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SCHOOL OF BUSINESS, ECONOMICS AND LAW

Adoption of management innovations: motivation, timing and extent of implementation

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Abstract

Title	Adoption of management innovations: motivation, timing and extent of implementation
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Purpose

The first purpose of this study is to further empirically test the validity of Kennedy and Fiss' (2009) framework about the connections between adoption motivation and timing as well as between adoption motivation and the extent of practice implementation when adopting a management innovation. In addition, the study also aims at developing the framework by extending its set of motivations by adding forced selection. The second purpose of this study is to test whether the framework is sensitive to the characteristics of the innovations.

Methodology

The study uses a qualitative research method based on semi-structured interviews at companies certified with ISO 9001 and ISO 14001. Their answers have been categorized and given relative performance values to gain comparability and build a foundation for analysis of the empirical findings and the theoretical framework.

Theoretical framework

The theoretical framework is based on previous research in the field of management innovations and its decision-making, adoption motivations, timing and implementation.

Empirical foundation

The empirical material of this study is the results from conducted interviews.

Conclusions

This study shows the complexity of categorizing adoption motivations and the importance of considering forced selection as a possible adoption motivation. The results of this study support that motivational logics of efficiency and legitimacy complement rather than conflict with each other. We also show how gains-related adoption motivations often are associated with extensive practice implementation but that loss-related motivations not necessarily are associated with a low extent of practice implementation. We also show how the characteristics of innovations can be of great significance when studying the adoption process.

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1. Background & purpose

This chapter aims at providing the reader with a greater understanding of the background of this study and the issues of the subject. The chapter also presents the purpose of the study.

1.1. Background

The number of researches trying to explain how and why companies behave like they do are numerous. A commonly used approach has been to examine a company's decision-making regarding adoption of new innovations. Although most of the prior studies have attracted academic interest, not all have been able to get unambiguous results, showing a clear and precise image of how the decision-making is taken out in the companies. (Van de Ven & Poole, 1995).

Adoption motivations behind why and how firms adopt new innovations and practices are, and has historically been, generally associated with prior research like the two-stage model of institutional theory. They have, however, started to be questioned as new institutionalism becomes more and more popular and acknowledged.

Rooted in institutional theory, the two-stage model describes how motivations behind an adoption are related to the timing of the implementation and how early adopters tend to seek technical gains while later adopters are primarily interested in the social benefits of appearing legitimate. Although the two-stage model of diffusion and institutional theory has been progenitors and a base for many subsequent studies (e.g., Baron, Dobbin, & Jennings, 1986; Meyer, Stephenson, & Webster, 1985; Pangarkar & Klein, 1998; Scott, 1995; Westphal & Zajac, 1994), it has recently suffered some difficult criticism. Lounsbury (2007), for instance, argued that segregating social and economic logics is problematic since the disparity between social and technical benefits is quite vague and not always black or white. (Lounsbury, 2002; Thornton, 2004).

The vast part of prior studies has inferred adoption motivations from the characteristics of the organisations such as size and age (Tollbert & Zucker, 1983) or from later implementation patterns of innovations (Westpahl et al., 1997). However, more or less no prior studies have directly examined and evaluated the *direct* adoption motivations (Kennedy & Fiss, 2009).

Kennedy & Fiss (2009) take this one step further and argue that the conventional two-stage model is oversimplifying the relationship between adoption, motivation and timing. Their study shows that both early and later adopters are affected by logics of efficiency and legitimacy because they complement rather than conflict with each other. Kennedy & Fiss argue that the adoption process rather is associated with the perceived opportunity of achieving economic and social gains and the perceived threat of incurring economic and social losses. They also describe the relationship between these motivations and the following practice implementation (Kennedy & Fiss, 2009).

Hence, we find this to be an area where valuable studies can be undertaken, enhancing the understanding of the mechanisms behind the diffusion process. In order to do so, there is a need for investigating this criticism but also to complement and extend previous framework.

Looking at previous research, we find a need for greater focus on forced selection and the characteristics of innovations. Forced selection has been part of prior research but its explicit connections to adoption timing and practice implementation has not. Nor have prior research considered the possible effects of differences related to the characteristics of innovations. By studying two different management innovations, such characteristic differences can be observed. In this case, we have focused on ISO 9001 and ISO 14001 since they both are international business standards and since there is reason to believe they behave differently because of their respective focus on quality and environmental issues. By focusing more attention to these factors, we also add new dimensions to the rather undiscovered area of the connection between adoption motivations and practice implementation.

1.2. Purpose

The first purpose of this study is to further empirically test the validity of Kennedy and Fiss' (2009) framework about the connections between adoption motivation and timing as well as between adoption motivation and the extent of practice implementation when adopting a management innovation. In addition, the study also aims at developing the framework by extending its set of motivations by adding forced selection.

The second purpose of this study is to test whether the framework is sensitive to the characteristics of the innovations.

2. Theory & development of hypotheses

This chapter presents the framework of the study, it introduces explanations to the hypotheses and, last, it briefly describes the two studied management innovations.

2.1. Institutional theory & New institutionalism

In an institutional perspective it is asserted that it is rules and mores that makes an organisation conduct a behaviour and later make it work in the economic system. Organizations are seen as adaptive social structures, which do not just face their own economic or political problems but also the problems of the institutional environment. Although, the organizations are not active decision makers but are instead acting the way they think is appropriate (Eriksson-Zetterquist, Kalling & Styhre, 2012).

New institutionalism concerns the impact and influence of a company's surrounding institutional environment (Eriksson-Zetterquist, Kalling & Styhre, 2012). The theory focuses on how companies interact and how they affect the society. It further explains that institutions have become more and more similar, a phenomenon called isomorphism (DiMaggio & Powell, 1983).

2.2. Development of hypotheses

2.2.1. Adoption motivation & adoption timing

Kennedy & Fiss (2009) examines the interplay between social and economic considerations in adoption decisions regarding total quality management (TQM) among US hospitals. Two basic motivational approaches are explained to characterize the adoption. The first one represents an economic perspective where efficiency and technological gains are vital in contributing to economic performance. The second motivational approach stems from a more sociological view where adoption is made to maintain a legitimate façade.

Tolbert and Zucker (1983) presents a two-stage model describing how early adopters generally are seeking efficiency, and thereby economic gains and that later adopters rather are seeking the social benefits of appearing legitimate. This traditional two-stage model has started to draw more and more critical attention during recent years. It is problematic to segregate economic and social logics since motivations for technological and social distinctions might coexist as they are not necessarily mutually exclusive. In fact, early adoption often leads to positive attitudes among customers (Kamins & Alpert, 2004). Kennedy and Fiss (2009) argue that early adopters and late adopters are affected both by concerns of efficiency and legitimacy. Thus, they raise the question if early adopters lack interest in gaining the social legitimacy that follows from being a market leader. They mean that a desire of appearing legitimate should not interfere with a desire of performance improvement as long as the performance improvement itself is not illegitimate. Also, late adopters should not only find an interest in being perceived as legitimate but be interested in the efficiency gains as well. Social and economic benefits and motivations may therefore work in parallel rather than conflicting logic. Optimally, they can even reinforce each other.

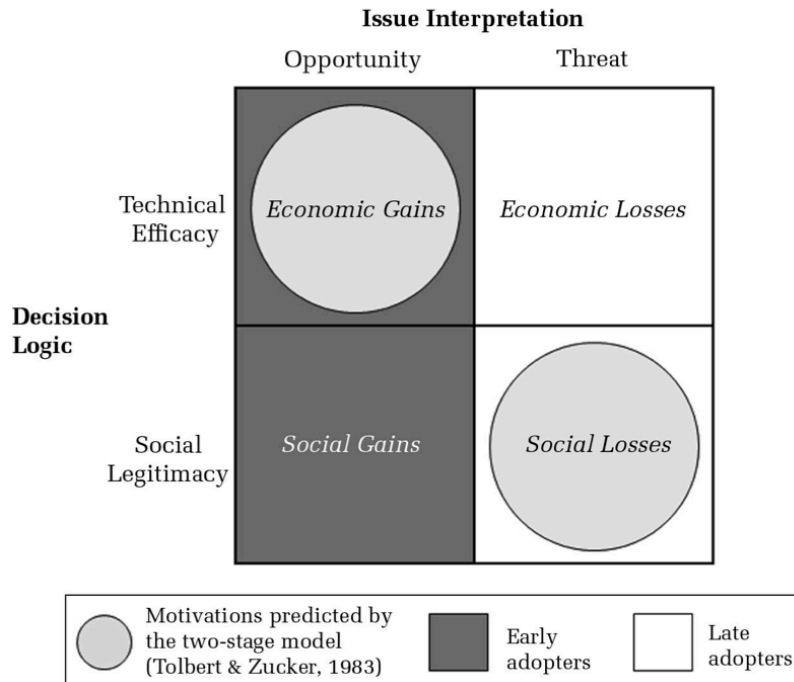


Figure 1. Motivations for adopting innovation (Kennedy & Fiss, 2009).

Figure 1 illustrates that organizational decision makers consider as well efficiency as legitimacy dimensions when implementing new practices. Within these respective dimensions, focus of the adoption decisions can be on either gain-seeking or loss-avoiding. It also shows that early adopters tend to seek perceived opportunities and that later adopters tend to avoid perceived losses.

Kennedy and Fiss (2009) also argue that, the importance of early adoption and to be perceived as market leader diminishes with time. At the same time the risk of being perceived as a laggard increases and the threat of not adopting the TQM grows bigger. From this, Kennedy and Fiss form and examine the four following hypotheses:

Hypothesis 1a) *Early adopters are motivated by the perceived opportunity of achieving economic gains.*

A motivation of economic gains includes the ambition of achieving competitive advantage over competitors and/or direct improvement in efficiency and profitability (Palmer & Biggart, 2002; Tolbert & Zucker, 1983).

Hypothesis 1b) *Early adopters are motivated by the perceived opportunity of achieving social gains.*

A motivation of social gains arises when a company wants to distinguish itself from other organizations (Abrahamson, 1991) and to maintain high status compared to competitors (Rindova et al., 2006). This is likely to be advantageous in the relation to different stakeholders, such as customers (Kamins & Alpert, 2004).

Hypothesis 2a) *Late adopters are motivated by the perceived threat of incurring economic losses.*

Hypothesis 2b) *Late adopters are motivated by the perceived threat of incurring social losses.*

Social and economic losses occur when there is a pressure on a company to adopt an innovation due to the sheer numbers of organisations that have already adopted the innovation. Abrahamsson & Rosenkopf (1993) use the term *bandwagon* pressure to denote this pressure and describe that it occurs when an organisation adopts an innovation due to the institutional pressure rather than as a result from the organisations' own assessment of the innovation's efficiency or profitability. Abrahamson & Rosenkopf (1993) explain two different types of bandwagon pressures. The first type, *the institutional bandwagon pressure*, arises from the threat of lost legitimacy and stakeholder support due to the large number of organisations that already have adopted the innovation. This pressure forms the basis for what in the hypotheses is called social losses. The second type of bandwagon pressure is the *competitive bandwagon pressure*, which is the underlying basis for economic losses. This is a pressure on an organisation arising from the threat of lost competitive advantage. That is, they perceive a risk of falling further and further behind the average performance if the innovations adopted by many others actually succeeds.

2.2.2. Adoption motivation & practice implementation

Kennedy and Fiss (2009) further argue that implementation efforts are related to the motive behind the implementation as either opportunity and gain seeking or threat and loss avoiding. This theory differs from the traditional two-stage model as it points at the finding of economic and social motivations jointly driving diffusion as it changes the adoption of innovation from the early adopters potential opportunities to the later adopters' possible threats. Viewing issues as opportunities enhances the chances of action taking, and with that, the likelihood of organisational change also increases. Conversely, if the issue is viewed as a possible or likely threat, organisations tend to fall back on well-known routines to avoid loss of control. This decreases the likelihood of organisational change. Thus, framing issues of adoption as either an opportunity or as a threat affects when and to what extent diffusing innovations are adopted (Dutton & Jackson, 1987). When an organisation is driven and motivated by achieving gains from the adoption, much effort is likely to be put into the implementation to reach the perceived opportunities. Conversely, the adoption of an innovation due to a perceived threat should be associated with less hard work with the implementation (Kennedy & Fiss, 2009).

From this, Kennedy and Fiss, formed the two following hypotheses:

Hypothesis 3a) *A motivation to achieve social and economic gains is associated with more extensive practice implementation.*

Hypothesis 3b) *A motivation to avoid social and economic losses is associated with less extensive practice implementation.*

2.2.3. Forced selection

Apart from the four categories of motivating factors presented by Kennedy and Fiss (2009), Joseph A Williams' study on the impact of motivating factors on implementation of ISO 9001 (2004) shows that also forced selection often plays an important role in the adoption process. Forced selection is described by Douglas et al. (1999) as a situation where an adopting organisation faces a situation of no choice. In such a situation, the adopting organisation's own motivations play no role in the diffusion and rejection of innovations. This kind of pressure can arise from, for example, a powerful governmental

body or an organisation with sufficient power to dictate the diffusion of innovations (DiMaggio, 1987; Malmi, 1999). Malmi (1999) further studied adoption diffusion among Finish organisations and found that forced selection was a common motivation when adopting activity based costing. According to Williams (2004), forced selection is also associated with a low extent of practice implementation. Thus, we argue that the four earlier mentioned categories of adoption motivation should be complemented by a fifth category: *forced selection*.

Björnenak (1997) describes the importance of understanding who first adopts an innovation, which tends to be larger companies. When relating this thesis to an industry like the manufacturing industry in Sweden, characterized by a few big and powerful companies and a plethora of smaller, more dependent, companies, it is logical that a forced adoption must be made after the adoption of demanding companies. Since the new innovations are first adopted by the bigger and more powerful companies (Björnenak, 1997), it is unlikely or even impossible to experience forced selection early in the diffusion process since there is no one to put such pressure on the company.

Another factor in defining the timing of forced selection is social losses. Social losses require that there already are many companies within the industry that have adopted the ISO, thereby turning it into a form of legitimacy concern. Given that large organisations are among the first to adopt an innovation (Björnenak, 1997) and thereafter puts pressure on, for example, their suppliers, social losses would occur after forced selection. The companies who are forced to adoption are part of the sheer number of adopters that later create the institutional pressure behind the adoption motivations in forms of social losses.

To further illustrate this issue with forced selection, our study examines two additional hypotheses:

Hypothesis 4a) *A forced adoption motivation is not associated with neither early nor late adoption.*

Hypothesis 4b) *A forced adoption motivation is associated with less extensive practice implementation.*

2.3. Fashion cycles

In her study on management trends and fashion cycles, Elin Larsson (2012), shows how different management innovations experience cycles of shifting popularity. According to Larsson, an innovation does not necessarily include just one diffusion cycle but it can experience a second diffusion process as well by first losing its popularity and then regain it some years later.

2.4. Characteristics of ISO 9001

A short description of the two ISO standards is needed to be able to follow the discussion and argumentation about the characteristics of the innovation and its importance for motivation and implementation.

ISO 9001 sets out criterion for a quality management system and can be used by any organisation regardless of size or field of activity. The standard was first introduced in 1986. Today, more than one million companies and organisations from 170 countries have implemented the certification (International Organization for Standardization, 2014). ISO 9001 is a standard based on several quality principles such as strong

customer focus, a process approach and continual improvement. Using the standard helps ensure that the customers get consistent, good quality products and services intended to bring business benefits (DNV, 2014). Figure 2 shows the number of adopting companies in Sweden and its increasing popularity.

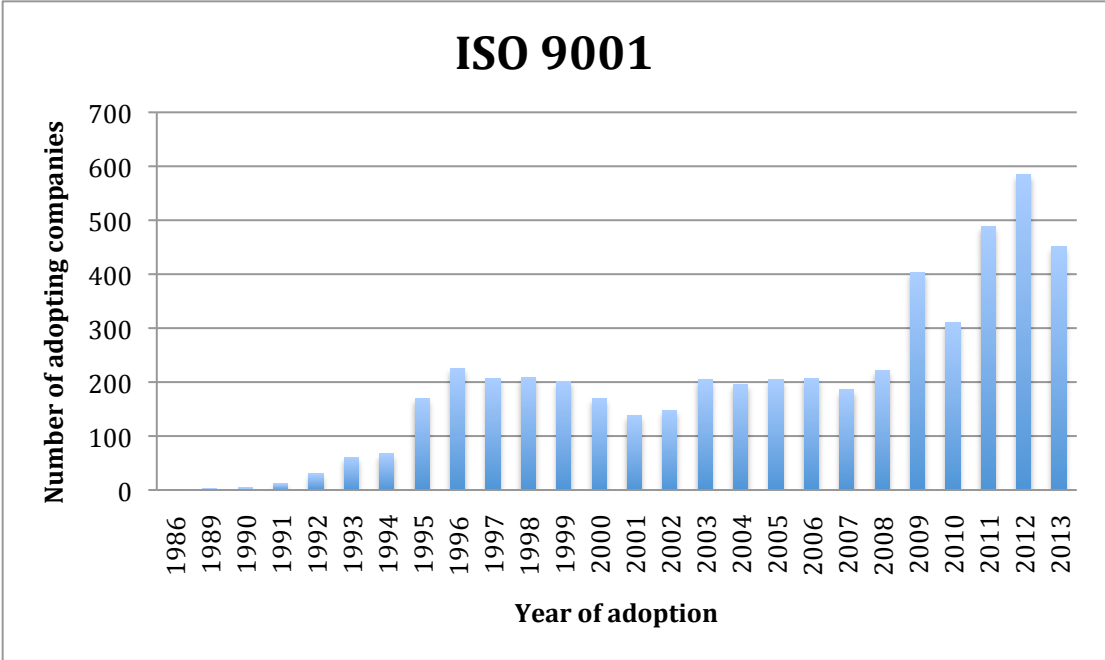


Figure 2. Number of adopting companies in Sweden since the introduction of ISO 9001. n=5102 (www.certifiera.nu, 2014)

2.5. Characteristics of ISO 14001

ISO 14001, first introduced in 1996, includes the key elements of an effective environmental management system and can be applied to both the manufacturing sector, but also the service sector. The standard requires that companies identify environmental impacts, define individual environmental objectives and then implement actions to improve their performances and processes. The key elements of the standard ISO 14001 are environmental policies, planning, implementation and checking as well as corrective actions. The standard also focus on continual improvements (DNV, 2014).

According to the leading certifiers, ISO 14001 will help companies to, among other things, improve the relationships with customers and the community, provide goodwill, effective cost savings and to contribute to a better level of profit and competitiveness (DNV, 2014; International Organization for Standardization, 2014; Nordic Certification, 2014). Figure 3 explains the number of adopting companies in Sweden and its increasing popularity.

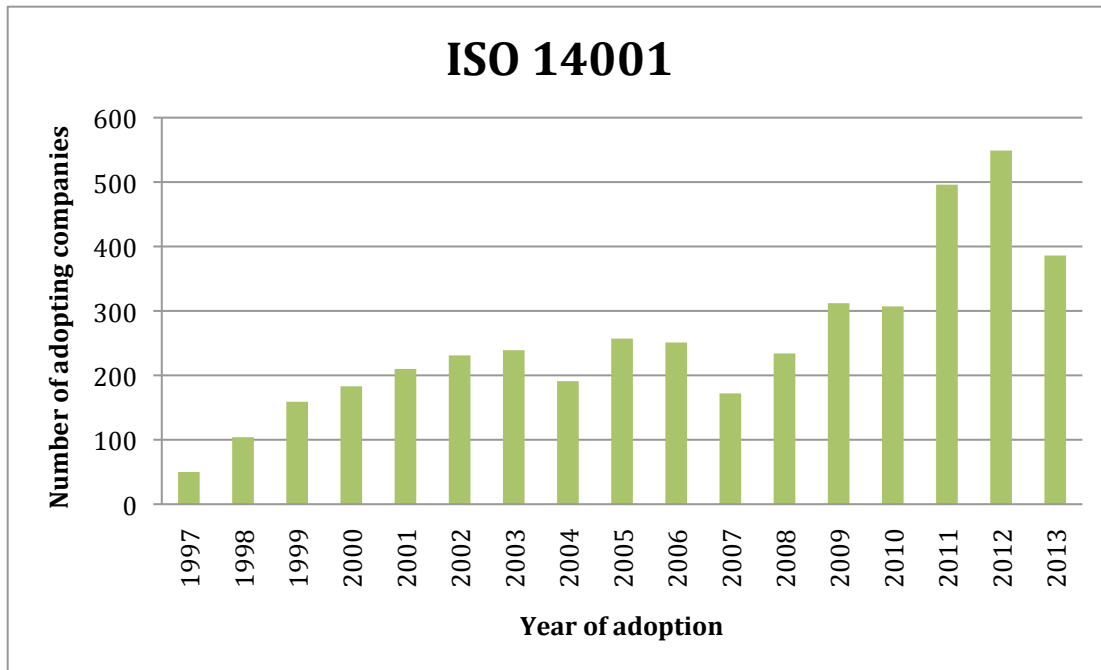


Figure 3. Number of adopting companies in Sweden since the introduction of ISO 14001. n=4388 (www.certifiera.nu, 2014)

3. Methodology

This chapter describes the methodology used to achieve the purpose of this study. It presents what choices have been made regarding participating companies, research methods and theories. Further, it is intended clarify how grading and classifications of this study were made.

3.1. Choice of research method

We found that the best way to reach the purpose of this study was through conducting interviews. By using a qualitative method, and by conducting the interviews at the companies, we came close to the companies' environments and the participating people (Ahrne & Svensson, 2011). Also, this qualitative method allowed for greater understanding of the topic and its related issues (Holme & Solvang, 1997). The method was useful in this context since it was essential to gather information for deeper understanding and better overview of the topic. Qualitative methods in general, and interviews in particular, have been criticized for low objectivity (Bryman & Bell, 2005) and (Paulsson, 1999). This was considered when analyzing the answers and, in an effort of minimizing this, it was explained to all companies that they would be anonymous in this study. Jacobsen (2002) states that qualitative methods are time consuming since in-depth interviews often take much time. By budgeting our time well and by setting a last day for conducting interviews, this issue was successfully managed.

3.2. Selection of companies & respondents

In order to answer the problems of this study, nine interviews were conducted in person and one interview was conducted over telephone. The empirics of this study are the results from these ten interviews. To gain a foundation for comparison among the companies interviewed, this study focuses on manufacturing small to medium-sized companies within the Gothenburg (Sweden) area. By focusing on one industry, many factors are held constant and variance is minimized. As companies of similar nature are chosen, differences in structure and standards are reduced, thereby gaining greater comparability. Since several interviews with the same clear focus were made, a good foundation for comparability was laid (Bryman & Bell, 2005). To further build comparability this study was limited to companies with a maximum of 200 employees. Limiting the number of employees partly beds for greater comparability in that companies of similar size are more likely to have similar organisational structures than if the number of employees varied significantly. Also, this was a way of avoiding complexity in forms of the company being, for example, a large parent company in a divisional organisation.

One of the reasons behind choosing manufacturing companies is that the ISO-certifications have grown strong in this line of business, which opens up to reach similar companies within a limited area. Also, we have personal contacts within this industry, and thereby insight, in manufacturing companies. This was advantageous especially when making the initial contact with companies that were interesting from an interview perspective. As one possible drawback of this study was the strict time constraints, it was a great advantage to easily get in touch with so many representative companies.

A two-stage procedure was used in finding relevant and suitable companies to interview. First, personal contacts were used and resulted in two interviews. However, there has been no dependence, private or professional, in the relation between the authors and the interviewees/companies. Second, a website (certifiering.nu, 2014) was used to find companies that fulfilled the above stated criterion. The website allows sourcing for companies, for example, with different certifications, of different sizes and within different areas in Sweden. The website is independent and run in collaboration with Swedish certifiers and industry associations.

Initially, the search on this website focused on finding all companies with both of the desired ISO as well as the other criterion. From this, a set of 22 manufacturing companies was listed as relevant for the study. The listed companies were contacted in random order over telephone with the intention of making an appointment for an interview with the person responsible for quality and environmental management. After discussing the number of participating companies with our supervisor, the aim was to interview 10 companies. This would most likely be sufficient to see tendencies and patterns among the respondents, thus creating higher reliability of the study. Still, it would be feasible with concern to the limited time frame of the study. A challenge in this was that many companies were unable to participate and give interviews due to different reasons such as parental leave, business trips, long-term sickness and general lack of time, resulting in a rather time consuming process of finding representative companies for interviews.

A lot of weight was put into making sure the interviewee was a person with good knowledge about the quality and environmental management, but also with good knowledge about what the actual motivations for adopting ISO 9001 and ISO 14001 were. Since some of the people who were responsible for the adoption and implementation did not still work at the contacted companies, and the new persons with responsibility for quality and environmental management admitted insufficient knowledge about the motivations, these companies were never interviewed. This way, irrelevant and incorrect answers were avoided to some extent, thus maintaining higher validity of the study.

Since not all companies had time for an interview, some instead agreed to answer the interview questions via email. After conducting all nine interviews in person and the one over telephone, a decision was made to omit the received email answers from the results of the study since they were briefly and vaguely answered. During the personal interviews, the importance of follow-up questions was noticed. Partly as a way of helping our interpretation of received answers but, sometimes, also in order to further explain our questions. For example, most companies mentioned customer demand as a motivation behind the adoption of ISO, but not in what form it was a demand from the customers. This was a very important aspect when analyzing and categorizing the motivations since the meaning and definition of customer demand differed between the companies. Thus, email answers were tested as a method of gathering data but since they were not considered to be fully reliable, they were never considered in the results of this study.

3.3. Interviews

The interviews were semi-structured to the character and aimed at answering the questions seen in Appendix 1. With a semi-structured interview, a combination of open

questions together with more detailed follow-up questions aimed at getting a sense of how extensively the ISO-certifications have been implemented into their organisations. It also aimed at receiving accurate answers, for example, to when and why they adopted ISO.

During the process of designing the foundation for the interviews, the questions were practically tested at an ISO-certified company within the manufacturing industry. This company did not participate in the actual study. The questions were also tested and analyzed in several steps by our supervisor as a way of making sure they answered and reflected what was relevant for the study. We believe that the combination of testing the interview material in practice and discussing it theoretically lead to a strong and solid foundation for conducting the interviews with desired results. This way, the validity of the study has been increased.

The interview questions can be seen in Appendix 1. Question 2 answers when ISO 9001 and ISO 14001, respectively, were adopted. Question 3-6 aims at reflecting the extent to which it has been implemented. These questions are not intended to individually describe the implementation but rather to, together, depict a unified picture of the extent of implementation at the companies. During the interviews, these questions were asked openly in order to receive as extensive answers as possible that were minimally affected by us as interviewers. Question 7 serves as an opener for the interviewee to elaborate on differences in the work with ISO 9001 and ISO 14001.

Another challenge during the interviews has concerned the mindset of the interviewees. It has been very important to continually direct focus to the motivations behind the adoption since they, due to their positions and responsibilities, often are very caught up in the effects of the work with the certifications. In general, the companies interviewed have experienced difficulties in distinguishing differences between adoption, implementation, usage and effects. This opportunity of directing the interviewees' focus is therefore another reason to why interviews have been a good way of gathering information in this study compared to, for example, questionnaires.

3.4. Measurement & methods

3.4.1 Categories of adoption motivations

Due to the large focus on categories of adoption motivations in this study, understanding and clarity of the different categories was essential.

The respondents' answers to why respective ISO was adopted was weighted on a scale from 1-7 describing the importance of each mentioned motivation, where 7 means that the motivation was of great, decisive importance for the adoption and 1 means that it was merely a contributing factor.

A lot of weight was put into making the adoption motivations such that they would not conflict with each other for the same individual given motivation. Therefore it has been of utter importance to be totally clear on what the definition of the respective category is so that motivations are categorized correctly. Despite being very thorough with this, it shall be said that the answers about the adoption motivations were not always easy to categorize. In some cases, there has been room for some interpretation and discussion about what category the adoption motivation should fall under. When an adoption, for example, was said to be strategic from a marketing point of view, it was important to determine whether it was because the company wanted to be perceived as modern and

pro-active or if there existed an institutional or competitive pressure on having it in order to retain legitimacy or competitiveness on the market.

In cases where the answers from the interviews were not initially very clear, the fact that all interviews were recorded was very helpful. This gave us the possibility of listening through the interviews several times and thereby to analyze the answers more accurately. Hence, it increased the possibilities of securing accurate information and reduced subjective assessments.

In order to sort received answers correctly, respective category's meaning was vital to the results and analysis of this study. Since we examine the hypotheses of Kennedy and Fiss (2009), their definitions of the different categories were used as foundation for these definitions. The four categories are economic gains, economic losses, social gains, and social losses. In addition, we added two categories called *Forced Selection* and *Others*. Below, we describe how different adoption motivations have been sorted into the six different categories.

3.4.1.1. *Economic gains*

The innovation is adopted as means of achieving competitive advantage over competitors and/or for direct improvement in efficiency and profitability (Palmer & Biggart, 2002; Tolbert & Zucker, 1983). Examples of motivations falling under this category are:

- The possibility of increased efficiency/profitability.
- To attract new customers or strengthen current customer relations.
- To attract new suppliers.
- To improve the quality of produced products.
- To improve/ensure the quality of internal processes.

3.4.1.2. *Social gains*

When a company wants to distinguish itself from other organizations (Abrahamson, 1991) and to maintain high status compared to competitors (Rindova et al., 2006). This is likely to be advantageous in the relation to different stakeholders, such as customers (Kamins & Alpert, 2004). Examples of motivations falling under this category are:

- The opportunity of being perceived as market leaders or modern/pro-active.
- To differentiate oneself from other organisations.

3.4.1.3. *Economic losses*

Adoption related to the perceived threat of incurring competitive disadvantage because of lower performance since competitors already have adopted the innovation. This can be because a company do not want to miss the opportunity of a potentially efficient way of working or because they do not want to risk losing competitiveness/profitability by not adopting the innovation (Kennedy & Fiss, 2009).

3.4.1.4. *Social losses*

A widespread adoption leads to a normative/institutional pressure and the companies that have not yet adopted the innovation will suffer from being perceived as illegitimate (Abrahamson, 1991; Tolbert & Zucker, 1983). Examples on motivations falling under this category are:

- The ISO-concept started to spread more widely, this created uncertainty about how the company would be perceived by their stakeholders if not adopting what

- is recognized as best practice. A fear of appearing illegitimate.
- The ISO-concept started to spread more widely and the company wanted to avoid questions from different stakeholders about the lack of this concept.

3.4.1.5. *Forced Selection*

Forced selection is a pressure that can arise from, for example, a powerful governmental body or organisation with sufficient power to dictate the diffusion of innovations (DiMaggio, 1987; Malmi, 1999). Significant for forced selection is that this kind of demand/pressure leaves the adopting organisation with no choice but to adopt (Douglas et al., 1999).

3.4.1.6. *Others*

During the semi-structured interviews, a need for a sixth category for the motivations that did not fit any of the other five categories arose. We call this category *Others* and use it because it is important that all answers are considered and reflected in the results of the study. By adding this category, the results are not distorted by omitting answers that did not fit into the other five categories. Examples of such adoption motivations are where adoption was made due to a new CEO or as a part of a new corporate strategy.

3.4.2. **Adoption timing**

Adoption timing has been determined by asking the participating companies about what year respective ISO was adopted.

It is hard, or even impossible, to say what is early and what is late adoption since the full diffusions of these two certifications are not yet observable. Early and late adoptions in this study are, therefore, relative to the other participating companies.

3.4.3. **Extent of practice implementation**

Despite earlier research on practice implementation, there is no specific guidance on how to measure the extent of implementation. Kennedy and Fiss (2009) measure the extent of implementation among US hospitals from a set of three indicators. These indicators are tailored to fit their research on total quality management, hence, it is not fully applicable to our study.

Inspired by these three indicators, but customized to our research issue, we have examined three implementation indicators. These indicators are meant to reflect different aspects of implementation and *together* result in a relative implementation score (see Table 2).

3.4.3.1. *Implementation indicator 1: Responsibility distribution*

Defines to what extent there is a clear division of responsibilities for quality and environmental issues at the company.

Companies with a high grade in Implementation indicator 1 have a well-structured distribution of responsibilities for the different certifications. They do not typically have only one person responsible, but different quality- and environmental managers at different divisions or units who are able to influence the results in their field of responsibility. The companies who received the highest grade in this implementation indicator also have special activity groups that continuously collect and convey the issues of the work with the certifications. At those companies who received a lower grade on the other hand, the CEO instead has all the responsibility without apportioning

it further to the employees with the consequence that the overall awareness and engagement in the certifications was rather low.

3.4.3.2. Implementation indicator 2: Employee involvement

Reflects if, how and to what extent the employees are affected by the certifications and if they are meant to help contributing to the process of improvement.

In indicator 2, the companies are graded according to how well they inform their employees about the work with the certifications and how they make them take part of the process. The grade of participation is therefore of great significance for how the companies are evaluated. The companies with a higher grade tend to work a lot with in-house education and some sort of business system (eg: Lotus Notes) tailored to the company and its procedures and certification objectives. This indicator is also strongly connected to the first indicator, in the sense that it is of importance whether the responsibility is allocated to a larger part of the employees or only the CEO or quality manager -which would be the case for the companies that received a lower grade.

3.4.3.3. Implementation indicator 3: Internal control

Aims at reflecting how extensively the companies are working with their follow-up-processes in forms of internal audits and meetings.

In indicator 3, the quality of the overall work with the certifications is assessed, and also the companies' approach to the certifications and its importance to the company. Here, a lot of consideration has been given to how often and in what form internal audits are undertaken and how follow-ups on possible errors are handled. The companies with a higher grade tend to have a more explicit approach to live as they learn and strive to do more than just the minimum requirements from the certifiers. A great example is company F who continually works to make several improvements and to set new high standards in order to always be a modern and proactive company when it comes to quality and environmental management. In contrast, the companies that received a lower grade have been more open with their view of the certificates as a pure marketing boast or as a way of demonstrating that the company holds a certification. Therefore, they tend to not work particularly hard with the implementation.

4. Results

This chapter is divided in to two sections. The first one is called Descriptive results and summarizes the answers from the interviews. The second section, Test of hypotheses, presents the results by setting them in perspective of the different hypotheses.

4.1. Descriptive results

Company	ISO 9001		ISO 14001	
	Year of adoption	Decisive adoption motivation	Year of adoption	Decisive adoption motivation
A	1998	Forced Selection	2001	Forced Selection
B	2007	Forced Selection	2005	Forced Selection
C	1992	Economic Gains	1998	Economic Gains
D	1996	Forced Selection	2000	Social Gains
E	1993	Social Gains	2001	Social Gains
F	2005	Economic Gains	2005	Other
G	2010	Social Losses	2010	Social Losses
H	2006	Forced Selection	2007	Forced Selection
I	2002	Social Gains	2003	Social Gains
J	2009	Social Losses	2009	Social Losses

Table 1. Adoption timing and adoption motivations for the studied companies. n=10.

4.1.1. ISO 9001

4.1.1.1. Adoption timing

Table 1 shows when the companies of this study adopted ISO 9001. The timing of the adoptions, both ISO 9001 and ISO 14001, are important for the analysis and tests of hypothesis 1a, 1b, 2a and 2b, which focus on the connection between timing and motivations behind adoptions.

ISO 9001 was first introduced in 1986 (ISO, 2014) and first adopted by a company of this study in 1992. Among the studied companies, there is a clear concentration of adopters between 2005 and 2010. In fact, during the 28-year period that ISO 9001 has existed, 50 percent of the studied companies adopted the certification during this six-year period. Among the other half of the companies, adoptions were made during an almost twice as long period from 1992 to 2002.

4.1.1.2. Adoption motivations

Table 1 also shows the decisive adoption motivations for ISO 9001 stated in this study. The adoption motivations are, just like the timing of the adoption, important for the later analysis and test of hypothesis 1a, 1b, 2a and 2b, which focus on the connection between timing and motivations behind the adoptions.

The table shows only the most important adoption motivation for each company. Forced selection was the most common motivation behind adopting the certification -four out of ten companies mentioned this as their most important and decisive motivation. In all these four cases, forced selection came in form of customer demand where the importance of the demanding customer left them with no choice but to adopt ISO 9001. Social gains, social losses and economic gains were all mentioned two times as the decisive motive behind adopting ISO 9001.

Company F expressed their motivation of social gains as “a way of acting pro-actively on the market, thus differentiating us from other actors as more modern” (personal communication, 2014-04-14). Company G expressed their motivation as a potential social loss by saying that “a lot of customers started asking questions about both (ISO) 9001 and (ISO) 14001. Since we did not have them, we always had to explain our quality and environmental work thoroughly to them. Adopting ISO was therefore a way of avoiding all these questions and this time consuming process” (personal communication, 2014-04-16). By stating that ISO 9001 was adopted solely in the search for better internal processes, company D is an example of a company motivated by achieving economic gains.

Four out of ten companies mentioned a combination of two adoption motivations but they all explained that one of the motivations was of less weight than the number one decisive motive in the adoption. Appendix 2 shows all mentioned adoption motivations with their respective given weight on a scale from 1-7. Noteworthy is that no company were motivated by economic losses or decisively motivated by motivations falling under the category “others” in their adoption of ISO 9001.

4.1.2. ISO 14001

4.1.2.1. Adoption timing

Table 1 shows when the studied companies adopted ISO 14001. The spread in adoption timing since the certification was introduced in 1996 (ISO, 2014) is rather small. Between 1998 and 2010, an adoption was made almost every two years on average. However, over the last four years, since 2010, none of the studied companies have adopted the certification. The individual years of 2001 and 2005 each stands for two adoptions but other than that, no specific patterns of the adoption timing are obvious from these observations.

4.1.2.2. Adoption motivations

Table 1 also shows the decisive adoption motivations for ISO 14001 in this study. Social gains and forced selection were the two most common motivations behind adopting ISO 14001. Social gains were always in the form of a pro-active market reaction where the company wanted to act and appear as modern or market leaders. For the three companies where forced selection was decisive in the adoption decision, they all expressed how they mainly deal with very large market actors such as Scania, SAAB or Volvo and therefore had no choice but to adopt it when such large corporations demanded it.

Social losses were mentioned two times as the deciding factor behind the adoption. The perceived threat of incurring social losses was expressed by company J as a response to customers’ interest in the certifications, however it was “not an ultimatum but rather in form of questions” (personal communication, 2014-04-24). The motive under *Other*

comes from company F who adopted ISO 14001 mainly because of an internal interest in taking a larger environmental responsibility but also because of a new CEO. Only one company adopted the certification due to the perceived opportunity of achieving economic gains. Company C explained that the certification would strengthen current customer relationships and thereby make the adoption profitable. Notably, none of the studied companies were motivated by the potential threat of incurring economic losses if they would not adopt the certification.

As in the case of ISO 9001, four out of ten companies mentioned a combination of two adoption motivations but they all explained that one of the motivations was of less weight than the other in the adoption. See Appendix 3 for an illustration of all mentioned adoption motivations with respective given weight on a scale from 1-7.

4.1.3. Practice implementation

Other than that the work with ISO 9001 is more costly and time consuming than the work with ISO 14001, none of the participating companies of this study have expressed any particular differences in how they work with or how they implemented the two different certifications. Hence, this section about implementation will not separately discuss respective ISO.

The implementation of ISO 9001 and ISO 14001 is a qualitative matter. In order to later be used as a part in testing and analysing hypotheses 3a, 3b and 4b, this section jointly reflects and summarizes the interviewed companies' implementation of the certifications by observing the following aspects:

- Responsibility distribution
- Employee involvement
- Internal control

These three implementation indicators are summarized in table 2 and reflect the relative extent to which the work with ISO 9001 and ISO 14001 has been implemented into respective company.

When evaluating the companies' extent of implementation of ISO 9001 and ISO 14001, their work relative to the basic requirements from different certifiers is taken into account. Moreover, the companies surveyed have been compared to each other in order to somewhat clarify what could be expected from them with regards to their size, use of resources and external expectations and pressures. The companies were graded in three different types of implementation indicators where the two ISO-systems were weighted together since all companies answered that there existed no difference in the way they worked with the different systems. These three different implementation indicators act as results from the different questions asked at the personal interviews and aim at providing a unified view of the various companies' extent of implementation. How respective implementation indicator has been evaluated and graded is described under *3.4.3. Extent of implementation*.

Important to notice is that this ranking system tells nothing about whether the companies are doing a good work with the certifications or not, but merely how well they have implemented them relative to each other. The implementation score is not a ratio scale but merely represents a qualitative extent of implementation where:

1. = Low extent of implementation.
2. = Fairly low extent of implementation.
3. = The company is doing what can be expected from them.
4. = Fairly high extent of implementation.
5. = High extent of implementation.

Company	A	B	C	D	E	F	G	H	I	J
Responsibility distribution	2	3	4	4	5	4	3	3	4	4
Employee involvement	2	3	4	4	4	5	1	2	5	4
Internal control	2	3	5	4	4	5	3	2	5	4
Total implementation score	2	3	4,33	4	4,33	4,67	2,33	2,33	4,67	4

Table 2. Extent of implementation among the studied companies.
n=10

4.2. Test of hypotheses

When assessing whether a hypothesis is supported or not, they are evaluated as either Supported, Weakly supported or Not supported. Supported means that the results are consistent with the hypothesis without any deviations. Results considered as Weakly supported, on the other hand, partly confirms the hypothesis but also includes some kind of deviation from such pattern. Finally, No support is given when no supportive patterns have been observed or when the deviant companies have been too many.

4.2.1. ISO 9001

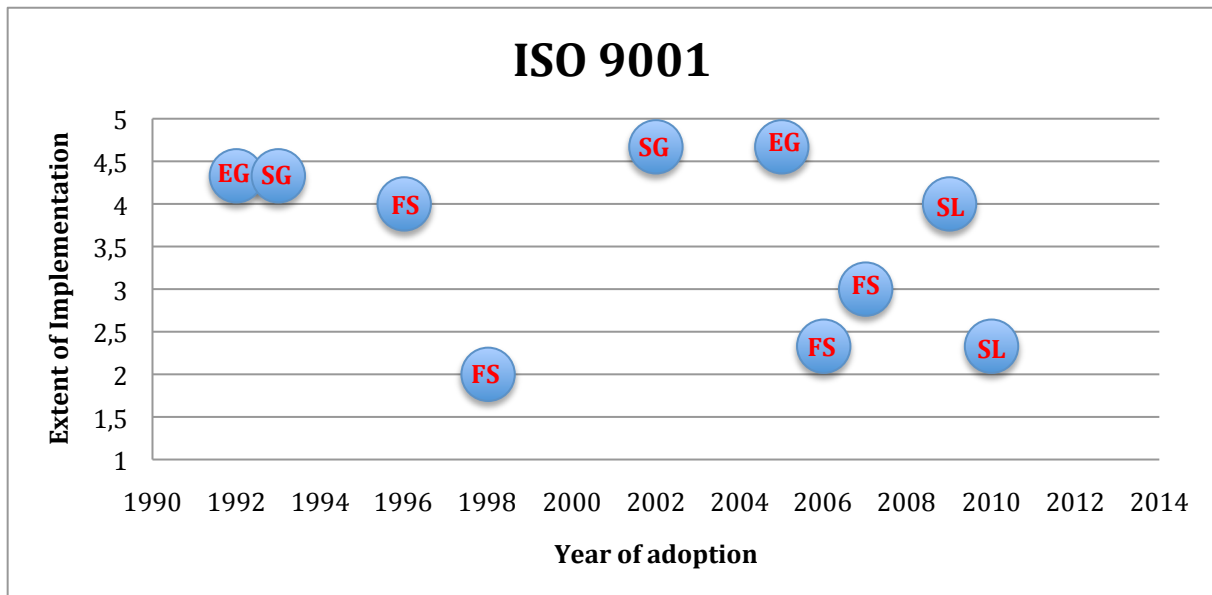


Figure 4. Timing, motivation and implementation of ISO 9001.

EG=Economic Gains, EL=Economic Losses, SG=Social Gains, SL=Social Losses, FS=Forced Selection, O=Others
n=10

4.2.1.1. Connections between timing & motivations

When presenting the results concerning the connections between adoption timing and motivations, we examine hypotheses 1a, 1b, 2a, 2b and 4a.

Hypothesis 1a

Hypothesis 1a states that early adopters are motivated by the perceived opportunity of achieving economic gains. This hypothesis can only be weakly supported since economic gains tends to occur both early and later in time.

Hypothesis 1b

Hypothesis 1a states that early adopters are motivated by the perceived opportunity of achieving social gains. This hypothesis can only be weakly supported since social gains tends to occur both early and later in time.

Hypothesis 2a

Since no company stated that they were motivated by the perceived threat of incurring economic losses when adopting ISO 9001, we cannot comment on the support for hypothesis 2a, stating that late adopters are motivated by the perceived threat of incurring economic losses.

Hypothesis 2b

Regarding hypothesis 2b, we have found a clear trend demonstrating that the category social losses seem to be a motivation that occurs more often the later in time a company chooses to adopt ISO 9001. Looking at figure 4, the two companies that most recently adopted ISO 9001 both stated that they were motivated by the threat of incurring social losses, thus providing full support to hypothesis 2b.

Hypothesis 4a

The last hypothesis regarding the connection between timing and motivation, hypothesis 4a, states that a forced adoption motivation is not associated with neither early nor late adoption. Looking at figure 4, it can be observed that the companies who were motivated by forced selection, clearly adopted ISO 9001 earlier in the diffusion process than those who were motivated by the perceived threat of incurring social losses. Even though all motivations of forced selection do not occur later than the motivations of social and economic gains, it is still obvious that they do not occur among the very earliest. Hence, this study finds support for hypothesis 4a.

4.2.1.2. Connections between motivations & the extent of implementation

When presenting the results concerning the connections between adoption motivations and the extent of implementation, we examine hypotheses 3a, 3b and 4b.

Hypothesis 3a

Hypothesis 3a argue that a motivation to achieve social and economic gains is associated with more extensive practice implementation. Figure 4 shows how companies motivated by social or economic gains when adopting the ISO 9001, tend to have a relatively high extent of implementation. Since all the companies with motivations from either social gains or economic gains received a top position concerning their practice implementation, we can give a full support to hypothesis 3a.

Hypothesis 3b

Hypothesis 3b claims that a motivation to avoid social and economic losses is associated with less extensive practice implementation. Regarding this hypothesis, we found no support. This can partly be related to the absence of economic losses as motivation but also because of a widespread result in the category of social losses. One of the companies, company J, who stated that they were motivated by the perceived threat of incurring social losses, actually had a fairly high extent of implementation. Company G, who also were motivated by the perceived threat of incurring social losses, on the other hand, had a relatively low extent of implementation. Even so, the average total implementation score for these two companies is above what could be expected from them (>3). Hence, hypothesis 3b cannot be supported.

Hypothesis 4b

Hypothesis 4b states that a forced adoption motivation is associated with less extensive practice implementation. Companies motivated by forced selection when adopting ISO 9001 tend to have a relatively low extent of practice implementation. However, company D clearly deviates from this tendency. Company D was forced to adopt ISO 9001 by a huge actor in the Swedish automotive industry but they still maintain an extensive practice implementation. Despite this deviation, the overall tendency provides support for hypothesis 4b.

4.2.2. ISO 14001

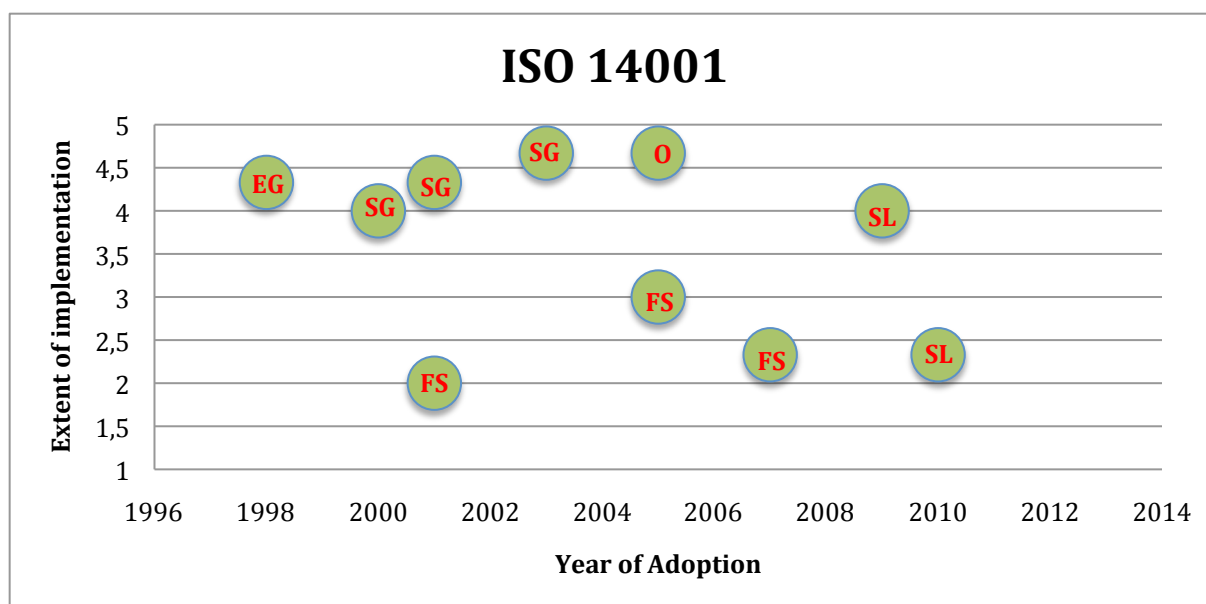


Figure 5. Timing, motivation and implementation of ISO 14001.

EG=Economic Gains, EL=Economic Losses, SG=Social Gains, SL=Social Losses, FS=Forced Selection, O=Others
n=10

4.2.2.1. Connections between timing & motivations

When presenting the results concerning the connections between adoption timing and motivations, we examine hypotheses 1a, 1b, 2a, 2b and 4a.

Hypothesis 1a

According to hypothesis 1a, companies motivated by the perceived opportunity of achieving economic gains tend to occur early in the diffusion process. As can be seen in figure 5, the only company motivated by economic gains, was actually the first among the studied companies to adopt ISO 14001. This study can therefore support that early adopters are motivated by the perceived opportunity of achieving economic gains.

Hypothesis 1b

From figure 5, we can see a clear tendency supporting Hypothesis 1b, stating that early adopters are motivated by the perceived opportunity of achieving social gains. All the companies motivated by social gains in their adoption of ISO 14001 occur relatively early in the diffusion process.

Hypothesis 2a

Since no company stated that they were motivated by the perceived threat of incurring economic losses when adopting ISO 14001, we cannot comment on the support for hypothesis 2a, stating that late adopters are motivated by the perceived threat of incurring economic losses.

Hypothesis 2b

Hypothesis 2b states that later adopters are motivated by the perceived threat of incurring social losses. Social losses occur as the two latest adoptions of this study, thus supporting hypothesis 2b.

Hypothesis 4a

Figure 5 shows how companies motivated by forced selection, generally occur later than gains-seeking adopters. However, they still occur before the motivation of a perceived threat of incurring social losses. This provides support for hypothesis 4a, which claims that a forced adoption motivation typically does not occur neither early nor late in the diffusion process.

4.2.2.2 Connections between motivations & the extent of implementation

When presenting the results concerning the connections between adoption motivations and the extent of implementation, we examine hypotheses 3a, 3b and 4b.

Hypothesis 3a

The companies motivated by social and economic gains in their adoption of ISO 14001 tend to have a relatively high extent of implementation. The results of the study thereby provide support for hypothesis 3a, claiming that a motivation to achieve social and economic gains is associated with more extensive practice implementation.

Hypothesis 3b

Hypothesis 3b claims that a motivation to avoid social and economic losses is associated with less extensive practise implementation. No support was found for this hypothesis. Again, this is because no companies were motivated by economic losses but also because of a widespread implementation result in the category of social losses. One of the companies, company J, stating that they were motivated by the perceived threat of incurring social losses, actually had a fairly high extent of implementation which contradicts the hypothesis. Even so, the average total implementation score for these two companies is above what could be expected from them (>3), hence, hypothesis 3b cannot be supported.

Hypothesis 4b

When analysing hypothesis 4b, concerning that a forced motivation is associated with less extensive practice implementation, there is a clearer pattern when analysing ISO 14001 than when analysing ISO 9001 since there is no deviation from the pattern of low implementation grade when looking at ISO 14001. The companies who stated that a motivation from the category forced selection was of biggest importance when adopting the ISO 9001 tend to have a relatively low extent of implementation. The results therefore provide support for hypothesis 4b.

5. Discussion, contribution & directions for future research

This chapter serve to discuss and analyse the earlier presented results, to describe the limitations of the study, to explain our contribution and to provide suggestions for future studies based on the results received.

5.1. Discussion of results

After examining the adoption motivations, adoption timing and practice implementation for ISO 9001 and ISO 14001 at ten randomly chosen manufacturing companies, we argue that early adopters tend to be motivated by the perceived opportunity of achieving social and economic gains and that later adopters tend to be motivated by the perceived threat of incurring social losses. Furthermore, we show how gains-related motivations typically are associated with more extensive practice implementation but how loss-related motivations are not necessarily associated with less extensive practice implementation. Our study also offer a unique focus on forced selection-motivation where we have found that motivations in form of forced selection tend to be associated with less extensive practice implementation and that it is not associated with neither early nor late adoption. We also show how previous framework is sensitive to the characteristics of the investigated innovation. In order to discuss such differences and better depict a picture of our findings, this section does not separately discuss the two innovations of this study. Instead, each hypothesis is discussed individually.

See Table 3 on the next page for a summary of the hypothesis test.

Results from tested hypotheses	Our results ISO 9001	Our results ISO 14001
Hypothesis 1a <i>Earlier adopters are motivated by the perceived opportunity of achieving economic gains.</i>	Weakly supported	Supported
Hypothesis 1b <i>Earlier adopters are motivated by the perceived opportunity of achieving social gains.</i>	Weakly supported	Supported
Hypothesis 2a: <i>Later adopters are motivated by the perceived threat of incurring economic losses.</i>	Not available	Not available
Hypothesis 2b <i>Later adopters are motivated by the perceived threat of incurring social losses.</i>	Supported	Supported
Hypothesis 3a <i>A motivation to achieve social and economic gains is associated with more extensive practice implementation.</i>	Supported	Supported
Hypothesis 3b <i>A motivation to avoid social and economic losses is associated with less extensive practice implementation.</i>	Not supported	Not supported
Hypothesis 4a <i>A forced adoption motivation is not associated with neither early nor late adoption.</i>	Supported	Supported
Hypothesis 4b <i>A forced motivation is associated with less extensive practice implementation.</i>	Supported	Supported

Table 3. Results from tested hypotheses.

Hypothesis 1a

Regarding hypothesis 1a, our research shows different results for the two different ISO -standards as it can be supported for ISO 14001 but only weakly supported for ISO 9001. The hypothesis cannot be fully supported for ISO 9001 since economic gains do not only occur early, but also later, in time. This result could be explained by Elin Larsson's study (2012) on fashion cycles and her theory about a second diffusion. Larsson (2012) describes the deviations from the generally accepted bell shaped life cycle pattern within Swedish management methods and explains that there are periods of rest in which a method could lose its popularity and then regain it a few years later. As can be seen in figure 2, the popularity of ISO 9001 is somewhat periodic, which points at fluctuations in the popularity of the certification. A first diffusion cycle can be seen between 1992-2001 and a second one between 2002-2007. Thus, it is possible that the adoptions motivated by economic gains occur in two different fashion cycles. What is perceived as early and late adoption can therefore be seen from the perspectives of the two different diffusion cycles. Note that figure 2 depicts all adopting companies in Sweden, not just manufacturing companies. However, it is used to reflect the overall popularity of the certification.

On the basis of our current study, we speculate in an additional explanation to the later occurrence of an economic gains motivation: the characteristics of the innovations. Since ISO 9001, in its nature, focuses on improvements in quality, internal processes and orderliness (DNV, 2014), it is not unreasonable to say that economic gains also motivate later adopters. Kennedy & Fiss (2009) were neither able to support hypothesis 1a and suggested that concerns with economic gains are not as period dependent as have earlier been argued. This would, however, not be the same in the case of ISO 14001, which is not, as much as ISO 9001, focusing on a more effective way of working. Also, the importance of the characteristics of the innovations can be observed in that ISO 9001 and total quality management focus on the same kind of quality issues and reveals the same results concerning this hypothesis.

Hypothesis 1b

Hypothesis 1b can also be supported for ISO 14001 but only weakly supported for ISO 9001.

The reason that hypothesis 1b is only weakly supported for ISO 9001 is because company I answered that they adopted the certification because of the perceived opportunity of achieving social gains despite a relatively late adoption. The line between early and late adoption is hard to draw but from figure 4, we can see how company I is part of the later cluster of adopters. They explain how they always are aware of the value of being perceived as a modern market leader and how they, even at this point of time, would gain this from adopting ISO 9001. We therefore see how early and late adoption is not an absolute measure but might also concern companies' own perceptions about what is early and what is late.

ISO 9001 is more internally oriented and not as public to the character as ISO 14001. Therefore, the social benefits of having the certification are not as great in the early stage of diffusion as they are for ISO 14001 since ISO 14001 immediately receives much attention due to the societal debate and interest in the environmental issue.

For ISO 9001, the later adoption motivated by social gains could, once again, be described by Elin Larsson's theory about a second diffusion process. Observing that the two adoptions motivated by social gains were made in 1993 and 2002 (see table 1 & figure 4), we can see from figure 2 how they both should be considered to be early in their respective diffusion/fashion cycle.

Hypothesis 2a

Regarding hypothesis 2a, our study finds no support due to the lack of answers in this category. We can only speculate in why we have not received such answers but it might be because of the small sample size of the study.

Another possible reason for the absence of companies motivated by the perceived threat of incurring economic losses is that many of the companies have perceived themselves to be forerunners in their adoption of the certification rather than as later adopters. Therefore, they would not perceive such a threat.

Hypothesis 2b

This study, as well as the study by Kennedy and Fiss (2009), has received clear support for hypothesis 2b. In the case of both ISO 9001 and ISO 14001, the two latest adoptions among the studied companies were due to the perceived threat of incurring social losses. This can be related to the institutional bandwagon pressure explained by Abrahamson and Rosenkopf (1993). Kennedy and Fiss (2009) explain this phenomenon

as an institutional pressure emerging from a widespread adoption where the companies who have not yet adopted the standards might be motivated by avoiding to be perceived as illegitimate.

Hypothesis 3a

Hypothesis 3a was fully supported by both our study and the research of Kennedy and Fiss (2009). They found that the extent of implementation tend to be higher if the adopters are motivated by social or economic gains. This can be confirmed by our study and might be explained by a higher internal interest in reaching internal benefits for the company. Dutton and Jackson (1987) argue that viewing issues as opportunities enhances the chances of action taking, and thereby, the likelihood of organisational change also increases. Since economic gains as motivation are related to better corporate performance, there is an internal interest in reaping process improvements already from the beginning, which logically would mean more extensive practice implementation.

Hypothesis 3b

On the basis of our study, it appears possible that the lack of support for this hypothesis can be traced to the difference between a company's motivations and the later experienced effect of the ISO implementation. Independent of the stated adoption motivation, all companies described how they have experienced advantages from working with the ISO standards. Because of that, most of them became motivated to implement the standards more extensively into their organisations. A great example of this behaviour is company J, who were motivated by the threat of social losses and stated that they would still be working the same way, even without the certification.

Another possible reason could, once again, be the characteristics of the ISO-certifications and their strict follow-up processes and demand for constant development. The fear of losing their certifications makes the companies work hard to keep them, which sometimes results in more extensive implementation.

Hypothesis 4a

Hypothesis 4a can be supported for both ISO 9001 and ISO 14001. Our findings suggest that this result relates to the definitions of forced selection and loss-related motivations. This study shows how forced selection often is constituted from customer pressure. For such a pressure to arise, there must be one or several companies who already are certified. According to Björnenak (1997), large organisations are typically the early adopters of new innovations. Also, large organisations receive much media attention when acting in questionable ways, e.g. working with controversial suppliers. Forcing suppliers to have certain certifications is one way of minimizing this kind of risk. As evident from this study, large companies such as Volvo and Scania tend to exert their power on their suppliers who often are in a situation where they are dependent on these larger companies. Hence, forced selection does not typically arise in the very early stage of the diffusion process but rather after the adoption by larger organisations. Since loss-related motivations occur because of the sheer number of organisations that already have adopted the innovation (Kennedy & Fiss, 2009), they occur late in the diffusion process. Since the large, early adopters typically put major pressure on their suppliers rather quickly, these forced adopters constitute a part of the number of adopters who together build an institutional and competitive pressure. Thus, forced selection typically does not occur very late in the diffusion process either.

Hypothesis 4b

Hypothesis 4b is supported in the case of both ISO standards. Forced adoption motivations' importance for the extent of practice implementation is clear from this study. One possible explanation can be the industry in which the study is made. Many manufacturing companies within the studied geographical area can be linked to a number of big players in the car, bus and truck industries. Companies like Volvo, SAAB and Scania often set ultimatums about what certifications their partners must hold. In contrast to the companies who are motivated by the perceived opportunity of achieving economic and social gains, the forced companies tend to show little interest in implementing the certifications extensively into their organisations. Typically, they put little or no effort in performing better than what is requested from their certifiers. We believe that this is due to the nature of the motivation since there is no internal interest in the certifications from the adopting organisations, it is only adopted because they are left with no other choice but to do so.

5.2. Our contribution

Despite the relatively small sample, this study contributes to prior research on the area in several aspects. We extend previous theories by examining earlier tested hypotheses while also adding thoughts including the importance of forced selection and the importance of the characteristics of the innovations. In large, we believe that our study makes three contributions to this field of research:

First, this study provides further empirical evidence to previous research about the connections between adoption motivation and timing as well as between adoption motivation and extent of practice implementation. More specifically we prove that early adopters are motivated by the perceived opportunity of achieving social and economic gains, that later adopters are motivated by the perceived threat of incurring social losses and that gains-related motivations are associated with more extensive practice implementation. In addition, we also prove how loss-related motivations are not necessarily associated with less extensive practice implementation because of the differences between the adoption motivations and the later effects of the adoption.

Second, forced selection, which have been somewhat neglected in most prior research, has received the extra attention it deserves in this study. By examining the connections between forced selection and adoption timing as well as between forced selection and practice implementation, previous research has been extended. We have observed how forced selection often is associated with less extensive practice implementation and how it typically does not occur neither early nor late in the diffusion process. To our knowledge, no prior research has specifically examined the relation between forced selection and adoption timing or between forced selection and extent of implementation.

Third, by studying two certifications of different characters this study has shown how previous research is sensitive to the characteristics of the innovation. Looking at the distribution between different categories of adoption motivations, the differences between ISO 9001 and ISO 14001 are not very big. However, smaller differences in why and when they are adopted do exist. Four out of ten companies stated that they were motivated by social gains when adopting ISO 14001, which indicates a more public awareness in these adoptions. ISO 9001, on the other hand, was more commonly adopted in the search for economic gains, both early and later in time. Hence, this study

points at the complexity of stating that economic gains is only associated with early adoption since also the adoption timing depends on the characteristics of the innovation. More specifically, it points at the importance of considering the characteristics of the investigated innovations.

5.3. Limitations of the study

The biggest limitation of this study has been the two-month time frame. Most of all, this has restricted us from conducting as many interviews as we would have liked in order to create a more representative sample. Such sample would have allowed for greater generalizations and conclusions. More time would also have allowed for more extensive research on the studied research field.

Another limitation when making generalizations or drawing conclusions is the scope of the study. This study focuses on the Swedish manufacturing industry and conclusions and comparisons can therefore only be made with regard to this scope. Hence, the study should be treated accordingly.

Partly because of these limitations, we find several interesting approaches to develop in future research on this area.

5.4. Directions for future research

Even though this study has extended previous research, we argue that more work is needed to gain a greater understanding regarding why and how adoption motivations are related to timing, implementation and the characteristics of the innovations.

Overall, a larger sample of studied companies would not only be desired but also needed in order to draw well-founded conclusions and make greater generalisations from its results. Such a larger sample would preferably contain both smaller and larger organisations since there is reason to believe that timing and motivations of adoption depends on the size of the companies.

A request for future research would also be to further develop and examine the various motivation categories. Our results show that forced selection affects both adoption timing and practice implementation. Apparently, this is an interesting area to develop in future research.

Another interesting approach for future research would be to shift focus from adopting companies to companies who chose to not adopt a certain innovation. This would contribute with a new perspective to research on adoption of management innovations, especially regarding loss-related motivations since these companies probably perceive potential legitimacy and competitive concerns differently.

A more radical suggestion for future research is to further examine the organisational processes and other factors behind adoption motivations such as how the different motivations are perceived in terms of efficiency, legitimacy, gains and losses.

Finally, we see how additional work is required on the characteristics of the innovations. Only by looking at two types of ISO-certifications, we have observed differences in the adoption motivations due to their different characteristics. This likely implies that there are room for further research on the extent to which the innovation's characteristics affects the motivations behind an adoption, the diffusion and the practice implementation of it.

6. Conclusion

This chapter provides a short summary of the main conclusions of this study.

This study was intended to empirically validate and test the framework of Kennedy & Fiss and to further develop and seek connections between motivation, timing and implementation when adopting management innovations. Institutional theory has been criticized for the separation of economic and social motivations and their diffusion. However, supporting previous research, our study shows the complexity of categorizing adoption motivations and that the logics of efficiency and legitimacy are not as disaggregated as generally has been assumed. We argue that gains-related motivations are related to extensive practice implementation but that loss-related motivations are not necessarily related to less extensive practise implementation.

Furthermore, our study extend previous framework by also focusing on forced selection-motivation. We have found that motivations in form of forced selection tend to be associated with less extensive practice implementation and that it is not associated with neither early nor late adoption.

After also finding that previous framework is sensitive to the characteristics of the innovation, we argue for the significance of taking such characteristics as well as forced selection into account when examining the adoption process of management innovations.

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Appendix 1 - Interview questions

1. What is your position in the company?
2. When did you adopt ISO 9001 and ISO 14001 respectively?
ISO 9001:
ISO 14001:
3. Who is/are responsible for the work with these two ISO-certifications?
4. How many of the employees are affected by the work with the certifications?
5. How often, and in what form is the internal work with the certifications controlled/audited?
6. To what extent would you say the certification demands have been implemented?
7. On the basis of prior questions, are there any particular differences between your work with ISO 9001 and ISO 14001?
8. What was/were the motivational factor(s) behind adopting ISO 9001 and ISO 14001 respectively?

Appendix 2 - Adoption motivations ISO 9001

ISO 9001	A	B	C	D	E	F	G	H	I	J
Social Gains										
The opportunity of being perceived as modern/proactive					7				7	
A way of differentiating the company from competitors					7					
Social Losses										
Stakeholders started asking questions. It was a way to avoid losing legitimacy.							7			7
Economic Gains										
To ensure the quality of internal processes			7		5	7	4		4	
To ensure the quality of manufactured products						7				
To attract new customers or strengthen current relations						7	4			
The possibility of increased efficiency/ profitability						7	3			
Economic Losses										
Forced Selection										
Customer demand	7	7		7				7		
Other										
Part of a larger strategy								4		
New CEO						3				

Appendix 3 - Adoption motivations ISO 14001

ISO 14001	A	B	C	D	E	F	G	H	I	J
Social Gains										
The opportunity of being perceived as modern/proactive				7	7				7	
Social Losses										
People started asking questions, it was a way of avoid losing legitimacy							7			7
Economic Gains										
To ensure the quality of internal processes			7							
Economic Losses										
Forced Selection										
Customer demand	7	7						7		
Other										
Internal interest of increased environmental responsibility				2		7				
Easy to implement due to already implemented ISO 9001				2			4	4		
New business acquisition				2						
Part of a larger strategy								4		
New CEO						3				
Easy to implement due to already extensive environmental work									5	
To fulfil demands from regulations/laws						4				