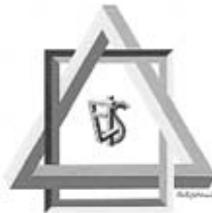


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Organisational Adoption of Innovations - Management Practices and IT

By

Erik Lundmark



**Submitted to Linköping University in partial fulfilment of the requirements of
the degree of Licentiate of Economics**

2008

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Abstract

This thesis describes effects of use and reasons for using three different organisational innovations: ISO 9000, Information and Communication Technologies (ICT) and an administrative tool (the YAF-module) in the Swedish Sports Confederation's system Swedish Sports Online. This is done through three separate studies. The first study is directed at Swedish Small and Medium Sized Enterprises (SME) and the two following studies are directed at Swedish sport associations. The thesis contains three separate essays presenting the studies and an introductory part where the studies are compared.

In the introductory part of the thesis the interaction patterns between organisation and innovation are compared and discussed. I discuss the level of effort put into the decision and implementation processes, and how this is related to the satisfaction with the innovations. The patterns that emerged are quite different in the three studies. Understanding these different interaction patterns between organisation and innovation is a step away from a beneficial/ detrimental dichotomy of innovations.

The decision and implementation processes differ between the three studies regarding what parts of the organisations were involved. In the first study we saw top down decision and implementation processes, whereas in the second study we saw bottom or middle up processes. In the third study the decision and implementation was much narrower in scope, often involving only one person. I also describe how all perspectives (efficient choice, forced selection, fad and fashion perspective) suggested by Abrahamson (1991), bear some grain of truth for the adoption of ISO 9000 by SMEs and adoption of ICT by sport associations, whereas imitation (the fad and fashion perspectives) is less important in the adoption of the YAF-module. Furthermore, I discuss the parallels between human and organisational decision-making.

Summary of the first essay – The aim of the first study is to investigate the effects of quality management in accordance with the ISO 9000 as viewed by both quality

managers and other managers. We also consider the way companies carried out the re-certification process to ISO 9001:2000 and what consequences different approaches brought. The study is based on Swedish SMEs with an ISO 9000:1994 who had re-certified according to the ISO 9001:2000 standard. The strongest, most obvious and most valued effects of the ISO 9000 standard are clearer and more apparent working procedures and responsibilities. The most apparent problem is bureaucracy, which according to some managers can lead to reduced flexibility. The effects of the certification vary depending on how the certification project is conducted and how consultants are used.

Summary of the second essay – This essay presents a descriptive study of the use of information and communication technology (ICT) and the change in communication patterns in Swedish sport associations over the period 1994 to 2003. The change is discussed in light of Internet and broadband diffusion. Results show that new channels for communication have been adopted, primarily Web sites and e-mail, but few established channels have been dropped. While there are associations that save time and money and increase the spirit of community using ICT, many organisations experience the increased number of communication channels as a burden since maintaining them takes extra resources but the benefits are not always easy to detect or measure. Certain characteristics common among non profit organisations (NPOs) as well as Internet and broadband access have influenced the development of ICT use.

Summary of the third essay – This essay presents a new model for analysing adoption of discretionary, public information systems (PIS) with digital use patterns (such as use or non-use, as opposed to frequency of use, or degree of engaged or compliant use). The model is based on Rogers' innovation diffusion theory (IDT) and Nilsson's user centred access model (UCAM). The model is an alternative to the general technology acceptance model (TAM). The AKAM-Model identifies six prerequisites for use and four management approaches and describes how these are related. To illustrate its applicability, the AKAM-Model is used to analyse the adoption of a specific module, the YAF-module, in the Swedish Sports Confederation's (SSC) system Swedish Sports Online. We present empirical results that indicate the frequency and importance of the barriers and driving forces as experienced by the YAF-module users and the potential YAF-module users.

This work has been supported by research grants from the Swedish Sports Confederation

Sammanfattning

Denna avhandling beskriver effekterna av, och skälen för, användning av tre organisatoriska innovationer: ISO 9000, informations- och kommunikationsteknologi (ICT) och en administrativ modul (LOK-stödsmodulen) i Riksidrottsförbundets system Svenskidrott Online. Avhandlingen presenterar tre olika studier samt en kappad där studierna diskuteras och jämförs. Den första riktar sig mot svenska små och medelstora företag, och de två följande studierna riktar sig mot svenska idrottsföreningar.

I den inledande delen av avhandlingen diskuterar jag interaktionsmönstren mellan organisation och innovation och jämför mellan de olika studierna. Jag diskuterar hur mycket kraft som läggs på besluts- och implementeringsprocessen, och hur detta är relaterat till nöjdheten med innovationen. Mönstren som framträder är olika mellan de tre studierna. Att förstå dessa interaktionsmönster är ett steg bort från dikotomin förbättring/försämring rörande innovationer.

Besluts- och implementeringsprocesserna skiljer sig också mellan studierna avseende vilka delar av organisationen som är inblandade. Den första studien handlar om "top-down" processer medan den andra studien handlar om "bottom-up" eller "mitten-upp"-processer. I den tredje studien var besluts- och implementeringsprocesserna betydligt mindre omfattande, ofta var endast en person inblandad. Jag beskriver också hur alla, av Abrahamson (1991) föreslagna perspektiven (efficient choice, forced selection, fad and fashion-perspektiven) har ett korn av sanning för adoption av ISO 9000 och för adoption av ICT medan imitation (fad and fashion-perspektiven) är mindre viktigt för adoption av LOK-stödsmodulen. Utöver detta diskuterar jag också tänkbara paralleller mellan individuellt och organisatoriskt beslutsfattande.

Sammanfattning av den första studien – Syftet med studien är att undersöka effekterna av kvalitetsledning i enlighet med ISO 9000, som de upplevs av både kvalitetschefer och andra chefer. Vi beaktar också hur företagen genomför omcertifieringsprocessen till ISO 9001:2000 och vilka konsekvenser olika genomföranden fick. Studien fokuserar på svenska små och medelstora företag med ett ISO 9000:1994 certifikat som senare omcertifierat sig enligt ISO 9001:2000. De starkaste, tydligaste och högst värderade effekterna av ISO 9000 är tydligheten i arbetssätt och ansvarsfördelning. Det största problemet är byråkrati som kan leda till minskad flexibilitet. Effekterna av certifiering varierar beroende på hur certifieringsprojektet genomfördes och hur konsulter används.

Sammanfattning av den andra studien – Denna studie är deskriptiv och fokuserar på hur ICT används och hur kommunikationsmönstren förändrats i svenska idrottsföreningar under perioden 1994 till 2003. Förändringen diskuteras i ljuset av utbredningen av Internet och bredbandsuppkoppling. Resultaten visar att idrottsföreningarna har börjat använda nya kommunikationskanaler, främst hemsida och e-post, men ofta inte slutat använda traditionella kanaler. Det finns föreningar som har sparat både tid och pengar samt ökat gemenskapen genom att använda ICT. Många

föreningar upplever dock de nya kanalerna som en börda, i de fall de inte slutat använda några traditionella kanaler. Vissa faktorer utmärkande för ideella organisationer och vissa faktorer utmärkande för Internet- och bredbandstillgång har påverkat ICT-användningen.

Sammanfattning av den tredje studien – I denna studie utvecklas en ny modell (AKAM-modellen) för att analysera adoption av valfria, publika informationssystem (PIS) med digitala användningsmönster (d.v.s. användning eller ingen användning till skillnad från grad av användning). Modellen baseras på Rogers innovations- och diffusionsteori (IDT) och Nilssons användarcentrerade tillgångsmodell (UCAM). Modellen är ett alternativ till teknologiacceptansmodellen (TAM). AKAM-modellen baseras på sex förutsättningar för användning och fyra sätt att hantera PIS samt beskriver hur dessa är relaterade till varandra. För att illustrera tillämpbarheten av AKAM-modellen, använder vi den för att analysera adoptionen av LOK-stödsmodulen i Riksidrottsförbundets system Svenskidrott Online. Vi presenterar empiriska resultat som ger en indikation om hur vanliga och hur viktiga olika barriärer och drivkrafter är, för användare och potentiella användare av LOK-stödsmodulen.

Dessa studier har delvis finansierats genom forskningsanslag från Riksidrottsförbundet

Preface

The division of Economic Information Systems engages in research and education in the borderland between management and IT. More specifically, the subject area relates to the transmission of information from, between and to people. Of special interest is the role of strategies and information systems when people work together in different kinds of organizations (companies, public authorities and associations), but also when they interact with customers and citizens. Our research is concentrated in the following areas:

- * IT and productivity
- * Strategic use of IT, with a focus on organization for the use of IT
- * Strategy and management control
- * Financial accounting, auditing and economic crime

Most doctoral candidates in the division of Economic Information Systems are enrolled in either the Swedish Research School of Management and Information Technology (MIT) or the Research Programme for Auditors and Consultants (RAC). MIT is a joint endeavour involving some ten colleges and universities. Within the structure of this network, a doctoral programme is offered with a focus on issues arising in the borderland between management and IT. The RAC is a graduate education programme focused on accounting and auditing, with an emphasis on the processing of information. It combines internships at auditing firms with graduate courses and work toward a licentiate degree.

This thesis, Organisational Adoption of Innovations – Management Practices and IT, is presented by Erik Lundmark for the degree of Licentiate of Economics – in the subject area of Economic Information systems – at the Department of Management and Engineering, Linköping University. Lundmark is currently enrolled in the MIT Research School and holds a Master of Science in Industrial Engineering and Management.

Linköping, February 2008

Fredrik Nilsson
Professor
Economic Information System

Foreword

The road to a thesis is seldom straight. Most intellectual work has a tendency to move in circles, or rather spirals. Although the tangible result of the process is a thesis, much of what you learn will not easily be caught on paper. My journey towards the thesis you are now holding in your hand, has led me across the world and back, through books and articles and through joy and sorrow.

It all started in September 2003 when Alf Westelius, later my thesis director, called me and asked if I was interested in a six month project for the Swedish Sports Confederation (SSC), assessing the use of IT in the confederation. The SSC had developed an IT-system that potentially could encompass 20 000 sport associations and their 3 million members. In fact I was just about to accept another job offer, but the SSC-project seemed very interesting and the privilege of working with Alf, who would manage the project, tipped the scales.

The first project generated a research report for the SSC, later published in their series of research reports (Lundmark & Westelius 2004). As a side track, Alf and I developed the material that I had gathered in my extensive master thesis and wrote an article that later got published in Total Quality Management & Business Excellence (Lundmark & Westelius 2006), which is now the first article in this thesis.

After the project I started working for Swedish Internet Portals (SVIP)¹, but I kept in contact with Alf. In early 2005 Alf had got indications that there was an interest in another research project with many similarities to our first project. Thus we produced a research proposal and applied for funding. We were granted the funds and I informed my employer about the project and told him I would have to quit my employment. After some discussions I decided to work part time for SVIP and part time with the research project.

Now we had only one major problem, I was not enrolled in any PhD program. It was not obvious that my research funding would be sufficient even for a Licentiate degree but after some administrative turns I was enrolled as a PhD student at Linköping University and associated with The Swedish Research School of Management and IT (MIT).

Only a couple of months later I got the tragic news of my father's terminal disease and I decided to take a break from my research to be close to my family. I still had my part time employment with SVIP but they too let me take some time off. However, SVIP is a small private business where the possibilities of taking leave are limited. Thus the work I did during my father's last months was focused on SVIP and very little was done in the research project.

When my father passed away in the spring of 2006 I realised I needed a new start. I investigated the possibilities of working as a guest researcher at the University of Newcastle (Australia). My sister lives in Newcastle and had done so for many years and I had not visited her once. Brian Reagan, head of the School of Design, Communication and IT at University of Newcastle answered positively to my enquiry and provided a place to write and interesting colleagues.

¹ Translation of Svenska Internetportaler (SVIP)

During the summer of 2006 I quit my employment at SVIP and prepared a large survey that was distributed by e-mail and postal mail during the fall. When I arrived in Australia I had to wait for the survey results and in the meantime I worked on the second article in this thesis, based on material from the first SSC-project. The article was accepted for publication in *The Handbook of Research on Global Diffusion of Broadband Data Transmission* (Lundmark & Westelius 2008), a peer-reviewed anthology produced in connection with ITS, an international researcher and telecom practitioner network. Once the surveys were collected I finished a new report for the SSC. Like the previous one, this report was published in their research report series (Lundmark & Westelius 2007).

During the autumn of 2006 and spring of 2007 there were periods when I did not have any funding, which of course complicated my research. Eventually the EIS (the division at Linköping University to which I am associated) decided to fund a few months of my research and I also got a position as a teacher and course manager for the course “Leadership for Engineers”, which gave me time to finish a third article (Lundmark, Westelius & Saraste forthcoming) and the Introductory part to this thesis. I am grateful that the EIS funded my research, despite having a strained budget already – a special thanks to Fredrik Nilsson.

Furthermore, I want to thank Nils-Göran Olve for insightful advice and inspiration; Roland Bäcklin for support and encouragement; Carl-Johan Petri for commenting on early drafts of this thesis; Stewart Watson for proofreading; Dennis Netzell at Liu-Tryck, for being so service minded and helpful; and my colleagues at EIS and MIT for interesting discussions. I also want to thank Isabelle for your time, your love and all our discussions about this thesis and life in general. Last but not least, thank you Alf for your support, for your time and most of all for your friendship.

Looking back, it is a winding and bumpy road I have travelled. I have been challenged with the uncertainties that come with all academic work – are the questions relevant and interesting; will my investigations generate interesting results; and are my methods reliable. Furthermore, I have been faced with challenges regarding concerns for multiple employers, uncertainties about funding and maybe the most challenging – saying good bye to my father.

All these journeys have taught me much about myself, about research in general and about the field of innovation diffusion in organisations in particular. Some of this knowledge is captured in this thesis. My hopes are that it will provide a valuable piece in the puzzle of understanding the effects of organisational innovations.

Linköping, January 2008

Erik Lundmark

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PART I

Introduction

To adopt, or not to adopt: that is the question. Organisations are constantly facing new innovations both in the form of new technical solutions and new management practices. How to know if the innovation is beneficial or not? The forces influencing organisations are many – mass media, consultants and governmental bodies just to mention a few. Abrahamson (1996) calls for academics to study innovation processes but also to study the effects of innovations to help organisations make better decisions. In this thesis I heed this call.

This thesis presents three essays on innovations, their impacts on organisations and the reasons organisational actors adopt or reject them. The essays are each published or are about to be published in a peer-reviewed scientific journal or book.

The first essay is a journal article (Lundmark & Westelius 2006), where I and my co-author assess the effects of quality management according to ISO 9000 in Swedish small and medium sized enterprises and, particularly, the changes associated with recertification according to the ISO 9001:2000.

The second essay is a book chapter (Lundmark & Westelius 2008). In this essay I and my co-author assess Internet-based changes in communication patterns in Swedish sport associations over the period 1994 to 2003 – the decade that the Internet was popularised in Sweden.

The third essay is an article (Lundmark, Westelius & Saraste forthcoming) assesses the Swedish Sports Confederation's (the SSC's) attempt at digitising an administrative process. Primarily the article focuses on reasons for accepting or rejecting the internet-based process among key decision-makers in Swedish sport associations.

The studies on which the essays are based have been presented in seminars with both practitioners and academics and the studies have been published in media targeting both groups. Practitioners have primarily read material presented in the Swedish Sport Confederation's series of research reports (Lundmark & Westelius 2004; 2007) and an executive summary (Jerabek & Lundmark 2003) available through Canea Consulting Group (www.canea.se). Academics have mainly read the essays presented in this thesis (Lundmark & Westelius 2006; 2008 and Lundmark et al forthcoming).

In this thesis I present the essays and a discussion about their implications for the broader field of innovation diffusion in organisations. This discussion focuses on the decision process and the effort put into the decisions and implementation processes.

Reading Guidelines

This thesis is based on three separate essays (Lundmark & Westelius 2006; 2008; and Lundmark et al forthcoming). They are presented in chronological order in the second part of the thesis beginning on page 43 and can all be read separately.

This first part of the thesis contains an introduction where I present the purpose and the research questions of this thesis, followed by a chapter on the studied entities and the theoretical background for the next chapter “Revisiting the Three Essays”. In that chapter I reconsider the material from the three studies and discuss how they relate to each other. In the following chapter “Implications for Innovation Diffusion Research”, I relate my research to the broader field of innovation diffusion research. After this the essays are presented in Part II of this thesis. They are followed by an appendix in which I present the studied innovations and the studied organisations more in-depth than in the essays and the first part of this thesis. Some material from the essays or the introductory part may re-occur in the appendix description of the studied entities. The purpose of the appendix is to have all the organisations and systems in this thesis described comprehensively in one place. The appendix is targeted at readers who are not familiar with these entities or who feel that they want to know more about them.

The essays are presented with permission from the original publishers and are included in the thesis with their original layouts and fonts. Each essay has a reference to where they start in the table of contents. However, only modified titles of the essays are included in the table of contents, the internal structure is not accounted for in the table of contents. Furthermore, the tables and figures from the essays are not accounted for in the index of tables and figures.

Each essay contains a reference list covering the references used in the specific essay. The list of references at the end of the thesis contains all the references used in any part of the thesis including the essays.

Purpose and Research Questions

The purpose of this thesis is to describe consequences of organisational adoption of innovations. This is done through three separate studies with specific research questions, each described below. The three studies are then revisited and compared. The purpose of the comparison is to give examples of different organisational routes to decision-making and innovation implementation and to discuss the implications for innovation diffusion research.

Adopting the studied innovations requires, at least to some degree, organisational change. Thus, this thesis also describes three different types of organisational change.

Below, the three studies are described and their specific research questions stated. The three studies are presented in this thesis as three essays, each published or accepted for publication as an article or chapter in a peer-reviewed journal or edited book.

The First Study

The focus of the first study is to assess the experienced effects of working in accordance with a standardised management system in Swedish small and medium sized enterprises (SME), and to study the change process in the organisation associated

with the system change. This is studied through comparing two different role-holders' perspectives on the system and the system change.

More precisely, the first study assesses the experienced changes associated with working in accordance with ISO 9000 and the shift from the 1994 to the 2000 version of ISO 9000 in Swedish SMEs as experienced by marketing and quality managers.

Research questions:

1. What effects do organisational actors experience from working in accordance with and getting certified according to ISO 9000?
2. Which of these effects are valued the highest?
3. Do the answers to the above questions vary depending on the role of the actor?
4. What parameters affect the experienced result of re-certification from ISO 9001:1994, ISO 9002:1994 and ISO 9003:1994 to ISO 9001:2000?
5. Which are the most important practical changes associated with the transition to the new standard?

The Second Study

The changes in the first study were almost exclusively top-down changes in the sense that they were initiated by top management. As a contrast to the first study, the second study focuses on changes in democratic Non Profit Organisations (NPO). The second study concerns what is often bottom- or middle-up changes of the communication system in Swedish sport associations over a nine year period.

More precisely, the second study assesses the changes in communication patterns in Swedish Sport Organisations associated with the adoption of modern information and communication technologies (ICT) in turn driven by the popularisation of the Internet that took place over the period 1994 to 2003.

Research questions:

1. What influence has the growing access to Internet and broadband connections had on the Swedish sport associations' communication patterns?
2. What new communication channels are adopted?
3. How has the use of traditional communication channels been affected?
4. What are the experienced effects of these changes, particularly the effects of using Internet-based communication tools on costs, time spent on administration and spirit of community?
5. How could sport associations improve their use of new communication channels?

The Third Study

The two first studies focused on effects of innovation use and system change on an organisational level. As a contrast, the third study focuses on key decision makers' motives for accepting or rejecting an organisational innovation. The third study is

concerned with technology acceptance in the sense that the decision maker can choose between two different ways of carrying out an inter-organisational administrative process where one is IT-based and the other one is not.

More specifically the third study assesses the reasons, as experienced by the applicant, for choosing between the web-based and the paper-based application process of Youth Activity Funding (YAF) of Swedish sport associations.

Research questions:

1. What are the reasons for choosing the paper-based application method over the web-based application method when applying for YAF for a sport association?
2. Which of these reasons are considered most important?
3. What are the reasons for choosing the web-based application method over the paper-based application method when applying for YAF for a sport association?
4. Which of these reasons are considered most important?
5. Considering the reasons above, are there any prerequisites for user acceptance of discretionary web-based process and if so, which are they?

Theory and Definitions

In this chapter I explain the theories that are used to analyse and compare the three articles. I also define important terms and describe the studied entities.

System and Organisation

A system is a combination of interacting parts, real or abstract, forming a complex unitary whole serving some objective. A part in a system can be a system in itself – a sub system. A sub system can be part of more than one system. Therefore the boundaries of a system become to some degree arbitrary since it is a question of level of analysis.

A working system is often seen just as a unit and it is first when it breaks down that we are aware of the parts (Law 1992). For example we see a car as a unit but when it breaks down we realise that it is a system consisting of many subsystems including a motor, which in turn consists of many parts of which a single one can cause total system breakdown. When a system is behaving as a stable unit we talk of punctualisation (Ibid). Referring to the system as a unit saves mental energy; however, one should always bear in mind that it is a simplification (Ibid).

Although an organisation could be viewed as a system consisting of e.g. people, machines and houses, we will not refer to organisations, departments or groups as systems for the sake of clarity. In this thesis we study changes in systems that are *used* by organisations and thereby they are also part of the organisations, thus they are subsystems to the organisation (which is a system in itself but we will refer to it as the organisation).

It follows from this discussion that organisations and systems can be seen from different perspectives. Silver, Markus & Beath (1995 p 364) describe two different perspectives on organisations and information systems shown in figure 1 and 2.

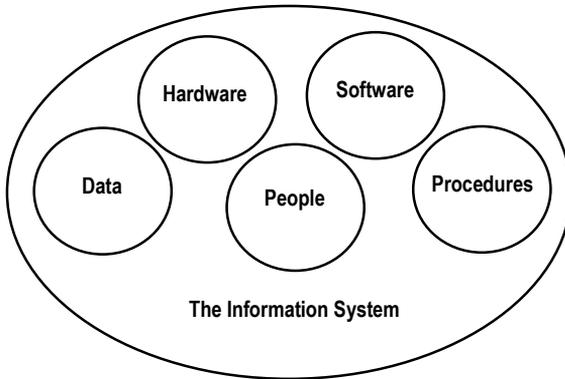


Figure 1 IS centred view of an information system

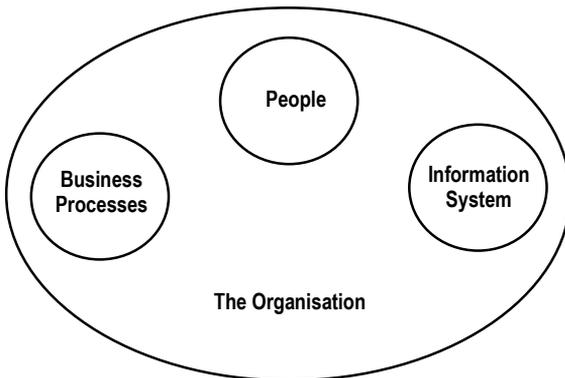


Figure 2 Managerial view of an information system

In this thesis I will discuss system changes from the Managerial view. The model I will use to discuss decision-making and implementation requires a more nuanced view of the category people. For example whether a decision is made by top management or by a middle manager could be relevant to such a discussion. According to Mintzberg (1979) organisations could be described using three organisational levels: Strategic apex constituting top management of the organisation; Middle line constituting the managers in-between the strategic apex and the people performing the core organisational processes referred to as the operating core. With these labels on the different organisational levels I will model the organisation as shown in figure 3. It

should be noted that Mintzberg uses other parts of the organisation such as Technostructure (e.g. analysts that design and monitor systems and processes) and Support Staff (e.g. people working with support not related to core work of the organisation). These parts are, with one exception, left out in my models of the organisation because they would contribute little to the discussion.

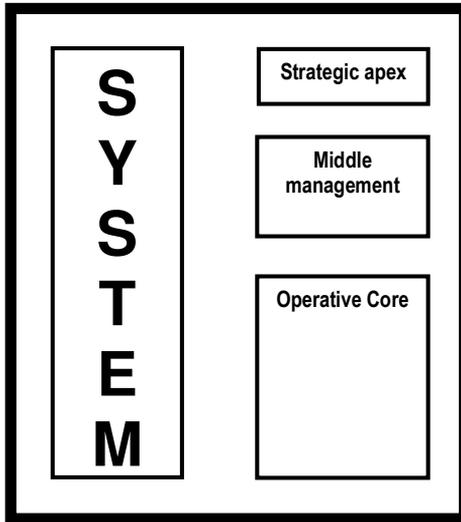


Figure 3 Model of the organisation and the system

Analogous to the discussion about system boundaries, the boundaries of the organisations can sometimes be fuzzy. For example a clear definition of a sport association could be all people who have paid the membership fee, and all the material entities owned by the association. However, then a person helping in the association's activities but who has not paid the membership fee would be excluded or, to draw the argument further, if the chairman is late with his membership fee he would be excluded.

In practice, the views of what is included in the organisation would probably differ somewhat between organisational members. This has implications for my study since I focus on organisational system changes and their consequences as perceived by organisational members. Most of the material is gathered through interviews leaving little room for lengthy definitions about what the respondents mean exactly when they refer to the organisation or the system. Thus, I have to accept that the definition of the organisation is what our respondents consider being the company they work for or the sport association, which they are members of. Similarly, the definition of ISO 9000 is in practice what the respondents consider as ISO 9000, the communication channels get the definition the respondents ascribe to them and so forth.

The studied systems in this thesis are the quality management system ISO 9000, communication systems in Swedish sports associations and the system used in the Swedish Sports Confederation to administer Youth Activity Funding.

The studied organisations in this thesis are Swedish small and medium sized enterprises (SMEs – Defined as companies with between 20 and 500 employees) and Swedish sport associations associated to the Swedish Sports Confederation (SSC) via membership in one or more Special Sports Federation (SSF). The SSC is thus an umbrella organisation that is indirectly studied by studying the organisations associated to it.

Change

Change can be seen both as a transition between two states and as a continuous flow (Westelius 2006a). In this thesis I am interested in changes associated with a change in a system, more specifically how organisational members experience the differences between a pre change state and a post change state. The process of change, the flow is also studied but, for the sake of clarity, it is modelled as a pre change state, a change process and a post change state. This does not mean that I consider the view of change as a continuous flow to be inaccurate, just less suitable for this thesis.

One advantage with choosing the view of change as a transition between two states is that I am interested in changes as experienced by organisational members and thus it is important to delimit the scope of change so that it becomes clear to the respondents. There are certain changes that we focus our interviewees' and respondents' attention to. In the first study the changes are associated with the transition from one quality management system to another; in the second study with the transition from using non-ICT media to using ICT media; and in the third from using the paper-based application method to using the Internet-based application method for YAF-application. We are interested in experienced organisational changes due to these system changes. Thus, the phenomenon of interest is the interaction between system and organisation and how changes in one cause changes in the other.

IT & ICT

There are many possible definitions of Information Technology (IT) depending on how one defines information and technology. In a broad sense, a paper and a pen used to record information could be seen as IT. However, the general public would probably associate IT with computers and digital storage of information. In this thesis we will refer to IT in a way that is more consistent with the general public's view than a wide academic definition. IT in this thesis is limited to digital or computerised technology.

The second study in this thesis is focused on the use of Information and Communication Technology (ICT). As for IT, ICT could refer to a wide range of communication tools. In the second study we used a narrow definition of ICT. We included only modern ICT such as Internet-based and computerised communication

channels and SMS. Of the channels named by the sport associations in that study, only e-mail, websites and SMS were included in the ICT category.

Decision-Making

I will not provide an exhaustive picture of the research on decision-making but limit the focus to the effort put into the decision-making process and what consequences that has for the decision.

According to the Elaboration Likelihood Model (ELM) (Petty & Cacioppo 1986; Aronson, Wilson & Akert 1998) there are two cognitive routes to decision-making: the central and the peripheral route. Under some conditions people are motivated to pay attention to facts in communication, thus they will be persuaded when the logic of the arguments is compelling (the central route). Under other conditions people make decisions based on surface characteristics such as the attractiveness or status of the sender of communication (the peripheral route). Factors considered to contribute to the central route being used are e.g. expertise on the subject, high personal relevance and high need for cognition as a personality variable. The central route is also considered to require more cognitive effort than the peripheral route. Attitude changes produced via the central route seem to be more stable over time (Aronson et al 1998). Factors considered to contribute to the peripheral route being used are e.g. low personal relevance, distractions during the decision process and low need for cognition as a personality variable (Ibid).

In an organisational context decisions can be made e.g. by a single individual, by a single individual after consulting important others, by a group of people through a democratic procedure or by a group that has to reach consensus. One can take the stance that organisational decisions are made only by people individually or in groups. However, one can also view organisations as actors that make decisions.

A look back at my definition of organisations would suggest that an organisation could be seen as an actor making decisions, provided that the organisational parts are functioning properly, making punctualisation¹ possible. Intuitively many people would see individual humans as one kind of atom of a system. That is, a part that is undivisible into subsystems. However, a reminder about our body organs would easily overthrow such a notion; but seen as an actor most people would deem it reasonable to consider individuals as atoms, in the sense that the soul is undivisible. I argue that such a stance can also be misleading. Over the last decade much support has been found for the modularity of the human brain and consciousness (Pinker 1997; 2002; Ramachandran 2007). Furthermore, the discussion above about central and peripheral routes to decision-making also suggests that depending on what human subsystems (modules of the brain) are involved, the decision process would develop differently. Consequently, regardless of whether we study decisions on an individual or organisational level we are limited by imperfect models of how the actor behaves and

¹ In the sense used by Law (1992) as discussed in the section “System and Organisation” on page 5

the actor can be broken down into subsystems no matter if we study organisations or individuals.

The extension of this argument is that also organisations take different routes to decision-making. The by ELM suggested routes to attitude change and decision-making (central and peripheral route) could perhaps bear relevance also to organisational decision-making.

I am not suggesting that the brain and an organisation work the same way. I do, however, suggest that there could be fruitful parallels in that decisions can take different routes requiring different levels of effort. In some cases organisations evaluate different options carefully, involving or at least surveying different parts of the organisation before making decisions; in other cases the decision is made with rather vague conceptions about the different options and their consequences and little effort is made to remedy the uncertainty.

There are parallels between individual adoption of fashion and trends and organisational adoption of management fashions (Abrahamson 1996); e.g. the rhetoric can at times be more important than the actual message in promoting innovations both in an individual and in an organisational setting (Ibid).

In analysing the adoption of innovations in organisations the preceding decision-making processes could have other parallels with human decision-making. Thus, it could be interesting to assess which organisational routes decisions are taking and if one could discern any parallels with the conditions under which the central and peripheral routes are used in humans.

Implementation

When a decision is made it has to be implemented. This process can require varying degrees of effort. Making a decision about which presidential candidate to vote for could be done using either the central or the peripheral route – implementing this decision requires some effort but the effort would be the same regardless of candidate chosen (getting to the appropriate place to vote and using the prescribed method). However, for other decisions the effort needed to implement the decision would be contingent on the decision made. E.g. making the decision to study at a university (as opposed to not studying at a university) could be made with little effort but implementing it would require much central processing. However, there are varying degrees of effort one puts into a university education.

Similar situations can be seen in an organisational context, e.g. the decision to certify according to ISO 9001 can be made with little effort and the implementation can then be made with varying degrees of effort (Lundmark & Westelius 2006). In parallel to the reasoning about how organisations use different routes to decision-making, there could also be different routes to implementing made decisions.

Innovation Diffusion in an Organisational Setting

I define an innovation as something that is novel to the potential adopters and possible to use. The studied innovations in this thesis are: ISO9001:2000, ICT and the YAF-module.

Much of the innovation diffusion research is built on the rational choice model, which is the assumption that actors make rational choices and have clear and stable goals (Abrahamson 1991; Rogers 2003)². However this perspective fails to explain why technically efficient innovations are rejected or technically inefficient innovations are adopted.

A major obstacle to studying diffusion in terms of technically efficient or inefficient innovations is to determine which innovations are what. Stating that an innovation is efficient in general could also be misleading since it may be efficient for some organisations and not for others. If an organisation rejects an innovation, is it because the innovation is inefficient or because the rational choice model is inaccurate? Furthermore, the rationality of adopting some innovations is contingent on how many others adopt the innovation (Katz & Shapiro 1994).

Much research has been directed at establishing both whether quality assurance innovations like ISO 9000 are beneficial (e.g. Escanciano et al., 2002; Tari & Molina, 2002; Poksinska et al., 2002, 2003; Nicolau & Sellers, 2002; Docking & Downen, 1999) and whether IT/ICT innovations are beneficial (e.g., Cascio, 2000; Davenport & Pearlson, 1998; Newell, Huang, Galliers & Pan, 2003; Westelius & Mårtensson, 2004). In fact, the papers in this thesis are examples of this kind of research, although they only provide pieces in the puzzle. As becomes clear from the discussion above (and from the papers in this thesis), stating that the studied innovations are beneficial per se, would be misleading. The question becomes for whom and under what conditions. When that question is answered the problem arises for potential adopters to identify their own situation in order to judge the rationality of adoption.

Furthermore, a company that adopts a technically efficient innovation is not always going through a rational decision process. As pointed out by e.g. Davidsson, Hunter & Klofsten (2006) companies can be influenced by actors that do not have the company's best interest in mind when exercising its influence; nevertheless the results may be beneficial. Thus, the company can make choices on grounds that are not rational and still adopt technically efficient solutions.

Building on DiMaggio's and Powell's (1983) theories on organisational isomorphism, Abrahamson (1991) describes four perspectives used in explaining the diffusion and rejection of administrative technologies.

² Abrahamson (1991) refers to this model as the efficient choice perspective.

Abrahamson’s (1991) classification of perspectives is shown in table 1. He suggests that tensions between these four perspectives can be fruitful in understanding and generating new hypotheses about diffusion of innovations in organisational settings.

Table 1 Theoretical perspectives used in explaining innovation diffusion of administrative technologies

Outside-Influence Dimension ↓	Imitation-Focus Dimension →	Imitation Processes Do Not Impel the Diffusion or Rejection	Imitation Processes Impel the Diffusion or Rejection
Organizations Within a Group Determine the Diffusion and Rejection Within This Group		Efficient-Choice Perspective	Fad Perspective
Organizations Outside a Group Determine the Diffusion and Rejection Within This Group		Forced-Selection Perspective	Fashion Perspective

Table 1 From Abrahamson (1991).

Efficient-Choice Perspective is built on the assumption that organisational actors adopt innovations that will facilitate their goal achievement and reject innovations that will not. Thus the strongest force in promoting adoption is relative advantage of the innovation

Forced-Selection Perspective is built on the assumption that organisations outside of the target group, e.g. governmental bodies or industry specific organisations, influence organisation’s choice to accept or reject an innovation through political pressure. Thus the strongest force in promoting adoption is the political pressure.³

Fashion Perspective is built on the assumption that organisations face uncertainty about e.g. goals, environmental forces and the efficiency of innovations. Consequently, fashion setting actors, e.g. consultancy firms or business mass media (organisations outside of the group of potential adopters), influence organisational choices to accept or reject innovations. Thus, the strongest force in promoting adoption is the rhetorical power of the fashion setting actors.⁴

³ Cf. the forced-selection perspective with DiMaggio’s & Powell’s (1983) coercive isomorphism.

⁴ Cf. fashion perspective with DiMaggio’s & Powell’s (1983) normative isomorphism.

Fad Perspective is, like the fashion perspective, built on the assumption that organisations face uncertainty about e.g. goals, environmental forces and the efficiency of innovations. However, instead of focusing on fashion setters outside of the organisation's group, the Fad perspective emphasizes organisations in the group of adopters as the source of imitation. Thus, the strongest force in promoting adoption is the number and status of the adopting organisations.⁵

In discussing and comparing the innovations studied in this thesis, the forces driving the diffusion could be of interest. Abrahamson's (1991) typology could be fruitful in discussing the relationship between the route of decision-making and the forces that influence the decision.

The Studied Organisations

Under this heading I present the studied organisation types in each of the papers in chronological order. The purpose of the presentation is to give an overview of the types of organisations that have been studied in this thesis. For readers who are not familiar with these types of organisations there are richer descriptions in the Appendix of this thesis.

Swedish SMEs

In the first study we assess Swedish small and medium sized enterprises (SME). The definition of SMEs varies between countries. We defined it as enterprises with between 20 and 500 employees. This definition includes firms larger than is usually included in the definition of SMEs in the EU. In the EU the definition includes enterprises with between 10 and 249 employees⁶ (Official Journal of the European Union 2003). In addition to the number of employees, the official EU definition contains turnover and balance constraints. We did not put any restraint on turnover but focused exclusively on number of employees.

The SSC, SSF and the Sport Associations

The two latter studies (Lundmark & Westelius 2008 and Lundmark et al forthcoming) are directed at Swedish sport associations. The Swedish Sports Confederation (SSC) and important characteristics of Non Profit Organisations (NPO) are described in the articles. Here I will give an overview of the SSC and the sports associations for a more in depth description including some demographic background information, see Appendix.

The SSC consists of 68 member organisations, so called Special Sports Federations (SSF), each representing a sport or group of sports (e.g. the Swedish Orienteering Federation and the Swedish Budo and Martial Arts Federation). The SSFs have member associations, which in turn have individual people as members. Thus, the SSC

⁵ Cf. fad perspective with DiMaggio's & Powell's (1983) mimetic isomorphism

⁶ Enterprises with less than 10 employees are referred to as micro enterprises

is an organisation of organisations of organisations of people which in total includes a third of the Swedish population in more than 20 000 associations. The largest sports in Sweden (as measured by the number of members in associations associated with the respective federation) are Football, Golf and Athletics⁷ (SSC 2006).

To administer such a large body of organisations the SSC is structured in 21 districts, so called District Federations (DF). They are part of the SSC administration. The SSFs are also divided into regional districts, so called Special District Federations (SDF). However, the mapping of the districts varies between different SSFs and thus does not necessarily coincide with the DFs. A model of the organisation of the SSF is shown in figure 4.

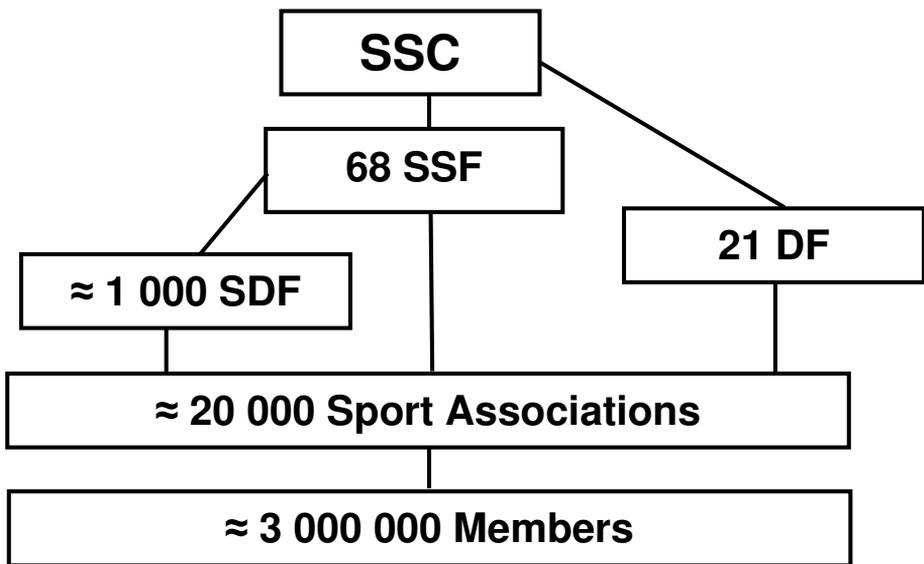


Figure 4 The Swedish Sports Confederation

The Studied Systems

Under this heading I present the studied systems in each of the papers in chronological order. The purpose of the presentation is to give an overview of the systems that have been studied in this thesis. For readers who are not familiar with the systems there are richer descriptions in the Appendix of this thesis.

⁷ Worldwide the biggest sports are Volleyball, Football and Basket ball (SSC 2006)

ISO 9000

ISO 9000 is the studied system in Lundmark & Westelius (2006). The system has no relevance to the two later studies.

ISO 9000 is a standard system for quality management developed by the International Organization for Standardization (ISO). The roots of the ISO 9000 standard is the British standard BS 5750, which in turn has its roots in the British government's attempts at pushing the quality assurance towards its suppliers of weapons and ammunition during the second world war.

The first ISO 9000 standard was ISO 9000:1987 later replaced by ISO 9000:1994, which in turn was replaced by ISO 9000:2000. The previous ISO 9000 standards (1987/1994) were divided into different subdocuments depending on the activities performed by the organisations (e.g development, production or assembly) and were focused on manufacturing organisations. The ISO 9000:2000 standard, on the other hand, is generic, which means that the system has a wide scope of application. ISO 9000 can be applied to any organisation regardless of size or sector of activity.

The ISO 9000 standard consists of a set of rules and guidelines. If a company is ISO 9000 certified, this means in more formal language that it is certified according to ISO 9001:2000, which is the requirements of the ISO 9000-standard. An organisation can only be certified according to the ISO 9001:2000 standard by third party audit. This third party is not the ISO organisation but certification bodies, which in turn are authorised by accreditation bodies. These accreditation bodies are set up in a number of countries; in Sweden the accreditation body is SWEDAC (www.swedac.se).

It is not a product or service that is certified but the quality assurance management system of the organisation. The certification is not everlasting but re-audits are conducted with regular intervals.

Internet-Based Communication Systems

The results relating to Internet-based communication systems are presented in the second and third papers in this thesis (Lundmark & Westelius 2008, Lundmark et al forthcoming).

There are many types of Internet based communication tools, e.g. IP-telephony, video conferencing, text-based chat, e-mail and websites. (Lundmark & Westelius 2008) is concerned with the latter two, e-mail and websites. For readers who want a fuller description of the use of these tools over the last decade in Sweden, see Appendix.

The third paper in this thesis is based on studies of the YAF-module and the Club Online; both applications are part of the system Swedish Sports Online. Swedish Sports Online is a system developed by the SSC, which potentially can encompass the SSC's more than 20 000 associations and 3 million members. The system was developed at the turn of the millennium as a joint venture between the Norwegian firm N3sport and the SSC.

One of the central parts of the system is the Club Online, an application that among other things provide the associations with an easily managed website. The basic modules of the Club Online were offered free of charge to all associations that were members of one or more of the federations in the SSC regardless of whether the federation had adopted the system.

The core of the system is the database the Federation Online (FO), which includes a database and a user interface that is used mostly by employees in federations and the SSC. The Federation Online is accessible via Internet and it is the platform on which specific applications are developed, such as the Club Online.

The Club Online could be viewed as consisting of two parts, a content management tool and an administrative part. The administrative part consists of modules for specific processes, such as keeping a register of members and licensed players, reporting people holding key commissions of trust to the federation or applying for funding of activities.

Via the content management system the association can manage their websites. The tool is relatively simple and easy to use. The association can publish their own news and decide whether news from the SSC, SSF or DF should be automatically presented on their website. Furthermore the associations can manage and present a calendar with activities such as practices or games. The administrator can give different levels of access to different members and thus the responsibilities for the website can be shared.

The YAF-module is one of the applications available to sport associations via the Club Online. The module is used to apply for funding of activities for people between the age of 7 and 20. The traditional way of applying for YAF is to send a paper form in by postal mail.

Revisiting the Three Essays

The three studies presented in this thesis all regard innovation adoption and the related organisational change. In this chapter I reconsider the material from the three studies. First, I will recapitulate the most important findings in the essays presented in this thesis, focusing on reasons for adopting the innovation and the extent to which organisational members were involved in the adoption process. Then, I will discuss similarities and differences between the three studies. Finally, I will compare them from the angle of effort in decision and implementation processes and which organisational levels were involved in the processes.

Lundmark & Westelius (2006)

The first article focuses on changes associated with quality management in accordance with ISO 9000, in particular the re-certification process associated with re-certifying from one of the 1994 versions of the ISO 9000 standard to ISO 9001:2000. The study is based on interviews with 113 managers in 66 Swedish SMEs.

The decision to certify in accordance with ISO 9000 is often made for external reasons, such as customer pressure or benefits of having the certificate, rather than internal reasons, such as to improve quality or business processes (Poksinska et al. 2003). However, there is consensus on internal reasons generally being a better foundation for quality management in accordance with ISO 9000 than is external reasons (e.g. Terziowski et al., 2003; Sun & Cheng, 2002; van der Wiele & Brown, 2002).

Our study shows that the satisfaction with the change process is contingent on the scope of the process. Generally, the more people involved in the project the higher the satisfaction and the more effort that has been made (e.g. managing documentation or process orienting the organisation) the higher the satisfaction. However, involving a consultant is not correlated with higher satisfaction. In fact our study seems to indicate the opposite. It seems that many companies tried to outsource the change process to an external consultant in order to save effort for the organisation, which does not generate good results.

Factors that are likely to be related to the amount of effort put into the re-certification process, such as reworking documentation and process orienting the company, were also related to the satisfaction with the ISO 9001:2000 standard. The more documentation was reduced and the more the company was process oriented the higher the satisfaction with the standard.

It is also interesting to note that the time the responsible manager had spent in the company seems to be negatively correlated with the scope of the re-certification process. Thus, the more experience the responsible manager had the less likely he or she was to involve other people in the re-certification process.

Lundmark & Westelius (2008)

The second article focuses on changes in communication patterns in Swedish sport associations during the period 1994 to 2003. The article is based on postal surveys to Swedish sports associations, with 224 respondents in 1994 and a postal survey with 521 respondents in 2003; the response rate was 58% and 56% respectively. The study also included interviews with managers from 110 Swedish sport associations.

The results show that many sport associations have adopted ICT as new communication tools. However, often these tools are adopted on top of other communication channels and few associations have discontinued using other communication channels. While there are sport associations that save time, money and increase the spirit of community using ICT, many organisations experience the increased number of communication channels as a burden since maintaining them takes extra resources but the benefits are not always easy to detect or measure.

The reasons for starting to use ICT in the sport associations were often unclear. Frequently mentioned reasons were often external. For example, some respondents said that they felt they had to have a website since other associations did or that information technology (IT) was in fashion. Another frequently mentioned reason was that an individual with special interests in computers or ICT initiated the use.

Mentioned limiting factors for the use of ICT were lack of knowledge among leaders or lack of knowledge about, and access to, ICT among members. Many organisations also said there were differences between different groups, e.g. older and younger members, in attitudes towards and use of ICT. Furthermore, the responsible managers often expressed a wish for help from members and other managers in maintaining the website.

The general results indicate that more positive effects were gained when association actually replaced old channels with new ones, e.g. stopped making their old club magazine and published the material on the website instead. The more advanced ICT that were used the more positive effects were generally produced. For example associations with the most advanced websites (e.g. including interactive elements, such as forums; and multimedia solutions such as pictures and video) usually had been more successful in replacing non-ICT channels and thus in reducing costs and time spent on administration and increasing spirit of community.

The change process was initially facilitated by the specific characteristics of NPOs, such as democratic structure and limited managerial power over lower level managers or the operative core. However, these characteristics also made the later parts of the change process more of a challenge since there was less possibility to force the adoption of ICT among all members. Characteristics of the structure of NPOs made it difficult to make everyone use the same communication channels.

Lundmark, Westelius & Saraste (forthcoming)

The third article presents a new model for analysing adoption of discretionary, public information systems (PIS) with digital use patterns (such as use or non-use, as opposed to frequency of use, or degree of engaged or compliant use). The study focuses on the SSC's attempt to digitise the application for funding of activities for people between 7 and 20 years of age in Swedish sports associations, the so called Youth Activity Funding (YAF). The article focuses on reasons for accepting or rejecting this change initiative. The article is based on web and postal surveys directed at Swedish sport associations. In total the surveys had 1577 respondents with response rates varying depending on medium used and target group from 63% to 84%.

The most important reasons for rejecting the change initiative, as stated by users, was aversion to making cognitive effort, e.g. "acted out of old habit" or "I did not feel like learning the new system". Furthermore, the decisions whether to use the old or the new process for submitting the YAF-application was often made based on limited or inaccurate information about the alternatives.

Thus the above information indicates that the potential users are averse to making cognitive effort, signifying that it is a decision made mainly via the peripheral route. Furthermore, the decision is usually between staying with the old method and switching to something new, thus between making little cognitive effort and making much (or at least more) cognitive effort.

Cognitive effort was not only a barrier but also a driving force. The inclination to making cognitive effort was a reason to change; over 70 % of the users of the new system stated that "curiosity" was a driving force. However, only 6% stated that it was the main reason for using the new system. This is in stark contrast with the effects of cognitive effort as a barrier; about half of the respondents had cognitive effort as the main reason for not using the YAF-module.

Usually the person responsible for the YAF application could choose method freely, although there were associations where the person was influenced by other people in the organisation. The effects of the choice were usually not very significant for other people in the association than the person submitting the application. However, for the central SSC unit administering the YAF the choices made in the associations affected the amount of work they had to do.

The Common Ground and Differences

The main topic in this thesis is organisational change caused by the adoption of an innovation, which is also the focus of all three articles individually. Under this heading I will discuss similarities and differences between the three studies. The discussion will highlight the most salient similarities and differences that are important to keep in mind when comparing and discussing the three articles.

Change and IT

A common denominator is that IT has played a role in the change processes in all three studies. In Lundmark & Westelius (2006) IT was a facilitating tool – a background variable that could affect the results of the use of the system, e.g. IT-use was related to the extent documentation was used by the employees in the companies. In Lundmark & Westelius (2008) IT was the driving force in the change process; the change process was driven by the popularisation of the internet. In Lundmark et al (forthcoming), IT was the core of the new system. In the article we refer to much technology acceptance research.

Innovations in Positive Diffusion

Another common denominator between the studies is that the innovation adoption in each organisation is contemporary with adoption of the same innovation in similar organisations: many SMEs were changing from an ISO 9000:1994 certificate to an ISO 9001:2000 at about the same time; many sport associations were starting to use e-mail, websites and the YAF-module at the approximately the same time. That is, the adopted innovations were in a positive diffusion phase (Rogers 2003), see figure 5, 6 and 7.

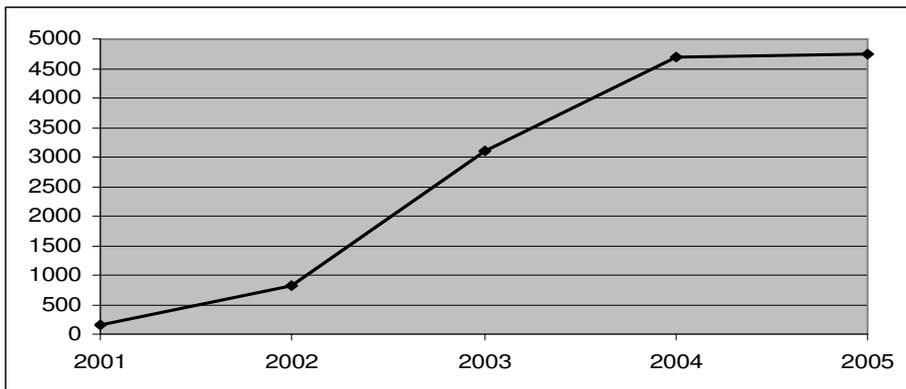


Figure 5 The number of ISO 9001:2000 certificates in Sweden

Figure 5 produced using material from The ISO Survey (2005). It shows the number of enterprises certified according to ISO 9001:2000 from year 2001 to 2005.

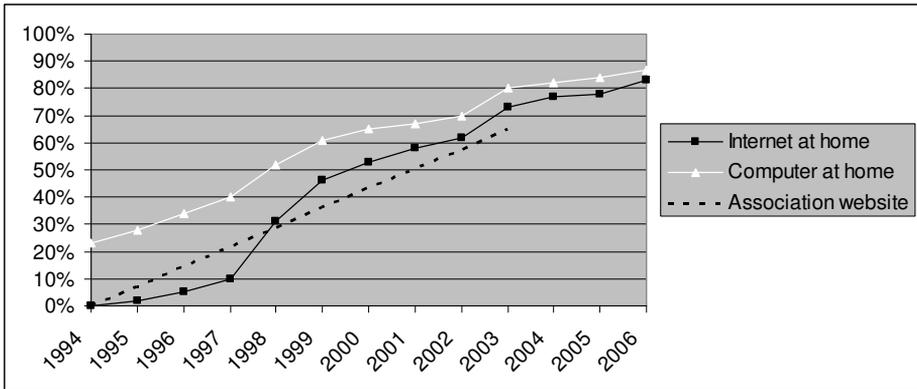


Figure 6 ICT in Swedish homes and sport associations

Figure 6 is produced using material from: Statistics Sweden 2004a; 2004b; 2005; 2006; World Internet Institute 2007; Lundmark & Westelius 2004. It shows the proportion of households and sport associations having access to ICT. Observe that the association website line only has two data points and a linear growth is assumed. In reality one could expect a slower growth in the beginning and later an increase in the growth. A more exact shape of the curve is difficult to establish.

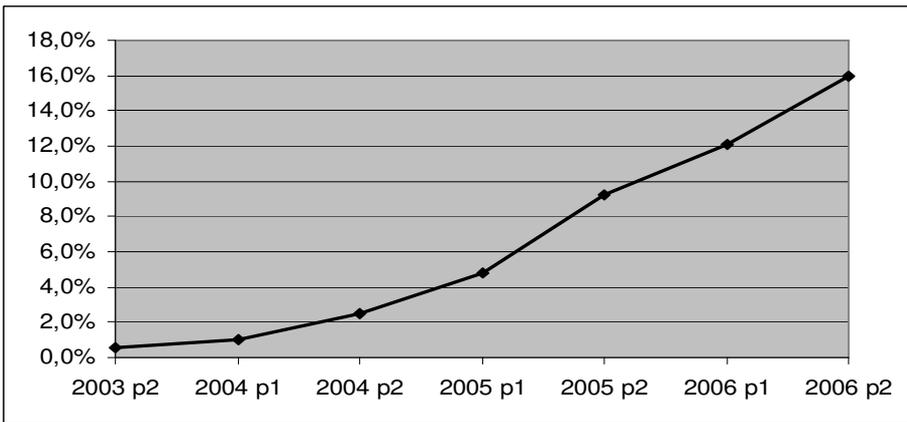


Figure 7 Proportion of YAF-applications received online

Figure 7, showing the growth in proportion of YAF-module users over time, is taken from Lundmark & Westelius (2008). The proportion of the associations using the YAF-module instead of the paper-based application process varies much between the federations. The line plotted in figure 7 is the average in the whole SSC.

Reinvention

Similar organisations implementing similar systems could be expected to conduct the change processes in a similar fashion. However, even if the studied changes nominally each have been the same (re-certification from ISO 9001:1994 ISO 9002:1994 or ISO 9003:1994, to ISO 9001:2000; starting a website; starting to use the YAF-module) they often prove to have many differences. The differences regard reasons for change, the change process in itself and/or the outcome. It is clear that a large degree of reinvention (Rogers 2003) occurred, at least in the first two studies. With reinvention I mean that the organisations adjusted the innovation for their purposes and thus the invention would not be exactly the same in all the studied organisations even though the innovation is the same nominally.

As the scope was much narrower in the last study, the degrees of freedom, the things that could vary between organisations, are more limited. The change process in the first two studies involved more people and affected many sub-processes as compared to the latter of the three studies, which focused on a specific process.

As could be expected, when zooming in on a single narrow process, the possibilities for reinvention are fewer. Although there were two ways of submitting the YAF-application online, the study focused on whether the respondents chose any of the online versions or the old paper-based process and the reasons for their choices. The whole process, stretching in time from the first day of the YAF-period to the submission of the application would probably differ some between associations but once the decision of submission process is made the process is rather similar between associations. Despite the similarities in process the reasons behind the choices were quite different.

Thus, in all these three studies similar organisations have implemented similar systems, but they have done so for different reasons, in different ways and/or with different outcomes. In the first two studies we saw reinvention whereas in the last study reinvention was harder to achieve and detect.

Novelty in a Context

Yet another similarity between the three studies is that they all were new ways of doing something the organisation already did. All the studied companies already had a quality management system and they were changing it for a new one. Associations already communicated with members, they were just doing it in new ways; and they already had a process for sending in the YAF application, they were just exchanging it for a new process. Thus, the change did not take place in a vacuum; new processes had to replace or coexist with old processes.

The extent to which old processes were replaced varied. In the first study some companies tried to change as little as possible – limiting the work to one person in the organisation or even hiring an external consultant and changing as few documents as possible. Other companies undertook major changes – rewriting management

documents, reengineering processes, implementing new management software and involving and educating the whole organisation.

In the second study there were associations that, despite working actively with the new channels, did not replace any old communication channels – they still sent out their regular postal information letters and produced their association magazine. Other associations changed rather than just added: they reduced the number of postal letters, phone calls and let the website replace the magazine.

In the last study the question was rather “either or”. Even so, some associations switched to the new process only to switch back and then switch again. We also had an example of one association doing both “just to be sure”. However, the most striking result was people’s inclination to actually believe the new process was better, but still choosing the old.

Different Organisations, Systems and Levels of Analysis.

There are also a number of other differences between the three studies that one should bear in mind. The first study is focused on SMEs whereas the two latter studies are focused on NPOs. This could have implications for the acceptance and implementation of innovations. For example, the possibilities to force change are usually more limited in NPOs as compared to for profit organisations (c.f. Fiol & O’Connor, 2002).

The first study focuses on a top down change process sometimes driven by external reasons. In the second study change was rather initiated by middle management; however, even here the reasons were frequently external, e.g. having a website because other associations of their size had one. In the last study change was driven by an external actor but the change process was considerably less significant for the organisation as a whole as compared to the two preceding studies. Lundmark & Westelius (2006; 2008) clearly focus on a wider scope regarding the impact on the organisation, than does Lundmark et al (forthcoming) which focuses on a single decision by key decision makers.

Effort in the Decision-Making and the Implementing Processes

To do things right or to do the right things – which is most important? Under this heading I will discuss where the organisations in the studies in the thesis put their effort – in deciding what to do or in doing it right – and what consequences these approaches brought.

SMEs Adopting ISO 9001:2000

In a research report (Jerabek & Lundmark 2003) we discuss different categories of SMEs with respect to their reasons for adopting ISO 9001:2000 and their effort in the implementation process. We discern three categories of SMEs, freely translated from Swedish: the doubters, the converted and the enlightened.

The doubters are companies that certified because of external pressure, e.g. customer demand. They did not put much effort into the decision process or into the implementation

process. They certified to get the certificate but aimed at doing as little as possible in achieving this goal. These companies were generally dissatisfied with the ISO 9000 standard.

The converts are companies that also put relatively little effort into the decision process. They decided to certify because of external pressure but while working with the ISO standard they realised that the standard had benefits. Thus, they put more effort into working according to the standard than they planned initially. These companies are generally satisfied with the standard.

Finally, *the enlightened* - the group that worked the hardest with quality assurance; they had a high awareness of quality management systems and knew much about the ISO standard before adopting it. They would have adopted many of the procedures in the ISO 9000 standard regardless of whether they were certified according to the standard or not. The SMEs in this category had very specific criticism regarding the standard although over all they were not dissatisfied with the standard, if not as positive about it as the converts. The different categories are plotted in a diagram in figure 8. The satisfaction with ISO 9000 is indicated by the facial expression of the icon representing each category.

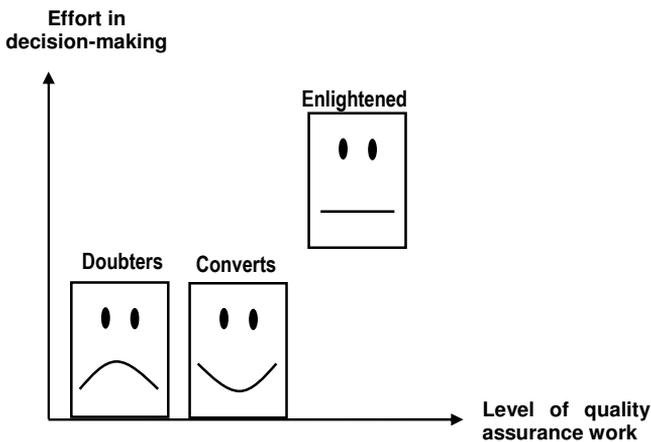


Figure 8 Effort and satisfaction in SMEs adopting ISO 9000

Sport Associations Adopting ICT

Turning to the second study we can also discern three categories of organisations: low ICT users, moderate ICT users and high ICT users.

Low ICT users did not put much effort into their ICT work. Most commonly they had a website which they updated infrequently. The ICT work thus had a low impact on

the organisation but it also did not require much effort. These users were neither satisfied nor dissatisfied with the ICT use.

The moderate ICT users generally put some effort into working with ICT but did commonly not drop any of the previously used communication channels. This resulted in an increased workload but also some gains in spirit of community in the organisation. Although attitudes varied towards their ICT use, this was the group that expressed the most complaints.

The high ICT users generally substituted non ICT channels for ICT channels and thus decreased costs, time spent on administration and increased spirit of community. This group was generally enthusiastic about ICT.

Generally – the higher the ICT use the more effects were experienced but the moderate users had to carry the burden of both ICT and non ICT channels. The different categories are plotted in a diagram in figure 9. The satisfaction with ICT use is indicated by the facial expression of the icon representing each category.

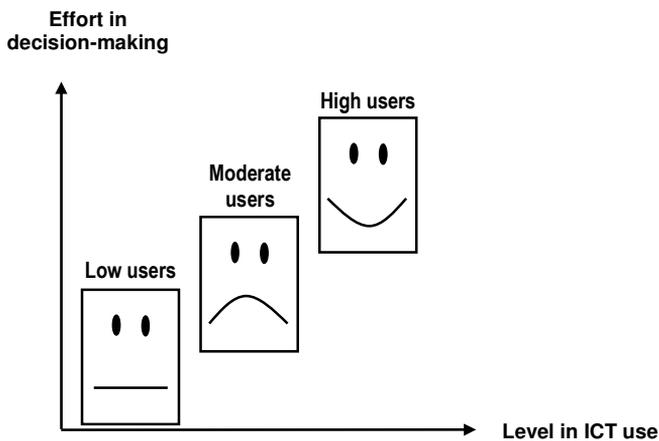


Figure 9 Effort and satisfaction in sport associations adopting ICT

Sport Associations Adopting an Administrative Process

In the third essay the decision to change the system was made outside the studied organisations. The organisation or rather the manager responsible for the YAF-application had the option of rejecting or accepting the change. Thus it is more fruitful to view the specific managers as actors rather than the organisation.

The level of effort in implementing the change is difficult to gauge. We gathered information about which process they used (paper-based or Internet-based); and if they

used the Internet-based process we assessed how difficult they considered the learning process to be and whether they considered it to be more or less difficult than they expected.

It is pointless to talk about levels of use. In fact that is a point made in the title of the article; the article discusses system acceptance when use patterns are digital (such as use or non-use, as opposed to frequency of use, or degree of engaged or compliant use). Although different people could put varying degrees of effort into learning how to use the YAF-module the outcome is either use or non-use. Thus in this case we can talk about more or less effort into making the decision whether or not to use the YAF-module but once a decision is made, there are no degrees in using the decided process. The consequence is that we can only talk about accepters and rejecters of the change initiative.

The stereotypical picture would then be that the rejecters put little effort into the decision process whereas the accepters put more effort into the decision process. Few people actually took the time to learn more about the new method without adopting it. The adopters were usually positive to the new system; 89% considered it to be the most convenient way of applying and more than half of the respondents considered this to be the most important reason for using the YAF-module. Only 14% of the rejecters stated that the convenience of the paper-based method of applying was the main reason for using this method. About 50% of the rejecters did express the opinion that the paper-based was more convenient than the YAF-module; however that also left 50% not stating that belief.

The different categories are plotted in a diagram in figure 10. The satisfaction with the YAF-module is indicated by the facial expression of the icon representing each category.

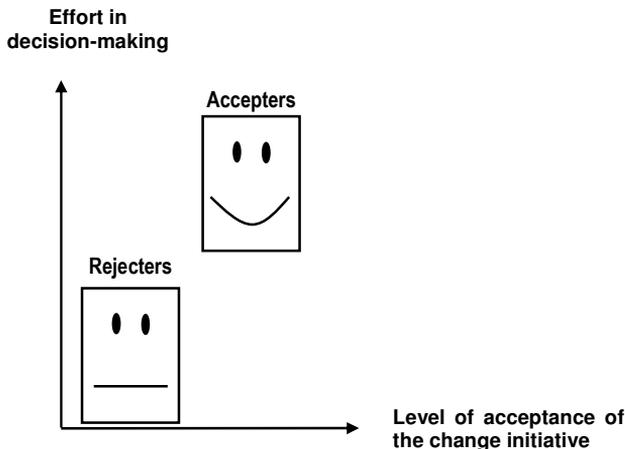


Figure 10 Effort and satisfaction of accepters and rejecters of the YAF-module

Figure 10 would fit perfectly in the pro-innovation bias paradigm, which is the assumption that innovations are beneficial and should be adopted (Rogers 2003, Abrahamson 1991). In order to nuance the results, I would like to emphasise that these are the stereotypical results. There clearly were cases where rejecters were well informed and had considered both options carefully and accepters who were uninformed about both options. There were also satisfied rejecters and dissatisfied accepters.

The interesting finding concerning the interaction patterns described above (all three studies) is rather that the patterns are not always, or even generally, the more effort into decision-making and into implementation the more satisfied the organisation. I will exemplify this under the heading “The Beneficial/Detrimental Dichotomy” below (Page 33).

Three Change Processes with Different Organisational Routes

Each of the papers included in this thesis deal with different types of change processes. Although each organisation has carried out the change process in their unique way, patterns are discernable. The stereotypical decision and implementation process varies starkly between the three types of change processes in the three studies. Under this heading I will describe these general and stereotypical differences.

SMEs Adopting ISO 9001:2000

In the case of ISO 9000 re-certification in SMEs the general picture is that the decision is made by the top management. The project is assigned to the quality manager, who then can conduct the re-certification with a varying degree of involvement of other organisational members.

To some degree we can talk about different levels of implementation in the sense that some SMEs did as little as possible to acquire the certificate whereas others actively used the system to improve the quality management system. Finally, the operative core is faced with the system regardless of whether they were involved in the re-certification process or not. The stereotypical process is shown in figure 11.

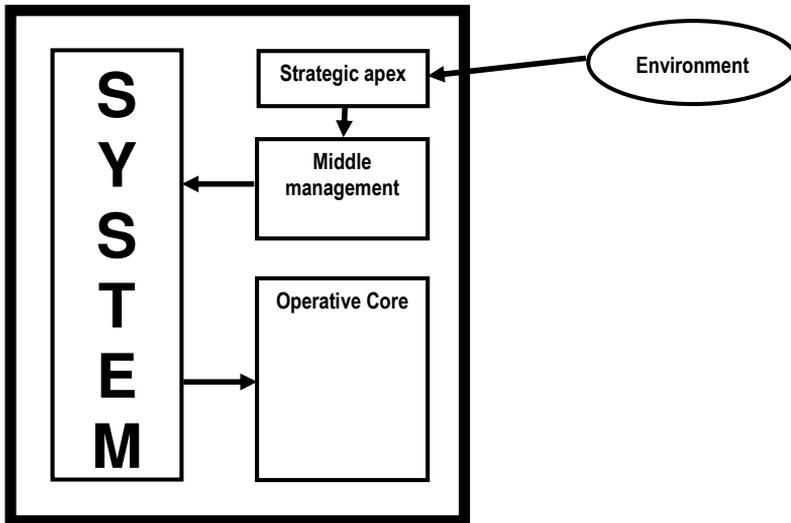


Figure 11 Route of decision and implementation in SMEs adopting ISO 9000

In figure 11 arrows indicate influence between organisational levels, the environment and the system. The most common approach was that the quality manager conducted the re-certification as a one-man project (60% of the cases). The most limited scope of implementation was when the re-certification process was outsourced to a consultant leaving even the responsible managers with limited insight into the new standard.

Sport Associations Adopting ICT

In the second paper the variance in decision and implementation process is greater than in the first paper. In the stereotypical case there is an enthusiastic member (from the operative core) or manager (from middle management) who initiates the use of a website. If the person initiating the use is part of the operative core he or she usually moves into middle management as a consequence of the initiative. Although the top management was often involved to some degree in the decision process it is not uncommon that the top management had little knowledge about and influence on the initial process. Later, the top management was often put in a situation where they either had to deal with the enthusiast, who started the project, leaving the organisation, demanding more resources or conflicts between different groups concerning the ICT project. The stereotypical process is shown in figure 12.

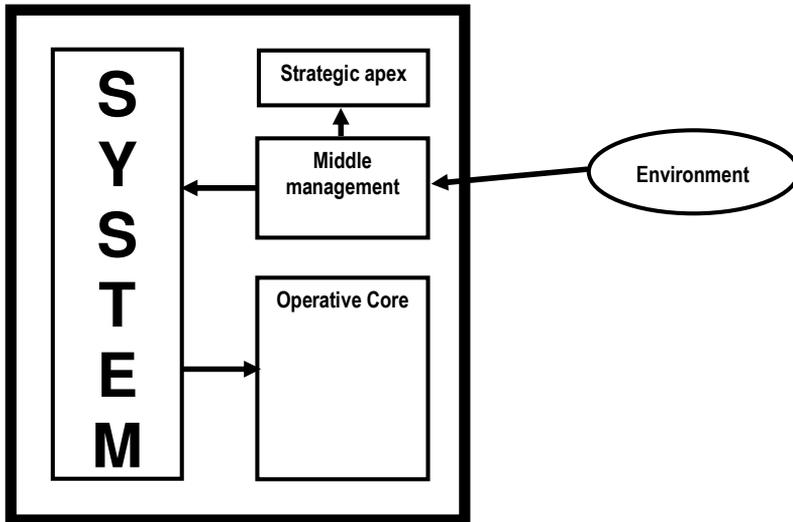


Figure 12 Route of decision and implementation in sport associations adopting ICT

In figure 12 arrows indicate influence between organisational levels, the environment and the system. As concluded in the second paper - the limited possibilities to force change in NPOs both facilitate and restrain the use of ICT. On the one hand, it makes subgroup initiatives difficult to hold back, enabling people to start using ICT. On the other hand, it also makes it difficult to make everyone use the same communication channels. Thus, many associations were in a transition process with a fussy or undefined goal. The starting point of the process was unproblematic to define but the final state was more difficult to define. The ICT adoption process was not considered to be completed, or at least not without possibilities of improvement, by most respondents. Thus the effects of adopting ICT was a comparison between the before state and the present state.⁸

Sport Associations Adopting an Administrative Process

The last paper focuses on the acceptance of a computerised administrative process by the end users in organisations. The system studied is a cross-organisational system and the decision to change it is taken outside of the studied organisations. For the organisations, or rather the end users in the organisations, it becomes a question of accepting or rejecting the change initiative.

⁸This could be compared to the situation faced by the SMEs in the first paper where the end of the transition process could be defined as the acquiring of the new certificate.

The stereotypical process is shown in figure 13. The system change was initiated by the SSC, which in the figure is described as the environment initiating the change process. Usually the end user was part of the middle management.

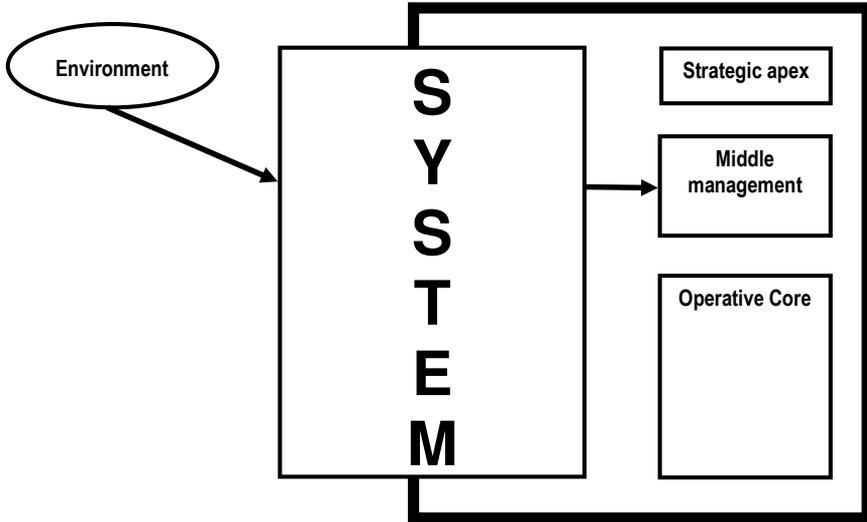


Figure 13 Route of decision and implementation in sport associations adopting the YAF-module

In figure 13 arrows indicate influence between organisational levels, the environment and the system. Because the person responsible for submitting the application commonly had the liberty to choose method freely, the study has a lot in common with studies of user acceptance or individual adoption. Having said that, the incentives to start using the system were not only directed at the user but also at the organisation⁹. Thus, the consequences of system use were not limited only to the user. However, most of the association members were not affected by which of the two processes were chosen by the person submitting the application. For top management, getting the funding earlier could be of importance, and thus they could apply some pressure on the responsible manager. Furthermore, whether the organisation had adopted other modules in the system also influenced the likelihood that the organisation would use the YAF-module. Consequently, the decision was made by an individual but in an organisational setting, which to some degree sets it apart from an individual adoption situation.

Figure 13 shows the adoption situation from the sport association's perspective. One could, however, also view the adoption situation from the SSC's perspective. From that perspective the SSC makes changes in the cross-organisational system and then

⁹ The organisation got their funding earlier if the YAF-module was used.

has to communicate with the sports associations to change their behaviour. This is shown in figure 14.

From this perspective the change project is much more complex. Top management has to attend to both the technical aspects and the behavioural aspects of the organisation. As seen in figure 14 this is done via different routes. Top management makes a decision to create a new digital application process. The technostructure makes the technical changes whereas the operative core has to communicate the changes to the sport associations. The sport associations then occasionally turn to the technostructure for technical support. These split routes were a contributing factor to different associations experiencing varying, unclear or ambiguous signals from the SSC.

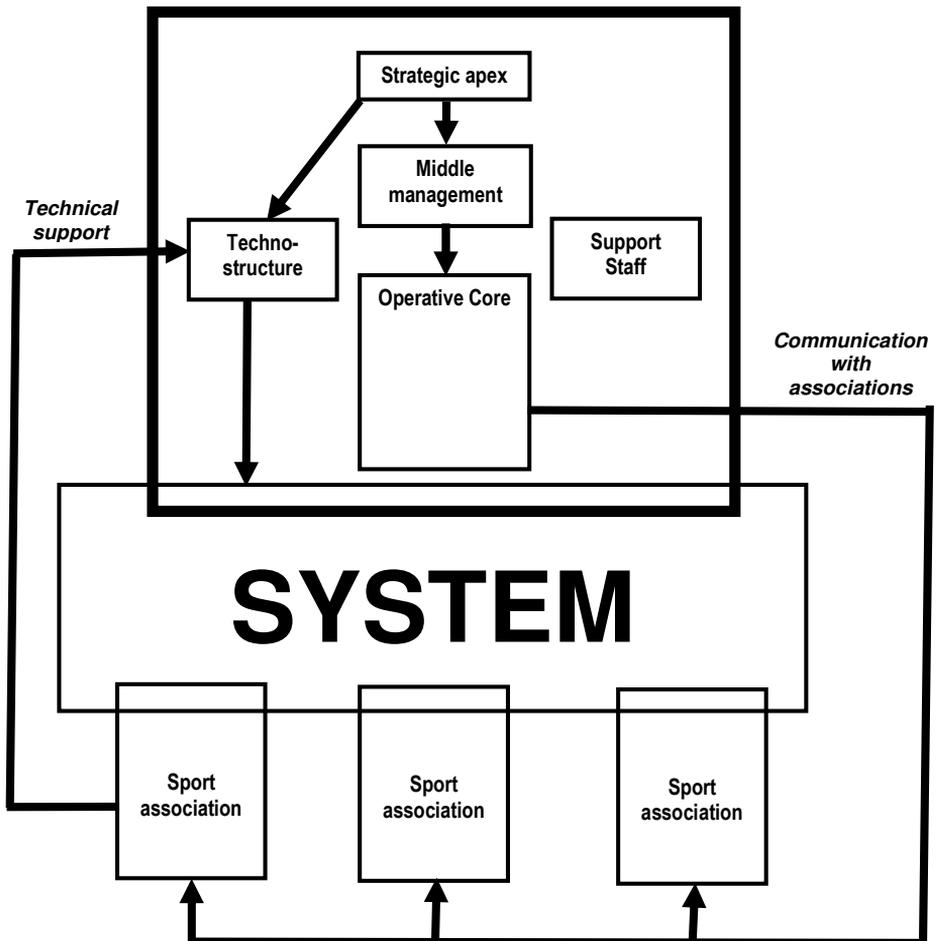


Figure 14 Routes of decisions and implementations of the YAF-module in the SSC

In figure 14 arrows indicate influence between organisations, organisational levels and the system. One could make the picture even more complex by opening up the different boxes in figure 14. Within the technostructure there are also complex interaction patterns and the communication via the operative core in reality takes place with the regional departments of the SSC, the DF:s.

In facilitating or inhibiting the spread of innovations, who makes the decisions is vital knowledge. The discussion above clearly shows that the strategic apex is not always the key actor. In the first study the strategic apex is commonly the initiators of the change process but the change is mostly driven by middle management. In the second study both the initiative and the implementation is commonly driven by the middle management. From the sport associations' perspective the third study exemplifies a change initiated from outside the organisation, where key decision-makers (usually from middle management) are the gatekeepers for success.

The above description of organisational routes also shows that what could be viewed as a simple change of a process from one organisation's perspective (a sport association) could be a complex change process from another's (the SSC's).

However, it is not only who makes the decision or where it is made but also on what bases the decision is made, that is interesting for a change agent. This will be further discussed under the heading "Why are Routes Interesting?" on page 35.

Implications for Innovation Diffusion Research

Overall this thesis describes three different kinds of organisational innovations and the effects of their diffusion or the reason for accepting or rejecting the innovation. I describe three instances of organisational adoption of innovations. Below I will discuss the implications of these studies for innovation diffusion research in an organisational setting.

The Beneficial/Detrimental Dichotomy

Previous research has shown that people who are highly educated, cosmopolitan and wealthy more often are early adopters of innovations (Rogers 2003). In organisational settings factors like size, low age of the organisation, sales to foreign markets (export) and highly educated top managers correlates positively with innovativeness (Rocha, Christiansen and Paim 1990; Avlonitis, Kouremenos & Tzokas 1994). These findings contribute to, and are partly based on, the pro-innovation bias paradigm that has been prevalent in innovation diffusion research (Rogers 2003, Abrahamson 1991). The studied innovations in this thesis have varying interaction patterns with the studied organisations and these could serve as examples of the dynamics involved in the interaction between organisations and innovations. This could in turn contribute to an understanding of the dynamics involved in innovation diffusion in organisational settings.

The studies in this thesis show that each innovation is not beneficial to all organisations or individuals in the sample but have a more complex pattern of interaction with organisations and is thus a step away from the simple dichotomy beneficial/detrimental.

The first study is an example where the pattern is that some organisations prior to adoption have a more developed system and thus benefit little from adopting whereas others do improve much by adopting the system. Yet others benefit little because of improper implementation. Furthermore, the first study indicates that ISO 9000 has both advantages and disadvantages. Some areas are perceived to be improved whereas others are worsened.

The second study describes an innovation that was only fully beneficial when adopted to a certain degree. Here our study seems to indicate: adopt fully or minimally but not moderately. Or more accurately, a moderate adoption would lead to benefits but also overall higher costs (in terms of work spent on administration). Also in this study some respondents perceived negative effects although the overall picture was positive, particularly among the most advanced users.

The last study focused more on the reasons for accepting or rejecting the innovation than the effects of the innovation. However, adopters more often referred to utility reasons than did rejecters. The utility of the innovation was contingent on the knowledge the user had about technology, the access the user had to technology and

infrastructure but also the lifestyle of the user. The incentive system used by the SSC focused on the organisation which then could create a tension between the individual's and the organisation's interests.

These interaction patterns between innovation and organisation are examples of how organisations and innovations interact. They underline that innovations should not be described as one-dimensional – beneficial or detrimental – but that they have a complex pattern of interaction with adopting organisations and their members.

The extension of that line of reasoning is that imitation is a strategy with limitations for these innovations, in the sense that what fits one organisation does not necessarily fit another organisation. Imitation could under these circumstances not be expected to be a "rational" strategy. Imitating the successful is not very likely to lead to success unless all conditions are sufficiently similar and the change process is also imitated closely. Nevertheless, imitation has been a factor in diffusing ISO 9000 in SMEs and ICT in sport associations. As we will see under the next heading, imitation has not been an important factor in diffusing the YAF-module.

Forces Driving Diffusion

Why do innovations diffuse? As described in the introductory part of this thesis, Abrahamson (1991) created a framework to analyse the diffusion of innovations in organisations. He described different perspectives, which assumed that different forces are driving diffusion. Below I will discuss which forces have affected the innovations studied in this thesis.

ISO 9000 adoption demonstrate all of the adoption forces derived from Abrahamson's (1991) described perspectives. In line with the efficient choice perspective many organisations have chosen ISO 9000 for the utility and also realised the benefits. However, fashion creators like consultants and business mass media also influence the choice of quality management system (Larsen & Häversjö 2001). Imitation of other organisations in a company's surroundings also seems to contribute to adoption of ISO 9000 (Wiele, Dale & Williams 2000). Last, but not least, customer pressure is a strong force in diffusing ISO 9000 (Wiele, Dale & Williams 2000).

In the second study, some associations stated that they imitated other associations or imitated other organisations outside the group of sport associations. Others felt a pressure from the SSC to adopt the Club Online website. Yet others had a clear and thought-through idea about how, and why to use ICT.

The last article is a more classical innovation adoption study. Here the results (the stereotypical results) imply that the people who make an informed choice adopt the innovation whereas the ones that make the choice with less cognitive effort reject it. In this study, imitation of other people or organisations in the group of adopters is not a strong force since the observability of the innovation is low. Observability should here be understood in the meaning ascribed to it by Rogers (2003). That is, the degree to which use and results of use of the innovation are visible to others. Potential adopters

in the study had little knowledge about who had adopted and what they thought about the system.

Political pressure from the SSC has a clear impact on the potential adopters – forced selection in terms of the Abrahamson (1991) typology. However, this pressure is not homogenous despite emanating from one organisation. Different organisations experienced different signals from the SSC. Thus, despite a clear intention within the SSC to exercise political power on the associations, the associations perceived mixed signals. The difference could stem from the interpretations made in the associations. It could also stem from different views and behaviour among SSC actors.

The innovations studied in this thesis are not only examples of innovations with dynamic interaction patterns with the adopting organisations but also examples of innovations diffusing due to a mix of diffusion forces.

The studies contribute to a more nuanced picture of the results of different innovation forces; e.g. the first study indicates that the group most satisfied with the standard is the one where the initial adoption was driven by external *pressure*, but as effects emerged, a more internal *engagement* also emerged. The second study rather emphasises the importance of a strategy or a thought-through idea about what ICT should achieve in the organisation and what channels should be replaced.

The third study emphasises the variety of reasons that affect each decision-maker (potential adopter). Although utility is the most important reason for using the YAF-module the respondents report many other influences. It is interesting that utility does not have the same importance for rejecters, at least not outspokenly. It is also interesting to note that the respondents believe the most important effects of their decision arise outside of their association, namely at the central SSC administration (Lundmark & Westelius 2008). Thus beliefs about how adoption affects others might influence the adoption decision.

Why are Routes Interesting?

Above¹⁰ I have discussed on what organisational level the adoption/rejection-decision is made. Here I will rather discuss the base for the decision and how that relates to the routes as described by the ELM (central and peripheral route).

It has been suggested that change agents have a tendency to switch focus after an adoption decision has been made (Huang, Newell, Galliers and Pan, 2003; Newell, Swan, and Galliers 2000). E.g. it is sometimes in the interest of the change agent to focus the adopters' attention to the difficulties of implementing the innovation after but not before the adoption decision (Newell, Swan, and Galliers 2000). This could imply that for example a consultant selling a solution would prefer the adopters to use peripheral route before buying and central route afterwards. Before the solution is sold

¹⁰ Under the heading “Three Change Processes with Different Organisational Routes”

– focus on how many others use the innovation, how quickly the market is growing and after the sale focus on the obstacles to success in this particular organisation.

From a slightly different angle one could say that for a change agent, which route a potential adopter is using, is of interest. If the change agent believes that the peripheral route is used, then it is important to identify the cues that are used by the decision-makers and if the central route is used then the strength of the arguments should be the centre of attention. But that leaves one delicate problem – what is central and what is peripheral route in an organisational setting?

Two simple poles to start the discussion from would be that peripheral route is when the people making the decision are using peripheral route and central route is when the people making the decision are using the central route (or in cases of mixed routes the majority or the most influential group's route would define the organisation's route). But we could also talk about characteristics of the decision process – are the adequate people involved in the decision, do they get adequate information, do they have enough resources to gather information about the innovation and the organisation, are legitimate or standard decision procedures used or are the decision processes ad hoc? The answer to these questions could be relevant to how an organisation is best influenced and they could also be relevant to someone trying to improve the decision process.

In trying to say something about what central and peripheral route would be in an organisational setting we could also try to metaphorically transfer signifiers between human and organisational actors. Doing so would suggest a couple of factors that would signify central route, e.g. relevance to the organisation (or deciding group), expertise in the area of concern and personality traits like need for cognition (Aronson, Wilson & Akert 1998). Need for cognition could just be seen as a human personality trait but metaphorically also as a trait of the organisation¹¹. In this sense different organisations would have different propensity to put effort into decision processes. These metaphorical organisational traits could then be seen as e.g. inherent structures and/or organisational culture.

In human actors there is another dimension that is interesting – to what extent the actor is aware about what cues are used in the decision-making process. A person making a decision mostly with the peripheral route would not necessarily know what parameters affected the choice, whereas a person using the central route would be better equipped to give an account of how the decision was made. If an actor is not conscious of the cues affecting the decision it is difficult to change them. For example, organisations can make outspoken (at least in the board room) decisions to imitate because they do not grasp the consequences of their actions, and therefore decide to rely on imitation, but they could also imitate without really knowing that others' behaviour strongly influences their own. Thus if we want to say something about which route has been

¹¹ an organisationality trait ☺

used in an organisation we could assess factors like the awareness about reasons for made decisions.

Central or Peripheral Route in the Studied Organisations

Since the decision process was not studied in detail it is difficult to assess how the SMEs in the sample used in this thesis reasoned or which route they used according to ELM. Even if we would know for certain that customer pressure was the most important factor in deciding to adopt ISO 9001:2000 we can not say for certain which route has been used in the decision process. One can argue that if it is clear that a major customer, whom the company can not afford to lose, demands ISO 9000 certificate, it is pointless to waste effort on the decision process. An impression from some of the interviews was that top management, and marketing managers, did not put much effort into evaluating the technical efficiency of ISO 9000 before adopting and often had vague perceptions regarding the standard, implying that peripheral route was used. However, I would not go so far as to say that this was the general picture.

Regarding the sport associations, the awareness of the reasons behind the adoption decision was generally vague. This was because the reasons were a mix of personal reasons (e.g. an enthusiast enjoying working with ICT) and organisational reasons (e.g. we need ICT to better communicate or we need it for our image). These reasons were seldom stated but were guesses from the respondents. The results would suggest that decentralised decision-making could reduce the likelihood for elaboration from an organisational perspective; a hypothesis that would have to be tested.

The last article reveals a tension between the peripheral route and adopting the innovation. Adopting the innovation would lead to more cognitive effort than not adopting it – thus the people with a low need for cognition would be less likely to adopt the innovation. These people would also more likely be influenced by the peripheral route. Thus the dilemma is that the change agent has to use the peripheral route to influence the audience to using the central route.

A Note on ELM and Rationality

Abrahamson (1991) asks why organisations reject technically efficient decisions and why they adopt technically inefficient innovations. He concludes that the efficient choice perspective fails to answer these questions. He gives a few possible explanations, e.g. that the organisation might be influenced by other organisations to act in accordance with these other organisations' interests. Consequently an organisation adopts a technically inefficient innovation when the political cost of rejecting it is greater than the inefficiency costs of adopting it, which (if you ask me) is a rational choice. However, he also suggests that, in line with institutional theory (c.f DiMaggio & Powell 1983), organisations are uncertain about effects of innovations and the goals of the organisation and thus have to build their decisions on cues. This heuristic model might then lead organisations astray – to non-optimal decisions.

Certainly other authors have proposed alternative models to the efficient choice model. For example, Simon (1997/1947) claims that much decision-making is built on

heuristics rather than optimisation, leading to what he referred to as bounded rationality. Bounded rationality emphasises agents' limited information and costs of attaining more information.

ELM has implications for the models competing with the efficient choice perspective. But first let me start with a few words on the problems involved in assessing the rationality of a decision process. It is difficult to decide with any certainty whether organisations have acted rationally or not when deciding to adopt an innovation. Partly because, as mentioned earlier, adopting technically efficient innovations is not a guarantee for a rational decision process (it could be luck). And partly because innovations have complex interaction patterns with organisations and it is thus difficult, even for scientists, to judge whether an innovation is overall beneficial or detrimental, and the answer would depend on which goals are set or assumed. In the discussion below I will presume that an optimal decision exists given some goals.

ELM suggests that factors that have been found to be associated with peripheral route decision-making could be only very vaguely correlated with optimal choice. For example, in the situation of a decision after listening to speeches by a proponent and an opponent of a proposition, vaguely correlated cues might be length of a speakers speech or attractiveness of speaker, whereas other things could be somewhat correlated with an optimal choice, e.g. how other people are behaving (e.g. applauding much or little - provided you have somewhat similar interests as the rest of the audience).

Thus ELM clearly shows that at times people use rather crude heuristics in their decision processes. One could say that when the central route is used the actor behaves more in accordance with an efficient choice model and when the peripheral route is used the actor behaves in accordance with the bounded rationality models. Or perhaps we should rather say that when central route is used people behave according to reasoned heuristic models and when peripheral route is used the actor behaves according to a largely unconscious heuristic model. Nevertheless, ELM could give some insight to those who want to model human and, perhaps through that, organisational adoption of innovations.

Summarising Remarks

In this chapter I summarise the discussion in the first part of the thesis. The three essays are then presented in the next chapter. They contain a concluding section each and the summary here will only regard the discussion this far in the thesis.

I have discussed the level of effort put into the decision process and the implementation process of the organisations adopting innovations. The patterns that emerged are quite different in the three studies. The third study might be the one closest to a classical innovation diffusion study, where the results show that the more informed the organisation (or person) the more likely an adopter, and the more likely a satisfied adopter (Rogers 2003).

In the first two studies the results are not in line with what was found in the third. In the first study, the organisations most satisfied with ISO 9000 were those who adopted the system with little prior knowledge about it but then turned more positive as they realised that there were many positive effects of working in accordance with the standard. In the second study the most positive organisations were those having a clear idea about how to use ICT; not only did they know much about ICT prior to adopting but also they had comparatively high usage of ICT. Furthermore, in the second study, the ones that had limited knowledge about ICT before starting to use it, but then ended up putting more effort into the use, were usually the ones expressing the most dissatisfaction with the innovation. Understanding these different interaction patterns between organisation and innovation is a step away from a beneficial/detrimental dichotomy of innovations.

I have also shown how the decision and implementation process differs between the three studies. In the first we saw a top down decision and implementation process, whereas in the second study we saw a bottom or middle up process. In the third study the decision and implementation processes were much narrower in scope, often involving only one person. I have also described how all perspectives suggested by Abrahamson (1991) bear some grain of truth for the adoption of ISO 9000 by SMEs and adoption of ICT for sport associations, whereas imitation is less important in the adoption of the YAF-module.

Furthermore, I have discussed the parallels between human and organisational decision-making using the Elaboration Likelihood Model (ELM) metaphorically in an organisational setting. ELM suggests that people sometimes base their decisions on surface cues while sometimes they elaborate on pros and cons. Certain parameters have been found to affect which of these processes (routes) are used e.g. relevance of the decision and need for cognition as a personality trait. (see page 9).

Using ELM in an organisational context gives us a new angle from which to view organisational decision-making. For example, ELM could explain why organisations

sometimes act more in accordance with efficient choice theory and sometimes more in accordance with bounded rationality theory.

I also make an attempt to assess which routes have been used by the organisations in the samples in this thesis. Since the analysis is performed in retrospect, the empirical material offers possibilities to assess decision routes only on a speculative level. However, the results suggest that decentralised decision-making could reduce the likelihood for elaboration from an organisational perspective; a hypothesis that would have to be tested.

The discussion about the last article reveals a dilemma for the change agent. Adopting the innovation would lead to more cognitive effort than not adopting it – thus people with a low need for cognition would be less likely to adopt the innovation. They would also more likely follow the peripheral route rather than the central route, in the sense given to those terms in ELM. Thus the dilemma is that the change agent has to use the peripheral route to influence the potential adopters to using the central route.

This first part of the thesis has been a way to put the essays in this thesis in a context – to describe how they relate to the broader field of innovation diffusion research. The essays provide more specific knowledge about the specific innovations in the specific organisations. In the next part of the thesis the essays are presented in chronological order.

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Appendix

Here I present the studied organisations and the studied systems. I start with presenting the organisations and then move on to presenting the systems. The presentation here in Appendix is fuller than the descriptions you find in the introductory parts of this thesis and in the essays. Parts of the material presented in the above-mentioned places might reoccur here. The purpose is to have a comprehensive and coherent description for readers who want to have a richer picture of the studied entities.

The Studied Organisations

Under this heading I present the studied organisations in each of the papers in chronological order.

Swedish SMEs

In the first study we assess Swedish small and medium sized enterprises (SME). The definition of SMEs varies between countries. We defined it as enterprises with between 20 and 500 employees. This definition includes firms larger than is usually included in the definition of SMEs in the EU. In the EU the definition includes enterprises with between 10 and 249 employees¹² (Official Journal of the European Union 2003). In addition to the number of employees, the official EU definition contains turnover and balance constraints. We did not put any restraint on turnover but focused exclusively on number of employees.

In 2003 when the study was carried out there were about 16 000 SMEs in Sweden. SMEs constituted 7,5% of all enterprises with at least one employee in Sweden (92,1% have less than 20 employees and 0,4% have more than 500 employees)¹³ (Statistics Sweden database 2007). In 2003, 3107 companies had been certified according to ISO 9001:2000 (The ISO survey 2005) in Sweden (all sizes).

We assessed companies that had been certified according to ISO 9001:1994, 9002:1994 or 9003:1994, and then recertified according to ISO 9001:2000. The companies in our sample had all been certified by SEMKO DEKRA, SFK certifiering AB or Bureau Veritas Qualité Assurance (BVQI). Previous research has shown that auditing style does not influence the perceived outcome significantly (Terziovski, Power och Sohal, 2003). Thus the delimitation to these three agencies is not deemed to affect the generalisation to other agencies.

66 companies participated in the study. The average company in our sample had 105 employees. Two thirds of the sample was manufacturing companies 18 % were service companies and 15 % had elements of both. This contrasts with the frequency of

¹² Enterprises with less than 10 employees are referred to as micro enterprises and could also be included in the SME category.

¹³ However 75% of all businesses had no employees in 2003 (Statistics Sweden database 2007)

service SMEs and manufacturing SMEs in Sweden in general. About 40 % of the SMEs in Sweden are Manufacturing businesses and 60% Service companies (Statistics Sweden 2003). However, it is primarily in the category of 20-49 employees that service companies are the most common as compared to manufacturing companies in Sweden. Thus we could expect the service companies in our sample to be smaller than the manufacturing companies on average. On the contrary they were on average 50% larger in our sample.

Thus compared to Swedish SMEs in general our sample has a larger proportion manufacturing companies. The service companies in our sample are also somewhat larger than the average service SME in Sweden (regarding number of employees). The overrepresentation of manufacturing firms is not surprising since the ISO 9000-standard has its roots in manufacturing settings (read more about ISO 9000 on page 149). A plausible explanation for service companies being larger is that when the service companies start using the standard it is the larger companies that start first, which is a common pattern in diffusion of innovations (Rogers 2003).

The SSC, SSF and the Sport Associations

The two latter studies (Lundmark & Westelius 2008; Lundmark et al forthcoming) are directed at Swedish sport associations. The SSC and important characteristics of Non Profit Organisations (NPO) are described in the articles. Here I will present the SSC and the sports associations a bit more in depth and also give some demographic background information.

The SSC consists of 68 member organisations, so called Special Sports Federations (SSF), each representing a sport or group of sports (e.g. the Swedish Orienteering Federation and the Swedish Budo and Martial Arts Federation). The SSFs have member associations, which in turn have individual people as members. Thus, the SSC is an organisation of organisations of organisations of people which in total includes a third of the Swedish population in more than 20 000 associations. The largest sports in Sweden (as measured by the number of members in associations associated with the respective federation) are Football, Golf and Athletics¹⁴ (SSC 2006).

To administer such a large body of organisations the SSC is structured in 21 districts, so called District Federations (DF). They are part of the SSC administration. The SSFs are also divided into regional districts, so called Special District Federations. However, the mapping of the districts varies between different SSFs and thus does not necessarily coincide with the DFs. A model of the organisation of the SSF is shown in figure 15.

¹⁴ Worldwide the biggest sports are Volleyball, Football and Basket ball (SSC 2006)

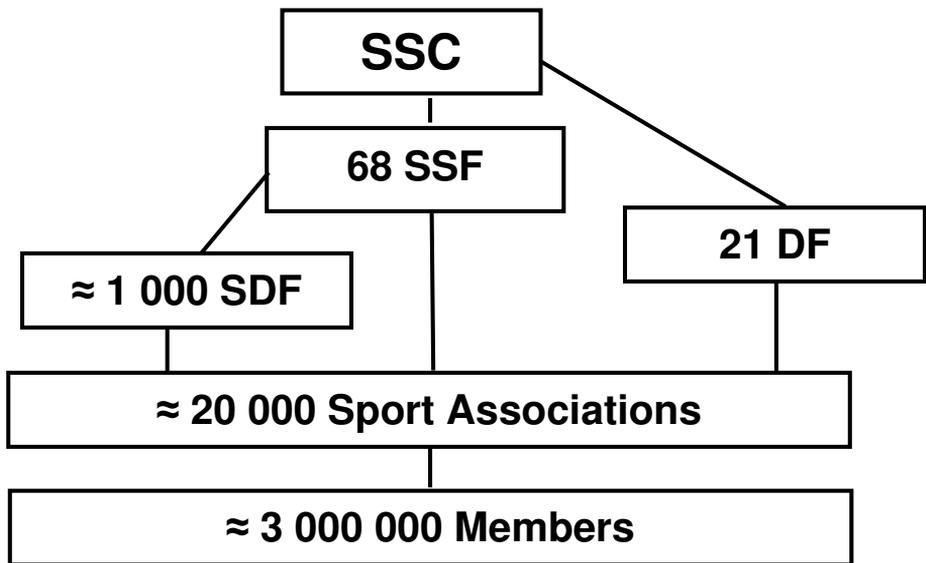


Figure 15 The Swedish Sports Confederation

The associations at the bottom of the structure, sport associations, vary in size and activity and can be members of one or more SSFs (and thus more than one SDF but only one DF). For most associations connected to the SSC, a substantial part of the work is done by volunteers.

About 30% (men 38% women 24%) of the population between 16 and 84 years of age are members of a sport association and the proportion is higher for teenagers and children (Vogel et al. 2003). Approximately half a million people have a commission of trust within a sport association. On average these people spent 14 hours a month working for the association (Ibid).

Statistics Sweden divides NPOs into five categories (translated freely): Political; Lobby; Solidarity; Religious; and Lifestyle NPOs. Sport associations are classified as Lifestyle NPOs (Vogel et al. 2003).

Both membership and position in a sport association co-varies with education but seems relatively unrelated to income. People with university education are twice as likely to have a commission of trust in a sport association as compared to people with only primary school education (9 years in Sweden) (4,5% compared to 8,8% Ibid).

Since sport activities are carried out in so many different contexts and in so many different organisations and much of the work is voluntary, it is difficult to find any

aggregated statistics regarding created value. Norberg (2004) presents estimates from 1992. Then it was estimated that 15 500 people were employed in the sport sector in Sweden. Voluntary work corresponding to 62 000 full time positions was carried out. Later studies indicate that the voluntary workload has been relatively stable since the early nineties (SSC 2005). In 2005 there were about 6 000 000 sports activities for young people generating almost 60 000 000 person activities for young people (Age 7-20) within the SSC (SSC 2006)¹⁵.

In Lundmark & Westelius (2008) we assessed sport associations that were members in at least one of the 68 SSF within the SSC, regardless of size, sport or level of activity. In Lundmark et al (forthcoming) we focused on associations within three federations (Football, Orienteering and Equestrian), that had applied for YAF for the second period of 2005.

The federations were chosen because they had rather different approaches to the common IS system within the SSC – Swedish Sports Online. Although Lundmark et al (forthcoming) focus on the common picture, there are differences that will be presented in future articles. Some differences in the use of the Swedish Sports Online system are presented in the section describing the system (page 155). The Swedish Football Association¹⁶ is the largest and most resourceful of the SSC's 68 federations (e.g. regarding turnover, assets, members and activities). In total it encompasses more than 3000 associations and 1000 000 members. The Swedish Equestrian Federation is relatively large, with close to 1 000 associations and 187 000 members. The Swedish Orienteering Federation have about 100 000 members in more than 600 associations.

The sport associations vary in size and character. As we can see from the number of members and associations, average size varies between federations. There is also large variation within the federation. During the first study we identified a few different types of sport associations that can nuance the stereotypical sport association which would be the competing association below:

The community associations focus their activities on social activities. Spirit of community and having fun is more important than competition.

The competing associations focus on competition and producing good sports men and women. They often have activities for both adults and children. It is not uncommon that this kind of club competes with other sports for the attention of young promising athletes.

¹⁵ Since sport associations get funding based on number of activities and participants between the ages of 7 and 20, these statistics are presented annually. An activity including 12 teenagers generates 12 person activities.

¹⁶ The Swedish Football Association is a Federation within the SSC but the English name does not converge to the standards within the SSC.

The commercial association is characterised by having a commercial activity in connection with the sport e.g. a scuba diving firm that sell courses and tours or golf associations with clear commercial interests.

The personal development association has members that perform the sport not to compete but to develop skills or abilities. In this category you find e.g. some martial arts associations or climbing associations.

For a fuller description of these categories see Lundmark & Westelius (2004) available only in Swedish.

The Studied Systems

Under this heading I present the studied systems in each of the papers in chronological order.

ISO 9000

ISO 9000 is the studied system in (Lundmark & Westelius 2006). The system has no relevance to the two later studies.

ISO 9000 is a standard system for quality management, developed by the International Organization for Standardization (ISO). The roots of the ISO 9000 standard is the British standard BS 5750, which in turn has its roots in the British government's attempts at pushing the quality assurance towards its suppliers of weapons and ammunition during the second world war.

The first ISO 9000 standard was ISO 9000:1987 later replaced by ISO 9000:1994, which in turn was replaced by ISO 9000:2000. The previous ISO 9000 standards (1987/1994) were divided into different subdocuments depending on the activities performed by the organisations (e.g development, production or assembly) and were focused on manufacturing organisations. The ISO 9000:2000 standard, on the other hand, is generic, which means that the system has a wide scope of application. ISO 9000:2000 can be applied to any organisation regardless of size or sector of activity.

The ISO 9000 standard consists of a set of rules and guidelines. If a company is ISO 9000 certified, this means in more formal language that it is certified according to ISO 9001:2000, which is the requirements of the 9000-standard. An organisation can only be certified according to the ISO 9001:2000 standard by third party audit. This third party is not the ISO organisation but certification bodies, which in turn are authorised by accreditation bodies. These accreditation bodies are set up in a number of countries; in Sweden the accreditation body is SWEDAC (www.swedac.se).

It is not a product or service that is certified but the quality assurance management system of the organisation. The certification is not everlasting but re-audits are conducted with regular intervals.

The ISO 9000:2000 is more open than the preceding versions. It allows more adjustments to the specific organisation and is based on eight principles:

1. **Customer focus:** The gauge of quality is how well the product or service satisfies the customers' needs and expectations. These needs and expectations should be communicated through the organisation. Customer satisfaction should be measured.
2. **Leadership:** Managers in the organisation should create unified procedures to implement, evaluate and adjust processes. Goals should be challenging and they should be communicated to all members of the organisation. Managers should ascertain that members of the staff have the resources, education and authority needed for their position. Managers should inspire and encourage staff to contribute with new ideas and recognise their contributions.
3. **Involvement of people:** All members of staff should contribute to continual improvements. This will be achieved if members of the staff are aware of how their tasks and responsibilities contribute to the organisational outcomes. Members of the staff should actively acquire new knowledge and share their knowledge with co-workers.
4. **Process approach:** The organisation should have structured methods to define key activities. These key activities should be described and responsibilities and authorities clearly stated. Process orientation is seen as a prerequisite for continual improvement.
5. **System approach to management:** All employees should understand the interdependence between key processes. There should be continuous monitoring of processes and key aspects should be continuously measured.
6. **Continual improvement:** Through measurements and evaluations continual improvements and flexibility will be facilitated. Flexibility is critical to continual competitiveness.
7. **Factual approach to decision making:** Decisions should be based on facts. Thus gathering data regarding key aspects of the organisation is important not only to present decisions but also to evaluate effects of past decisions.
8. **Mutually beneficial supplier relationships:** The organisation should identify key suppliers and deepen the cooperation with them. A close relationship with suppliers is important to flexibility and to be able to respond to changes in the market.

Notice that these are guiding principles and not requirements. Thus above "should" is used rather than "shall" or "must".

Differences between ISO 9000:1994 and ISO 9000:2000

The abovementioned eight principles form a fundament to the 9000:2000 standard. Furthermore, the scope of the new standard is to cover all activities in an organisation and to gather this in one requirement document (ISO 9001:2000). In the 1994 standard there were three different requirement documents depending on what part of the organisation or what type of organisation was certified. These three documents were ISO 9001:1994, ISO 9002:1994 and ISO 9003:1994. Of these documents ISO 9001:1994 was the most extensive one and incorporated the ISO 9002:1994 which in turn incorporated ISO 9003:1994 as shown in figure 16.

In practice the standard has changed from stating that all processes should be documented to focusing on the document being normative and aimed at continual improvement. The structure of the standard has also been changed. The requirements from ISO 9001:1994 has been merged with ISO 9004 and reworked into ISO 9001:2000. The new standard consists of eight sections covering five major areas: General requirements; Management responsibility; Resource management; Product realization; Measurement, analysis and improvement.

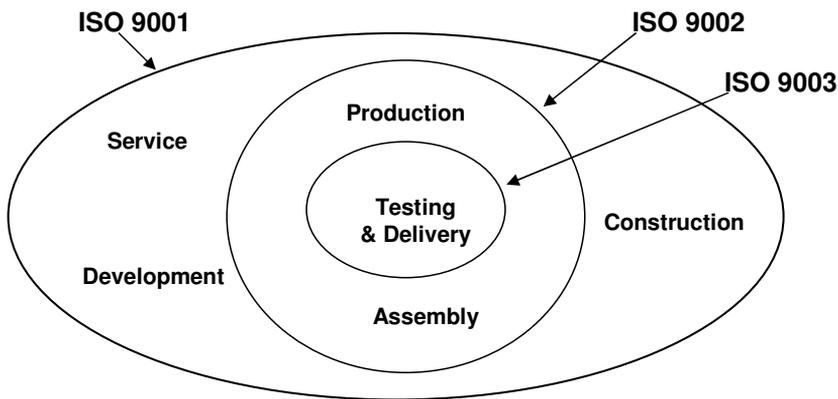


Figure 16 Model of ISO 9001:1994

Other important differences are that the 2000-standard emphasizes process orientation whereas the old standard was more focused on routines. Top management participation is also more emphasized in the new standard as compared to the old. The new standard has been made more flexible, to allow adjustment for the specific organisation; as a consequence it has greater relevance to service companies. Furthermore, in the new standard continual improvement is more emphasized as is customer focus and customer satisfaction measurements. Finally, the new standard does not require as much documentation as did the old standard.

Internet-Based Communication Systems

The results relating to Internet-based communication systems are presented in the second paper in this thesis (Lundmark & Westelius 2008) and in (Lundmark & Westelius 2004). The third paper in this thesis is also based on studies of internet-based communication systems, the YAF-module in the Club Online. This specific application will be presented in the next section "Youth Activity Funding (YAF)". However, the general discussion about Internet use is to some degree relevant also to (Lundmark et al forthcoming).

There are many types of Internet based communication tools, e.g. IP-telephony, video conferencing, text-based chat, e-mail and websites. Lundmark & Westelius (2008) is concerned with the latter two. Since the YAF-module will be presented separately, this description will focus on e-mail and websites, which are also the most widely used internet tools in Sweden (Statistics Sweden 2006).

Internet access is generally considered to have positive effects for people, organisations and society (Firth & Mellor 2005). There are many exuberant visions about what the impact of Internet on society (Ibid). In Sweden and most if not all other industrialised nations there is an outspoken ambition of increasing the access to and the use of the Internet (Nilsson 2006).

Internet communication grew popular in Sweden in the mid nineties. Among the general public, sending and receiving e-mail and searching information about services and products are the most common uses of the internet (Statistics Sweden 2006). E-mail was one of the key elements in popularising Internet use in homes (Kraut, Mukhopadhyay, Szczypula, Kiesler & Scherlis 1999).

Both e-mail and websites have become important communication channels for many organisations. At the time of our study (2003) 79 % of Swedish companies with more than 10 employees had a website (Swedish Statistics 2005 reviderad version av 2003) that could be compared with 65% of all the sport associations (Lundmark & Westelius 2004). E-mail was used as an important communication channel by 60% of the sport association, however the use of e-mail was primarily used in interaction with leaders, coaches and central administration, whereas the website was seen as important primarily towards members (Ibid).

The use of e-mail and websites in Swedish sport associations over the last decade must be seen from the perspective of the rapid growth of the use of these tools both in the work place and in private homes and lately in the streets and public places through wireless access points.

In the beginning of the nineties the Internet was not used at all by most Swedes a decade later most Swedes use it regularly. No such transition can occur without reactions. The ease with which information can be exchanged has raised many concerns. It has brought intellectual property into focus as the film and music industry are trying to limit the possibilities of sharing files on the internet to protect their interests. Schools

and universities are concerned with students copying material found on the Internet and using it as their own. Concerns about easy access to material that is considered unsuitable (e.g. pornography and instructions for making bombs) have been raised. Employers are worried that their employees spend time interacting with their friends or surfing the www, rather than focusing on their work.

There are also a number of drawbacks associated with the use of e-mail. Perhaps the most salient drawback is SPAM, which is unwanted e-mails that are sent indiscriminately. SPAM-filters are getting better but it is a constant struggle between senders and filter designers. There are also concerns about privacy (e.g. who has access to your e-mails¹⁷). Information overload is another problem; the number of e-mails sent is growing as is the time processing e-mail (Gupta, Sharda, Ducheneaut, Zhao & Weber 2006).

When analysing the use of Internet based communication it is important to be mindful of all these drawbacks and concerns. A person who does not use the Internet might have heard both apprehensive voices as well as voices prizing the Internet and its possibilities. Concerns are not limited to the use of the Internet; on the contrary there are great concerns about non use – the so called digital divide (Vehovar, Sicherl, Hüsing & Dolnicar, 2006). Concerns about non users take two forms: concern about the opportunities that the non users are missing (Vehovar et al. 2006) and concerns because we still have to maintain old, inefficient systems until everyone is using Internet (e.g. Lundmark & Westelius 2008).

However, the digital divide is not only a question about who is using and who is not. It is a question about frequency of use, type of use, knowledge about use and services, attitudes towards use, bandwidth to mention a few other perspectives (Vehovar et al 2006; Nilsson 2006). Thus, even if almost all Swedes have used the Internet¹⁸ there are considerable differences in how it is used (Findahl 2003).

Standards Regulations and Laws

All forms of communication require some form of standard to function e.g. a language, which is a kind of standard. Thus, who you can communicate with depends on who is using the same standard as you do. Usually web-based communication between people involves languages, pictures and symbols. In order to transfer these entities on the Internet there is a need for standards for the transmission of this information not only between humans but also between machines.

Both e-mail and websites are based on de facto standards. Websites are in practice forced to follow the standards set by the major actors on the Browser market – Internet Explorer and Mozilla Firefox, (others could be mentioned e.g. Opera and Safari).

¹⁷ Recently gmail received criticism for insufficient security (www.dn.se 2007 09 26 <http://www.dn.se/DNet/jsp/polopoly.jsp?d=678&a=697283>)

¹⁸ 86% of the Swedes used the Internet during the first three months of 2006, Statistic Sweden Database 2006.

World Wide Web Consortium (W3C) develops standards for web-based communication¹⁹. E-mail must also conform to standards set by leading actors. In practice Simple Mail Transfer Protocol (SMTP) has been the standard during the whole the whole popularisation of the Internet.

These standards have little influence on the content of communication and most users are not aware about the standards or who sets them²⁰. A salient reason the users do not have to know about the standards is because they are standards. Without a general standard communication would be limited to the ones using the same formats and protocols. There are also practical implications of the standards (e.g. the possibilities of sending SPAM is affected by the protocol used for sending e-mail; standards can also limit what can be done or expressed e.g. how pictures or letters are presented).

In Sweden there are two important laws regulating what can be done or said on a website and who is responsible. The first is PUL²¹ that regulates how personal information could be stored and presented. This law is very restrictive about what kind of personal information you can present on a website (e.g. normally you have to have consent in order to publish a picture of someone). The second law is "yttrandefrihetsgrundlagen" [the constitutional right of freedom of speech]. For a website to be protected by this constitutional right a special publishing certificate²² is generally required. There are certain conditions to be eligible for this certificate e.g. a limited and known group of people publishing on the website and a responsible publisher, who bears the full legal responsibility for everything published on the website. A site with a publishing certificate of this kind is protected from many of the restrictions in PUL since constitutional rights have priority over general laws.

However, many webmasters publish pictures without either publishing certificate or consent. Internet newspapers protected by the constitutional rights of freedom of speech allow their readers to comment on articles without first letting staff approve them. Thus, in practice the laws are not strictly followed.

Nevertheless, these laws do affect the sports associations and the Swedish sports movement. During our interviews with webmasters some expressed concerns about the possibilities of publishing photos from practices or events. Another example of this is the SSC's decision not to use "Personnummer"²³ as the database key in their membership database. This would have made duplicates much less frequent, but with respect to PUL they chose a self-constructed key.

¹⁹ Microsoft that develops Internet Explorer; Mozilla that develop Fierfox; Apple that develop Safari; and Opera are members of W3C

²⁰ Cf. "How to knowledge" and "Principle knowledge" in Rogers 2003

²¹ In Swedish Personuppgiftslagen, (Svensk författningssamling (SFS). Personuppgiftslag (1998:204)

²² In Swedish Utgivningsbevis

²³ Personnummer is a personal unique number for every Swedish citizen, much like American Social Security numbers but they contain information about DOB, place of birth and sex.

Swedish Sports Online

Swedish Sports Online is a system developed by the SSC, which potentially can encompass the SSC's more than 20 000 associations and 3 million members. The system was developed at the turn of the millennium as a joint venture between the Norwegian firm N3sport and the SSC. The project used the slogan "More time for sports" and the goal was to make basic administrative processes more efficient and to build a shared communication platform for the Swedish sports movement.

One of the central parts of the system is the Club Online, an application that among other things provide the associations with an easily managed website. There are areas on the websites that are reserved for centrally managed advertisements. At the initiation of the project, the development of the system was supposed to be financed by these advertisements. However, only a few months after the start of the venture the burst of the dot-com bubble [Goldfarb, Kirsch & Miller 2006], followed by a general scepticism about IT and Internet marketing made these plans clearly untenable, at least in the short run. In practice this meant a higher monetary investment than planned from the SSC.

In the beginning an important part of the project was to anchor the system with the SSFs. Early adopters of the system were the Swedish Football Association and The Swedish Orienteering Federation. Both federations developed specific modules in the system aimed at their member associations at early stages of the project. There were also many federations that chose not to join the new system. A major federation choosing not to adopt Swedish Sports Online was the Swedish Golf Federation that decided to develop their own system.

The basic modules of the Club Online were offered free of charge to all associations that were members of one or more of the federations in the SSC regardless of whether the federation had adopted the system. The dispersion of resources and type of activities among the federations and their member associations was a great challenge for the project, as was reaching out with information to the 20 000 associations with information.

As the use of the system increased capacity problems started to emerge. It also turned out to be difficult to answer up to specific requests from specific SSFs and at the same time keep the core database, the Federation Online, parsimonious. These problems were amplified by the monopoly situation for N3sport. Thus the SSC opened up for other system developers to better meet the needs of the SSFs. In 2006 the SSC decided to leave the close cooperation with N3sport and develop a new version of the system on the EPI-server platform.

Despite the plans for a new platform, the largest and most resourceful federation, the Swedish Football Association, decided to leave Swedish Sports Online in 2007 to develop their own system. However, football associations still have access to the Club Online application.

The total number of activated sites among the associations has risen from about 4500 in 2004 to about 10 000 in 2006. However, many sport associations only activated their sites to later decide not to use the tool. The number of active sites²⁴ among the associations has risen from 1000 in 2004 to 2700 in 2006.

The core of the system is the database the Federation Online (FO), which is a database and a user interface that is used mostly by employees in federations and the SSC. The Federation Online is accessible via the Internet and it is the platform on which specific applications are developed, such as the Club Online.

The Club Online could be viewed as consisting of two parts, a content management tool and an administrative part. The administrative part consists of modules for specific processes, such as keeping a register of members and licensed players, reporting people holding key commissions of trust to the federation or applying for funding of activities.

Via the content management system the association can manage their websites. The tool is relatively simple and easy to use. The association can publish their own news and decide whether news from the SSC, SSF or DF should be automatically presented on their website. Furthermore the associations can manage and present an agenda with activities such as practices or games. The administrator can give different levels of access to different members and thus the responsibilities for the website can be shared.

The basic version of the Club Online is free of charge. However, there is an upgraded version of the content management tool available for a fee. The upgraded version is called Version X and has an upgraded content management module providing more freedom in layout and content of the website. Previously there was yet another upgraded version available at a fee called Plus. During 2006 the Plus version was incorporated into the basic version and thus available without a fee. During 2007 the new version of the Club Online based on EPI-server was released. This version will make the Version X obsolete. The websites from the old version will be migrated to the new platform before the end of 2008. The administrative parts of the website will be migrated automatically, but the content of the website will be the responsibility of the associations to migrate manually.

If an association wants to activate their instance of The Club Online, they will have to contact the SSC helpdesk to get a password.

In the Swedish Sports Online, all associations connected to the SSC, their addresses and key managers are registered. The federations not using the system have to report this information to the SSC in order for the record to be complete. Many federations keep more information about their associations in the system, e.g. e-mail address, web-

²⁴ Active site is here defined as a site with more than 5000 page views in total, which is a very moderate measure.

address, number of members and specific information about members, e.g. ranking, licensing or team association.

Youth Activity Funding (YAF)

There are many processes connecting the federations with the associations, e.g. licences for participating in official competitions and arranging club competition series. Between the associations and the SSC the links are not as strong. One process where the associations are in direct contact with the SSC is the system for public funding of youths' activities. The Swedish state provides funding for associations on the basis of the level of activities for young people between seven and twenty years of age. The funding is distributed by the SSC and the applications are processed by a special department. In this role, the SSC acts as a government authority and is thus bound by the principle of free access to public records.

The funding is allotted based on the number of activities and the number of young participants. The association must keep track of these activities and the participants. Twice a year they sum these numbers up and submit them in their application for youth activity funding. There are two ways to submit the application. One is via a paper form and postal mail, the other is through a module in The Club Online. However, there are two versions of the online application.

In the old version of the online application, the association has to fill in all the members and all the occasions every member has participated and then the system provides a summary that can be submitted to the SSC. The problem with this version is that most associations provide the coaches and other managers with paper lists to keep track of their group's or team's activities. Thus the form must then be manually transferred to the online module causing a lot of extra work for potential adopters. Heeding the criticism, the SSC developed a simplified module with basically the same data as the paper form where the associations could fill in the sums and submit the application online. The simplified online application was introduced in 2005. However, the old version is still in use and optional for both old and new users.

Every period, a number of randomly drawn associations and associations that for some reason have caused suspicion are requested to submit the logs of activities and participants so that the SSC can control the validity of the application. This review is not necessary for the associations using the older version of the online application, since they have already submitted all this data.

Every year about 20 000 applications are processed. An application sent online saves on average a few minutes work for the central administration compared to a paper-based application. Thus, if all applications were submitted electronically, the central administration would save a man-year. To encourage the associations to use the online version, the funding is paid two weeks earlier to the ones submitting their application online.

All the applications are processed by a central unit. But information and support are provided by the district departments. In the guidelines, it is stated that the district departments should promote online applications. The central unit provides promotion material for further distribution to the associations.

The gathering of the application material usually involves several trainers and coaches at the association level. However, the formal sending of the application from an association is usually handled by a single individual with great freedom of choice of channel for application. The individual sending the application is usually the same person for many years, according to the respondents in the interviews. In the survey sample the median number of applications sent in by the respondents was nine (Indicating that the median time span the people are responsible for the application is 18 periods which corresponds to nine years).

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2. **Noghabai, Mehran**, 1993, *Värdering av strategiska datorinvesteringar – Med ett ledningsperspektiv på FMS- och KIS-investeringar*. Licentiatavhandling 371, IDA-EIS, Universitetet och Tekniska Högskolan i Linköping.
3. **Moberg, Anna**, 1993, *Satellitkontor – En studie av kommunikationsmönster vid arbete på distans*. Licentiatavhandling 406, IDA-EIS, Universitetet och Tekniska Högskolan i Linköping.
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6. **Poignant, Lars**, 1994, *Informationsteknologi och företagsablering – Effekter på produktivitet och region*. Licentiatavhandling 441, IDA-EIS, Universitetet och Tekniska Högskolan i Linköping.
7. **Lind, Jonas**, 1994, *Creditor–Firm Relations: An Interdisciplinary Analysis*. Licentiatavhandling 451, IDA-EIS, Universitetet och Tekniska Högskolan i Linköping.
8. **Nilsson, Fredrik**, 1994, *Strategi och ekonomisk styrning – En studie av Sandviks förvärv av Babco Verktyg*. Licentiatavhandling 463, IDA-EIS, Universitetet och Tekniska Högskolan i Linköping.
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10. **Andersson, Jörgen**, 1995, *Bilder av småföretagares ekonomistyrning*. Licentiatavhandling 522, IDA-EIS, Universitetet och Tekniska Högskolan i Linköping.
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15. **Zetterlund, Per-Ove**, 1998, *Normering av svensk redovisning – En studie av tillkomsten av Redovisningsrådets rekommendation om koncernredovisning, RR01:91*. Licentiatavhandling 668, IDA-EIS, Universitetet och Tekniska Högskolan i Linköping.
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5. **Frimanson, Lars (2006)** *Management Accounting and Business Relationships from a Supplier Perspective*, Department of Business Studies, Uppsala University, Doctoral Thesis No. 119.
6. **Johansson, Niklas (2007)** *Self-Service Recovery*, Information Systems, Faculty of Economic Sciences, Communication and IT, Karlstad University, Dissertation KUS 2006:68.
7. **Sonesson, Olle (2007)** *Tjänsteutveckling med personalmedverkan – En studie av banktjänster*, Företagsekonomi, Fakulteten för ekonomi, kommunikation och IT, Karlstads universitet, Doktorsavhandling, Karlstad University Studies, 2007:9.
8. **Maaninen-Olsson, Eva (2007)** *Projekt i tid och rum – Kunskapsintegrering mellan projektet och dess historiska och organisatoriska kontext*, Företagsekonomiska institutionen, Uppsala universitet, Doctoral Thesis No. 126.

9. **Keller, Christina (2007)** *Virtual Learning Environments in Higher Education – A Study of User Acceptance*. Linköping Studies in Science and Technology, Dissertations, No.1114.
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13. **Myreteg, Gunilla (2007)** *Förändringens vindar: En studie om aktörsgrupper och konsten att välja och införa ett affärssystem*. Företagsekonomiska institutionen, Uppsala universitet, Doctoral Thesis No. 131.
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17. **Hansson, Magnus (2008)** *On Closedowns – Towards a Pattern of Explanation to the Closedown effect*. Swedish Business School, Örebro University. Doctoral Dissertation No. 1.

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1. **Johansson, Niklas E. (2004)** *Self-Service Recovery - Towards a Framework for Studying Service Recovery in a Self-Service Technology Context from a Management and IT Perspective*. Karlstad University, Licentiate Thesis KUS 2004:3.
2. **Ekman, Peter (2004)** *Affärssystem & Affärsrelationer - En fallstudie av en leverantörs användning av affärssystem i interaktionen med sina kunder*. Mälardalen University, Licentiate thesis No.25.
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