By contrast, an alternative structure would be one in which different, specialised channels exist, each tailored to the characteristics of the specific types of store or goods it is designed for.

1) The driving force behind the development of the all-channel structure was the pursuit of an economically rational flow of goods and a competitive distribution channel. Many different types of potential benefits related to scale and integration of operations led the "blocks" (constellations of integrated wholesaler and retailer organisations¹³¹) to strive towards including as many retail outlets as possible in their distribution channel. At the beginning of the time period described, the retail outlet structure was very much homogeneous, but over time new types of retail outlets emerged, with the emergence of which the pursuit of scale benefits led the blocks to include an increasingly heterogeneous group of outlet types. In fact, practically all competitively viable types of retail outlet were represented in each of the all-channels.

2) Although certainly not *all* goods were supplied through the respective all-channels, the share of intra-block purchases¹³² increased and at the end of the all-

¹³¹ See p 140 for a discussion of these blocks and of the concept of blocks in general.

¹³²Including direct deliveries ordered and invoiced through the block wholesaler or deliveries from

channel period surpassed 70% and 80% respectively for two of the blocks¹³³. The total assortment in the stores was limited and differed between stores in the beginning of the period. Although the block wholesaler was the main supplier, the retailers also bought from a number of other sources, both from specialised wholesalers and directly from manufacturers. During the time period described, the assortment in the stores increased both in width and depth, including many non-food items. However, this increase in retail level assortment was not accomplished by increasing the number of suppliers. Instead the intra-block distribution was extended with respect to the types of goods supplied. A homogenisation of assortment between the stores, allowed the block wholesalers to accommodate the increased assortment at retail level with relatively smaller adjustment in the size of the wholesale level assortment, although the degree of such homogenisation of store level assortment varied between blocks. (Mattsson, 1969). Partly as a result of these developments, the number of specialised wholesalers declined (SOU 1968:6, p 125-126).¹³⁴

3) In the empirical case, the all-channel is delimited within a particular organisational structure. Three dominant constellations individually built up their respective all-channels, each consisting of both wholesale and retail level operations of wholesalers and affiliated retailers, constituting so-called blocks. In each of the blocks, there exists ownership integration between the levels in each of the cases, but the form and extent of this integration is different in each case. The all-channel distribution relied primarily on deliveries from one of the block distribution centres, but certain types of goods that were delivered directly from a manufacturer were nevertheless ordered and invoiced through the block wholesale organisation. A number of additional central functions were added to the wholesale operations, among them a program of weekly sales promotion activities that was communal to all the stores in the block.

intra block manufacturers.

¹³³The ICA and the consumer cooperative block respectively. In the Third block, intra-block distribution was lower and, especially, varied more between stores. Intra-block purchases in ICA were 48% in 1965. (Supermarket 5-6/90, pp 88, 94; ICA-tidningen 1965.) SPK (1991:11) estimates the share of intra block deliveries in ICA at 80% (p 16).

¹³⁴ Furthermore, Svensk Dagligvaruhandel's annual listing of operating wholesalers shows a steady decline in numbers. Another reason for the decline of specialised wholesalers was the growth of the agricultururers' cooperative wholesaling operations.

The three blocks at the centre of this description started out as very different with respect to such characteristics as ownership and types of stores. Yet, as pointed out by Hultén (1990), over the time period described they became increasingly similar (see also Mattsson and Kjellberg, 1992, pp 68-69). The increasing similarity occurred both 1) because individual blocks abandoned characteristics and practices that set them apart, and 2) because all the blocks added features that were the same.¹³⁵ As I will argue in this chapter, this increasing homogenisation of the blocks was the result of each of them adopting the all-channel innovation. The all-channel ideal was abandoned by all three blocks in the early nineties. Although the three blocks are still there and continue to exert a pervasive influence in Swedish grocery trade, they are no longer similar. While the block structure was of central importance to the development of the all-channel, the block structure does not rely on the all-channel for its continued viability.

Was there an all-channel?

It should be acknowledged from the start that the developments, which I have brought together under the heading of *all-channel*, are not generally seen as a particular innovation, but rather as a set of developments and innovation processes that took place in Swedish grocery distribution during the course of about thirty years¹³⁶. Is it reasonable to simply define, in retrospect, a development as the result of an innovation, when it was not seen as such at the time? The main reasons why I would argue that it is reasonable are that, firstly, the delimitation of an innovation will necessarily contain an element of interpretation. Delimiting an innovation with regard to its antecedents is to an extent arbitrary, and the same is sometimes true when it comes to pointing out which innovation is at the centre of that nexus of interrelated innovations that constitutes a major innovation.¹³⁷ Secondly, the proposed interpretation of

¹³⁵ See Hultén (1990), p 78 for a summary of these moves towards homogenisation.

¹³⁶ Although certainly many of the basic components shaping the developments have been pointed out by others before me, for example by Wirsäll (1982). He also comments that "The developments after the second world war contain a number of building blocks, which together form a strategic plan. This strategy or plan didn't exist in its entirety from the beginning. When studying the course of events in retrospect, one is surprised by the logic and consistency." (p 26)

¹³⁷ The self-service format, for example, we have just discussed as the most important innovation in Swedish grocery distribution of this century, and one that facilitated the development of packaging innovations. But another interpretation could be, and has been advanced, that it wasn't trade that was the driving force through introducing the self-service format. Rather, the driving force was industry, through the advances in packaging technology, with the changes in retailing format predominantly occurring as adaptations to innovations in packaging. Cf Wikström, as quoted in *Supermarket*, 6 1974, pp 12-13.

events should be fruitful in terms of enhancing the understanding of those same developments. By viewing the developments as forming a major innovation, the connections between the composite sub-innovations and other developments becomes clearer. It is easier to see how the support of the chosen innovation leads to the selection of subsequent innovations which reinforce it, and the rejection of innovations that are seen to threaten it. I will describe and analyze the following developments as a case of the adoption, success and succession of an innovation.

Organisation of the chapter

In the following, the component innovations of the all-channel will be discussed, as they occurred through some of the more important physical and processual innovations of the 1960s and through the 1980s. 1) Most central of these components is the block-structure formed by wholesale-retail groups. A number of innovations which were adopted within the block structure reinforced the all-channel, in particular 2) the manufacturer-block cooperation, especially on joint advertising and price campaigns, and 3) the increased size and assortment at both retail and wholesale level.

Certain changes in the environment indirectly reinforced the all-channel through strengthening the role of the blocks, in particular 1) the urbanisation and the resulting new establishment of grocery stores, 2) the strengthening of the legal framework surrounding grocery retailing and 3) the growth in size of the manufacturers delivering to the grocery trade.

Finally, a number of changes and innovations led to an increasing heterogeneity of retail formats. When these retail formats were adopted by the blocks, this in turn contributed to the increasing instability of the all-channel. Among these were 1) the deregulation of the shop opening hours and the expansion of convenience stores, 2) the development of the hyper market sector, and 3) the advent of the "freelancers" (*frifräsare*) - independent, non block-aligned stores.

These components of the all-channel will be discussed in a more or less chronological order. My guiding ambition has been to restrict the description to those aspects that are directly relevant to the formation of all-channel structure. This also means that the description is not a complete account of the events that took place. The empirical description of the all-channel is followed by a short description of its demise in the 1990s.

Components of the all-channel

The three blocks of Swedish grocery retailing.

The blocks are central to the all-channel. The blocks were built up, at least in part, in pursuit of the all-channel, and the all-channel structure could not have been achieved without them. By the mid-seventies, with the formation of the Third block, these three wholesaler-coupled retailer blocks together accounted for two thirds of grocery sales and their share has climbed steadily since then. This does not mean that the all-channel is a prerequisite for the blocks. The Swedish grocery retailing market of today continues to be highly structured, for example, almost three quarters (73.9%) of all grocery sales in Sweden passed through these three major blocks in 1996. However, the total distribution structure of today is very different from the all-channel. In the following pages, we will describe the build-up and strengthening of the blocks and how this was used to advance the all-channel.

At the risk of compromising the suspense, I start out by indicating the formidable position that these blocks have held and continue to hold in Swedish grocery retailing. Table 6:1 shows how market shares at retail store level have developed for the three blocks from 1961 to 1996.

Table 6:1 Market shares at retail level¹³⁸

	<u>1961</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1988</u>	<u>1993</u>	<u>1996</u>
ICA	31.9	33.0	37.0	40.4	43.1	42.5	43.8	44.2
KF	34.7	30.8	28.7	28.4	26.4	26.7	26.2	24.8
Third ¹³⁹	13.9	20.2	22.5	22.4	23.2	23.1	23.6	23.7
Others	18.0	16.0	11.9	8.9	10.2	8.5	6.4	7.4

Sources: Wirsäll (1982); Hultén & Nyberg (1996); Svensk Dagligvaruhandel (1993/94 and 1996/97)

¹³⁸These figures take into account only the sales through stores (grocery sales through market stalls, etc., are excluded), and therefore Table 6:1 understates the trend. In 1955, sales through this so-called grey market constituted almost one third of the total market, and still held about a quarter of the market at the beginning of the eighties. In the nineties, the grey market accounts for about one fifth of the total grocery sales. Thus, the blocks have not only increased the share of the store market, but in addition the store market has increased its share of the total market sales by 15-20 percent since 1955.

¹³⁹ The 1961 and 1970 figures are not quite accurate, since Dagab was not founded then. The market shares are calculated as the sum of Vivo's and JS Saba's market shares.

Although two of the blocks may be traced to the beginning of this century, at the beginning of the 1960s intra-block integration and coordination begins to be increased, and the blocks emerge more clearly as a structuring factor in the market.

The three blocks are:

1) *The consumer cooperative block.* This block has the longest history. It is made up of regional cooperative societies, first joined together with the forming of Kooperativa Förbundet, KF (the union of cooperative societies) in 1899. KF started wholesaling operations in 1904.

2) *The ICA block* The core of the ICA block is the Hakon group, established in 1917.¹⁴⁰ Later, in 1939, the Hakon group coordinated its wholesaling operations with three other wholesalers to form ICA-förbundet. However, it was not until 1962 that the ICA group was reconstituted as a national voluntary retailing chain, with the individual retailers beginning to operate, as far as the consumers were concerned, with the outward appearance of being part of one organisation.

3) *The Third Block* This block is the youngest and the least tightly coordinated. It is constituted around the wholesaler Dagab, formed in 1973 by a number of independent wholesalers, although some of these had cooperated since 1937 within an earlier group called ASK; AB Svenska Kolonialvarugrossister. At retail level, it consists of a number of store groups and chains that use Dagab as their main supplier. Some of these also have direct and indirect ownership ties to Dagab.

Before continuing, a word should be said about the term "block". I have used this term because it is the most commonly used, both inside and outside the industry, to denote these three constellations of grocery wholesaling and retailing in Sweden. In Sweden, this term is also used in other industries, notably the forest industry, to denote constellations of firms comprising several units and levels of the value chain. Still, some within the industry have had, and have, reservations about the use of this term. For example, Wirsäll (1982, pp 44-45), writes:

The term block competition has negative connotations, which is shown, for example, in the Distribution Investigation ["*Distributionsutredningen*"]. This judgement appears to be based on the view that the number of decision makers is too small and that the decision process is centralised to

¹⁴⁰Representing private retailing in the previous chapter.

the leaders of the three "blocks". ... [The blocks show] differences in company policy regarding such things as ownership, retailing structure, assortment, and price. These differences hold incentives to such competition, that the speaking of the blocks as dampening the rate of innovations, appears overly simplistic. A block, according to the dictionary, is a massive piece, a coalition or a strategic union. Grouping is more appropriate to denote the three "blocks" of the grocery trade. (My translation)

As I hope the following account will show, at a certain time the blocks were used to drive their respective distribution channels towards the very high degree of homogeneity represented by the all-channel. But the same blocks were also used to implement a highly specialised distribution structure, at a later juncture. Thus, the blocks per se are not necessarily associated with any particular organisation of the grocery trade in other respects. We turn now to a description of the events that took place to bring this structure into place.

Antecedents of the blocks¹⁴¹

It is hard to imagine that any of the developments described in this chapter could have occurred had the self-service transformation not taken place, with its related innovations in packaging, price marking, assortment expansion and so on. This role of the self-service transformation is an antecedent of the all-channel and indeed is a prerequisite for almost all of the subsequent innovations in grocery distribution on all levels of the channel. In the early 1960s, questions of integration and cooperation in the distribution channel were the topics of several trade conferences and in academic discussion (Svensk Handel, 1962; Kristensson, 1960). These discussions were both fuelled by and contributing to the changes that took place.¹⁴² In addition, two earlier changes are especially important as antecedents of the blocks.

1. *The integrated consumer cooperative distribution channel* As will be discussed later in this chapter, the cooperative block is one of the three blocks that represents the all-channel system. Yet when it first started to be built up early this century, the driving forces behind its formation were quite different.

¹⁴¹The term blocks had actually been used earlier to describe the cooperative, ICA and ASK grocery trade organisations (e.g. Kristensson, 1956). However, the increased integration and other changes that took place in each of these organisations in the early sixties and seventies respectively were of such a pervasive nature that the organisations that emerged were of a truly new nature. I have therefore reserved the term block to describe the organisations as they emerged after these changes.

¹⁴² These developments also led to theme in economic analysis of distribution channels, of how to describe and explain integration. For a review of this theme, see Mattsson (1969).

When the first cooperative stores were established, and for decades thereafter, they were met with considerable opposition from private retailing, wholesaling, and industry. In the case of private retailers, this was hardly surprising, as the consumer cooperative stores emerged in response to, and in direct competition with, private stores. As concerns private wholesaling and industry, the opposition was perhaps partly based on ideological differences, but presumably also stemmed from loyalty to their existing customer base of private retailers. Whatever the reason for the opposition, it led the union of cooperative societies to establish its own wholesaling operations in order to reduce the dependence on outside sources (Kylebäck, 1983, pp 118ff). Almost from the beginning, building up one's own industry was also seen as an integral part of the cooperative operations (ibid, pp 161 ff).

The integrated structure of the cooperative organisation gave rise to a number of advantages. One advantage was that the cooperative organisation could capture a significant share of the producer and wholesaler surpluses. This was possible, not only through the ownership of manufacturing and distribution but also because the purchasing power of the cooperative wholesale operation also made for considerable bargaining power towards external manufacturers and distributors. Furthermore, assortments at the wholesale level could be trimmed by coordinating retail level assortment, and the cooperative industry had the advantage of relatively unrestricted information interaction with the retail level. During the 1950s, the wholesale level organisation had undergone a radical rationalisation, involving a reduction in the number of storage points from 550 to 43 (Kylebäck, 1983, pp 119, 133). As shown in the previous chapter, the organisation of the cooperative societies had also constituted an advantage in driving the self-service transformation.

Although initially implemented in order to secure deliveries to the consumer cooperative stores, the integrated channel became an important aspect of the cooperative strategy. The competitive advantages of the integrated cooperative channel made it an antecedent of the block developments, and later of the all-channel.

2. Hakon's New Deal Another antecedent of the block structure, was "Hakon's New Deal", which has been briefly touched upon in the previous chapter (p 111). Hakon's New Deal was the collective name given to a number of measures intended to rationalise goods ordering and handling and to forge stronger bonds

between Hakon and its owner retailers. Similar reforms were subsequently introduced among the other wholesalers of the ICA group.

Firstly, membership requirements were made more selective, in principle restricted to grocery retailers only, and a new system of minimum purchases and quantity discounts was instituted. Secondly, and perhaps most importantly, the new system introduced ordering in written form. Hakon issued a catalogue based on which retailers could place written orders with the wholesaler for once weekly delivery according to a fixed delivery route. This system of catalogue and written orders replaced a much more resource demanding system of sales reps' visits and telephone orders (Wirsäll, 1950, pp 1165-1180; Wirsäll, 1982, p 65). Finally, the new system included an increased usage of the Hakon logotype - in storefront windows, in advertising and on own brand products - and employing at wholesale level a group of representatives/consultants that were to visit the member stores 2-3 times a year to maintain contact and to provide advice on business matters.

These measures collectively led to a reduction in the number of customers, and an increase in purchased quantity per customer. Coordinating and streamlining the total assortment of the individual sales offices into one common catalogue assortment led to an assortment reduction at the wholesale level of almost 40%, while increased efficiency led to a reduction in costs at wholesaler level by up to 20%. Hakon, by virtue of the fact that it was owned by the retailers that bought from it, had a special position relative to the retailers right from its inception. However, it was with Hakon's New Deal that the ground was truly laid for setting Hakon apart from competing wholesalers, and turned the retailer wholesaler cooperation into more of an integrated chain. The connectedness of the chain members was strengthened internally and its identity more visible to outsiders. It is therefore an important antecedent to the block structure.

Beginning of the ICA block

Incentives to integrate. In 1960, an editorial in ICA-tidningen notes: "The foreign wholesaler-owned chains Spar and Vivo have come to Sweden. Hemköp, Metro, Tempo and Konsum have already increased the strength of group competition. ..." (ICA-tidningen 3/60, p 27). The integrated chains, be they cooperative, private or wholesaler sponsored, had access to advantages that independent stores lacked, both in terms of purchasing and in terms of selling. Although Hakon's New Deal had strengthened the group in terms of distribution efficiency, group

selling advantages remained largely potential. To quote two of the leaders of the ICA group:

"The competitors of independent retailing are integrated, centrally directed corporations, with all the strength that entails. We have to emulate this through a candid and close cooperation between the two levels of trade. We must emulate their centralisation by delegating decision making to agencies of the new cooperation. This means first and foremost agreement on the view that consumer prices are no longer the responsibility of the retailer."¹⁴³

This makes it all the more necessary to strive for such efficiency in our operations, that we may confidently meet whatever may appear. Even *within* what we have so far called private trade, new, voluntary chains are appearing, such as Spar and Vivo.¹⁴⁴

Perhaps the references to potential foreign threats served primarily to rally support from the grocers for the changes that were about to be proposed. But foreign voluntary chains *did* play another important role as inspiration in the ICA developments. This is particularly true of the US voluntary chains. A 1962 article in ICA-tidningen details the experiences of a group of Hakon executives who had made a study trip to the US.¹⁴⁵ The article points out the success of voluntary chains in the US, and notes: "Competition today is between chain stores on the one hand and wholesaler or retailer sponsored voluntary chains on the other. ...not between chain stores and individual retailers."¹⁴⁶ A number of reasons behind the competitive success of the US voluntary chains are cited, and it is interesting to note that almost all of these were later taken up in ICA. That selling, not buying, is now the challenge for the voluntary chains is emphasised in the article. Group selling, group weekly advertising and sales promotion are brought up, as are the strict coordination of layout, appearance and even pricing across the member stores in the US counterpart of ICA, Associated Grocers. The CEO of Hakon, Stig Svensson, comments on another success factor:

¹⁴³Gunnar Stengård, from a speech at the annual meeting of SV, one of the regional wholesalers of the ICA organisation, quoted in ICA-tidningen, 5/1960.

¹⁴⁴Carl-Axel Westberg from a speech at the annual meeting of EOL, another of the regional wholesalers of the ICA organisation quoted in ICA-tidningen 7-8/1960.

¹⁴⁵Similar ideas are advanced in an interview with the prominent supermarket champion Max Zimmerman, published a year earlier also in ICA-tidningen. The topic of voluntary chains in the US, is also discussed in Mattsson (1961).

¹⁴⁶The voluntary chains had increased their market share from 29 to 47%, while individual retailers' share had declined from 34 to 14 %.

"Associated Grocers is something of a dream land for me, because they have attained almost complete purchase loyalty. But then, they also have an assortment and an organisation which allows them to supply their members with almost everything that they sell. ... The policy of Associated Grocers is focused on amassing their joint purchasing power, thereby gaining a strong market position. ... [For example] The individual retailers had difficulty in asserting themselves in meat purchases. The company then arranged a really good meat department in their distribution centre. (ICA-tidningen 1/62, pp 38-39; my translation)

An additional incentive to push for a strengthening of the wholesale organisation was the fact that economies of scale had grown in much of the grocery industry, and with them the size of firms (Wirsäll, 1982, p 44). It therefore became important to coordinate the operations of the individual regional operations, not only in the interest of distribution efficiency, but also in order to ensure a reasonable degree of symmetry in purchasing negotiations. The importance for the wholesalers to match the size of the manufacturers in negotiations was important in attaining a good wholesale price level, and consequently in determining the competitiveness of private grocery retailing. It was one aim of the new organisation to attain the full benefit of the purchasing power represented by private retailers holding almost one third of the retail grocery market.

Establishing the framework for the ICA block. Between the years 1962 and 1964, important steps were taken towards the further integration of the future ICA block, at both wholesaler and retailer level. The first step was the reconstitution of ICA as a nationwide voluntary chain of independent retailers. The focus of the first step was marketing, as borne out by the statutes of the new, reconstituted retail organisation. Through increased horizontal and vertical coordination, the new organisation was to be given increased competitive strength from which to be able to increase the ICA retailers' market share.

Increased *vertical integration* occurred as a result of the wholesale level being given a bigger role in marketing, partly to ensure a higher degree of horizontal uniformity at the retail level. The wholesale level operations were strengthened as the hub of the new organisation, as other group-wide functions attached to this central function were instituted or expanded, such as information and publishing, store development, financing and accounting services. According to the statutes of the new organisation, the wholesale level was to lead sales campaigns and coordinate advertising. "Samsäljande" (*co-selling*) became a buzz word in *ICA-tidningen* in the early 1960s, denoting groups of retailers subscribing

to joint advertising, often in cooperation with the wholesaler. By cooperating and sharing in the costs, the ICA retailers as a group could afford advertising on a level that an individual store could not have supported.¹⁴⁷ But for co-selling to work, the retailers had to voluntarily surrender some of their individual freedom to design their own advertising campaigns, and that the group identity had to be emphasised more clearly. This aspect may have been seen as a drawback to a retailer who was used to regarding another ICA retailer as a competitor. However, as a part of the effort to increase the degree of vertical and horizontal integration in the chain, this aspect was seen as an important advantage. The co-selling effort puts the emphasis on the joint effort, "*A cooperation where we may realise economies of scale in selling as we already do in purchasing. ... Then, the ICA stores will have the same opportunity to use modern sales principles as the cooperative stores and certain chains do today.*" (ICA-tidningen 4, 1960, p 37) Eventually, the co-selling led to the development of the SA/VA¹⁴⁸ system, which is discussed in a separate section below.

The new organisation also supported an increase in intra-group purchases by the retailers. "Buying in-house" ("*köptrohet*"), i.e. that the retailers should try to confine their purchases to their own retail organisation, was another popular theme in house articles published around this time. A 1962 article provided a number of retailers with the opportunity of commenting on the new organisation and the promotion of purchasing loyalty. That such promotion should have been necessary perhaps indicates that not everyone at the time was as "loyal" as one of the quoted retailers; "As a member of ICA, today I find it as natural to confine my purchases to the [group], as buying my groceries in my own store (ICA-tidningen 1, 1962, p 36-39)."

As an outward manifestation of the increased *horizontal integration at the retail level*, in addition to the co-selling campaigns, the new organisation was given a new symbol. From 1964, all associated retailers were to use a common symbol in their advertising, the new ICA logotype.¹⁴⁹ In order to promote the stores'

¹⁴⁷Such groups could include all the retailers in the area of one wholesale office, or be limited to a more local area.

¹⁴⁸In Swedish SA/VA stands for *samaktivitet/veckoannonsering*, joint promotional activity/weekly advertising

¹⁴⁹Although the ICA organisation had existed since 1938, the associated stores had not been publicly identified as ICA stores until now. An attempt at introducing ICA signs among the retailers had been made as early as 1944, but had been resisted by the Hakon organisation, who wanted their retailers to advertise the Hakon name (Orre, 1985).

competitiveness and market share, the wholesale organisation was also given responsibility for assisting the stores in price calculation. Horizontal coordination was also promoted through establishing a cadre of field representatives, to follow developments at retail level regarding such issues as store standard, assortment, service, etc. and to assist the members in such areas (ICA-tidningen, Nov. 1962, pp 34-42).

Finally, there was an increase in the degree of *horizontal integration at the wholesaler level*. A new consortial agreement tied the wholesaler parties of the ICA block closer together than they had been under the 1939 agreement. The four regional wholesalers delegated certain functions and authority to the central ICA organisation. The form for vertical integration was also changed as a result of this agreement, as the retailers' membership was transferred to the central organisation, after having been tied to the respective wholesaler.

The changes occurred not only at the formal organisational level. Substantial operational changes also took place. At the retail level, the self-service transformation continued and urbanisation led to rapid establishment of new stores in suburban areas. Wholesale operations were also undergoing a period of rapid transformation. New distribution centres were built, replacing the small multi-storey warehouses of the past, taking advantage of economies of scale through increased mechanisation and computerization.

As concerns wholesaling, the development towards large units has been very rapid. This is true both of the cooperative and the private sector. According to latest information, KF:s distribution centre network is to be concentrated to a smaller number of units, with significantly larger distribution areas than before. Rationalisation along similar lines is taking place within ICA, which has 40 distribution centres at present as compared with something like twice that number previously. Further reductions are envisaged. Private wholesaling follows the same route.¹⁵⁰

The transformation of retail and wholesale operations supports a dramatic expansion in volume. Retail sales for the ICA group almost doubled during this decade¹⁵¹. However, grocery retailing in general grew rapidly in the sixties, and while ICA's increase might have been impressive, it was still only enough to maintain its market share of 23 %. It is not until we move into the next decade,

¹⁵⁰Stig Svensson in a speech quoted by ICA-tidningen 6, 1967.

¹⁵¹From just over SEK 3 billion in 1961 to almost SEK 6 billion in 1970 (Wirsäll, 1982, p 17).

that the changes in the new organisation begin to translate into market share increases.

Strengthening the national integration of the consumer cooperatives.

As shown, the cooperative and private retail chains were instrumental in providing the incentive to increased horizontal and vertical integration leading to the formation of the ICA block. The cooperative block represented another type of chain, namely the private department store chains,¹⁵² which must be mentioned as playing a key role in driving developments towards increased integration.

In some cooperative societies, among them Uppsala, long-term planning began immediately following the Second World War, and as a result the Uppsala cooperative society was able to open a modern and truly well thought-through department store named Forum, in 1953... Forum's success in Uppsala showed that it was possible to build up a department store operation along cooperative lines. Studies in the USA and the experience from Forum showed that even the successful Epa and Tempo department stores were employing out-dated operational methods. The reported success of these department stores indicated that the cooperative movement had an obligation to enter into competition in the department store market. (Kylebäck, 1983, p 105. My translation)

The initiative to enter into the department store sector also fitted well into KF's overall aim to be able to provide an increasing share of the consumers' needs. The department store sector had been dominated by the two successful private chains Epa and Tempo since the 1930s, although a few local cooperative societies owned their own department stores. The debate as to whether to undertake a cooperative expansion in the sector went on for most of the 1950s. The few cooperative-owned department stores that did exist were typically lacking in competitiveness and profitability; the lack of central coordination of buying and operations was seen as a critical problem. Conversely, the high degree of integration and centralisation of control within the private chains were seen as an important key to their success.

In the latter part of the 1950s and the early 1960s, a dramatic expansion took place in the number of cooperative department stores and although the private chains Epa and Tempo, starting from a dominant position, expanded the number of their department stores rapidly, practically tripling in numbers, Domus still managed to outstrip Epa as the largest department store chain in 1959 (Mattsson

¹⁵²In Sweden and in the US (Kylebäck, 1983, pp 103 ff)

and Kjellberg, 1992, p 76). A central organisation - *Varuhusföreningen Domus* - was responsible for establishing and operating most of the cooperative department stores.¹⁵³ KF guaranteed the financing of investments and cost coverage, in return for the local societies relinquishing the planning and running of the stores.

"The agreement meant that the main responsibility for the operations was centralised on KF, which was considered necessary initially. The central responsibility for the Domus department stores meant that the cooperative organisation could systematically build up a chain of department stores according to a uniform policy, which gave the movement a new and attractive market profile, but also contributed to the development of efficient purchasing departments within KF, which was a prerequisite for success in the department stores venture." (Kylebäck, 1989, p 83. My translation)

Thus, with the increasing importance of the department stores, the role of the central organisation of KF was strengthened, both in terms of actual operations conducted and in terms of the capabilities built up at central level.¹⁵⁴ But the department stores were not the only reason for, nor the only manner in which, the increased centralisation and national integration of the consumer cooperative retailing took place. With the self-service transformation under way at the retail level, the importance of economies of scale increased in the grocery trade. However, although the cooperative society of Stockholm had some national influence in the self-service transformation, the central units were relatively weak and the cooperative movement, as a whole, was not a nationally organised, hierarchical organisation. This meant that many potential economies of scale and of integration remained just that. As in the case of ICA, the emphasis of the central organisation within the cooperative movement had been on cooperation and integration in procurement, leaving the selling side decentralised.

The consumer cooperative movement had two potential sources of competitive advantage. On the one hand, it had a decentralised member organisation, and a

¹⁵³Cooperative department stores had been established primarily by individual societies, but in the 1950s many of them were lacking in profitability. A central organisation was initially set up to take over the running of the department stores with financial problems, if the local society so wished. The operating of the department stores was carried out partly in cooperation with the local societies. (Kylebäck, 1983, pp 111-115)

¹⁵⁴This development was not without its critics, however. One criticism of the new organisation was precisely that it made the cooperative organisation more similar to a chain store operation. It was feared that this development would vindicate those outside critics of the movement who portrayed it as a centrally run chain store operation. (Kylebäck, 1983, p 110)

certain degree of consumer loyalty could be assumed to emanate from the fact that many of the customers were members. The local societies had a democratic organisation and customers, as members, could both influence the operations and also share in any surpluses that resulted from the business. At the time, this democratic value, more than the economic effects of customer loyalty, were seen as the primary advantage of the decentralised organisation (Kylebäck, 1989, p 177). On the other hand, the combined operations of the local societies gave national coverage, and therefore increasing the degree of regional and national cooperation would make it possible to realise various size related advantages.

Unfortunately, these two sources of competitive advantage were at least partly conflicting. Increasing national coordination and integration reduced the scope for local influence, thereby reducing the feeling of involvement as a base for loyalty among the local members.¹⁵⁵ Until now, the trade-off between these two factors had been to centralise procurement, production and wholesale distribution while decentralising retail distribution. This way, many of the advantages of scale could be realised, without threatening the loyalty base constituted by the decentralised retailing organisation and operation.

However, new ideas started to emerge with the coming of the 1960s. To an extent these new ideas came from Harry Hjalmarson, who replaced Albin Johansson as head of KF in 1957. He proposed a radical reorganisation which would entail the amalgamation of all the local cooperatives into one national organisation dubbed "*Konsum Sverige*". This proposal, and other ideas for increased national integration, were debated during much of the sixties. The business advantages of an increased integration were generally accepted and note was taken of the tendencies towards similar concentration in the private grocery trade (Kylebäck, 1989, p 164). The opposition to a national organisation was instead focused on the negative effects on membership influence. Thus, rather than weighing the relative commercial advantages of a decentralised versus a centralised organisation, the debate was instead formulated as regarding business concerns versus concern for organisational democracy.

¹⁵⁵This point is taken up by Moback (1960) in discussing merging smaller societies to attain more efficient organisation and distribution. "The only objection that could be made against this, is that the society could become so large as to make the individual members lose their feeling of membership and their influence in the society." However, he continues: "The feeling of membership in an organisation is likely to depend very little on the size and geographical reach of the organisation. Instead it depends on how the member meets the organisation. ..." (p 47)

Although the most far-reaching proposals were not carried out, this time period saw a substantial increase in national coordination of the organisation and at the end of the 1960s the consumer cooperative block was overall more highly integrated than the ICA block (Mattsson, 1969). A national symbol of the consumer cooperative trade and industry was launched, the highly successful ∞ , a symbol of the eternal, and a nationally coordinated assortment for the regional warehouses was composed (Ossiansson, 1997) The wholesaling operations of KF had already become the hub of the whole organisation, through the rationalised system comprising 43 central storage points built up during the 1950s. Rationalisation of the system continued during the 1960s whereby the number of storage points was further reduced. Other specialist functions were attached to this central operation, such as financing, expert services, regional auditors, personnel and consumer education, and information. All these functions were such that they were of value to the decentralised retail operations of the societies, but due to economies of scale, more efficiently performed at a central level. Structurally, we may note a similarity here between the ICA and the consumer cooperative block. In both groups, integration takes wholesaling as a starting point, and it is around this central function that other group-wide support functions are added.¹⁵⁶

Furthermore, due to the increasing urbanisation of the population, many small rural societies were forced to cooperate and merge in order to form viable business units, while many of the societies in urban areas grew substantially in membership. In 1960 there were 638 societies in Sweden (Moback, 1960, p 14), and by the end of 1965 their number had already been practically halved, to 338 (Eronn, 1968, p 19). If this gives the impression that the increased concentration of operations came about entirely "spontaneously", that would not be quite correct. A central planning department had been instituted, responsible for investigating the retail structure in the districts and for managing the transformation. A major aspect of this transformation was of course related to the self-service stores, but another important aspect was the tailoring of the retail structure to the new geographical population patterns. The latter aspect led to some opposition, both within and outside the organisation, as the closing of the local cooperative store was often seen as the final blow to small, largely depopulated villages.

¹⁵⁶Wirsåll (1982) talks of the wholesaling operations as the "engines of change"

Formation of the Third block

At this point, I will depart for a moment from the chronology of the description, and briefly point to the formation of the Third block *before* discussing the developments that led up to it. The development of the ICA and the cooperative blocks described above begun in the early 1960s, and it was not until the mid-1970s that the Third block was formed. In the meantime, a number of developments took place in the grocery market and in the Swedish economy as a whole, which made it increasingly difficult for an independent store or a small chain to operate.

The Third block, which is formed around Dagab, is a structure that resembles the other two blocks both in structure and size, to a degree that the ASK organisation had not done. (Supermarket 5/74 and 5/75) Thus, although the ASK group had previously been referred to as a block (e.g. by SOU 1968:6), the formation of the Dagab wholesaler signals the beginning of a substantially different organisation. The formation of the Third block occurred during 1973 and 1974, through several different parties entering into a number of agreements. The first step by the owners of six private wholesalers was the formation of Dagab, aimed at building one wholesaler with national coverage. A number of other wholesalers joined during 1973, most importantly one of the leading fruit and vegetable wholesalers JS Saba, who became a majority owner. The two retail chains which had been formed voluntarily, Favör and Vivo, and a number of independent retailers, joined in 1973 and the two department store chains, Tempo/Åhlens and NK/Turitz, also joined the Third block in 1974, through ownership stakes in JS Saba. However, Tempo/Åhléns continued to rely primarily on direct deliveries, combined with deliveries from their own warehouse (Supermarket 5/76). The six ASK wholesalers had cooperated earlier within the ASK organisation, but that had been a looser cooperation, primarily focused on purchasing cooperation.¹⁵⁷ That the Dagab organisation truly constituted a whole new market situation is pointed out by one trade journal's comment: "Through 1974 ICA and KF were in a class of their own. From January 1, 1975, following a rapid merger of the largest ASK wholesalers during 1974, Dagab will become part of that same class in terms of size." (Supermarket 5/75, p 62)

¹⁵⁷Two ASK members chose to remain outside the Dagab venture at this time, although one joined later. At this time, ASK was also joined by a group of 14 wholesalers from another association of smaller and specialised wholesalers, Sveriges Allmänna Kolonialgrossister, SAKO.

Although the initial step was "only" to form a national wholesaler, the venture continued to evolve into a Third block, jointly owned by wholesalers and retailers, its operations beginning in 1975. The degree of integration within the Third block was different compared to the other two. On the wholesale level, the horizontal integration was stronger than between the constituent wholesalers of the ICA group (Supermarket 5/75), and in that sense more like the wholesaling of the KF block. On the other hand, at retail level, there was none of the horizontal cooperation of the two other blocks, with the exception of that cooperation already taking place within the constituent chains. As concerns vertical integration, some central functions, such as store development and store management education, were carried out in cooperation with the individual member chains, but there were also independent retailers who only used the wholesaling function of the new block.

A number of changes in the 1960s and early 1970s were such that they enhanced the competence and competitiveness of the blocks and in consequence, the relative competitiveness of the independent stores and chains was reduced. The Third block was formed in order to secure the same relative competitive strength for independent stores and chains as the block related actors had, in the new environment. It is interesting to note that while it had been the potential for success of chain store operations that partly lay behind the formation of the ICA and the cooperative block, the most prominent representatives of private department store chains and voluntary chains in the Swedish market were now taking part in the formation of that Third block. However, both ICA and the cooperative blocks were formed by actors with a relatively homogenous background and on the basis of previous cooperation. In many aspects, the formation of the ICA and the cooperative blocks may be seen as building on and being a natural continuation of the previous cooperation, albeit inspired by outside factors. In the case of the Third block, the background is much more fragmented. Some of the wholesale actors had previously cooperated within ASK, while others had cooperated within another group, SAKO. Some of the retail outlets were part of wholesaler sponsored voluntary chains, while others were part of chain store operations. The chain store outlets were owned by corporations, while individual retailers owned the voluntary chain stores. This difference in the initial asset structure continues to be visible throughout the time period studied.

Changes and innovations which strengthen the blocks

Developments in the 1970s

At the end of the 1960s, a new trade journal saw the light of day. This was *Supermarket*, published by the ICA group. In the first issue, its editor inaugurates the new journal as follows:

In the past few years, ... supermarkets have come to play an increasingly central role. Supermarkets now have a market share of 30%. And it is increasing fast. ... The evolution leads the stores to become large corporations. Retail store owners and supervisors become managers. (*Supermarket* 1/69, p 23)

Two years later, supermarket¹⁵⁸ sales are quoted as constituting half of "actual grocery store" sales, seven "sales groups" accounting for 90% of the supermarket sales. With the so-called grey market accounting for 27%, (Wirsäll, 1982, p 17) that would give the supermarkets a share of the total grocery market of about 36%.

In the following pages of this section, we will bring out some of the factors that motivated the formation of the Third block. One has already been indicated - that the size of the stores had increased rapidly, and that it was the big, typically newly established stores that were gaining market shares. Increasing size meant larger capital requirements. If once it had been the case that establishing a grocery store was an alternative to being in someone else's employ, for a private individual with limited resources as well, this situation was rapidly changing. And size requirements were not the only factor that tended to raise the cost of establishing or even maintaining a competitive grocery store. Let us first mention some of the cost raising changes that took place, and then discuss how these changes affect independent versus block affiliated retailers.

Assortment was increased in the grocery stores, both through widening and deepening. According to one survey, the average number of items in the stores was almost 30% higher in 1974 than in 1969 (*Supermarket* 9/1974, 16-27). The grocery sector was being expanded through the addition of such novelties as frozen foods, grilled meats, and health foods. And a host of new varieties appeared among the existing food groups. In addition, grocery stores started to

¹⁵⁸The definition of supermarkets has changed over the years. Initially, the definition was tied to sales, and of course had to be adjusted upward periodically. The definition used today, is that a supermarket is a store that has at least 400 m². This is not a very restrictive definition, as the average size of supermarkets was already 550 m² in 1969 (*Supermarket* 5/71, p 41).

sell many new types of goods, such as household utensils, textiles, flowers and specialty goods. According to the above mentioned survey, the largest relative increase was in the assortment of non-food items, such as detergents and paper products, where the increase was almost 80%. The reason behind the assortment expansion was partly an attempt to capture a larger share of the consumers' budget and to add higher margin goods to the traditional assortment. Also, the wider assortment was appreciated by the consumers. Consequently, the ability to offer a wide variety of goods was a competitive advantage relative to stores offering only the more restricted traditional grocery assortment. To quote a 1973 Supermarket article:

During the 1960s, the trend was for department stores to expand their assortment with groceries. This increased the customer traffic, which promoted the sales of other goods in the assortment. Today, the grocery store is undergoing a similar transformation, but in the opposite direction. Ever increasing parts of the department store assortment are given room on the shelves of the grocery store. And although this development is not yet completed, it is already at times difficult to tell apart a "small department store" and a large grocery store with a varied assortment of specialty goods. This underscores the need to abandon the term grocery trade, and instead agree on the term "daily-goods trade". (Supermarket 5/73, pp 26-28)

We will not follow the call to abandon the use of the term grocery store. However, it is interesting to note the suggestion, and its merits, because the grocery stores of the seventies are truly a different species from those of earlier years, even compared to the stores of the sixties.¹⁵⁹ The increased assortment not only meant more capital being tied up in stocks, it also meant new equipment requirements, and new demands on the retailers' expertise.

A number of changes in the legal environment in the early 1970s tended to raise costs for establishing and/or maintaining stores.

Firstly, a number of regulations were instituted, regarding the keeping and handling of foodstuffs in grocery stores. The new regulations placed stricter demands on the refrigeration of dairy products, meat and fish; on date-marking of store packaged goods; on work areas for preparation and packaging of fresh foods and for grilling of meats, etc. About 60% of the stores were expected to need to make adjustments and the average cost for these stores was approximated at SEK 40 000 to 60 000 (Supermarket 6/73, pp28-31). To give an indication of the

¹⁵⁹Though one may note the similarities with the wide assortment of the traditional country stores, as already pointed out by Wirsäll in 1947, with respect to the American supermarkets. (ICA-tidningen 1947 pp 16-18)

relative size of these costs, we may note that in 1973 about 90% of ICA stores had average annual sales of just below one million kronor¹⁶⁰. Other new legal requirements instituted during this period include mandatory information on price per kilo or liter on packaged goods (*jämförpris*), and requirements for the stores to handle returns of bottles. Also tending to raise the stores' costs was the abandoning of rent control for commercial tenants, while a number of government-imposed price freezes initially may have made it more difficult to compensate for the cost increases.¹⁶¹

Secondly, the regulation of store opening hours was abandoned in 1972.¹⁶² The initial effect was rather limited, in the first two years average opening hours only increased by 2.5 hours per week (Supermarket 6/73, pp 20-21). However, the opening hours continued to increase, and the "new" hours were also more expensive, with wages being higher in the evening and on week-ends. Abandoning the regulation of opening hours also led to the introduction of an entirely new type of store, namely the convenience store. These will be discussed below in section 9. Another legal change that occurred at this time was a reduction in the maximum number of working hours per week, added to which there were substantial wage increases during this period.¹⁶³

The changes of the last group would normally affect all stores to an equal degree, regardless of whether they belonged to a block or not. The only exception would be the very small family business, which could in fact be favoured by some of the changes. A small business run mainly by the family would have been somewhat less affected by the shortening of the maximum number of working hours per week, or by the wage increases, than a store relying on an employed workforce.¹⁶⁴

¹⁶⁰These were those 4 752 ICA stores that were too small to be considered supermarkets. The 474 supermarkets had average sales of over SEK 7 million.

¹⁶¹Although over time, such effects are unlikely to persist. In fact, it is often alleged that the threat of price freezes led retailers to overcompensate during the times when prices were free. When a price freeze was lifted, all retailers would raise their prices at the same time. This coordination of prices, induced by government action, may also be expected to have had negative effects on the degree of price competition.

¹⁶²For some years prior to this, it had been possible to obtain special permission for longer opening hours on weekdays and to be open on Sundays.

¹⁶³In the first five years of the 1970s, wages increased by 80% and social cost increases by 160%. (Supermarket 2/76, pp 14-21)

¹⁶⁴However, this possible advantage is not peculiar to non-block stores, as many small stores belonged to the ICA block.

On the other hand, the more the opening hours are expanded, the more difficult it becomes to maintain a store with only the work of the owner family.

As for the other factors, they were all such that they would tend to hit the small, traditional stores the hardest, the ones that needed to make the most changes and the ones that already had problems in making ends meet. These changes would also tend to give a competitive advantage to those stores that were part of a block, especially in terms of being able to make new establishments. Within the blocks, there were provisions for capital formation, providing the capital needed for opening a big, modern store when bank loans were in short supply. The new stores needed managers rather than the store-keepers of earlier times. Both ICA and KF had their own schools and had a tradition of offering store management education for owners and managers, as well as courses for other store personnel. They also had departments for store design and equipment purchasing, providing advice on suitable solutions. Even in the case of new products, the block stores had an advantage relative to an independent retailer. This was especially true of the ICA stores as compared to other privately owned stores. Compared to the cooperative stores, the situation was a bit different, as their assortment predominantly consisted of own brands. The block wholesalers' expertise in accepting new products into their available assortment was at least an indication of their faith in the product. It usually also meant that the wholesale organisation had made certain that the new product launch would be supported by the manufacturer with special offers and promotion material.¹⁶⁵

Finally, a discussion of the legal environment would not be complete without mentioning the local councils' role in granting permission to establish grocery retailing (*Plan- och Bygglagen*). Although establishment of grocery retailing had always been regulated, this role became especially important during urbanisation and construction of new residential areas. In order to gain access to the new locations it became important to get early information on where new developments were taking place, and to know how to operate within the political and legal environment to qualify for such a new location. Both blocks had central functions aimed at securing new locations. Although the consumer cooperatives are sometimes pointed out as having been especially favoured by this organisation of local council planning (C.f. Wirsäll, 1982, pp 79-80), certainly both

¹⁶⁵This practice tended to contribute to the relative disadvantages of smaller manufacturers, as it was difficult for them to match the promotion contributions of the bigger suppliers. ("*Inte problemfritt tycker små fabrikanter*" Supermarket 1974)

they and ICA were in a better position than independent retailers or private chains.

Thus, the blocks have advantages at wholesale level, through being able to realise economies of scale and scope and through other size related advantages. There are advantages of horizontal integration at both wholesaler and retailer level, and there are advantages of vertical integration, both improving the efficiency of the wholesale operations and the competitiveness of the block retail stores. The expansion of the blocks is further strengthened by their advantages in gaining access to new establishment locations, and by their being able to support their retailers, through education and other services, in dealing with an increasingly demanding legal environment. It is therefore not surprising that a Third block was formed, comprising most of the wholesale and retail operations that had until then been independent.

Between 1970 and 1985, two thirds of the independent chains disappeared; many of them sold either to ICA or to Dagab (Supermarket 8/85, pp 18-19). By 1975 only about 17% of grocery store sales were accounted for by stores not purchasing from any of the three block wholesalers.¹⁶⁶ These stores got their supplies either through direct deliveries (e g Tempo, a national department store chain with grocery department), through their own wholesaler units (e g Metro, a local grocery chain in Stockholm), or through small, independent wholesalers. In general, the explanation for this development is that the competitive advantages of the blocks discussed so far were as a consequence disadvantages for the independent stores and small chains. A few additional reasons for the dwindling market share of the independent chains may be mentioned.¹⁶⁷ One prevalent reason why small chains were sold seems to have been the age structure; ageing owners and no interest from anyone in the family to carry on. Of course, had the conditions for making profit been equal between independent and block retailers, then the chains might equally have been bought by other private individuals. Instead, those independent chains that were sold, were bought by either ICA or Dagab. Many of the small chains may have been hampered by not having access to their own wholesaler. Finally, the relative financial vulnerability of the small chains was important. With the high cost of new establishments, one failed

¹⁶⁶And of these 17 %, about 1/3 was accounted for by Tempo, who at the time were negotiating but had not yet reached a distribution agreement with Dagab.

¹⁶⁷These are discussed in Supermarket 9/75, pp 30-33.

establishment could break a whole chain. In that sense also, the blocks are relatively less exposed.

To sum up, we may quote the former owner of one of the independent retail chains that was sold in the mid-seventies :

"I don't think there will be much room for this kind of firm in the future. Where would the money come from? When I built up my chain, it could be done with very little capital and a lot of hard work, and in my case independently of a wholesaler. But that is hardly possible today. The competition is different, and it is probably much more difficult to get new - and especially good - locations. ... [Also,] the many new taxes and requirements from different authorities. Here, the small chain is at a disadvantage in keeping informed and adapting to the developments."¹⁶⁸

ICA bought almost all of the chains that were sold during these years, chains that until then had been buying from ASK wholesalers. This obviously caused concern among the ASK wholesalers, and many trade experts were predicting the rapid demise of the actors outside ICA and the consumer cooperatives (Törnroth, 1993, p 22-23).

Joint activity/weekly advertising

Starting in the late fifties, but gaining momentum in the sixties and seventies, were two closely related phenomena that have come to have a strong impact on Swedish grocery industry and trade. These are the weekly advertisement of special offers, and the joint promotion activities between manufacturers and the blocks. Although the two started as independent phenomena, they soon came to be joined and are normally referred to as SA/VA, which stands for Joint Activity/Weekly Advertising (*SamAktivitet/VeckoAnnonsering*). Similar schemes exist in other markets and in other countries, but the Swedish grocery market, with its highly organised block structure, made it an extremely pervasive system in this market.

Let us start with the "weekly advertising". In Sweden, the small private retail chain Metro¹⁶⁹ is credited with being the first to do weekly advertising. The idea was to draw attention not only to the particular goods advertised but to the chain itself, establishing its name in the minds of the consumers. Thus, the sales objective was partly to sell more of the goods advertised, and partly to make the

¹⁶⁸Emil Gester, quoted in *Supermarket 9/75*, p 32.

¹⁶⁹Purchased by ICA in 1992.

chain as a whole more attractive than competing chains, to gain market share relative to other stores and chains. Others soon took up the idea, and the practice has been prevalent from the sixties and onwards.¹⁷⁰

As the weekly advertising became established as an effective promotional tool, it became interesting for the manufacturers to start cooperating with the chains and blocks, making it a "joint activity". The chains would agree to feature a specific product in their weekly advertising, to not feature a competing product that week, and often also to arrange special displays in the stores (or allow the manufacturer's representative to arrange this). The manufacturer on the other hand agreed to share the cost of the advertising and typically to offer a price reduction on the product during the period of the campaign.

It is hardly surprising that the blocks chose to adopt and develop the SA/VA innovation, in particular the ICA and cooperative blocks. The SA/VA system enforced the position of the blocks both among the consumers and among the retailers. The block names were advertised weekly to the consumers, in combination with attractive price offers. The system also established the block/manufacturer joint activity as *the* way that special offers were created, and they received a share of SA/VA and campaign contributions that was higher than their relative market share (SOU 1977:44, appendix 9). In the case of the Third block, the block name was not advertised, and it was only with respect to the voluntary chains that Dagab had the coordinating and negotiating function, while the chain stores negotiated directly with manufacturers (ibid, pp 17, 54). The Third block received contributions proportional to their market share. A study by the *Grocery Manufacturers of Sweden* estimates that when the system was at its peak, an average of about 80% of the manufacturers' total promotion budget went into the SA/VA system (Marmolin, 1994, p 6). This share started to decline from the mid-eighties. Livsmedelsutredningen, a government investigation based on data from 1985, puts the SA/VA share at just under 62%.¹⁷¹ The earlier system of manufacturers' representatives visiting the stores directly and negotiating volume discounts, promotional activities and price reductions, gradually gave way to such agreements being mediated by the wholesale level central organisations. To the extent that "...such discounts, which

¹⁷⁰Cf the discussion of "co-selling" among ICA retailers in section 146 above.

¹⁷¹Another 12% went to other channel oriented activities, such as in-store demonstrations and trade press advertising, which brought the total of channel oriented activities to 74%. (SOU 1987:44, appendix 9, p 27)

tie [retailers'] purchases to representatives' visits, may disrupt the regular ordering routines"¹⁷², this development would have been seen as positive by the wholesale organisations.

A negative effect of the SA/VA system gaining such a central position as a promotional tool in both industry and trade, was that the system in a sense lost its promotional strength and instead became more of a defensive mechanism. No block dared to give up its SA/VA activities, but it was unclear whether it was possible to increase market share through such activities¹⁷³. The individual retailers, who were increasingly competing against other retailers of the same block, also felt that the system had lost some of its edge. Their response was often to negotiate local joint activities in addition to the centrally arranged ones, alone or together with a few other retailers within their own block. Furthermore, the manufacturers felt that they needed to participate, not necessarily because they expected to increase their market share, but because otherwise their competitors or private brands would participate in their place. This situation also led to a feeling among most manufacturers that they were being taken advantage of by the trade, and that the SA/VA system had in effect become a source of financing for the grocery trade.¹⁷⁴ Another reason for manufacturers being dissatisfied with the SA/VA system was that it was often not possible for the manufacturers to get accurate information on how much was actually sold at the reduced price, and how much remained at wholesaler or retailer level (Supermarket 2/86, p 12).¹⁷⁵

The central position of the SA/VA system affected stores outside the blocks in two different ways. On the one hand, it made it difficult for small stores to negotiate interesting special offers, and thus made these stores less attractive to the consumers. The SA/VA system thus reinforced the block system by constituting a competitive advantage for intra-block stores. On the other hand, if

¹⁷²Quoted from an open demand letter to the brand-name manufacturers, signed by the heads of the retailers' union, the ASK, and the ICA, respectively. The letter is published by ICA-tidningen 4/64, p 38.

¹⁷³Although Julander (1984) notes that "One of the biggest chains within the grocery trade has gained market share in recent years, and has also put a big effort into SA/VA. Whether this chain has spent significantly more on SA/VA than others, and whether the success may be attributed to the SA/VA in particular, is obviously difficult to determine." (p 79) [my translation]

¹⁷⁴Lindh (1976), pp 28-29. Lindh refers to DLF 12/1969, p 16 and DLF 28/1970, p 11.

¹⁷⁵According to Julander (1984), the wholesaler normally has the right to buy at the reduced price during four weeks, the retailer during two weeks, while the price reduction for the consumer generally lasts one week. (p 9)

an outside store was big enough to take large shipments, that store would constitute an interesting outlet for a manufacturer seeking alternatives in order to reduce its reliance on the block-controlled SA/VA system (Lindh, 1975, pp 95, 99). This aspect is relevant in explaining some of the success of the "freelancer stores", which will be discussed in section 10 below.

Expansion of wholesaler activities in all three blocks

The concept of purchasing loyalty has been discussed above, in connection with the aims of the ICA block. However, the wholesaler's assortment will naturally put limits on the degree to which such loyalty is possible for the retailer. Traditionally, fresh goods were distributed separately from dry goods, and all the block wholesale organisations had their roots in dry goods distribution. Over time, these general wholesalers had broadened their assortment and increased the share of fresh goods (SOU 1968:6), but fresh goods remained a relatively weaker area in their assortment. According to trade press of the mid-1970s, all three blocks seem to have shared the aspiration to continue this trend towards becoming "full assortment wholesalers" (Supermarket 10/75, pp 22-24).

During the 1970s, the wholesale assortment of all three blocks was expanded in order to make possible an increase in the share of the retail stores' intra-block wholesale purchases (e.g. Supermarket 5/75, p 62). The distribution centres were expanded not only by including a wider variety of goods, but also as the result of an ongoing process of rationalisation. At wholesale level, innovations in distribution centre design, in mechanisation and in computerization combined to create economies of scale and scope. Ex post, we can see that the share of purchases bought through the block wholesaler did not increase substantially over the following years. However, the fact that the share was maintained was itself remarkable considering the impressive growth in retail level assortment that took place.

The advantages of increasing these intra-block purchases were seen to be substantial, and in light of the developments at retail level, this seemed a natural development. If the consumers no longer needed to visit four different, specialised stores, why should the stores themselves be less rational? (C.f. Supermarket 10/75, p 23) By combining the purchases at the wholesale level, the store would no longer need to buy from many different external sources. Also, the number of potential (indirect) suppliers could actually be expanded, as many small producers could not afford direct distribution. The main driving force

given by all three blocks is the potential for raising efficiency and reducing costs in the channel as a whole (Supermarket 10/75; Wirsäll, 1983).

In the private blocks, an additional advantage of becoming a full assortment wholesaler was that any increase in the share of retailers' purchases that went through wholesale distribution resulted in an increase in the intra-block purchases, internalising not only the distribution operation but the distribution margin as well¹⁷⁶. This of course represented a threat to the profitability and operating economies of many of those producers that distributed directly to the stores at the time (Lindh, 1975, p 97). They also felt that the direct distribution was in fact not more expensive from a total channel point of view, as alleged by the wholesale organisations. The president of LRF¹⁷⁷ mentions a further reason for producers to be wary of this trend.

There is an American saying "that they who control the distribution channel also have control over the market". And these big grocery blocks, with purchasing concentrated to a couple of individuals, scare us, somehow. Especially since there is already talk of reducing the assortment.¹⁷⁸

Thus, with the grocery store assortment increasingly including new types of goods, and in order to capture a larger share of these sales, the wholesale assortment needed to reflect this change by introducing such new types of goods as fresh foods and specialty goods. But not only was the assortment of goods in the stores increasing, the variety of store types was increasing as well.

We have already mentioned the increased role of the department stores in grocery retailing during the 1960s. Growth in the department stores sector levelled off in the mid-1970s and its market share began to fall rapidly in the 1980s. However, two other types of stores start to gain in importance and grow over the same time span, namely the hypermarkets¹⁷⁹ and the convenience

¹⁷⁶In the cooperative block, a large share of the goods distributed directly from manufacturers emanated from the industry sector of the consumer cooperative itself.

¹⁷⁷*Lantbrukarnas Riksförbund*, the Farmers National Union.

¹⁷⁸Harald Håkansson, LRF, in a debate between representatives of the agricultural producer cooperatives and the grocery trade. Quoted in Supermarket 10/75, p 24. The comment about reducing the assortment refers to ideas in popular and trade debate regarding the depth of the assortment, that the variety within specific product classes was "too wide". That is, such a reduction would aim at reducing the number of different types of toothpaste or sausage, but still include both sausage and toothpaste and the multitude of other types of goods.

¹⁷⁹I have used this term to denote stores that in Swedish are called *stormarknader*. These stores are considerably smaller than for example the French *hypermarché*.

stores. These two store types represent extremes in just about every aspect of business; size, assortment, location and price level. Let us start with the development of the hypermarket.

Changes and innovations that (eventually) threaten the all-channel

The development of the hypermarket sector

The term hypermarket refers to very large stores, minimum 2 500 m², in external locations. The hypermarkets also have a very wide, "department store" type assortment. The first hypermarket was opened in 1962, but hypermarkets didn't really take off until the 1970s. The hypermarket sector experienced its strongest growth period between 1970 and 1974, when the number of hypermarkets grew by 80%. The success of this outlet format relies on both economies of scale and scope, and on the consumer appeal of a very wide assortment.

The first hypermarkets typically had cement floors and a very spartan atmosphere in general. Increased competition in the segment was met by an increased emphasis on the shopping environment. The assortment was also adapted, for example more fresh produce was included in the assortment, part of the effort to make the hypermarkets less basic in appearance. Prices were lower in the hypermarkets than in traditional supermarket outlets, but not dramatically so. And price was not the only, or necessarily even the main, selling point of the hypermarkets. Instead, a variety of strengths were emphasised. To quote the head of a group of four ICA hypermarkets:

The external location further makes it possible to go in for large units at relatively low cost. This in turn guarantees the true competitive advantages of the hypermarkets - the massive assortment, the large volumes of goods and consequently the relatively low prices.

But quite aside from the economic and business aspects, the hypermarkets are an attraction in themselves, simply as a consequence of their size, their varied assortment and their easy accessibility.¹⁸⁰

As with the department stores, the development was started off by an independent actor, Wessels¹⁸¹, but this time the cooperative response was quicker. During the 60s and 70s, the hypermarket sector was dominated by the

¹⁸⁰Bengt Aronsson, quoted in Supermarket 6-7/86, p 15.

¹⁸¹Acquired by Åhlén & Holm in 1972.

cooperative block and the two private chains, Bra and Wessels ¹⁸². The merger of the two private chains in 1976 led to the formation of B&W, which became part of the Third block.

Throughout the 1970s, B&W and the cooperative hypermarkets Obs!, kept an even pace, sharing the market between them. In contrast to what had been the case with the department stores, ICA eventually decided to enter the hypermarket segment. Towards the end of the seventies ICA began to slowly edge in, and by 1980 had 9% of grocery sales through hypermarkets¹⁸³. The cooperative sector and B&W shared the rest of the market with 47% and 44% respectively.

During the 1980s, ICA expanded rapidly in the hypermarket sector, so that by the end of that period ICA hypermarkets held almost one quarter of the market. The cooperative hypermarkets had maintained their share of just under half of the market, and B&W had another quarter of the market. Non block-aligned supermarkets¹⁸⁴ turned up in the hypermarket sector, taking just over 2% by the end of the 1980s (Hultén, 1990, p 42).

The effects of hypermarkets on inter-block relations

Although there had been instances when earlier developments led to opposition within the blocks, they had been limited, as the earlier transformation had largely been perceived as the old making way for the new. The hypermarket development threatened stores that were themselves perceived as modern. Furthermore, the geographical reach of these new establishments was much larger than had been the case with earlier new store formats. Therefore, one might reasonably expect the hypermarket development to have been difficult with respect to intra-block relations, especially in the two older and more tightly integrated blocks.

Still, examination of trade publications gives little indication of hypermarket developments having put pressure on intra-block relations. In fact, in the few

¹⁸²Founded by Turitz.

¹⁸³ICAs hypermarkets were relatively more focused on the grocery assortment, and ICA's market share in the total hypermarket sales was therefore lower, only about 6.5%. (Supermarket 5/81, p 30)

¹⁸⁴These were the so-called freelancers, which are discussed later under a separate heading.

instances when reactions by neighbouring retailers are reported, these are usually characterised by optimism and a fighting spirit (E.g. ICA-tidningen, 6/65, pp 24-26; Supermarket 12/83, p 24). One exception is a report of a cooperative society planning a hypermarket which would negatively affect the retail stores of the neighbouring society, in particular its department store. The neighbouring society calculated a loss on groceries of 12%, as a result of the hypermarket establishment.¹⁸⁵

Public policy and the hypermarkets

Such structural development in the grocery retailing and wholesaling as took place before the rise of the hypermarket sector had not been unequivocally accepted by the popular debate or escaped societal investigation. For example, protests against the closing of stores in depopulating areas have been mentioned, as has concern over the block structure of competition. Nevertheless, the structural transformation of the grocery trade had been left to continue more or less unimpeded by government action. In fact, any legislative action taken had driven rather than retarded the transformation, for example in the case of changes in health regulations.¹⁸⁶

This situation changes when the hypermarket sector begins to grow. From a social point of view, there is opposition both on a national and on a local level to the structural transformation of the retail structure. At a national level, the scepticism among politicians and consumer interest agencies emanated primarily from a concern for consumer welfare. Perhaps most important, in terms of influencing public policy in the area, were the conclusions of the 1975 government Distribution Investigation (SOU 1975:69 - 70). A central conclusion of this investigation was that a continued development towards a centralised retail structure dominated by hypermarkets and other large stores was socially undesirable and that action should be taken to avoid such a development. Although there was general agreement on the negative consequences of a centralised retail structure, there were differences of opinion as to whether

¹⁸⁵Kooperatören 12/85, pp 18-21, reporting on the plans for an Obs! superstore in Trollhättan.

¹⁸⁶The relaxation of health regulations regarding separation of sales of different types of food, made it possible to integrate these previously separate stores into one. This change in the health regulations was important in increasing the competitive edge of the self-service system. Furthermore, when health regulations were sharpened in the early 1970s, as discussed above, this was important in hastening the closing of small, old-fashioned stores not profitable enough to support the modernisation's required by the new regulations.

anything, and if so what, should be done to avoid this development.¹⁸⁷ Other studies reached similar conclusions regarding a centralised retail structure. For example, based on a model study, a 1976 cost-benefit analysis points to a combination of small and large stores as being superior to a structure with only large stores, even with home delivery available (Widman, 1976). The difficulties associated with attaining such a goal were also noted, for example the fact that consumers often seemed to prefer size and assortment over proximity when choosing a store.¹⁸⁸

At a local level, opposition towards the hypermarkets originated primarily in the threat they seemed to pose to existing city centre trade. The new external establishments affected not only grocery retailing. Many other types of low-price retailing found it advantageous to locate their outlets in close proximity to a grocery hypermarket, and the establishment of a hypermarket therefore risked drawing not only grocery retailing from city centres and residential areas, but also threatened speciality retailing in the city centre. For example, an investigation projecting the effect of an expansion of an existing external low-price centre built around a B&W Supermarket, found that over a 5 year period retailing in the city centre would lose about 10% to the external location¹⁸⁹. In this area, as in many other areas around the country, local councils became very restrictive in granting permission for external locations of grocery retailing. The expansion of the hypermarket sector became very politicised, and not only was the local council involved, but in some instances the national government was also involved even at the local level.¹⁹⁰

The political scepticism towards a continued hypermarket expansion,¹⁹¹ the limited sales growth in existing units and the rationing of gasoline subsequent to

¹⁸⁷A number of the delegates undertaking the investigation made reservations against its suggestions for action. Most of these reservations advocated a lower degree of intervention in the store establishment process, while one suggested more far-reaching measures.

¹⁸⁸Cf Anell (1979) who bases her results partly on a 1971 investigation of households in the Örebro area.

¹⁸⁹The investigation was conducted by the city planning department (*stadsbyggnadskontoret*) in Gothenburg, and is reported in Supermarket 11/79 pp 26 ff.

¹⁹⁰In 1977 the government, through the minister for housing, stopped plans for a cooperative superstore outside Karlstad. It appears that the action was a consequence of a general scepticism towards continued expansion of the hypermarket sector, rather than prompted by any particularly disadvantageous characteristics of that specific proposed store. (Koopertören 3/77)

¹⁹¹This alone, according to some observers, resulting in a *de facto* ban on new external establishments

the energy crisis of 1974 (which made external location less attractive) combined to effect an almost complete halt in new establishments from 1974 (Supermarket, 5/85, p23). It was not until the first years of the 1980s that expansion in the hypermarket sector could be re-started.¹⁹² The effect of this ban is visible in the statistics on the development of the average size of newly established stores. During 1972-74, the average size of newly established supermarkets was just over 700 m². In 1975 this figure dropped sharply to 400 m². The average size of new establishments remained at this low mark during the whole period until 1982. That year, partly due to a more generous attitude towards the establishment of new hypermarkets among public officials, the average size of new establishments jumped to 600 m² and remained at comparable levels during the rest of the 1980s (Hultén, 1990), p 48; Supermarket 5/73 - 75).¹⁹³ The hypermarket share of total grocery sales shows a similar pattern. From 3% in 1970, it rises rapidly to 4% in 1975, but remains practically still during the rest of the 1970s. By 1985, hypermarkets accounted for 5.2%, and by 1988 for 6.6% of total grocery sales (Hultén, 1990), p 37).

We now turn to the convenience stores, which represent the opposite of the hypermarkets in many ways, and which are often mentioned as the natural complement to the hypermarket.

Convenience grocery retailing

Convenience retailing refers to grocery sales in relatively small stores (less than 250 m²) that are characterised by generous opening hours and a limited assortment. One type of convenience grocery retailing is located in residential or central areas, the other is located integrally with gas stations. We will refer to the first group as convenience stores, and the second as traffic stores.¹⁹⁴ Typically, the price level of the convenience outlets has been kept at a level comparable to or

in grocery retailing from 1974. (Supermarket, 11/79)

¹⁹²The opening in 1979 of a new Obs! hypermarket is an exception. Supermarket 5/80 comments "During 1979 something very unusual happened, namely the opening of a new hypermarket..." (p 34)

¹⁹³ The drop is somewhat overestimated, as the figures for the first three years only take into account newly established supermarkets. Nevertheless, only 25% of the newly established stores in -73 and -74 were less than 400 m². Stores over 1000 m² accounted for 15% and 20% these years.

¹⁹⁴This conforms to the practice in Swedish trade press to use *servicehandel* or *bekvämlighetshandel* for the total sector and *servicebutik* and *trafikbutik* respectively for the two subgroups.

only slightly higher than that of other outlets in the respective blocks, although the use of special offers has been restricted. Instead, the main way to compensate for higher costs of operation and disadvantages of the small scale has been through the composition of assortment. The assortment is limited and with an emphasis on higher margin goods, such as snacks and beverages.

Convenience retailing first appeared in the latter part of the 1960s, but didn't take off until the 1970s. At the beginning of the 1970s there were very few convenience retail outlets of either kind, in total this sector accounted for only about 0.3% of grocery sales (Hultén (1990), p 37). The reason for the very limited share of convenience grocery retailing lay not in lack of consumer demand for such outlets, but in the fact that the possibilities to open them were severely restricted. Firstly, store opening hours were regulated by law, and special permission was required to keep shops open in the evening or on Sundays. Secondly, permission from the planning authorities of the local councils was required for conducting grocery retailing in areas not specifically designated for such trade. Gas stations were typically not located in areas designated for grocery retailing, and the local planning authorities, as already mentioned, were very restrictive in allowing permission for grocery retailing in external locations, which included in connection with gas stations.

When regulations regarding store opening hours were disbanded in 1972, this deregulation made possible the rise of convenience stores in central or residential locations, often through the repositioning of traditional, small grocery stores. The convenience stores became the "winners" of the 1970s and by 1980, their share of the total grocery retailing had reached 5%.¹⁹⁵ During the 1980s, more and more supermarkets started to offer longer opening hours. This led to a slow-down in growth of the convenience stores' market share, but they still accounted for 5.7% of total grocery sales at the end of the 1980s.

In the 1980s, growth in convenience retailing came from a different type of store. Whereas the new convenience stores of the 1970s had been predominantly former grocery stores located in residential areas, growth now came from new traffic stores and from the transformation of former newspaper kiosks. Whereas the locational advantage of the older stores had been that they were close to the home, the locational advantage of the new convenience stores was that they

¹⁹⁵That is, higher than the 4.2 share of grocery sales through hypermarkets.

were "on the way". In the case of the traffic stores (located in connection with petrol stations), they made it possible to combine grocery purchases with filling petrol, and in the case of the former newspaper kiosks, they were located between work and home, often in connection with public transport (Hultén and Nyberg, 1995).

If the convenience stores were the winners of the 1970s, then the 1980s was the decade of growth for the traffic stores. During the 1980s, their market share rose from 1.6% of the total grocery market to 3.7% (Hultén & Nyberg, 1995; Supermarket 5-6/91). In the case of these traffic stores, it was not a matter of changes in the law at one particular point in time that led to the expansion. Instead, it was a gradual process of more and more local councils changing their earlier negative view of the traffic stores.

Initially, convenience stores were established by actors outside the grocery blocks, notably the *Pressbyrån* chain of newspaper kiosks. Although the convenience stores were established in new localities, *Pressbyrån* had an experience advantage because they had been exempted from the earlier opening hours regulation.¹⁹⁶ Fairly soon, however, the blocks saw the opportunities in this type of retailing. Especially, repositioning into convenience retailing became a way for many small grocery stores to survive. By 1975 ICA and the cooperative stores had caught up with the "outsiders" and by 1980 they were the market leaders (Hultén, 1990, p 46; Mattsson & Kjellberg 1992, p 74). This trend continued during the 1980s, so that at the end of that period the convenience store market was totally dominated by stores belonging to the three blocks.

It should be noted, however, that the way in which convenience stores belong to the blocks is not necessarily the same as in the case of the other grocery outlet types. Much of the block expansion in the convenience retailing takes place within what may be called "concept chains". The "concept" includes, among other things, a store name and logotype used by all the stores in the group, guidelines regarding assortment and other aspects of the store format, and access to operational support for the retailer. The retailer owns the store, but gets access to the concept through paying an annual fee and through agreeing to conform to the guidelines. These concept chains have some similarities to franchise chains, but with the important difference that it is the retailer who holds title to the store

¹⁹⁶Although then they had not been allowed to sell groceries, but were restricted to a very limited assortment focused on newspapers, tobacco and confectionery.

location. Both ICA and actors associated with the Third block operate such concept chains, while the cooperative convenience stores operated under the same conditions as other cooperative stores. As compared with other chains in the Swedish market, one difference is that the concept is owned by an separate organisation to which the retailer pays a fee, whereas for example the Vivo chain is owned jointly by its members.¹⁹⁷ As concerns the difference with the ICA chain, it should be noted that the members of *certain* of the convenience formats are not shareholders of the ICA organisation and do not purchase from the general ICA wholesaling organisation, but from a division that otherwise caters to restaurants and operates cash-and-carry units. However, one of the early convenience store formats, ICA Jour, operated under the same conditions as other ICA stores.

The traffic stores differed markedly from the convenience stores with respect to block affiliation. In fact, it is difficult to generalise about the traffic stores, other than that the cooperative oil company's stores were supplied through the cooperative wholesale organisation, and that other traffic stores were typically outside the block organisation. An important reason for this is that only some are owned and operated by the oil companies, while others are owned by private individuals, typically the operator of the gas station. Since the oil companies are not allowed to demand that the private station owners take their grocery supplies from any particular source, a wide variety of solutions have been adopted. Some of the individual station owners have chosen to join one of the several "concept chains" that exist in the convenience retailing business, and in that case they buy from a wholesaler associated with that particular concept chain. In other cases the oil companies operate similar concept chains which the private station owners may choose to join, and these typically also have an agreement with a general wholesaler.

Price competition

In connection with the description of the hypermarket development, it was mentioned that offering low price was not the main competitive argument of these stores. However, in the seventies and eighties there are two developments which both attempt to put price competition in a more central position in the Swedish grocery trade. The first is the attempt to introduce discount stores in Sweden, and the second is the increased use of extra-block distribution, both by

¹⁹⁷ Although in the case of Vivo, and other older wholesaler sponsored chains, the name had been owned by the wholesaler, so in this respect the concept chains are a resurgence of an older form.

block retailers and by new, non-block affiliated hypermarkets and "superstores"¹⁹⁸. Let us look at the discounters first.

1. Discount stores

"Swedish stores in general have a very high standard and service level and, in addition, a deep assortment which necessarily leads to relatively high gross profits. A store of this type, with relatively simple fittings, a very narrow assortment, and practically no service, therefore has the potential to be a very strong alternative in the grocery market. True, there are more hypermarkets in Sweden than in Denmark. But their pricing is not very different from that of the regular grocery stores. I venture that Swedish stores for many years have forgotten to be cost-conscious."¹⁹⁹

A representative of the Danish discount chain Dagis/Substral offered this analysis in motivating their attempt at entering the Swedish market in 1977. Although that particular attempt failed, the analysis is interesting and six years later it is quoted as relevant by the editor of *Supermarket* in an analysis of Swedish grocery trade. The fate of Dagis/Substral aside - what has been the role of discount stores in Swedish grocery retailing?

The term discount store refers to small stores with overall low prices but a very limited assortment, typically not including fresh foods. In many European countries, discount retailing became an important store format in the grocery market. A prime example is the German market, where Aldi is the best known actor.²⁰⁰ Closer to home, the discount store segment grew quickly both in Denmark and in Norway, surpassing a market share of 5% in the early 1980s.

In the late 1970s²⁰¹ and early 1980s, a number of attempts were made at establishing discount stores by a wide variety of actors. A majority of the discount stores were established by actors outside the blocks or associated with the Third block, but there were also ICA and cooperative discount stores. In 1984, sales of the whole low-price sector reached about 1% of total grocery retail sales, and the discount stores accounted for almost half of this. However, the failure rate of

¹⁹⁸ "storbutik", that is very large supermarkets in external locations, but with a grocery focused assortment and therefore not considered as hypermarkets.

¹⁹⁹ Quoted in *Supermarket* 1/83, p 50.

²⁰⁰ Aldi entered the Swedish market in the seventies, establishing operations in the southern part of the country, but withdrew after a few years. (Mattsson & Kjellberg, 1992, p 73)

²⁰¹ Attempts at establishing discount type stores were also made by the consumer cooperative movement in the fifties. (Koopratören 5/81, p 19)

stores was high. Of the stores listed in 1983, one third had disappeared by 1984 while new stores had appeared to replace them (Supermarket 4/84, p 43). However, with a few exceptions, the enthusiasm for the new store format waned quickly and this type of store practically vanished from the market. One chain that has remained in the market since 1978, is the Stockholm based "Sparlivs".

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There are three main factors that may account for the limited success of the discount store format in Sweden. One factor is the difference in degree of specialisation of the retail outlets between Sweden and many of the countries where the format was successful. This difference is described in a 1975 article discussing the potential for discount stores in Sweden. The article uses the successful German discount chain Aldi (Albrecht) as a basis for its analysis.

In Sweden we have very few stores with only fresh goods and Albrecht, with their limited assortment, are almost obliged to locate next to such stores... If the stores were located next to normal grocery stores, the price difference would probably have to be larger than it is in Germany, in order to persuade the customers to buy the dry goods with Albrecht and the fresh goods in other stores. (Koopertören, 1975, pp 38-39. My translation)

Secondly, there was earlier a tendency in the Swedish grocery stores to "subsidise" the fresh goods at the expense of the dry goods (Mattsson & Kjellberg, 1992, p 73; SPK 1987:24, p 79). This price structure helped the discount stores that only carried dry goods and therefore didn't need to use these to cover some of the costs for the fresh goods. However, the established actors were not oblivious to the problem and soon started to adjust their price structure.

"ICA has been the first of the "blocks" to deal with changing the margins on their assortment, in order to nip the "discount stores" in the bud. ICA has been given permission from SPK to overhaul their price structure in such a way that the margins on staple goods are lowered, while the fresh goods to a higher degree will have to carry their own costs."²⁰³

A third factor that may have contributed to the developments in the discount store sector was the pervasiveness of the SA/VA system. The discount store idea builds on a fixed assortment and low everyday prices. A government

²⁰²In the 1990s, a new wave of similar, small discount stores hit the Swedish market. This time it was the blocks that were driving the development, importing store formats from Norway and Denmark.

²⁰³Koopertören 12/82 (?), pp 15-17. The reason that ICA had to have permission for this change was that the market at this time was regulated by one of a number of "price freezes" that were imposed during the seventies and eighties.

investigation notes that experiments within the cooperative stores of maintaining low everyday prices on meat were not successful, presumably because consumers compared these prices with the campaign prices of the other stores (SOU 1987:44, appendix 9, p 10). Possibly, the same effect worked to the detriment of the discount stores' attractiveness to the consumers. Also, it would have been difficult for an actor, on entry, "both 'politically' and practically to establish supplier relationships around a discount chain" (Supermarket, 1/83, p 50. C.f. Kooperatören 5/81, p 20).

It is worth noting that the ICA and cooperative blocks did not choose to adopt this format and furthermore, that two out of three reasons for the limited success of this format in Sweden are directly related to the block structure. Firstly, the "normal grocery stores" in Sweden were much bigger and had a much wider assortment than was commonly the case in continental Europe, and this type of "one-stop-shopping" was much harder for the discount stores to compete with than a more specialised outlet structure. Furthermore, the blocks *did* actively resist the establishment of discount stores through adjusting their margins structure.²⁰⁴

Low price instead came to be represented by another type of store, namely low-price supermarkets and superstores. The development of this store format represents a turning point in the development towards ever increasing market shares for the block wholesalers.

Bargain-hunting and the freelance stores

For most of the period described up to the 1980s, the trend was that the blocks' wholesaling increased their share of total sales to retailers. This was due to two factors; to having been able to maintain the share of intra-block purchases, and to an increasing share of retailers belonging to the blocks.

Firstly, the block wholesalers had been able to maintain their share in spite of the fact that the retail level assortment had grown dramatically, because it had been

²⁰⁴Although there were some limited attempts at establishing discount stores on the part of the ICA and cooperative block. However, these led the owner of the successful small discount chain Sparlivs to comment: "One may wonder whether it is intentionally that the three have located their attempts at discount stores in places where it will be reasonably difficult to run a successful low-price store. Perhaps it isn't even certain that they want to succeed with their low-price stores?" (Kooperatören 5/81, p 19). Leaving conspiracy theories aside, in many cases the discount stores were established in locations where other formats had failed, and locational disadvantage was probably among the reasons for the earlier difficulties. (Cf Supermarket 1/83 pp 15-26)

in the interest of both the retailers and the wholesale organisations that purchases were concentrated within the block. This was partly due to a sense of loyalty and as a result of giving priority to long-term interest, strengthening the block wholesaler and the intra-block distribution meant strengthening the block as a whole in relation to the other blocks. But it was also the case that concentrating purchases led to volume discounts and that the alternative sources were usually not attractive enough to be worth foregoing these discounts. Secondly, the number of stores operating outside the blocks was diminishing continually. As has already been discussed, the competitive advantages of the blocks, with their access to a streamlined distribution system and superior bargaining positions led to a rapid decline in the number of small, local chains. In the eighties, opposing forces appear in both these trends.

A number of factors combine in making it attractive for the block retail stores to start to purchase goods from outside suppliers that could have been acquired through internal sources. 1) On the "supply side", although a large number of small, independent wholesalers had left the market, those remaining were bigger and more professional (Supermarket 2/86, p 7). Many of them were so-called "bargain brokers" (*klipp-mäklare*), dealing in occasional shipments of imported goods or of surplus production from local manufacturers. They offered occasional shipments, bargains, that were often just what their name suggests, with a price level considerably lower than comparable, or even the same, goods would be when purchased through the regular channels.

2) One reason why the bargain brokers could find these attractive offers was that the major distributors were often not equipped to handle small, occasional shipments of surplus production. The manufacturers therefore offered such shipments to the bargain brokers instead. Also, manufacturers would sometimes approach some of the larger stores directly with such occasional shipments, either because the block wholesalers were not interested, or because it was easier or more advantageous to sell directly (Supermarket 2/86, p 12). Furthermore, the SA/VA system also made it interesting for the manufacturers to establish direct links to the stores, as a less expensive way to carry out a price campaign, and one that gave better market information.²⁰⁵

²⁰⁵Cf the discussion above, on the SA/VA system; Lindh (1975), pp 94 ff

3) On the "demand side", the number of stores that were large enough to take pallet-size shipments increased. For a great number of goods, these stores received goods directly from the manufacturers anyway, only ordered and invoiced through the wholesale organisation. The costs associated with that service was sometimes considered excessive, and were avoidable through direct contracting (Supermarket 2/86, p 12).

4) During this time, the degree of price competition also increased in the market. This was partly due to the entry of a number of extremely price focused stores, superstores and supermarkets, that operated outside the block system. These stores, the so-called "freelance stores" (*frifräsare*) secured low prices partly through relying on direct deliveries and bargain-hunting, but also through a general low-cost profile, i. e. external location, fewer employees, a limited assortment of fresh goods, etc.²⁰⁶ As these stores were quite successful, attracting both good press and good custom many intra-block actors, particularly among the hypermarkets, felt that in order to compete effectively against these new actors it was necessary to seek outside sources to complement the established block wholesale organisation.

Thus, not only does a successful store format appear which is built on making purchases outside the established wholesale system, but some of the stores within the blocks also increase their use of extra-block suppliers. How, then is this new situation handled by the central organisation of the blocks?

As concerns the freelancers, many of them were gradually brought into the fold of the block structure, through making agreements with Dagab to use them as their main distributor.²⁰⁷ They joined a group of stores that purchased from Dagab, but neither belonged to any of the chains nor cooperated within the group. This group, referred to as "freelancer stores within Dagab"²⁰⁸, grew very rapidly in number, from 16 in 1985 to 85 in 1989²⁰⁹. It is worth noting, however,

²⁰⁶ The best known of these stores is probably "Willys Cash".

²⁰⁷ Some of the others made distribution agreements with a small but growing wholesaler in southern Sweden, called Bergendahls. In 1989 the grocery stores they supplied accounted for 1,4% of the retail market, but as a result of growing market share in recent years, they are sometimes referred to as a emerging fourth block.

²⁰⁸ Cf *Svensk Dagligvaruhandel*. And along the same, somewhat *oxymoronic* lines, there is a group of "free-wheeler stores within Bergendahls".

²⁰⁹ Although not only as a result of low-price hypermarkets joining.

that the emphasis on low prices and a relatively high level of direct deliveries continued even after these stores were associated with the blocks. For example, a 1986 study shows substantially lower price level in a part of Sweden where an outside actor, Billhäll had established a number of low-price superstores. This difference continued even after this group of stores had joined the Third block.²¹⁰ Similarly, SPK 1991:16 found that price levels were lower in stores that were situated within 20 kms of a low-price store or hypermarket, and that in addition the service level of these stores was higher (p 35).

As concerns the increase in retail purchases from outside suppliers, the three blocks reacted in quite a similar fashion. Although everyone agreed that in the main, the established strategy of lowering distribution costs through overall optimising and streamlining was the correct one, they also agreed that this strategy had perhaps in certain instances not been sensitive enough towards potential marginal sales increases. All three blocks seemed to acknowledge some continued role for outside suppliers in the future but more importantly, they also saw a role for their respective block organisation. Therefore, all three blocks at this time instituted bargain-hunting organisation units within their own organisations (C.f. Supermarket, 2/86 pp 7-16).

The losers

The market share gain of the hypermarkets and convenience stores cannot occur without negative effects on the market share of at least one other type of store. What are the store types, then, that lose market share during the period described?

There are two types of grocery outlets that lose market share. One is the department stores. The market share of the department stores in total grocery retailing reached its peak of 16% in the mid 1970s (Wirsäll, 19982, p 22). Since that time it declined steadily and by 1989, department stores only accounted for 6.6% of total grocery sales (Supermarket, 5-6/90, p 44). Still, even with such a dramatic decline, this type of outlet accounted for almost exactly the same share of grocery sales as the hypermarkets this year.

²¹⁰The Stockholm and the Gothenburg grocery retail price levels were compared by Bucklin (1986). He found that the lower prices in Gothenburg were to a large extent explained by the presence of the Billhälls stores.

The other losing outlet type, however, has experienced much more dramatic loss of market share. This is the "other grocery stores", the small, general grocery stores that was practically the *only* type of grocery store that existed in 1960. According to the definition, these are the grocery stores that are too small to be considered supermarkets, but too big to be considered convenience stores²¹¹. At the beginning of the period, in 1960, there were 23 000 such stores in Sweden and they held 97% of the market. Since then, their number has been halved every decade. Although only 3 360 remained in 1990 it was still the largest group in numbers, but by then this group accounted for only about 1/4 of total grocery sales.

Table 6.2. Grocery market shares of the losing outlet types:

	1960	1965	1970	1975	1980	1985	1990
Department stores:	3 ²¹²	12	16	15	12	8	6.6
"Other" grocery stores:	97	-	70	47	38	30	24

Sources: Wirsäll (1982), Hultén (1990), Supermarket 1976, 1985, 1991

Size distribution of retail outlets.

One measure of the role of the hypermarkets and other large stores is to look at their share of total sales or alternatively to see how many stores are required to supply a certain percentage of the market. In 1970, the 800-850 largest stores accounted for 40 % of the total grocery sales. By 1980, that number had shrunk to 700-750 and by 1989, only 575-600 stores accounted for 40% of total grocery sales. That it took progressively fewer stores to supply 40% of the market, indicates that the largest stores became proportionately larger over time.

On the other hand, we may consider the relative number constituted by these stores. This measure is an indication of the continuity of the size distribution, that is, the more similar in size that the stores are, the larger the percentage of stores will be needed to account for 40% of sales.²¹³ In 1970, only 6.6% of the total number of stores accounted for 40% of total sales, while in 1980, those stores constituted 8% of the total number of stores and in 1989 the figure was 7.5%. The fact that this percentage is increasing between 1970 and 1980, and remains on a

²¹¹The upper limit of the convenience store definition is of course of later date, as convenience stores didn't exist as a group at the beginning of the period.

²¹² Refers to the year 1955

²¹³If all stores are of equal size, it will take 40% of the stores to account for 40% of sales.

higher level during the 1980s, indicates a size distribution that is more equal at the end of the period than at the beginning. How can these two measures be reconciled?

Since we know that the large stores have indeed become larger, combining these measures tells us something about what happened to the not-so-large stores during the seventies. We may draw the conclusion that during the seventies, there was a reduction in the size difference between the very large and other large stores. That change came about partly because many small stores closed, and partly because other stores in addition to the very largest also become larger. We can also tell that this pattern was maintained during the 1980s, because the number of stores that account for 40% of sales continue to decline, while their share of the total number of stores remains at the same level as during the 1970s.

Developments in the nineties

Retail outlet structure

In the nineties, "the action" continues to take place at the extremes of the size distribution, that is in the hypermarket and convenience retailing segments, but the structural changes that occur are also explained by an ongoing trend among the small general grocery stores.

The hypermarkets continue to get bigger - much bigger. The size of newly established stores jumps in the 1990s, and during the early part, the average size of a new store is 1250 m². By 1995, less than 450 stores account for 40% of the total grocery sales. They in turn constitute about 6.5% of the total number of stores. That is, the trend towards the hypermarkets getting bigger has continued unabated, and the 40% of total sales are now accounted for by a record low number of stores. It also means that the trend towards a certain degree of coherence of the size distribution has been broken. In fact, every trace of the movement towards a more coherent size distribution that took place from 1970 to 1989, has been wiped out in the six following years. From this respect, the size differentiation of the grocery market is now back to its 1970 level.

"...the 15 new stores that were added to the ICA group during [1995] have estimated sales equal to those hundred that were closed in the same period." (Supermarket 5-6/1996, p 35)

Two further factors explain this phenomenal change in store structure. Let us start with what has happened in "the lower middle", constituted by the small, general grocery stores that were too small to qualify as supermarkets. In short,

this group of stores, the "other grocery stores" were in trouble. This is nothing new, but the fact that it had been happening for so long was now really starting to make its mark. In 1990 they numbered 3 360 and held a sales share of 24.5%. Despite their dramatic decline over the preceding years, however, this group still was the largest store group in terms of numbers of stores. 1995 was a turning year in that respect because then, for the first time, both the number of supermarkets and the number of convenience stores exceed the number of "other" grocery stores.²¹⁴ Their share of the market was now down to 14% (Supermarket 6-7/1997, p 34).

Furthermore, the size distribution among those supermarkets that are not hypermarkets or superstores has also changed. Smaller supermarkets have been closed or reprofiled, while others have expanded the size of their operations. Thus, not only is the middle of the total size distribution thinning out because the small grocery stores are closing, but the average size of the regular supermarkets is also gradually pushed up.

Finally, let's turn to the other extreme of the size distribution function, namely the convenience stores. In 1989, the total of traffic and convenience stores sold for just over SEK 10 billion, through 2 370 stores. In the following six years, sales increased by 30% with a 22% increase in the number of stores. This segment of the market has thus increased both in numbers, and in terms of average store size. Another important change is that they have gone from being predominantly re-profiled general stores, to being established on their own merits and in new types of locations. This is of course especially true of the traffic stores, and this is also the part of this segment which has exhibited the strongest tendencies in the nineties.

In summary, it is the extremes of the size distribution that have been the centres of growth in the nineties, with the middle continuing to wither away. That means that the polarisation has increased after almost three decades of increasing coherence. An important difference relative to the sixties is that then the distribution consisted of a great mass of fairly equal-sized stores, and one extreme group of relatively very large stores. In the nineties, the structure is polarised, but the number of stores is divided into three almost equal-sized groups.

²¹⁴In 1995, there were 2 030 supermarkets, 2 000 "other" grocery stores, and 2 770 convenience retail outlets.

Disassembling the all-channel

From the perspective of the all-channel, the changes in blocks' distribution strategies are even more important than the changes in the different outlet types' respective market shares. What happens during the first years of the 1990s is that the two basic pillars of the all-channel are abandoned. Firstly, in the all-channel all three blocks participated in all segments of the market²¹⁵, but in the new system each block is specialised on some types of retailing. Secondly, in the all-channel, all types of stores were supplied through the same distribution channel, but in the new system different types of stores are supplied through dedicated distribution channels.

Let us look at store type specialisation first. In the hypermarket sector, the specialisation to certain store types is witnessed by the sale of the B&W hypermarkets to the cooperative block. Through this deal, the Third block left the hypermarket segment altogether, and this part of the grocery market is now divided between the cooperative block and the ICA block. In 1995, the cooperative block held almost four fifths of hypermarket sales. At the other end of the size spectrum, in the convenience store segment, the block participation has also been dramatically changed. The Third block has increased its share of the market from 40% in 1989 to 60% in 1995, while the cooperative block has left this market altogether.²¹⁶

In terms of store types, then, the cooperative block has now restricted its participation to the hypermarket and supermarket segments of the market, while the Third block has gone in the opposite direction, restricting operations to convenience stores and supermarkets. But what about ICA, is this block still active in all three parts of the market? Technically it is, but when we turn to the channel specialisation, a new picture emerges.

In the hypermarket and superstore segment, direct deliveries have a larger share than they did in the all-channel. However, with advances in information technology, it is now increasingly advantageous to split goods and information flows in the channel, integrating manufacturer and wholesaler information systems through EDI. Thus an increase in the share of physical direct deliveries doesn't necessarily mean that the wholesaler's role is reduced. Furthermore, the organisation of the distribution centres has been reshaped, and warehouses have

²¹⁵With the exception of the price oriented super stores.

²¹⁶With the exception of the OK traffic stores.

been giving way to cross-docking terminals. That is, the focus on the large stores has allowed the distribution operation to put a higher priority on economies of scale. In the all-channel, the trade-off between conflicting demands of different store types meant that many of the potential economies of scale that are possible to realise today were hindered by the negative effects that they would have had on cost of distribution to the smaller stores.

Both Dagab and, increasingly, ICA have moved distribution to the convenience stores to channels dedicated to convenience retailing. In these channels, the assortment is more limited and adjusted to the particular needs of this type of outlet. The price level is also adjusted to take into account the relatively higher service level of this channel as compared to distribution to supermarkets and other larger stores. In ICA, it is only in one of its convenience formats, ICA Jour, that the retailers are members/owners of ICA, and where the stores are supplied through the regular grocery store channel. Although the ICA block still (1996) has 45% of its convenience store sales through ICA Jour, this share is rapidly declining.²¹⁷ Since these particular ICA convenience stores are the only convenience stores that are still supplied through the regular block system, it means that the share of intra-block versus extra-block distribution in the convenience store market has been reversed; from 83% intra-block in 1989 to 84% extra-block in 1995.

In terms of channel specialisation, then, the general block distribution systems are now focused on the regular supermarket segment. All three blocks have practically removed the small convenience stores from the distribution system. In the case of the cooperative blocks, this segment has been abandoned altogether, but in the other two blocks, dedicated convenience store distribution channels are now used. These channels have been organised according to the characteristics of these stores, and therefore the price increases relative to the all-channel's cross-subsidised level have been limited. In the Third block, the distribution to the hypermarket segment has been abandoned, while in the other two blocks, distribution to these stores is complemented by direct deliveries, according to drop size, to a larger extent than was the case under the all-channel system.

²¹⁷In 1989 member convenience stores accounted for 70% of ICAs convenience store sales. In number of stores, the members' share has been reduced from 50% to 35%.

To sum up, the idea of the all-channel innovation was to attain integration and scale benefits through accumulating many store types and many types of products in one channel. The new principle retains the objective of attaining integration and scale benefits, but aims to do so through specialisation. The specialisation principle is manifested in every aspect. Firstly, it is manifested in the fact that the blocks now specialise in certain store types, thereby becoming more dissimilar. Secondly, it is manifested in a separation of distribution channels for larger and smaller stores within the same block. Thirdly, the separate channels differ in both available assortment of goods and in the relative shares of physical distribution routes, i.e. direct delivery, via cross-docking terminals or via warehouse, depending on lot sizes.

Discussion

During the whole period from the 1960s through the 1980s, the idea of the all-channel was enormously successful. New store formats emerging, that were competitively viable, could be made more profitable by connecting to an all-channel in one way or another. The blocks continued to gain strength while attempts by new or foreign entrants were few and failed. The increased homogenization between the blocks indicated that there was indeed a one best way to conduct grocery trade in Sweden, or at least the blocks perceived the situation as such. This section begins by summarising the economic benefits that have driven the all-channel development. After that, four of the most important developments are discussed with respect to how they have strengthened and weakened the all-channel.

Economic benefits of the all-channel

During the period from the 1960s through the 1980s, Swedish grocery trade was transformed into a highly structured system, consisting of three blocks of wholesaler-retailer groups. Each of these blocks supplied an increasing variety of store types, offering them access to the same wide assortment of goods through the same distribution organisation. We have dubbed this system the all-channel, and see this system as representing a dominant design during a period in time. Three main types of economic benefits drove the all-channel success, and these benefits were central providers of value to the innovation. The economic benefits of the all-channel are 1) economies of scale 2) advantages of size and 3) economies of integration. Each of these will be shown to exert influence both at wholesaling and at retailing level. In the interest of completeness, some points are "double counted" in the following list. For example, economies of scale

through sharing fixed costs of expert and management resources may be attained both at individual firm levels, and through horizontal or vertical integration.

1. *Economies of scale:*

a. Economies of scale in *wholesaling* occur both on the level of individual warehouses, and at the level of the total wholesaling operation. At both levels, economies of scale and scope occur as a result of 1) the high fixed costs involved in increased mechanisation and computerization. At a warehouse level, 2) an efficient layout is easier to accomplish in a bigger warehouse, 3) the larger the share of trade conducted, the more likely that random variation in demand patterns will tend to cancel each other out.²¹⁸ and 4) the larger warehouse can take on a larger share of the channel's breaking-bulk function more efficiently. At a wholesale operations level, the bigger firm can 5) spread the cost of maintaining certain managerial and expert functions over a larger base and 6) may also attain lower purchasing costs²¹⁹. 7) Conversely, when a wholesaler has a wide and deep enough assortment so that it can be a retailer's main supplier, their respective transactions costs can be reduced.

b. In retailing, economies of scale and scope arise through fixed costs in 1) mechanisation, and especially computerization, for example in check-out and inventory and in 2) indivisibilities of personnel, i.e. the same minimum number of employees may be needed within a broad size class of stores, and because 3) similarly to the case of the warehouse, a larger number of customers reduces the relative need for safety margins in stocking goods. 4) Finally, the "one stop shopping" of large stores offers transaction economies for customer.

2. *Advantages of size*

This heading refers to size-related advantages that are effectiveness rather than efficiency related. Specifically,

a. In wholesaling, the principal source of size advantage lies in 1) bargaining power in connection with purchasing, but: 2) Bargaining advantages may also accrue with respect to smaller retailers. 3) The ability to influence the characteristics of industry standards in such areas as recycling or transport routines, is another size-related source of advantages. 4) In a political

²¹⁸That is, the bigger warehouse will need relatively smaller out-of-stock margins, and can therefore reduce the share of capital bound up in stocks.

²¹⁹The potential to attain better *prices* through a stronger bargaining position, will be discussed further on.

environment, size can be an asset as it is related to employment opportunities and capital investments in a local community.

b. In retailing, the size advantages of the large stores do not necessarily confer any benefits on the all-channel, and in some cases even work against it. This latter is particularly true in the case of the large stores' better bargaining position relative to wholesalers and manufacturers. Other size-related advantages at retail level are 1) the wider *and* deeper assortment of the larger stores often holds an "entertainment value" for the customers. 2) A hypermarket may draw consumer purchases from neighbouring communities, a fact that has sometimes been used as an argument in location negotiations with local communities.

3. *Economies of integration*²²⁰

a. *Vertical integration.* 1) The more closely coordinated the actors in the channel are, the better they are able to tailor production and deliveries to the consumers' purchasing patterns, to introduce mutually beneficial standards and to adjust operations more in line with total channel cost minimization than individual actors' preferences. For example, just-in-time deliveries reduce capital needs, and the quick transfer of sales information from store to manufacturer will help adjustments in production, perhaps avoiding stock-out and lost sales, or overproduction. 2) Through joint decision making, it is also possible for manufacturers to increase production in anticipation of a retailer level price campaign on a certain good. 3) Integration allows pooling of resources to support functions that involve and benefit more than one level in the channel, such as capital formation, and expert services. 4) Transaction costs associated with finding, negotiation and contracting are reduced in an integrated channel where the participants have long-term relationships. 5) Information technology reduces the problems associated with coordinating shared operations and activities.

b. *Horizontal integration.*²²¹ 1) In wholesaling, horizontal integration allows both efficiency and effectiveness benefits, for example through sharing of managerial and support functions, or through pooling of purchases to increase buying power.

²²⁰ For a comprehensive review of research on the economies of integration in distribution channels, see Mattsson (1969), Chapter 7.

²²¹ In economics literature, this is often referred to as "multi-plant economies of scale"

2) Retailers who horizontally integrate by forming a voluntary chain may advertise jointly, thus sharing the costs. It also creates the impression of the individual stores belonging to a larger organisation, which consumers may perceive as a form of guarantee of quality. Provided there are some mechanisms of price and quality control which maintain standards, the basis for the consumer's faith in the store does increase.

Limits to scale and integration benefits.

Scale and integration benefits are only applicable within limits, or the whole economy would be one big firm. There are limits to the efficient operations of even a computerized and mechanised warehouse. No matter how exciting a large assortment may be, there are limits to how many kilometres of supermarket aisles a customer is willing to walk to find the milk. And although size can be a source of bargaining strength, it can also be a source of complacency.

However, these limits are not fixed and technological advances may serve to push up the limits of scale and integration benefits. With respect to the all-channel, for example, an important limit to economies of scale at the beginning of the period would have been the limitations of information and goods handling capacity using conventional technology. Over the period described, technological advances allowing computerising of information processing and transmission, and mechanisation of goods handling push up this limit to a radically higher level.

In distribution, the limits to scale benefits vary with the degree of homogeneity of demands of the customers. Consider size of deliveries as an example. The set-up and technology that are optimal for handling many small deliveries are different from what is optimal for handling large deliveries. If a company tries to deliver to small and large customers using the same organisation, it either has to use the small-deliveries technology above its efficient range, or the large-deliveries technology below its efficient range. Either way, provided that there are enough customers of each kind to warrant the investment, distribution costs could be reduced through setting up separate organisations for the different customer types.

Four central factors

In this section, we will discuss four factors that have had a strong impact on the all-channel evolution, both in terms of strengthening it and later in terms of weakening it.

a. Store formats.

Let us begin by discussing the role of store format evolution. In the cooperative block, entry into the department store market segment had one important consequence, namely, that central capacities relating to *selling* were built up. Until that time, the main focus of the central organisation had been on procurement and wholesale operations, while selling activities were decentralised to the individual cooperative societies. In the cooperative block, thus, it was the entry into a new store format that gave rise to a build-up of selling competence at the central, wholesale level. In the ICA block, however, competence relating to selling was also being built up at central, wholesale level, although precipitated by an ambition to emulate the success factors of ownership-integrated and voluntary chains both in the US and elsewhere abroad.

The block structure and the all-channel were strengthened by the successful entry of both blocks into two new store formats in the 1970s. Both in the case of convenience retailing and in the case of hypermarkets, it was actors outside the blocks that first established the store formats. However, the efficiency and effectiveness of the all-channel distribution organisation was such, that ICA and the cooperative blocks soon became market leaders in convenience retailing. And the initially independent B&W hypermarkets became part of the Third block.

The successful entry into these new store formats notwithstanding, it was also in such entry that one seed of the eventual abandonment of the all-channel lay. These formats are each others' opposites with respect to a number of critical aspects. Not only are they at the extremes of the size distribution, but they also have different demands regarding delivery drop sizes and frequency, and composition of assortment. As both these store formats expanded during the eighties, "middle" solutions were getting increasingly inappropriate.

Intertype competition was initially mitigated by a relatively low level of price competition, as the hypermarkets focused on other competitive strengths, such as assortment and shopping environment. Nevertheless, hypermarkets with their wide area of customer attraction were increasing the degree of intra block competition. And when bargain hunters and the freelancers entered the market, it became necessary for the block hypermarkets to also realise their potential for low prices by taking occasional bargain shipments as well and by increasing their share of direct deliveries.

b. Legal environment.

During the 1960s and 1970s, the legal environment strengthened the all-channel development. Most important was the local council permission required for establishment of new stores. This made political competence important in order to know about planning for new residential areas and in order to secure new outlet locations. Such political competence was built up within the blocks, which put non-block stores at a disadvantage.

In addition, health and other regulations implemented during the seventies increased the demands put on resources and competence required to establish and maintain a grocery outlet. Again, the block affiliation was a competitive advantage because it gave access to both the central expert functions and to an internal capital market.

Finally, during the 1970s, the restrictive attitude towards external establishment halted growth of the hypermarket segment. One may argue that this also served to strengthen the all-channel, by delaying the strain that later developments put on it. By the same reasoning, the accommodating attitude towards externally located outlets in the 1980s helped speed up the process towards abandoning the all-channel.

c. SA/VA

The SA/VA development served to strengthen the all-channel during the 1960s and 1970s. SA/VA enforced block identity among consumers and was an important means of increasing horizontal integration among retailers, giving the block retailers access to attractive promotion offers to an extent that was not available to non block retailers. In addition, it constituted a source of financing for the blocks as manufacturers shared the cost of advertising and price reductions, and in many cases bore more than their share of the costs.

The latter aspect obviously was a source of discontent among the manufacturers, and even more so as the pervasiveness of the system increased. Because all manufacturers used the system, it was unlikely to give any of them any long-term market share benefits. On the other hand, no one was able to quit the system, since such a move would definitely have benefited competing manufacturers. Still, manufacturers had incentives to search for ways to use other types of promotion, in order to reduce their almost total reliance on the block organised SA/VA system. In the eighties, the freelancers and eventually

the block hypermarkets became one such way of working directly with retail actors.

Not only was the SA/VA system of limited value to the manufacturers, it was also increasingly being questioned as a means to gain block level market share. And as intra block competition grew in importance, it became more important for stores to set themselves apart from other stores within the block as well. All in all, scepticism towards the benefits of the SA/VA system grew on all levels of the channel during the eighties, and at the same time the associated costs in terms of irregular demand patterns and adjustment costs became more noticed. Thus, rather than being part of the benefits that made the blocks and the all-channel stronger than outside competitors, it became a burden and increasingly a reason for both manufacturers and retailers to search for alternatives.

d. Distribution channel focus.

The discussion under this rather ambiguous heading is intended to capture the idea that the emphasis of competitive action and driving force has changed over the time period described. During the 1960s, the strongest driving force was the aim to increase selling capabilities. Through cooperation both horizontally and vertically, the ICA and the cooperative blocks would be able to compete successfully and gain market share. Although it was selling that was in focus, the emphasis was on the efforts of coordination and developing of skills that the central wholesaling organisation carried out. Not only was the rational distribution system built up during the 1950s to be the key to competitive strength, but the increased sales and market share gains were to be the key to increased scale of operations and even better ability to secure rational distribution flows.

In the 1970s, the all-channel was strengthened by an extension of the assortment at wholesale level. Beyond trying to increase the number of stores tied to the own block, now all three blocks also sought to expand the share of goods sold in those stores that were handled by the own distribution organisation. The increasing depth and width of the retail level assortment meant adding not only new food products to the wholesale level assortment, but also non-food items. Even when goods were delivered directly from manufacturers, the ordering and invoicing was increasingly organised by the block wholesaler.

This development continued in the eighties, but even after the all-channel was abandoned, the block wholesale level organisations have to a large degree

maintained this organising function. Throughout the whole period from the 1960s to the 1980s, it is thus the wholesale level and operations that are at the focus of the distribution effort. This is true even in the case of the selling efforts of the sixties, which are to be driven and organised by the central organisation at wholesale level.

In the 1990s, the focus has shifted for the first time, and now is on the retail level of the channel. This shift in focus is evident in many ways. For example, the new ICA organisation abandons the division into retailing and wholesaling organisations, creating a new central organisation named "ICA Retailers" (*ICA Handlarna*). And in the cooperative block, wholesale activities as a business unit have been abandoned altogether. Instead, the "distribution and logistics" organisation carries out purchasing and logistics according to instructions by the retail concept organisations, on a non-profit basis.

Table 6.3 below summarises the developments in store formats, legal environment and SA/VA, with respect to how they have influenced the all-channel.

Table 6.3 a-c. The effects on the all-channel of three influential factors in the 1960s-1990s

a. The effects on the all-channel of changes in store format 1960s-1990s

SIXTIES	SEVENTIES	EIGHTIES		NINETIES
Strengthens	Strengthens	Strengthens	Weakens	Disassembled
The cooperative entry into and expansion of the department store sector leads to the introduction of a central selling organisation.	Success of the blocks in the new store formats: <ul style="list-style-type: none"> • The cooperative hypermarkets take half of that segment. • B&W becomes part of the Third block. • The ICA and cooperative blocks become market leaders in the convenience store segment. 	Focus on "shopping environment", not on price in block outlets.	Increasing size of hypermarkets. Increasing polarization of outlet size distribution. Entry of new, low price focused store formats. Increased intertype, intrablock competition	ICA and Third moves most of convenience retailing to dedicated channel. Cooperative societies withdraw from convenience retailing Third block withdraws from hypermarket segment.

b. The effects on the all-channel of changes in the legal environment 1960s-1990s

SIXTIES	SEVENTIES	EIGHTIES		NINETIES
Strengthens	Strengthens	Strengthens	Weakens	Disassembled
Local council permission required for establishing grocery retailing. Political competence built up in blocks.	<p>Political competence in blocks constitutes competitive advantage.</p> <p>New regulations (e.g. health) increase demands on competence and resources required for establishing and operating a store.</p> <p>Government imposed price freeze.</p> <p>"Freeze" on new external hypermarket establishments - delays polarization of outlet structure.</p>		Rapid expansion in numbers and size of hypermarket accommodated	

c. The effects on the all-channel of changes in the SA/VA system 1960s-1990s

SIXTIES	SEVENTIES	EIGHTIES		NINETIES
Strengthens	Strengthens	Strengthens	Weakens	Disassembled
<p>Strengthens block identity among consumers and retailers.</p> <p>Gives block member stores access to attractive promotion tool.</p> <p>Constitutes a source of monetary contributions from the manufacturers.</p>	Continued and increased importance of SA/VA factors as in the 1960s.		<p>Increasing discontent among manufacturers. Search for alternatives, including direct contact and delivery.</p> <p>Decreasing effectiveness as a marketing tool.</p>	<p>Abandoned by Hemköp in 1991. Others follow suit.</p> <p>Replaced by emphasis on "everyday low price" and local campaigns.</p>

PART III

CHAPTER 7

Evolution of the Self-service and of the All-Channel Innovations.

The previous two chapters have described evolution in Swedish grocery distribution with respect to two major innovations - the self-service system and the all-channel. Although the descriptions of these two cases were made from an evolutionary perspective, an explicitly evolutionary terminology was not used. The aim of the present chapter is to tie together the ideas appearing in Chapter 4, of how an evolutionary framework might be "translated" to the context of distribution channels, with the empirical case descriptions. In the interest of comparability, the structure and headings from Chapter 4 are retained.

Selection round 1 - innovation to actor match

The factors discussed under this heading have to do with which type of actors are more likely to adopt different kinds of innovations. The characteristics and capacities of an actor determine which types of innovations that actor is better able, and therefore relatively more likely, to adopt. Two actor characteristics are discussed here as relevant for the likelihood of adopting a certain type of innovation. These are 1) the actor's position in the channel, and 2a) its size and 2b) degree of vertical integration. In addition, characteristics of the innovation itself and of the system into which it is to be introduced are considered. Specifically considered are the influence of the innovation being systemic or autonomous and of the system being modular or interdependent.

Position in the channel.

a. Self-service Although the inspiration for the self-service format is brought to Sweden from another geographical market, it is clearly incumbent actors that

import it and establish it in Sweden. The central actors in the respective channels who were responsible for introducing the innovation, were interested in it because it fitted into their ongoing efforts towards increasing their own and total system efficiency. At this central level there is a considerable similarity between the consumer cooperative and the private wholesale organisation in terms of reasons for wanting to drive the adoption of the self-service system among their respective retail stores.

However, it is at the retailer level that the adoption of the innovation actually takes place. At this level we distinguish between adoption behaviour among private and cooperative retailers. Among private retailers, as evidenced by the Hakon protocols, there is a reluctance to adopt the innovation, partly as a consequence of *reseller solidarity*²²². Concerns for retailer solidarity leads to the suggestion that the new format, if tried, should be in an area where no other retailer is established, to avoid the risk of price competition. On the other hand, reseller solidarity is responsible for the main base of positive attitudes, namely that it might be beneficial to private retailers as a group, to adopt the new format before any of the cooperative societies do.

At the cooperative retail store level, there is no real decision power in these matters. The views of the central actor, KFS, and of the member customers²²³, are determinant of the adoption decision. The central actor was driving in importing the format, and the members' reaction to the test store and to the first stores, was positive. The initial test adoption thus led to a rapid growth.

The risks involved in deciding whether to adopt the new format or not are also quite different for private and cooperative stores. A local cooperative society will decide to transform one or a few of all the stores in the organisation²²⁴ - a private retailer typically only has one store, often a sole source of livelihood. A cooperative society can experiment with different organisations, assortments, sizes and lay-outs, etc. in different stores - the private retailer has to get it right the first time around. Thus, the share of total resources that are affected by the

²²²See Chapter 4 for a discussion of this term.

²²³The latter group thus had influence both in their role as customers and, through the democratic organisation, in their role as members.

²²⁴ Although it must be said that other cooperative societies did not have as many stores as KFS. Indeed, there were societies which had only one store.

adoption decision differs as between the cooperative society and the private retailer.

The nature of the benefits of the new format will also have an impact on the decision. Firstly, among the first stores these benefits are quite modest. Furthermore, the valuation of those initial benefits will differ between the two types of actors. For the cooperative society it is an important advantage that the new format reduces labour intensity at a time when labour is in short supply and it is difficult for retailing to compete with the better wages of industry. Many private retailers, on the other hand, are working in the store, often assisted by the family, and may therefore be somewhat less affected by the labour shortage, although this concern *is* voiced often enough by the private retailer as well.

Given the high risks and relatively low potential benefits involved in the early stages of the introduction of the self-service system, it is not surprising that the reluctance to adopt the new format is fairly high among private retailers. In fact, based on these factors only, it would seem more rational to decide against adopting the new format and to continue with the traditional service store format. The driving efforts of the private retailers' central organisation, Hakon, must be seen in this light. Their efforts focus primarily on reducing the costs and perceived risk of adopting the new format; by developing low-cost store conversion ideas and by increasing the success probability through educational programs. I would also argue that the published material raises the spectre of another risk, although less explicitly. By promoting the idea of the self-service store as the store of tomorrow, the long-term risk associated with not converting is introduced into the calculation.

As a result of the urbanisation process, the construction of *new* stores, rather than conversion of existing ones, eventually becomes increasingly important. At that point, the role of existing stores in constraining the choice is correspondingly diminished.

b. The all-channel is clearly a competence enhancing innovation. It builds on previous integration and cooperation within the ICA block and perhaps even more in the cooperative block. It is even described at the time as a natural next step, and the links to the cooperation that took place among agricultural and dairy producers. That this innovation is adopted by insiders is therefore in accordance with theory. Although, to complicate matters, one may also note that the all-channel way of operating becomes, in a sense, *the* feature which

distinguishes insiders from outsiders. Thus, outlets which are not tied to an all-channel, or those that maintain their own profile are labelled "freelancing". "Freelancers" that start to take deliveries from a block wholesaler will often still be referred to by this label, because their involvement with the *all-channel* is typically limited to deliveries and does not include use of other capabilities of the central block organisation.

Furthermore, taking into account the effects on the competence structure of the actors at different levels of adoption also helps explain why it is at the central wholesale and not the retail level that the adoption is promoted. From the point of view of the local consumer cooperatives, for example, the innovation reduces local member influence and involvement and thus is partly competence destroying. Consequently, some of the more far-reaching proposals for integration within the *Konsum Sverige* program are rejected. The primary means of centralisation is through the build-up of important competencies at central levels, not only relating to purchasing and wholesaling but also competencies relating to selling, to the new establishment and operations of stores, education, financing. Private retailers as well as local consumer cooperative societies agree to cooperate on matters that were previously within the realm of their individual decision power.

The all-channel also moves the focus as to where the relevant competition takes place. The earlier cooperations, both within the ICA and the cooperative block had been primarily directed at strengthening individual retail outlets through making purchases available to them at low cost. With the all-channel's emphasis on rational, large-scale distribution the focus is moved to a higher level, to block level rather than individual retailer level. Two ICA retailers who each used to regard the other as its main competitor therefore need to put their competition aside and cooperate in order to strengthen the ICA block as a group. Horizontal cooperation at retail level is intended to give rise to benefits for the block as a whole, increasing market share and scale of operations, thereby making even more efficient distribution possible.

Horizontal integration and coordination, as has already been pointed out, involves a certain degree of competence destruction at retail level, as individual retailers give up some of the competence they have built up in respect of their local market and customers, in order to realise the potential benefits of coordinating their operations with those of other retailers. In the case of the retailers joining the Third block, many entered as members of existing voluntary

or private chain operations. Many of the potential benefits of horizontal integration would have been realised within the existing chains already and much of that competence would be destroyed or at least put at risk in building up a block-wide horizontal integration. From a competence perspective, then, it is understandable why the Third block chose to adopt a limited version of the all-channel, which didn't include block-wide horizontal integration at retail level.

Autonomous or systemic innovation and modular or interdependent systems

a. Self-service In its initial form, the self-service format is essentially an autonomous innovation, at least as far as the commercial channel²²⁵ is concerned. If a retailer decides to display goods for sale in such a way as to make them directly accessible to customers it need not involve wholesalers or manufacturers. The change in the store lay-out needs customer acceptance, but for most customers, the new format involves few changes.²²⁶ The decision to introduce the new format is autonomous of the approval of the store's individual customers, as they may chose a traditional store if they so wish. For the store, all that matters is that a sufficient number of customers so that the necessary volume can be attained.

Even if the systemic effects are very limited in terms of getting the self-service format to function, they are vital in terms of explaining its success. And if we consider the character of the self-service format as it had evolved by the 1960s, this is a systemic innovation in every sense. It required activity in both the wholesaling and the manufacturing sectors for this format to come into being, but its success is also very much a result of the general economic development, such as the population's increased affluence and the spread of car ownership.

From the perspective of a private retailer adopting the core innovation or, as it were, the test introduction of the new format in one cooperative store, the system is modular. Similarly, from the perspective of the wholesaler organisations and for the manufacturers, the system is modular in terms of the first retailers' adoption of the self-service format. Thus, KFS could isolate the test of the new concept to one, and later to a few, stores. Had it not become the success

²²⁵ The commercial channel refers to the total channel except the consumers (Bucklin, 1966).

²²⁶ Some "system effects" do occur for customers, for example there is more need to have personal knowledge of quality differences of the goods when one has to pick one of a number of pre-packaged pieces of meat, rather than asking the butcher to choose the best cut for the purpose. And a mother who usually sends her small child to the store, relying on the grocer to help out, will probably have to go to the self-service store herself.

it did, it would have been relatively easy to discontinue without affecting other stores or aspects of the business. Similarly, it allowed Hakon to concentrate on persuading the more progressive retailers in their group, and leave the more conservative ones to be persuaded by the results.

Hakon, in promoting the new format to the retailers, emphasises its modularity even further, dividing the retailing part of the system into sub-systems. A number of autonomous innovations may then be introduced into these sub-systems. Thus, "open display" is promoted in the beginning and later on the conversion of existing stores in preference to the building of new ones is emphasised.

However, from the perspective of the central organisations, their interest in *driving the adoption* of the new format comes from its potential as a part of a more interdependent system. The self-service system as it evolves, and other wholesaler-introduced efficiency-enhancing measures, e.g. Hakon's new deal, central packaging units, and the one-storey warehouses, all serve to make the distribution system as a whole more efficient but also more interdependent. In the interest of system-wide efficiency, it becomes increasingly important to raise the total volume that passes through the system, to increase the wholesaler share of retail sales, and to coordinate product form - packaging not least - from manufacturer to retailer.

b. *The all-channel* innovation as it develops over time is about the organisation of the whole distribution channel within each of the blocks, and in effect about the organisation of grocery distribution as a whole. It is thus clearly a systemic innovation introduced into the already interdependent system of the distribution channel. However, given these characteristics, it was nevertheless possible to make some adaptations in order to make the innovation a little more autonomous and the channels a little more modular.

Given that the goal was increased centralisation and homogenisation of operations, it seems that the issue is attacked "head on" within the ICA. Agreements to reconstitute the retailers as a national chain and to integrate the wholesale operations are made. In the case of the cooperative, on the other hand, the proposal for a *Konsum Sverige* is rejected. Instead, a lower degree of

integration is achieved "through the back door", by modularising the channel through building up new business areas and central competencies.²²⁷

This ties in with the discussion in Chapter 4, that the implementation of an innovation in an interdependent system such as the distribution channel may be hindered by the unavailability of other firms with whom to cooperate with or the unwillingness of other firms to do so. There was wide agreement in the cooperative movement that there were important benefits from a business point of view, to increasing centralisation and through coordinating the sales effort. However, from the point of view of maintaining a democratic structure and locally adaptive solutions in the organisation, there were costs associated with further integration. In the case of the cooperative adoption of the all-channel, this came about through modularising the channel, by separating out the department stores. These stores could be separated from the rest of the local societies' retailing because many of the existing department stores needed the financial aid of the central organisation. A central organisation to deal with department stores in trouble had already been set up. Further developments in the department store segment were also predominantly driven by central actions. It was easy to argue, not least in light of the earlier problems, that the department stores as a group, including future ones, needed a different type of organisation, more centralised and thus more similar to that of the successful private chains.

This is not to say that the cooperative department store expansion was handled in this way expressly to attain overall centralisation. What is clear, however, is that this and similar handling of later developments in new outlet format, and in the establishment of competencies at central level, combined to drive developments towards a stronger central organisation and a relative weakening at the local societies level.

Effects of firm size and of vertical integration.

a. Self-service Both in the consumer cooperative retailing as represented by KFS, and in private retailing as represented by Hakon, there is vertical ownership

²²⁷Two comments should be made. Firstly, the end result of the Konsum Sverige proposal would have been more far-reaching than the changes that were undertaken through the formation of the ICA. Secondly, the changes that were undertaken through the establishment of a central organisation for the department stores, and through later moves to build up capabilities at central level, do increase the degree of centralisation but do not lead to complete centralisation of retailing operations. Even in the late 1990s, many local societies operate their own retailing, including in larger outlet forms.

integration. Furthermore, it is clear from interview material, and examination of records, that leading persons in both of the central organisations were positive towards the innovation. Thus, the mere existence of ownership integration cannot, as we see, explain the innovation adoption behaviour. Instead, the differences in how the vertical integration is structured are important in explaining why the cooperative stores were first in introducing the self-service format.

Within the KFS, the local consumer cooperative society of Stockholm, the central organisation could exert hierarchical power at the retail store level, and was thus able to institute the first test stores. Thus, KFS as representatives of the owners/members, had the hierarchical strength to drive the change through whatever the attitude of retail level management. In the case of Hakon as a central organisation for private retailers, it was the retailers who owned the wholesaler. Thus, although a central organisation, Hakon had no hierarchical power over the retailers and had to persuade its owner retailers to try the new format.

The differences in form of vertical integration between the Hakon and the KFS organisations also influence the way in which the continued transformation can take place, specifically on the differential ability to raise capital for the transformation. Capital requirements in the initial phase put a strain on many of the individual stores, although material on self-service transformation from both private and cooperative sources suggests frugality. Still, the cooperative transformation was carried out at a quicker pace and the cooperative self-service stores on average were larger. This suggests that the cooperative form of vertical integration was more conducive to raising the necessary capital to implement more substantial change in the new or converted shops.

With increases in the size of the stores, the profitability of the self-service stores became higher than that of comparable service stores. However, the surplus generated would benefit the private retailer directly while in the cooperative societies it could be used to finance the conversion or construction of additional self-service stores. Because it was difficult and costly to raise capital private retailers as a group were at a disadvantage in terms of speed of adopting the new format. Hakon balanced this disadvantage for its affiliated private retailers through the agency of Hakonbolagets Garanti Institut, using its own greater

financial strength to take up loans at more favourable rates than an individual retailer could normally attain.²²⁸

The vertical integration of both KFS and the Hakon group increases the ability of retail stores in the each of the two groups to adopt the new format, thus vertical integration serves to increase willingness and ability of the affiliated organisations to adopt the innovation above what would be expected of a completely stand-alone retailer. The particular type of vertical integration influences the decision structure and capital formation of the groups, and thereby the differences in degree to which this increase in the willingness and ability to adopt the self-service innovation occurs on the retailer level of the two groups.

In this case, the degree of *horizontal integration* also turns out to influence the different organisations' ability to adopt the innovation. The fact that the economic benefits of the self-service store relied on increasing scale and assortment. In KFS, the horizontal integration of a number of stores made it possible to plan the replacement of a self-service store for a number of smaller specialised service stores. In the case of a private retailer opening a self-service store, the increased business would often have to be gained in competition, thus further increasing the cost of adopting the new format. As mentioned earlier, however, horizontal coordination in the form of agreements between existing private retailers, could be used in some cases to emulate the horizontal integration of the consumer cooperative societies.

b. *The all-channel.* The whole idea of the all-channel is that its benefits emanate from various size related advantages. It is an innovation that is by its very nature geared towards adoption by a large scale operation.

In the case of the ICA and the consumer cooperatives, the formation of the blocks constituted an *increase* in the degree of vertical integration, rather than a first introduction of vertical integration. The fact that it was possible to build on an existing organisation of vertical integration was likely to have constituted a facilitating factor in adopting the block structure. The block organisation also entailed horizontal integration at retail store level, which was necessary in order for the full benefits of the vertical integration to be realised.

²²⁸ There was also a campaign in ICA-tidningen for the retailers to reduce the use of credit sales. This was an attempt on the part of the central organisation to free financial resources at the retailer level, resources which would be better used in supporting the self-service transformation.

In the case of the Third block, there is a history of both vertical integration and of horizontal integration at wholesale as well as at retail level. The Third block entails increases in the degree of vertical integration and in horizontal integration at wholesale level. This integration would seem to have been facilitated by the history represented by the core of the ASK and the SAKO organisations. At retail store level, however, no horizontal integration beyond what already existed within the constituent chains is instituted, although *within* some of these chains, the degree of both vertical and horizontal integration is higher than in the other two blocks. Overall, however, the degree of integration is lower in the Third block than in the other two. These differences in degree of integration between the blocks can be seen to influence reaction to and the consequences of a later innovation, the low-price outlets.

The ICA and the cooperative blocks elected not to make the low-price outlets part of their all-channels, while the Third block did. One may argue that it was the overall lower degree of vertical and horizontal integration of the Third block which made it possible to include these outlets in the Third block version of the all-channel. Presumably, the low-price outlet format would have been difficult to reconcile with the pre-existing formats and organisation of the other two blocks. At least we know that in the case of such *potential* low price formats as the hypermarkets, other possible means of competition were emphasised. Thus, while the pre-existing level of integration seems to have facilitated the adoption of the initial step in the all-channel innovation, a lower degree of integration seems to have enabled the Third block to adopt and maintain an even wider array of outlet formats within its all-channel.

Selection round 2

Adoption of an innovation is a prerequisite for its success, but success itself depends on other factors as well. Before discussing some of the factors which influence whether an adopted innovation will succeed or not, we need to define what we mean by an innovation succeeding. One possible definition of the success of an innovation is whether it has become the dominant design. This is discussed at the beginning of this section. We then turn to some of the factors that have been important in explaining the successes of both the self-service system and the all-channel, respectively. These factors are 1) collateral assets and 2) the ability to mobilise the assets of others. The effects of 3) path dependence, and technological lock-in in determining success, and finally 4) the response of the representatives of the established technology.

Dominant design

a. Self-service One way to clarify the concept of a dominant design is by comparing it to the uncertainty regarding design that characterises the launch of a major innovation. In the case of the *core* of the self-service innovation, this was rather a short period of time. There seems to have been some hesitation regarding whether self-service could become the dominant design in the countryside as well as in cities, and whether all types of goods, even fresh meat, and fruit and vegetables, could be sold through the new format. Also, during this time, the semi-self-service was launched as a compromise candidate, offering its customers the choice of shopping method in the same store.

There are two possible points in time at which we may consider the self-service format to have reached dominant design status, depending on whether we refer to the dominant design of 1) new construction of stores or 2) of existing stores.

1) If we consider the dominant format of new construction of stores, then the self-service format has become the dominant design already by the early fifties, since traditional service stores were no longer constructed after that time.

2) From the perspective of which type of existing stores account for the greater part of total grocery sales, it is not until after 1962 that more than 50% of all grocery trade goes through self-service stores.

Deciding which of these two measures is better is not entirely unproblematic. Considering that the systemic effects were important to the success of the format, one might argue that the stock of stores is the more relevant measure. On the other hand, the crucial investments in related innovations and manufacturing capacity would have been driven not only by existing opportunities but also by expectations, and new construction would have been more important than the stock of stores in the formation of such expectations. Depending on which measure of dominant design is chosen, the time from the introduction of the format to its being the dominant design is either five or fifteen years.

Although the core of the self-service format quickly gained dominant design status, many aspects of the format have been developed and refined over a longer period. For example, whether, and to which degree, manual service should be offered within the self-service store; which goods were to be placed with which other goods; how the check-out counter should be designed; the design and price of the carrier bags, and so on. Many of these are characteristics of the store format that must, and do, conform to a common local standard. Should this not be the case, it will cause confusion and irritation among the customers,

and thereby make the whole format less attractive. Developments in related areas even start before the new format has become dominant. As soon as it is expected that self-service will *become* the new dominant format, it will be in the interest of manufacturers, import agents, wholesalers, and others to start to adapt to the challenges and opportunities of the new format.

b. The all-channel. When does the all-channel become the dominant design in Swedish grocery trade? In this case it is more difficult to fix a year, but three points in time can be used to zero in on the timing.

Firstly, based on the designation of the then new low-price outlets as freelancers, we may argue that the all-channel held dominant design status in the eighties, i.e. that at that time it was the taken-for-granted design. That these stores did not belong to an all-channel was sufficiently remarkable for this characteristic to be used to distinguish them as a separate group. It is especially interesting to note that they continue to be called freelancers even after they have indeed joined one of the blocks, based on the fact that they maintain a separate profile.

On the other hand, we may define the all-channel based on its share of the market at retail store level. If we consider the dominant design to be that which is used to distribute to the largest segment of the grocery retail market supplied, then the all-channel becomes the dominant design for grocery distribution from the moment of its adoption by the ICA and the cooperative blocks. (see table 6.1)

As we have defined the all-channel as one in which all types of commercially viable outlet types are supplied through the same channel, the latter definition is somewhat problematic. One would want the system to comprise a more heterogeneous collection of outlet types before actually recognising the all-channel as established. Based on this reasoning, we would argue that the all-channel may be considered to have gained dominant design status during the seventies rather than during the sixties.

Collateral assets

a. Self-service. We know that both KFS and Hakon saw it as important to drive the self-service transformation among "their" respective retailers, and given this situation, KFS was in a more advantageous position. 1) KFS as central organisation had hierarchical control of the retail stores' operations and thus could decide on a conversion program. 2) KFS had a large number of stores, and thus initial conversions constituted a relatively low risk to the business as a

whole. 3) KFS also had the right of disposition of the surplus arising from self-service operations, and this surplus could be used to internally fund further transformation. Access to these three the types of resources can be seen as collateral assets in KFS' aim to drive the self-service transformation.

Furthermore, a number of central units, already in place within KFS, also became important collateral assets in the development of the new format, for example, the central distribution units for groceries and for vegetables, and the store development department. The store development department fulfilled an important function of evaluating different tools and organisational models of the self-service store, and the central distribution units were important in raising the efficiency of packaging through centralisation.

Similarly, Hakon had an accounting service bureau, financial services, retailer council meetings, educational programs and members' newsletters, which were all used to evaluate and develop the format, and to promote the ideas surrounding it. Hakon's New Deal arguably also constituted a collateral asset for Hakon, in its driving of the transformation of its associated private stores. Hakon's new deal, already instituted before the drive towards self-service began, would have helped the introduction of the new format, to the extent that it a) established Hakon's leadership role, b) made the retailers more aware of efficiency considerations, and c) resulted in a somewhat more homogenous group of retailers.

The urbanisation trend added growing importance to the building of stores in the newly constructed residential areas that grew around cities and towns. At that time, both central organisations built up organisations aimed at maintaining contact with local government, in order to secure new store locations. These organisations became important collateral assets in sustaining the growth of the respective blocks.

b. The all-channel. Most important of the collateral assets supporting the success of the all-channel is the efficient logistics and goods-flow handling capacity within the blocks. Some of this capacity predates the block formation, but development, construction and expansion in this area continues during the whole time period described. A reducing number of ever larger and more efficient distribution centres are among the most important of the collateral assets that contributed to making the all-channel systems superior to alternative systems.

In the case of the cooperative block, the high level of integration with the cooperative industry must be included among collateral assets of this type. Throughout most of the period described, an important share of the products sold in the cooperative stores was produced by its own food and specialty goods industry.²²⁹

Other collateral assets that are important in explaining the success of the all-channel as well as in the self-service format are the capabilities built up at central level of the blocks. The securing of locations, education and financing, etc., all services that the blocks can contribute, mean that it is relatively easier to establish and operate stores within, rather than outside of, the blocks. These collateral assets support the expansion of intra-block stores into new formats, and thereby support the success of the all-channel.

Mobilising the assets of others

a. Self-service Hakon was convinced that it needed to convince its associated retailers to adopt the self-service system. If they didn't, then their existing customer base would wither away as these traditional stores were out-competed by self-service stores. However, these stores were independent units, and for Hakon to be able to drive its ideas regarding self-service, it would have to mobilise the retailers in support of its ideas. The Hakons group was able to use the collateral assets it *did* have access to, to provide incentives and ability for its associated retailers to embark, although somewhat later, on a self-service transformation process that was as far-reaching as that of the cooperative stores. The fact that this was possible, is a good example of the strength that can be gained from mobilising the assets of others.

Another example of how KFS and Hakon were able to mobilise the assets of others is in the development of tools for self-service operations, the product development and assortment diversification, which continually strengthened the self-service format and thereby contributed to its success. The wholesaler organisations worked with import agents and outside manufacturers, to improve the efficiency of the distribution system to the self-service stores and the attractiveness of the assortment in the stores. By working together with the outside actors they were better able to ensure, for example, that total system

²²⁹ It was not until the early eighties that some cooperative societies started to include products that competed with its own brands.

requirements were taken into account. This cooperation strengthened the wholesalers by making each of their respective total distribution systems more efficient and by making the related stores more competitive.

b. The all-channel. During the seventies, this cooperation between the wholesale organisations and outside manufacturers continues and is expanded. A lot of work was undertaken which was aimed at streamlining the distribution process. Manufacturers of groceries and of machinery used in the deliveries and in the stores participated in coordination and standardisation of measurements of boxes, etc. These efforts, which enhanced the competitiveness of the blocks' large-scale distribution systems, also served to strengthen the all-channel system. Thus, through cooperation, the assets of other actors were mobilised to make it possible to realise efficiency and effectiveness gains of large scale distribution.

Another important example of how the assets of others were mobilised is the SA/VA system. Through this system, the blocks were able to put together attractive promotion offers which their associated retailers in turn could offer their customers. Within the SA/VA system, this would have been done at a much higher cost had the manufacturers not participated financially. Furthermore, the structure of the system was such that the all-channel stores were supported not only in offering the price campaign, but also by normally being able to buy at reduced price for a longer period.²³⁰ The all-channel was thus supported financially by the manufacturers, through their participation in the SA/VA system.

Path dependence and lock-in effects.

a. Self-service The self-service transformation constitutes a good illustration of the path dependence in the evolution of an innovation. The fact that it was Hakon and KFS that first started to drive the self-service transformation can even be seen as a result of path dependence. In the case of Hakon, the cost- and efficiency consciousness of Hakon's new deal is an important antecedent, which provides incentives to adopt other efficiency enhancing innovations. In the case of KFS the self-service format builds on the history of the cooperative

²³⁰Julander (1984), p 36 makes the point that out of certain types of goods, some types of goods are predominantly sold at reduced price. In that case, the price allowances will probably have been factored in to the regular price charged by the manufacturers. However, even allowing for that, the system still gives an advantage to the stores that have access to the periods of reduced price, relative to stores that do not.

movement, whose very foundation is the elimination of unnecessary costs²³¹ in search of member benefits.

With respect to the evolution of the innovation itself, the initial core of the self-service innovation per se was barely, or not at all, viable, as demonstrated by the failures of antecedents in both the US and in Sweden. Instead, the success of the self-service format, and the evolution of the core self-service innovation into the high-volume, wide and deep assortment stores that are the norm today, is dependent on the complementary innovations.

Consider the links between large stores and a wide and deep assortment. In the beginning of the self-service transformation, immediately after the war, it would not have been valuable for a retailer to have a large store with room for a large assortment, since one of the main difficulties facing retailers was getting hold of goods in the first place. It was only later, once goods started to become available, that it became a competitive advantage for an individual store to have physical locations that made it possible to offer a wide assortment.

However, at this point it also became important that many other stores were also big enough to be able to offer a large assortment, since the more stores that have this ability, the more attractive it would be for manufacturers and importers to provide these products. Thus, for a retailer to be able to display a wider assortment than other retailers may have been a competitive advantage, i.e. potentially rendering a larger *market share*. However, that many retailers became able to display a wide assortment was a prerequisite for the "assortment explosion" which in turn strengthened the attractiveness of the whole industry - i.e. increased the size of the *total market*. To illustrate the point - Swedish grocery trade, in fixed value, doubled between 1955 and 1975 (Wirsäll, 1982, p 22).

With respect to lock-in effects, it would not seem to be the case that the consequences of such effects can help to explain the evolution of the self-service format.

b. The all-channel. The role of path dependence is illustrated by the differences in the adoption of the all-channels represented by the two older blocks and the Third block. In both the cooperative and the ICA block, a substantial degree of

²³¹ Whether it be the profits of the private retailer or the excessive labour intensity of the service store.

horizontal integration and coordination took place at the retail level. When the Third block was formed, no such horizontal coordination took place.

Thus, because the Third block was formed at a later point in time, constituent chains had already been formed, which hindered a block-wide horizontal integration at retail level. This lack of coordination hindered the Third block from benefiting from the bargaining position it could potentially have attained. For example, the number of participants that each chain could offer the manufacturers in a SA/VA campaign would have been lower than had the bargaining been coordinated through Dagab.²³²

On the other hand, it is precisely this lack of coordination that makes it possible for the Third block to accommodate a wider spectrum of store formats than the other two blocks. Therefore, when the new, potentially profitable, segment of large, low price stores appears in the eighties, the ICA and the cooperative blocks refrain from entering this market segment. Had the Third block been able to attain the same degree of horizontal integration as the ICA and cooperative blocks, it is likely that it too would have had to stay out of the low price market.

The SA/VA system offers an example of a lock-in situation, at least perceptually. At the end of the all-channel period there was discontent with the SA/VA system at all levels of the channel.²³³ Manufacturers, obviously, but also retailers and to some degree even wholesalers were getting increasingly dissatisfied with the costs of operating the system, costs that didn't seem to be matched by corresponding benefits. Although all preferred a situation where the campaigns were largely replaced by everyday low prices, all were equally convinced that it was not possible for one actor to start making the change. The received wisdom was that if only one changed, the others would gain market share by not following. Since none dared to take the first step, all were thus locked in a situation that none wanted.

As it turned out, when Hemköp abandoned the system in 1991, everyone else followed suit to a greater or lesser extent (Ossiannson, 1997). Although that

²³² A case in point; the share of total SA/VA and campaign contributions that the Third block received was proportionate to its market share. The ICA block, on the other hand, received a share of total SA/VA and campaign contributions that was considerably larger than its market share. SOU 1987:44, appx 9, p 29

²³³ Although the degree of discontent was considerably lower at central, wholesaler level. The economic support for promotion campaigns was an important source of financing for this level.

doesn't necessarily mean that they would have done so if someone had tried to break the pattern at an earlier point in time, the example may nevertheless lead one to speculate as to whether similar perceptual lock-in effects may have sustained the all-channel structure at some point in time.

Active opposition to the success of an innovation

a. Self-service There were a few attempts to increase the efficiency of the established technology, but on the whole there was little active opposition to the self-service format. One reason why the self-service innovation was so readily diffused once the first adoptions had been made, was probably the demonstration effect of self-service success in the United States. Another important reason is that the transformation was driven by incumbent, central organisations. Thus, there were no existing organisations of any considerable strength that could be used to channel the opposition that did exist. Furthermore, Hakon's promotion of the new format was so clearly focused on the group's existing retailers, on convincing and helping them to convert. Had the drive towards self-service, come instead from a foreign entrant establishing new, competing stores, then there would have been higher incentives for resistance and also the possibility to use existing organisations to channel this opposition.

b. The all-channel. The instances of active opposition in connection with the all-channel were related mainly to specific aspects of the innovation, but to some extent also to the all-channel as a whole.

Grocery manufacturers, over time, grew opposed to the SA/VA and in particular to the cost associated with participating in the system. They felt that the wholesaler's position in the all-channel was too strong and that the role of direct deliveries and, by consequence, the manufacturers' own direct link to the retailers, were being threatened in the all-channel. Because the SA/VA contributions took up most of their available promotion budgets, the possibilities for communication aimed directly towards consumers or retailers were also limited. Their search for alternatives to the SA/VA and the all-channel in general, led to their keen interest in delivering directly to the low price superstores entering the market in the eighties. In this way, they attained a direct link to some of the retailers, and a stronger control over price promotions than in the SA/VA system. The manufacturers' support of the superstores indirectly contributed to the demise of the all-channel system. While the manufacturers' action may be considered an example of direct opposition to the all-channel, it comes at a time when the all-channel is the established technology. Thus, this

opposition partly explains the demise of the all-channel, rather than giving clues as to how it grew to become that dominant technology.

From the point of view of the political authorities, active opposition to technological change is mainly witnessed in the case of specific store format. Both hypermarkets and traffic stores have been the object of direct opposition and in both cases the growth of the store format has been effectively stopped or slowed down. In both these cases, one may also argue that established retail stores played a role in fuelling the political opposition, although arguments relating to consumer welfare were more prevalent in motivating the restrictions surrounding the new store formats.

There are two main reasons for the fact that there is such limited opposition towards the all-channel from actors within the grocery trade. Firstly, from the point of view of many of the trade actors, and certainly as concerns the most powerful actors, the all-channel was a competence enhancing innovation. Consequently, few trade actors had any reason to mount active opposition towards the innovation. However, some trade actors in particular small, local grocery chains were negatively affected by the spread of the all-channel system. They were bought up during the 1960s, most of them by ICA. The reason they choose to sell their operations rather than to actively oppose the all-channel innovation was partly related to such issues as the age structure among the owners.

CHAPTER 8

Concluding Discussion

In this thesis, I have proposed the use of an evolutionary framework for analysing change and innovation in distribution channels. I claim that the evolutionary approach confers several important advantages over the traditional functional explanations of change in distribution channels. In particular an evolutionary approach highlights the interdependence and mutual shaping of the innovation with the industrial and economic system into which it is introduced. An apparent difficulty in adopting an evolutionary perspective in empirical research is that it places high demands on the availability of historical data. This is of course a difficulty inherent in any analysis which recognises the importance of history.

This final chapter will first discuss some of the main differences between the evolutionary framework for analysing innovation and change in distribution channels, as compared with some of the conventional models. It then turns to a discussion of the empirical findings and finally concludes with some ideas for future research.

An evolutionary framework for analysing innovation in distribution channels

A framework has been developed for describing and analysing innovation in distribution channels. This framework is based on a number of basic concepts of evolutionary economics and adapted to the context of evolution in distribution channels, drawing on distribution channel theory.

In brief, the analytical strategy employed here has been the following. First, I have identified the sources of innovations in distribution channels and examined the incentives for the individual actors to adopt the innovation in question - selection round one. This analysis has been broken down into three

dimensions. The innovator's *position in the channel* is first identified. Depending on its repercussions on the actors in the channel, the innovation is then characterised as *autonomous* or *systemic*, while the system as such is described as *modular* or *interdependent*. This is important in determining the types of organisations most likely to adopt the innovation. Finally, the effects of *firm size and vertical integration* are discussed. Studying the innovation in these dimensions provides us with a good picture of the different actors' incentives to adopt the innovation.

In the second round, the analysis is extended to take into account the system-wide effects. These are hard to control for any one firm but in the final event are often crucial determinants of whether an innovation succeeds or fails, and whether or not it becomes a dominant design. The interdependent nature of the distribution system means that the success of an innovation often depends on it being accepted by others and supported by change and innovation in related sub-systems and organisations. Firstly, control over *collateral assets* will influence the adopter's ability to get its particular version of the innovation accepted by others. Secondly, resources that are controlled by other actors may also be *mobilised* in support of the innovation. Even so, innovations may fail because necessary supporting developments fail to materialise or because the established technology is supported by various types of externalities. Such factors are described under the third heading of *path dependence* and *lock-in effects*. Finally, the adopter of an innovation will have to reckon with the fact that firms using the established technology may mount *active opposition* to the new technology in order to defend their positions.

Differences between the evolutionary framework and conventional analysis of innovation and change in distribution channels

I would begin by describing two views regarding the sources of innovation in conventional analysis, namely, in the economics-based models exemplified by Bucklin (1966) and in the retail evolution models exemplified by the "wheel-of-retailing". In the former model, change within the channel occurs primarily as a result of adaptations to outside change. In the latter model, change is endogenous to the model, but it occurs according to predetermined rules and patterns. Thus in both models, the actors are remarkably inactive in terms of influencing what change and innovation occurs in the channel - in contrast their role in the evolutionary framework. In the evolutionary framework, actors search for innovations and decide whether to adopt an innovation or not. They make this

decision based on expectations of how the innovation adoption will impact their relative competitiveness.

The evolutionary framework represents a third view of the sources of change. In this framework, while inspiration for innovation often comes from outside the channel, it is the channel actors themselves who drive the search for and the shaping of the innovation. The drive for change is endogenous to the model, but it does not proceed according to pre-determined rules as in the wheel-of-retailing type models.

The idea of different actors being more or less inclined to adopt an innovation depending on their existing resource situation is not new - in distribution channel literature McCammon came up with such a proposal as early as 1963. The evolutionary framework, however, adds some complexity to the issue. There is agreement that adoption decisions will be constrained by existing resources. Therefore, for example, an insider will be less likely to adopt a competence destroying innovation. However, the choice will not only be influenced by the effect of adoption on existing resources, but also on the expected effect of adoption on the relative competitiveness of the adopter in the second round of selection. The evolutionary framework raises the possibility of the adopter's ability to succeed in round two being dependent not only on own collateral assets, but also on the ability to mobilise the resources of other actors.

Furthermore, conventional analysis as proposed by McCammon (1963) posits that minor innovations are more easily adopted than major ones. In an evolutionary analysis, it is firstly desirable to specify in what sense it is a major innovation - whether it is a systemic innovation, whether it represents a large leap in relation to existing technology, etc. The character of the innovation must then be set in relation to the characteristics of the system into which it is introduced. Thus, an innovation that is major with respect to technology level may be relatively easily adopted if it is autonomous, while any systemic innovation will be difficult to introduce in a modular system. In the typically interdependent distribution channels, it will often be difficult to even conceive of innovations that are minor in terms of being autonomous.

This leads to another important difference in the evolutionary framework as compared to conventional analysis. In conventional analysis, fixed characteristics of the innovation are typically assumed. An evolutionary framework emphasises instead that the actors not only decide whether or not to adopt an

innovation, they may also be able to influence the characteristics of the innovation itself and/or the system it is introduced into. Thus, in relation to the last point, an actor may make an innovation more readily adoptable by finding a way to “isolate”, i.e. make more modular, the part of the system it is to be introduced into.

Neither in a conventional economics-based distribution channel analysis of change (Bucklin, 1966), nor within the evolutionary framework, is there any assumption that the existing system is the most efficient. Nevertheless, there are fundamental differences between the two views. In the conventional analysis, there is an ongoing movement towards the most efficient channel organisation. The reason why the optimum is not attained is mainly related to time scale - the “normative” channel is a long-term concept and in the short run, intervening changes will always move the normative channel faster than the “extant” channel can follow. In the evolutionary framework, such movement towards an optimal system is not assumed. A technologically superior innovation may fail because the necessary supporting innovations and adaptations cannot be mobilised, and an inferior organisation may be locked in place as a result of learning effects or the existence of sunk cost.

We now turn to the empirical cases, and to some of the conclusions that the evolutionary analysis of these innovations has led to.

Sources and selection mechanisms

Let us start with the question of sources. Chapter 4 pointed to three main sources of innovations in distribution channels, namely inspiration from other markets, changes in the available distribution technology, and innovations in product design or production. The empirical material has given examples of all three types of innovation sources, but more importantly has shown how the evolution depends on the interplay of innovations from these three types of sources. Thus, the seed to the self-service innovation in Sweden was indeed brought from another geographic market, but its development in Sweden was shaped by factors and supporting innovations different from those that were important in the US. Furthermore, innovations in food packaging and preservation both provided incentives for the initial adoption of the self service format, and fuelled its further growth. Similarly, one seed to the all-channel innovation lay in the inspiration to emulate the success factors of the chain stores and department stores. Another important driving force was the continual striving for more efficient flows of goods in distribution, supported by a multitude of product and

process innovations, from fork-lifts to computerised ordering. Furthermore, innovations in production technology made it possible to produce household items such as flat-ware and pots at prices low enough for consumers to buy them on impulse. This in turn made it possible to expand the grocery store assortment with these non-food items.

As concerns the link between an actor's position in the channel and that actor's innovative propensity, we may make two comments based on the empirical material. Firstly, both cases supported the idea that insiders are more likely to adopt and promote competence enhancing innovations and resist competence destroying ones. Thus, both the self-service format and the innovations surrounding the all-channel were introduced by insiders. Competence destroying innovations, such as the (non block-affiliated) low-price supermarkets and superstores, which eventually led to the demise of the all-channel system were introduced by outsiders and resisted by the insiders. Schumpeterian ideas concerning the large firm's advantages in raising capital, etc. to support innovations were also supported by both innovations studied. Advantages of size are especially pronounced in the case of the all-channel and many of its surrounding innovations. Differences in the degree and manner of vertical or horizontal integration also play a role. Such differences in the structure of integration seem to explain differences in ability to adopt innovations but are also mirrored in differences in the characteristics of the particular innovation version adopted. Thus, differences in the degree and manner of vertical and horizontal integration partly explain KFS' earlier adoption of the self-service format, as well as KFS' ability to construct bigger, more efficient self-service stores early on.

Theory would also suggest that the degree of modularity or interdependence of the system would influence the possibility to introduce innovations depending on whether they are autonomous or systemic. Distribution channels in general are typically characterised by a high degree of interdependence. This was especially true of the all-channel, which meant that systemic innovations were likely to be resisted. Furthermore, due to the integrated and interdependent nature of the all-channel, a large proportion of potential innovations were likely to have systemic consequences. Thus, such innovations as the low-price superstores, and especially increased use of direct delivery to large stores, were resisted because they threatened the whole system of the all-channel. In the 1990's, after the all-channel had been abandoned, the overall innovativeness of the industry increased. This increase may be explained in terms of modularity or

interdependence of the system. Once the all-channel system was broken up, the grocery trade market became more modular, which improved the possibilities of making autonomous innovations.

The two innovations studied were successful, both in the sense that adopting them improved the relative competitive strength of their adopters and in that they became dominant designs. The fact that the adopters had access to own collateral assets and that they were able to mobilise the assets of others were important in explaining the successes. Furthermore, it was possible to substitute mobilising the resources of others for access to own collateral resources. Such substitutions took place between organisations and over time. For example, owning retail outlets was substituted for persuasion in driving the own channel's adoption of self service. And although provision of pre-packaged goods was partly achieved initially by the central organisations taking on the task, manufacturer packaging later became increasingly common.

Recognising the importance of history points to the role of path dependence in shaping developments. In the empirical cases, path dependence was important both in influencing the evolution of the innovations themselves, and in shaping the characteristics and competitiveness of the actors. With respect to the innovations, this is most clearly seen in the case of the self service format. Barely profitable in its core, its success depended on coinciding improvements in standards of living, transportation, as well as economic and demographic transformation. That the Third block was formed later, partly through joining pre-existing chains, hindered further horizontal integration at retail level, which in turn reduced the advantages of the Third block with respect to the SA/VA system. But being more heterogeneous at retail level also made the Third block better able to accommodate later innovations in retail format, such as the low-price super stores. There are also indications in the case material, particularly with respect to the all-channel and related innovations, that the pursuit of scale efficiencies and advantages in certain instances led to lock-in effects, at least on a perceptual level.

The results and insights from an evolutionary interpretation of the self-service and the all-channel innovations have especially emphasised the interdependence of the innovation, the innovators and the environment, together with supporting and weakening forces, in determining the evolution of an innovation in distribution. The following section discusses how this emphasis on interdependence differs from the view of innovation in

conventional analysis. An attempt is then made to differentiate three dimensions of the interdependence between environment and innovation, drawing on the examples provided in the empirical cases.

Characteristics of innovation processes

The view, at least implicitly, in much of earlier work on innovations in distribution channels, is that an innovation has fixed and specifiable characteristics and is introduced from the outside. Because the innovation is seen as introduced from outside the focal system, it is possible to point to a starting point when the innovation is introduced and the adoption (or rejection) process begins. The outcome of this process depends on the existing characteristics of the innovation and those of the system into which it is introduced. One object of research may then be to establish the factors which determine whether a certain innovation is adopted. These studies have yielded many important results, and have influenced reasoning used in evolutionary work as well. For example, the discussions regarding the relative likelihood of an insider or an outsider adopting a competence destroying innovation are based on this type of reasoning.

With an evolutionary view of innovations, the endogenous nature of change is emphasised. Furthermore, the characteristics of the innovation are not fixed, but shaped by the actors and environments where such innovation emerges. Chapter 6 described the all-channel innovation in Swedish grocery trade in the 1960s through to the 1980s, and how the changes instituted during that period influenced the development of the 1990s. However, it also identified one of the seeds of that evolution as being planted early this century, when KF chose to start wholesaling as a response to delivery problems. An evolutionary view forces us to acknowledge the role of the antecedents of the "all-channel" innovation and points to how this innovation promotes the appearance and adoption of other innovations. It emphasises the interdependence of the innovation process with other processes in the economy. Finally it allows us to see how, after the having driven this innovation to the extreme, the blocks have also changed their own environment and reached a point where the system is very vulnerable.

From an evolutionary perspective, we have also examined the circumstances surrounding the introduction and spread of the self-service retail format in Swedish grocery trading. In this case, *a priori*, it would seem reasonable to view the innovation as appearing from outside the system. We know that the format was imported as part of a conscious effort to search for and transfer better practices from the United States. On the other hand, the success of the self-service

format in Sweden depended on factors that differed from those in the US. The transformation to the self-service format in Sweden was helped along by advances in pre-packaging and the rise of manufacturers' brands, but in the US, those developments preceded much of self-service developments. Thus, without a doubt, the self-service format in Sweden was inspired by developments in the US, but the actual form of the innovation process, and the resulting nexus of innovations, was different. A different picture thus emerges when the developments surrounding the self-service transformation in Sweden are interpreted as forming an innovation process in its own right, rather than viewed as the diffusion process of an innovation with fixed characteristics, which is imported to a new market. One of the most important insights from this interpretation is how the actors in fact shape the innovation to suit their existing assets and their different degrees of control over the distribution system as a whole. In the initial period there were arguably two different self service innovations adopted in consumer cooperative and in private retailing respectively.

Dependence, necessity and interdependence.

It is possible to distinguish three types of relationships between the focal innovations studied, and the innovations or other developments that surround them. The surrounding innovations may 1) arise as a consequence of the focal innovation, 2) arise independent of but crucial to the success of the focal innovation and 3) both depend on and be crucial for the success of the focal innovation.

1) One of most important consequences of the self-service innovation was the change in purchasing processes that it gave rise to. With the self-service format, the purchasing decision is increasingly moved from the home to the store. Some writers at the time saw this as a negative consequence, an increase of the "irrational" impulse purchases. From a marketing point of view, one may be more inclined to point to the effect that this change has on the potential role of the store in the consumers' purchase decision process. When the goods are displayed for self service, the consumer can walk around the store in search of inspiration or use the store as a shopping list by looking at everything in order to be reminded of what is missing at home (Holmberg, 1996). The whole area of store lay-out, displays, shelf-organising, in-store demonstrations, etc., so important today in both retail management and for manufacturers delivering to the grocery sector, is an area that virtually did not exist until the advent of the self-service format.

The transformation of many Swedish town centres is an example of an unfortunate consequence of the all-channel system in combination with political processes in local council. In many small towns, local councils decided to tear down the old buildings of the town centres in order to make it possible to build efficient size stores and provide parking (Jörnmark, 1997). For the grocery channel development, there existed the alternative of locating these stores outside of town, and thus the transformation of the city centres was not necessary to the distribution development itself. However, because local councils wanted to keep trade in the town centres, the transformation of these centres occurred as a consequence of the retail development.

2) The strengthening of the economy occurred independently from the self-service transformation, but was crucial to its success in many ways. The increased GNP supported an expansion of the total grocery retail sector, and in so doing facilitated both the construction of new stores and the rebuilding of older ones. The increased GNP also allowed consumers to buy bigger homes, cars and refrigerators, which in turn meant that the average number of goods bought on each shopping trip increased. The increasing size and decreasing frequency of purchases also strengthened the self service format, by reducing the value of the locational advantages that the many small, traditional stores located close to the home had relative to the bigger self service stores.

The information technology revolution is perhaps the strongest example of a development that arose independently from but crucial for the success of the all-channel innovation. Without the advances in information technology, the disadvantages of size would have made it impossible to operate the large-scale distribution centres that developed as a consequence of the all-channel idea. Even more so, the just-in-time systems of today, with re-docking terminals and virtual elimination of storage in many product areas, are inherently dependent on information technology.

3) Both the increased availability of new and imported grocery products, and the advances in packaging technology, have been cited as examples of innovation processes that were mutually interdependent with the success of the self service format.

There are also many examples of innovations, ranging from the SA/VA system to standardised pallets and fork-lifts, that were important in supporting the all-

channel. At the same time, these innovations might not have been adopted by another type of distribution channel, or would not have been as pervasive.

In summary, the framework of evolutionary economic theory has proved to be both usable and useful in describing and analysing two cases of distribution channel innovation processes. Furthermore, evolutionary analysis has brought out aspects of the innovation process that are not readily discernible when applying a conventional analytical framework, and thus provides a valuable complement to earlier studies.

Future research

In closing this study, a number of ideas for future research come to mind. Let me briefly outline some of these here.

One direction would be to further explore the evolutionary "tool-box". In particular it would be interesting to apply a more formal analysis. One way to do this is would be to analyse the decision situation of the actors from a game theoretic approach. This would require leaving the rich description and broad questions of the case studies, and instead concentrate on more narrowly defined issues of innovation in distribution channels themselves. But it would also make it possible to explore these issues in more depth and to draw more precise conclusions.

Another direction would be to continue working with the framework used in this study but to expand the empirical base. There exist many historically important innovations that could be analysed with the framework. This could be a more general test of the usefulness of the evolutionary framework for exploring these issues. And to the extent that it continued to prove useful, the results would help build our understanding of distribution channel innovation.

Finally, this work has used an evolutionary framework to study historical material on innovations in distribution. It would be interesting to use the same framework, and the lessons from the historical studies, to analyse and develop predictions about the future evolution of an innovation that is still in the process of taking place. In concluding this work, I would like to sketch some ideas on one such application, namely on an evolutionary analysis of the future development of electronic grocery purchases.

An idea for a future application

The evolution of electronic grocery purchases in Sweden:

Sources: The source of this the electronic shopping innovation is an ongoing search in all areas of economic activity for ways to integrate recent advances in information technology, in the pursuit of efficiency and effectiveness benefits. That the IT revolution is a *major innovation* or a *development block* is beyond doubt but where it concerns the particular application of electronic shopping, todate it is important more as part of what makes IT a major innovation than as a major innovation in its own right. Clearly, however, among many actors in the market there are expectations in that direction.

Specifically as concerns electronic *grocery* purchasing, there are many different ideas for format design. It remains to be seen which of these ideas becomes the successful dominant design, and which remains to be classified as antecedent. Or perhaps one day they will all be regarded as historical curiosities. Drawing a parallel with the self service innovation, one might argue that what is to be determined is whether we are dealing with the next self service revolution, or the next idea for pre-printed shopping lists.

Autonomous innovation. More parallels may be drawn with the earliest advent of self service. One is that the existing solutions, at least in Sweden, are autonomous and based on using the existing distribution system in a novel way and this is true both of incumbents and entrants. In some scenarios, it is individual stores that set up homepages for electronic ordering and their staff then pick the goods off the shelf. In other scenarios, separate middlemen set up homepages where the orders are then filled from cash-and-carry wholesalers or from several associated stores. Another parallel with the early self service development is that these attempts at autonomous solutions are not profitable.

Systemic innovation. In order to be profitable, the electronic ordering system would have to be coupled with an efficient means of filling the orders. This may take the form of a dedicated warehouse with electronic and mechanised picking operations. This would constitute a systemic innovation, not drawing on existing stores, distribution centres and cross-docking terminals of the incumbent actors.

As concerns the *dominant design*, at retailing level, it is still constrained by technical limitations, but it is also noticeably influenced by existing solutions in other businesses, such as "physical" grocery shopping and mail-order catalogues. What may the future be if, liberated from technical constraints, the virtual

grocery store were to be constructed using already existing knowledge in consumer psychology? Consider how the self service system changed the role of the store as a marketing tool!

Today, electronic grocery shopping is primarily provided by existing grocery retail actors. Presumably they expect that the relevant *collateral asset* will be experience in grocery retailing. But what if experience in decentralised delivery systems is crucial instead? Is it then the post office that has the requisite collateral assets? ASG, a transport firm, is an example of an entrant into the grocery business. ASG is cooperating with a grocery warehouse in Germany in setting up a homepage selling cheap beer and grocery products to Swedish households, with door-to-door delivery. Admittedly they are relying on alcohol tax differential more than anything else at this point in time, but nevertheless it provides an interesting case.

Mobilising the assets of others. As of today, none of the homepages have sales that are big enough to warrant the construction of a dedicated distribution centre for this, but there have been suggestions that they should cooperate. An independent wholesale operation could be set up, to which a number of stores from different blocks could link their individual homepages. The cooperation would only be in terms of guaranteeing the business of the entrant electronic wholesaler, but not visible to the consumers (Fri Köpenskap, w. 11, 1998).

Finally, what about *active opposition* to the innovation? As of now, the main instance of this is the Swedish tax authorities' attempts at stopping the sale of cheap beer. The fact that incumbent grocery retailers are active in the market should not be taken to mean that they are necessarily interested in promoting the innovation on a larger scale. It may only mean that they want to maintain control and retain the opportunity to exercise a choice.

To conclude, the evolutionary approach, even as a very preliminary sketch, seems promising as a way to structure the analysis and draw on both existing theory and historical lessons. Similar frameworks could be drawn up for the analysis of such innovations as pan-European sourcing. This innovation in purchasing is now being used increasingly by industrial firms, as a result of the changes in the legislation relating to cross border trade within the European Union.

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