THE EMBEDDEDNESS OF INFORMATION TECHNOLOGY IN THE WORKFLOW OF BUSINESS PROCESSES

How Can IT Support and Improve the Way Work is Done?

By Tobias Christian Fischer and Elin Lawson
Abstract
Wise investments in Information Technology have become increasingly important in staying competitive in today's environment. Massive amounts of people and IT-systems are involved in the process of input becoming output. As these employees and IT-systems must be harmonized, it becomes relevant to study how employees’ routines and habits are related to the usage and embeddedness of these systems. Therefore, the purpose of this paper is to investigate how embedded IT can lead to improved business processes. This is done through exploring how embedded IT is used in workflows as well as to examine what support and hindrance IT can offer. Therefore, extensive theoretical research was conducted within the fields of habits and routines, business processes and embedded IT, developing a framework for analysis. Then, a case study was conducted where a specific process within insurance claims was thoroughly analyzed through interviews and work shadowing. This facilitated a within-case analysis. The results of the study showed the interdependency between the pillars of this study. Workflow habits and routines influences IT usage, whereas IT aims to support through automatization and informatization. However, to enable this and achieve a significant improvement, the processes it aims to support needs to be fully known.

Keywords: Business Processes; Business Intelligence; Embedded IT; Empowerment; Habits and Routines; IT-system; Management processes; Organizational routines; Process Improvement; Process mapping; Solvency II; Time efficiency; Workflows
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Tobias Christian Fischer   Elin Lawson

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1. Introduction: How Work is Done

The world is changing through globalization, changing needs and demands as well as new technologies. These days, CEOs and managers are sailing companies and organizations through rough winds and uneasy waters where the environment is highly complex, uncertain and fast growing. The goal is to be faster than the competitors by holding the course of the venture in a successful direction by making long-term oriented and wise decisions. (Raith et al., 2010)

According to Rausch et al. (2013), IBM (2011) and Bernstein (2005) the key success factor for better decision-making is investing in information technology (IT) as an integral part of competing in the 21st century. A major challenge of companies and organizations is to create substantial value through IT investments, which is not synonymous with return on investment (ROI) (Lucas Jr., 1999). A study of Micro Focus (2007) showed that two-thirds of CEOs and CFOs do not know the value of their IT investment (Soat, 2007). Naturally, for share- and stakeholders, the elementary question for investment in new IT-systems is: What is the actual value of these investments?

To answer this, firms should ask reflectively: Where does the value come from? - The response seems simple and rational: Value comes from what you do with it in the organization (Soat, 2007). To paraphrase, the value lies in the organizations’ vision and strategy of IT usage. A good answer of the what-question is given by IBM (2011):

\[
\text{IT value is the benefit of change agility subtracted by the cost of operational failures and the cost to run the IT}. \quad \text{(Ashley & Saadat, 2011, p.4)}
\]

This formula requires individual key steps in order to grasp the value of IT. Firstly, the definition of IT value has to be clear to the organization. The next step is to realize value through applying IT to an institutional process. Furthermore, it makes it important to develop an understanding of how employees can derive value from the system. True value of IT lies in the people working with it as well as good planning, evaluating, and communication of the IT-system’s effectiveness (Goldstein, 2003). This requires two things: a vision of changes, which could potentially be done
to leverage technology with the new system (Ashley & Saadat, 2011) as well as significant management efforts (Lucas Jr., 1999).

Management efforts are connected to a major key success factor: the empowerment of employees’ work. By empowering work, two factors are enabled: knowledge and improvement (Solomon, 2007). This can lead to innovation excellence and technology leadership which are needed to perform with higher quality and time efficiency than competitors (Iveroth, 2010). So, how can an empowered work environment are established by using IT in organizations? - This question is easy to answer in theory but is more difficult to fulfill from a practical perspective.

Firstly, it is important to develop an understanding of how work of the employees is truly done. Secondly, it makes it necessary to explore and explain how the usage of IT can support the way work is done and how implementing new policies, guidelines, and instructions can, over time, change habits and routines. This can be key in how fast and continuously organizations adapt to new situations, making it necessary to embed the IT in business processes by harmonizing the habits and routines of employees with the vision and strategy of the organization. In order to achieve an improvement in these business processes, organizations must motivate employees within the process to make changes a permanent part of their daily routines. (Polites & Karahanna, 2013)

By implementing a long-term-oriented solution through embeddedness of IT, it is possible for companies to extract data and analyze it as a way of sense-making (Weick, 1995). This leads to more wise and rational decisions and therefore also improvement of processes through changes in habits and routines of the employees. Out of this discussion, the paper aims to answer following research question: How can embedded IT lead to improved workflows? In order to answer this problem, two sub-questions has been formulated: How is embedded IT used in a workflow? and What support and hindrance can IT offer in work?
2. Literature Review

2.1 Workflow Habits and Routines
Polites and Karahanna (2013) define habits as “learned sequences of acts that have become automatic responses to specific cues, and are functional in obtaining certain goals or end-states” (Polites & Karahanna, 2013, p. 224). This means that whereas habits are outside of a person's awareness, it is still intentional due to its goal-oriented nature. Furthermore, habits are difficult to change, as it is not a conscious choice to conduct a specific task in a certain way, but rather a behavior triggered automatically (Polites & Karahanna, 2013). Moreover, Feldman (2000) defines routines as “repeated patterns of behavior that are bound by rules and customs and that do not change [...] from one iteration to another.” (Feldman, 2000, p. 611).

Based on these definitions, habits and routines are behaviors which have been developed over time and tend to be difficult to change. Schultz (2007) highlights the difficulty of changing habits and routines as he stresses the importance of management being aware of these when attempting to implement changes to a process. This is due to employees’ tendency to return to their old ways if the changes are not made permanent. (Schultz, 2007)

Therefore, executives should take employees perceptions and attitudes as an important change readiness factor when reengineering of an organizational workflow is planned (Prochaska et al., 1994). Self-efficacy is the perceived ability of managing change successfully and has an intermediary effect on individual- and organizational change (Armenakis et al., 1993; Pond et al., 1984). This is strongly connected to attitudes in routines. An employee with high confidence ability to cope has more willingness to contribute to change than an employee with limited capabilities to adapt to the situation (Armenakis et al., 1993; Bandum, 1982). This routine and an active problem-solving approach help an individual to have a greater acceptance to change (Cunningham et al. 2002).
2.2 Business Processes of Organizations

2.2.1 Business Process Definition

When studying employees’ routines and habits in organizational workflows, it becomes relevant to discuss organizations in terms of business processes. In defining the term process, this paper presents different sources to describe, distinguish and give a complete picture of the terminology. This presentation will conclude in the business process definition, which will be the basis for this paper.

Arlbjörn and Haug (2010) broadly define processes as a procedure, or as events that occur over time and that has a beginning and an end. Davenport (1993) gives a business approach to the definition through the following:

“A process is simply a structured, measured set of activities designed to produce a specified output for a particular customer or market. It implies a strong emphasis on how work is done within an organization, in contrast to a product focus’s emphasis on what.” (Davenport, 1993, p. 5)

Another definition is that of a business process as a structure of activities, which from a customer perspective is what determines an organization’s performance. Furthermore, this definition emphasizes business processes as the link between customer need and customer satisfaction. (Ljungberg, 1998)

These are just a few examples of the various definitions of what a process entails. However, the quintessence of all these definitions is the same. Therefore, this paper assumes the definition of a business process as the relationship between input and output through a set chain of events. The inputs are transformed into outputs through a series of activities, aiming to create customer value.
2.2.2 Applying a Process View to Organizations

Aguilar-Savén (2004) as well as Arlbjörn and Haug (2010) argue that business processes can be classified in three types: (1) Core processes; (2) Supporting processes; and (3) Management processes.

Firstly, a core process refers to activities that create value for customers, such as manufacturing or sales and is initiated from outside an organization (Aguilar-Savén, 2004; Arlbjörn and Haug, 2010). Secondly, supporting processes create the condition and support for the core processes to be carried out; such processes could be within IT or human resources. Finally, management processes are governing the core- and supporting processes (Aguilar-Savén, 2004). Organizations consist of these business processes, which in turn can be altered in order to optimize efficiency. The competitiveness of an organization is dependent on how efficient their business processes are, where businesses with inefficient processes are assumed to eventually fail (Arlbjörn & Haug, 2010).

Davenport (1993) and Ljungberg (1998) emphasize the importance of applying a process view to organizations, rather than a functional view. This is based on the assumption that having a process view creates a more integrated organization and a holistic view, where the entire chain of activities and routines becomes visible. Based on this, optimizing processes is key in staying competitive (Arlbjörn & Haug, 2010).

2.2.3 Business Process Mapping

As previously stated, applying a process view to an organization enables a more complete and integrated picture of the organization and its activities, creating clarity across the entire operation (Davenport, 1993).

When adopting a process view, the first obstacle is that business processes tend to be invisible. Therefore, a graphical illustration of a process must be created. Mapping a process visualizes its activities and objects as well as its relationships. A full visualization of a process also requires customer demands and satisfaction to be identified (Ljungberg, 1998). Moreover, it is argued that it helps in identifying the true point of value creation (Arlbjörn & Haug, 2010). A graphical
illustration demonstrates an overall blueprint of how activities and tasks are related. Furthermore, a process map helps to identify discrepancies between how an activity should be conducted, and how it is truly conducted. Process mapping further aims to improve performance of individuals while reducing error variance (Kalman, 2002).

Mapping is used to facilitate improvement of business performance through a better understanding and redesigning of existing processes. This means that process mapping can be seen as both an analytical tool as well as a process intervention. Its process intervention capabilities are connected to it often acting as a catalyst for change. This is because employees across units can understand their interdependent relationships through the map, which in turn opens up a debate on how the process can be improved. (Kalman, 2002)

Without a visualization of the process and workflow, it hinders employees from seeing inefficient aspects of the full process, creating problems for each other between units. Furthermore, creating the maps is an experience that generates an understanding of other levels of the process than just your own. This increases the knowledge of how one individual's work might affect the next step in the flow of the process. (Arlbjörn & Haug, 2010)

Through identifying and prioritizing these bottlenecks, like simplifying the workflow, reducing the cycle time and lowering costs, the benefits of process mapping are discovered. Kalman (2002) specifically highlights the time aspect, as speed is becoming increasingly important with customers expecting immediate service. Moreover, process mapping is assumed to decrease error, as it aims to slim down processes, which in turn decreases the risk of error. (Kalman, 2002)

Arlbjörn and Haug (2010) discuss the aspect of IT in business processes. They argue that IT-systems are a big part of daily business operations, at every level of the organization. As such, all business processes involve a lot of the work to be done in several different IT-systems and work is often completely dependent on these systems to work. (Arlbjörn & Haug, 2010)

Through a product's journey from input to output, massive amounts of people and systems have been involved in the process. Due to the large amounts of systems used in an organization, it also
becomes relevant to map the systems used in different processes. This makes the IT visible, making it possible to determine which systems should be shut down and which should be continuously used. It can also aid in identifying how many resources are used on each system and who is responsible for them. (Arlbjörn & Haug, 2010)

2.3 Embedded IT-Systems in Business Processes

The following section of the literature review aims to add a perspective of IT-systems to the previous literary presentation of business processes, routines and habits. To allow this convergence, a definition of an embedded IT-system is relevant. The literature on the phenomenon “embedded IT-systems” does not give detailed information about how embeddedness is actually defined. Therefore, this paper aims to create its own definition by framing both terms and their relation.

The starting point is framing the term “IT-system”. Arlbjörn and Haug (2010) define this as “an array of components that work together to achieve an objective by processing data to information” (Arlbjörn & Haug 2010, p. 26). This broad definition comprises everything from a complex enterprise resource planning (ERP) system to manual paper based systems and flat files, such as excel sheets. (Arlbjörn & Haug, 2010). To “embed” something can be defined as “to be or become fixed or incorporated, as into a surrounding mass” (dictionary.reference.com), or to “implant (an idea or feeling) so that it becomes ingrained within a particular context.” (oxforddictionaries.com)

When combining the definition of embeddedness within the IT-system terminology, this paper can create its own modified definition:

Embedded IT-systems are systems, which transforms data into information and are incorporated and ingrained in its organizational workflow and process context.

2.3.1 Routines, Habits and Embedded IT

By integrating IT-systems in workflow routines and habits, the purpose is to create new innovations or improvements across the specific business process or activity. This integration can be inhibited by several different factors, such as the adaptation among employees. As
previously established, the embeddedness of IT is related to employees’ workflow routines and habits. As such, it becomes important for the management to have the power to change these workflows when new IT is introduced, in order to not experience implementation failure (Yeo, 2002). System changes often result in insecurities among workers due to poor communication from management. Methods like openness through two-way communication, negotiations, economic incentives and top-down approach through coercion, power and manipulation helps to overcome fear and anxiety (Schultz, 2007).

Therefore, Polites and Karahanna (2013) highlight the importance of intervention strategies across the whole formalized management process. There are several interventions that help organizations to enable the environment of an embedded IT-system like monitoring, feedback, training-in-context, performance goal suspension or stable user interface configuration. This embeddedness of IT goes hand in hand with “larger, frequently practiced, higher-level routine or task sequences” (Polites & Karahanna, 2013, p. 222) and leads to stability of the embedded IT for the organization. This stability is supported by an understanding of IT-systems work-related habits within organizational and individual routines, which is derived from the work routine itself. (Polites & Karahanna, 2013)

Embedding knowledge and routines in an organization’s software enables working together and sharing knowledge across organizational boundaries in heterogeneous groups, functions or subunits. This embedded knowledge could entail written documents, individual knowledge bases or an intranet that makes the knowledge available across the entire organization. (D’adderio, 2003)

2.3.2 IT’s Effect on Business Processes
The creation of software for supporting work means to translate the knowledge and practices of people into computational models (Mahoney, 2008). According to Yeo (2002), the main function and the primary reason for the existence of an IT-system is to provide its users with information. Furthermore, the system should act as a tool to support, serve and help action-taking in the real world. Such actions could involve anything from increasing efficiency to consolidating resources (Yeo, 2002).
IT-systems can also have automation properties within organizational functions. This meant that routine information collection and tasks were taken over by IT, replacing paper and people with electrons, without fundamentally changing the way work was done (Zammuto et al., 2007). This can be described as computing companies. The aim of computing is to make quick choices and enable an improved decision-making process through preserving human agency (Mahoney, 2008).

According to Davenport (1993), “information engineering, like process innovation, takes a macro-level perspective” (Davenport 1993, p. 147). Both Davenport (1993) and Mahoney (2008), state that translating strategic business objectives into information systems has a top-down approach. Firstly, it starts with the development of enterprise-wide models, which is followed by analyzing the data and processes of the entire organization or major business units. Secondly, the resulting models document detailed system requirements, such as action diagrams and database design specifications. The strength of developing this approach can be motivated through Davenport’s “Process Innovation – Reengineering Work through Information Technology” (1993): (1) Data orientation, and; (2) Considering data as a separate and independent entity.

However, the project of implementing IT-systems is often associated with disappointment as users’ requirements are not being met. Yeo (2002) lists several types of failures. The relevant failures for this paper are: (1) correspondence-, (2) expectation- and (3) interaction failure. Firstly, correspondence failure occurs when the system fails to meet its design objective and is leading to be not accepted by its users. Secondly, expectation failure happens when there is a discrepancy between the desired and actual situation for the internal and external actors who are affected by the IT-change. Lastly, interaction failure refers to the level of usage by the end-users and is related to user attitudes and user satisfaction. However, this does not automatically mean that a high level of usage equals high satisfaction and positive attitudes, as high usage might simply be because there are no alternatives to using the system. Therefore, interaction failure occurs when the end-user has a negative attitude towards the system and satisfaction is low. (Yeo, 2002)
Based on this, it becomes important to note that although the aim of IT is to improve and support the way work is done, it has been found that many IT-systems tend to fail in this objective. Investing in new IT is both expensive and resource demanding and therefore it becomes relevant to study not only how IT can be embedded to support work, but also what causes failure in information technology projects.

2.3.3 Embedded Business Intelligence

According to Golfarelli et al. (2004) and Chaudhuri et al. (2011), business intelligence (BI) is the process where knowledge is created from information, which in turn is extracted from data. The purpose of using business intelligence is to enable real-time decision-making, which can be integrated in operational decision-making processes. This power to react is based on three crucial factors: (1) time; (2) relevancy and; (3) actionable (Golfarelli, et al., 2004).

Golfarelli et al. (2004) further state that the process of extracting data through data warehousing supports a bottom-up information creation process. However, it tends to fail when it comes to supporting a top-down enforcement of business strategy. Furthermore, this means that extracting bottom-up data implies a reactive rather than a proactive decision-making process. Based on this, a business performance management approach should be added to the data warehousing process as it involves a reactive element, which enables decision-makers to adjust time-critical business processes to be in line with the strategies of the organization. (Golfarelli et al., 2004)

Firstly, time is an important factor for companies. The later in the task the organization gets the information the worse result. This enables a direct correlation between the factors information and outcome based on time. Secondly, the information provided should not be based on generic information. The most important information should be relevant for the optimization of the problem and includes causality. Lastly, the embedded BI-system should remind the user of a certain event. In the best-case scenario it should present adequate alternative options to create an actionable decision. (Haimes, 2010)
2.4 Summary of the Literature Review

Through using the literature review as a point of creating a model (Figure 1) for this paper, we can see following three important pillars and their correlation: (A) Embedded IT, (B) Workflow, and (C) Process.

![Diagram](image.png)

**Figure 1**: Relationship between Embedded IT, Workflow and Process

The relation between embedded IT and workflow (I) can be seen in two ways. Firstly, embedded IT influences the workflow for the employees both through the way in which IT-systems are chosen for different tasks by the user through habits and routines, but also as new IT can disrupt the workflow as it would also disrupt the users’ habits and routines. Secondly, the workflow influences the factor of embeddedness of IT and vice versa.

The relation between workflow and process (II) is based on the workflow enabling the identification of a specific process for a certain event, as the entire process mapping procedure is based on identifying the workflow of its employees. Because of this, the process itself also presents the specific workflow of how work is done.

The relation between Process and Embedded IT (III) can be seen on the one hand as the process identifies how the embedded IT is used throughout the process of input becoming output. On the
other hand, embedded IT also influences the process as it both guides people through the tasks of the process and as the implementation of new IT-systems tend to change the process in itself.

Based on the theoretical framework above and the relationship between the different phenomena, it can be established that achieving continuous process improvement is the desired result of mapping business processes and having IT be embedded in employees’ workflow routines and habits. However, as the theoretical discussion also indicates, the relation between these three pillars can also be of negative character. If the IT is not successfully implemented, it can lead to workflow habits and routines to be disrupted, which in turn can result in the IT being more of a hindrance than a support for the workers. If this occurs, process improvement fails to be achieved.
3. Method

3.1 Research Design

This paper intends to investigate the embeddedness of IT in a workflow and the impact of routines and habits for operatives working in the process has on its process improvement. To fulfill this purpose, a qualitative research approach using a case study has been chosen. The method of using a case study was chosen as it allows a deeper understanding of the context of the research to be gained (Bryman, 2006). Furthermore, due to the nature of the research, the aspect of studying the phenomena in its organizational context was perceived as highly important, which further strengthened the benefits of using a case study (Eisenhardt, 1989).

In order to conduct the study, a theoretical framework has been created which discusses the most relevant and significant research within our topic (Eisenhardt, 1989). The research that has been identified as the most relevant is that of habits and routines, business process mapping and embedded IT as well as improvement. Furthermore, these topics have been widely reviewed through several sources. These sources are up-to-date as well as from recognized experts within the area. Therefore it increases the critical judgment of the theoretical framework (Saunders et al., 2009). Furthermore, both conflicting as well as similar literature has been used, which confirms and sharpens the theory and leads to internal validity (Eisenhardt, 1989).

The presented framework acted as a foundation for how data was gathered, as well as functioning as a tool for which the empirical case was analyzed. This established conclusions that explain the interconnectedness of workflow routines and habits, business processes and embedded IT. This means that an inductive approach was adopted. (Thomas, 2003)
3.2 Literature Framework

This paper is based on a theoretical framework founded on the following terminologies:

Table 1: Literature Framework table

<table>
<thead>
<tr>
<th>No.</th>
<th>Main-Term</th>
<th>Sub-Term</th>
<th>Literature Review</th>
<th>Items studied</th>
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<td>A</td>
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<td>What is work?</td>
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<td></td>
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<td>Polites and Karahanna (2013)</td>
<td>How are habits and routines connected to work?</td>
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<td>B</td>
<td>Organizational Processes</td>
<td>Business Process Mapping</td>
<td>Davenport (1993); Ljungberg (1998); Kalman (2002);</td>
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<td>Embedded Business Intelligence / IT</td>
<td>Yeo (2002); D'addario (2003); Golfaelli et al. (2004);</td>
<td>What is embedded IT?</td>
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3.3 Case Study

3.3.1 Case Selection

The case company chosen operates within the insurance industry in Sweden, and is limited to the local branch in Uppsala. The company was chosen due to the importance of gaining access, and as there was an established professional relationship with the company through one of the researchers, the level of trust needed to achieve access had already been met (Gummesson, 2000). Furthermore, the characteristics of the insurance industry was perceived as especially interesting due to its differing nature from a more traditional manufacturing company, as this type of service offers a highly complex business model for price setting and calculation of risks.

In order to further strengthen trust and establish access, the case company was assured confidentiality as well as anonymity (Saunders et al., 2009). Due to the nature of this study of business processes, it is highly likely that detailed company-sensitive information will be shared and to some extent also presented in this thesis. Because of this, the company will remain anonymous throughout this paper.
To further narrow down the scope of the research a non-probability sampling technique was used. For the purpose of this paper, an in-depth study with focus on a small sample was chosen (Saunders et al., 2009). Therefore, the case was narrowed down to focus on solely one business process within the case company. Moreover, this process was further limited through exemplifying within the process, in order to obtain a distinct and easy-to-follow process. This facilitated an in-depth, information-rich, within-case analysis (Eisenhardt, 1989).

The process chosen is within the department of claims handling. This process was chosen as it is one of the organizations core processes and highly representative because the process exists in every insurance organization around the globe. It can also be viewed as the process where true customer value is created as it is not until there is an insurance claim that the customer gets to experience the service they have been paying for. This process is very wide as it includes all insurance claims made by individuals as well as companies. The more complex the insurance claim is, the more unique it gets from case to case and the harder it gets to identify patterns. Furthermore, some of the more complex cases can have a time span of several months to years. For this reason it was important to narrow down and exemplify using one specific type of insurance claim. It was also important for this to be a relatively easy to follow claim in order to be able to identify patterns within the time frame given for this study. Based on these qualifications, the process of insurance claims regarding stolen bikes was chosen. This case also proved to be a good choice as there has recently been a new IT-system introduced to the workflow. (Respondent 5; Respondent 4)

3.3.2 Data Collection
Several data collection techniques were used in combination, where both primary and secondary data was gathered. The primary data was entirely qualitative, whereas the secondary data was both qualitative as well as quantitative. The use of several sources and techniques enabled triangulation of the empirical data, which in turn increased the reliability of the information (Bryman, 2006; Saunders et al., 2009; Eisenhardt, 1989).

The data collection began through reviewing process documentation provided by the case company. The documentation included both a map of the process as well as documented
description of all the steps in the process. Through this documentation it was possible to get an overall view of the process and to determine which steps and what respondents to further focus on. Furthermore, documentation regarding the IT-systems used and process mapping of the IT usage was provided. This documentation consisted of both qualitative and quantitative material, where the use of the qualitative data helped explain the relationships of the quantitative variables (Bryman, 2006; Saunders et al., 2009; Eisenhardt, 1989).

Besides the documentation, non-standardized semi-structured interviews with various respondents were conducted. The respondents in the case were chosen using a purposive sampling technique (Yin, 2009). Because of this, only respondents with positions either in or otherwise related to the process of insurance claims or its IT-systems were chosen. All respondents were, as the case company itself, given anonymity and they have therefore been numbered for traceability. The respondents as well as time and length of the interviews can be seen in an overview in appendix 1. The choice and order of the respondents is based on an expertise interview with the human resource specialist. The focus in this interview was to gain a general overview about the Swedish insurance company and the responsible people working in the processes. Logically, the insurance claims manager was the next respondent in an interview to discuss details, thoughts and insights behind the bike claims process and the mapping. Through this, the paper got access to the department and statistical information. This interview was a key moment for the researchers to get access to work shadowing for the bike claims process, which will be discussed further in the next section (see 3.3.3).

To gain a broader understanding of the bike claim process, it was important to speak with the person who mapped the process in 2012: the insurance claims controller. This interview created an understanding for which IT-system is used in the bike claim process and the relationship between IT, process mapping and the people working within the process. This was the last step before doing the essential part of this paper, the work shadowing (see 3.3.3).

Lastly, the researchers presented their results of the work shadowing and reflected upon the results with executives. This contained an interview with the project manager. The person’s role throughout the development of the new IT-system has been to support the different business
units in the implementation of the system. Therefore the person is well informed and possesses a
lot of knowledge about how the IT has been introduced in the workflow. The interview was
conducted via phone and focused on the project managers’ view on the findings of the work
shadowing.

All interviews were non-standardized as the aim was for the interviewees to be able to speak
freely on the subjects presented to them. The purpose of this was to create an understanding for
the decisions, attitudes and opinions of the respondents regarding their workflow (Saunders et
al., 2009). The focus of the different interviews can be seen through the questions posted in
appendix two and three.

3.3.3 Work Shadowing

An observation method was used to learn how the work in the specific process was conducted
through work shadowing (Czarniawska, 2007). The work shadowing entailed observing the three
employees working on the operative level while being active in the process. This primarily
meant listening to phone conversations between the case workers and the customers making the
insurance claim, as this is the channel most commonly used by the customers. In addition to
observing, the participants were also asked to explain choices made. This was conducted in order
to achieve a full understanding of the process being studied and to investigate if any differences
occur between documentation of the process and the reality being examined (Czarniawska, 2013).

The observation put the researcher in an uncertain situation, even though there is a theoretical
understanding of the bike claim process. This uncertainty and dependency makes it difficult to
structure the work shadowing observation. By observing three different case workers, three
different work routines and habits can be identified and the researcher is dependent on the
observed person. A possible negative side effect is that the case workers give false impressions
of how work is done, because they got influenced by a person observing them (Bryman, 1988).
However, the anonymity of the workers in combination with the established relationship limited
this possible impact.
Generally, this method allowed having a wide and detailed understanding of the process studied, however it also brought about a few concerns. First, there was the issue of timing. As the process had been narrowed down to only be regarding insurance claims for stolen bikes, timing was of the essence in order to capture as many calls as possible concerning this type of claim. This issue was the most challenging and therefore the shadowing was conducted on two occasions for two full working days. The second issue faced with, was that of bias. In order to limit this issue and strengthen reliability, the aim of the observation was kept from the workers being shadowed so that the aim of the study would not affect choices and attitudes towards IT usage in the process (Bryman, 1988).

3.4 Data Analysis
Shadowing in combination with the process documentation and the interviews enabled facilitation where the use of one data collection method assisted in the others (Saunders et al., 2009). The different methods of data collection resulted in large quantities of data, making it important to become intimately familiar with the case in question. The data collection created an objective outlook and a clear image of how work is done in the process being studied. This enabled a story to be told, which is presented in the empirical chapter of this paper. This story is a purely descriptive, but generated insight which in turn facilitated a within-case analysis. The insights gained through the case study helped in the generation of theory, which was then used to identify patterns in the empirical story, causing a conclusion to be developed (Eisenhardt, 1989). The conclusion of this paper was established through the authors widely discussing all relevant aspects of the case, using the knowledge that had been gained through critically reviewing extensive theory within the field of research.

With these methods of data gathering it is important to note that the study conducted reflects circumstances as they are at a specific moment in time. It means that the complexity of the reality being studied cannot be replicated, as this would be neither feasible nor realistic. However, the data gathered in the form of interviews will be presented both in the empirical chapter of this paper as well as in appendices and can therefore both be reanalyzed as well as aid in explaining the methods chosen (Saunders et al., 2009). However, the work shadowing conducted cannot be documented in the same structured manner, which makes this part of the
empirical data difficult to reanalyze, hence affecting its replicability and constituting a limitation of this paper. The work shadowing could of course be reconducted, however it could never reflect the exact same circumstances. Therefore, the only alternative for replicability is to reanalyze the work shadowing as it is presented in this thesis’s empirical chapter. Furthermore, there is the issue of generalizability. As this study is based on one single case, the question of the findings generalisability comes into question. Although certain conclusions can be drawn based on the case and the analytical framework, it becomes difficult to generalise the results to be applicable to research settings other than those of this study (Saunders et al., 2009).
4. Empirics - The Case Study

4.1 The Swedish Insurance Company: New IT to Be Sure

A look across the Atlantic Ocean shows that implementing a new system carries its obstacles. This is, for instance, shown by America’s Obamacare in 2013, where the task of Barack Obama was to convince the majority in the USA that a change in the American system was necessary. (Economist, 2013) It is a question about the economic main drivers: Competition, security and regulation. Meanwhile, on the other side of the Atlantic Ocean, this thesis’s case company is also confronted with similar issues. The insurance company is acting in an environment of high competition, regulations, uncertainty and customer satisfaction (Svensk Forsakring, 2011).

To get an understanding of the circumstances, the paper takes a step back and look at the situation in 2009. The event is dramatical for politics and the whole economic situation: the financial crisis. The obstacles for the European insurance industry were that regulations became even stricter and there was an increasing need for security and less risk. The need for firmer action in combination with striving for free movement within the European Union led to the development of an EU directive named Solvency II. The directive’s main purpose is to ensure that insurance companies within EU hold enough capital in relation to their risks, in order to minimize the likelihood of insolvency. (Internal non-published material: Solvency II, 2011)

The Swedish insurance company has developed a local Solvency II project where these challenges are being faced, mainly through striving for organizing its operations through documenting and enforcing policies, processes, instructions and guidelines. The two main reasons are firstly the judicial power, which forces them to implement it. Secondly, the company sees it as an opportunity for improvement by becoming more orderly and organized in its activities. (Internal non-published material: Solvency II, 2011)

In the specific process being used as a study object for this thesis, there has been a recent change in the workflow as a new IT-system for smaller claims has been introduced. This IT-system, named “Guidance”, enables a working process of automatization by guiding the user through the steps of an insurance claim. In the case of this paper, the insurance claim of a stolen bike. This
was introduced two years ago and has meant quite significant changes in the way work is supposed to be done. The new IT-system not used exclusively, where workers in certain cases still has to use the traditional way of working through the process. (Respondent 1)

The scope of use for the new IT-system is to handle the uncomplicated insurance claims, so called “direct insurance claims”. Furthermore, the main aims of the system are: (1) lowering costs by enabling a higher quality within the process; (2) time efficiency; (3) more accuracy in the whole process (e.g. calculating the claim); and (4) creation of a standardized decision making process through informatization of the user when further information from the customers are required. (Internal communication material, HQ, 2012)

4.2 The Process is the Driver
Since 2002, the insurance company has applied a process view to its operation. Before applying a process view, fifteen different employees meant fifteen different ways of performing a task in their own way. Because of this, process mapping was adopted to create more structure to the way work is done. The purpose of this was to create an environment of work empowering with a clear framework for the tasks to be carried out. (Respondent 5)

Due to their experience with business processes, this view was also used as a solution to the challenges that they are now facing through the Solvency II directive. As a result, the mapping of processes was incorporated in the local Solvency II project. Visualizing the business processes is an on-going development enabling a review of each step, which in turn makes it possible to identify the different risks associated with each step. Furthermore, the Swedish insurance company state that applying a process view not only clarifies the way work is done to the employees, but also visualizes a desired way of working and aids in striving for process improvement. (Respondent 5)

The insurance claim process has been mapped. This process represents anything from an insured reporting comparatively simple case such as a broken phone or stolen bike to more complex cases of personal damages or homes being burnt down (Respondent 4). The insurance company chose to have one insurance claims process comprising all types of insurance cases, rather than
making different processes depending on level of complexity. Therefore, the process is complex with many factors to consider depending on the specific insurance claim (see appendix 5). According to the insurance claims controller, the level of detail for the mapping is based on how many employees work in the process in question. Therefore, the perception is that a detailed process map and description is needed when few people are involved in a process. The insurance claims controller states that the reason for this is the high employee turnover rate and that there are numerous tasks for new employees to learn, and therefore detail was considered important in this process as well (Respondent 5).

According to the controller of the insurance claims department, the process owner holds the responsibility of implementing new ways of working in the process. In the specific process being studied, this means that the insurance claims executive is responsible for implementing changes to the process. The importance of realizing that the implementation of changes are not set as the implementation phase starts is further highlighted and the insurance claims controller states that when the implementation phase begins, further changes usually have to be made. Because of this, process mapping is considered a continuous process where changes must be made constantly to correspond with the dynamic environment of the workplace. Therefore, the challenge is to implement the process and communicate it to the workers, which is commonly done through specific work instructions (Respondent 5). In the process of insurance claims for bikes, the instructions and recommended approaches are to use the newly implemented IT-system “Guidance” whenever possible. Alongside this new IT-system, the traditional IT-system is still used, as there are complicated types of insurance claims that are not supported by the new system (Respondent 4).

The project manager at the headquarters, responsible for assisting in implementing the IT-system, states that the aim from the beginning has been for the system to support the “direct claims”. These are the type of claims that are easy and straightforward, and the goal is to close the case in the very first call with the customer. Furthermore, there are no plans to have the “Guidance” system replace the old system. The goal is rather to develop the use of the new IT-system to the extent that the customer can conduct the entire claim from report to payout by themselves through the website. (Respondent 1)
When developing the “Guidance” system, a general process for the “direct claims” was created where the IT-systems were mapped. The mapping of IT usage among the case workers helped to identify the intended new way of how work is supposed to be done. Through this process mapping, it was decided which tasks were to be automatized and which tasks should be maintained in the older system. (Respondent 1)

4.3 How Work is Done

The shadowing of the case workers operating in the process being studied indicated how work throughout the process is done in actuality. Whereas the steps of the process were consistent among the three case workers being studied, there were also evident differences in how these steps were being met through their habits and routines.

Case worker 1 recently started working at the claims department within the unit in question and previously worked at a different branch of the company. Therefore, case worker 1 has experience of the work itself, but the routines and ways of conducting the tasks are different in the new position within the company. This has resulted in performing the cases slightly differently, while starting to settle in to the new way of doing things. (Shadowing 1)

Case worker 2 has worked within the department for more than five years and has a steady routine, which is in accordance with the recommended way of performing the tasks in the process. Furthermore, case worker 2 is aware that other people might find it difficult to change their routines when new tools and instructions are implemented, but feels open to change and that the end result of it will be an improvement. (Shadowing 1)

Case worker 3 also has a long history with the company and has a lot of experience working with insurance claims. Following the instructions given by the company whenever possible, however feeling that sometimes doing so is inefficient, as it takes longer due to the new IT-system not supporting all claims reported. Therefore, case worker 3 tends to choose time efficiency over instructions whenever needed. (Shadowing 1)
By exploring the way case worker 1 worked with the system, it can be mentioned that it was used but not as willingly as the others as the attitude towards the new system was less positive. However, all three case workers seem to be in agreement that the largest change in how the process is now followed is that the “Guidance” system performs many of the tasks that the workers previously had to do themselves. (Shadowing 1; Shadowing 2)

4.4 Insurance Claims Process - the Stolen Bike

The process of stolen bike claims can be described through two ways: the traditional- and the automatized way of working. The detailed process in its original mapping can be seen in appendix 5, and the specified usage of IT can be found in the appendix 3. Both ways are divided into three sub-processes on a macro-level: Retrieve Information Process (RIP); Decision-Making Process (DMP); and Pay-Out Process (POP).

![Insurance Company’s Process of Stolen Bike Claims - From Information over Decision-Making to Pay-Out](image)

Both the traditional- and the automatized process can be used by the case workers, creating a close relationship to the habits and routines of the individuals. The rate between traditional and
automatized way of working is approximately 50:50. The first sub-process is the **Retrieve Information Process (RIP)** and is structured through three main steps. Through the automatization, the process is more integrated. The process is divided as follows:

1. The *starting point* is the client reporting the bike incident via phone, internet or visit; and
2. The case worker checks the customer relationship and history of the client.\(^1\)
3. “Circle the event”, where the chain of events are made clear through the customer describing what has happened.\(^2\)
4. Register the claim in the IT-system, stating the type of claim and setting off a preliminary reserve of how much is expected to be paid out.\(^3\)

The second sub-process is the **Decision-Making Process (DMP)**, which is divided in four steps. The case worker decides about the following three questions:

5. “*Should the claim be investigated?*”, \(^4\)
6. “*Is more information/receipts needed?*”, \(^5\) and
7. “*Can the claim be paid out?*”
8. Inform the customer about the decision made via his/her way of communication.
9. The monetary reserve is adjusted internally based on final information about value.\(^6\)

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\(^1\) The second step happens manually by typing in all information in the CRM- and claim-system which guides the call center agent through the system (e.g. with feedback in green and yellow for the customer etc.)

\(^2\) Questions like: Is there a valid insurance that covers the claim? Where did the bike get stolen? When? Was it locked (with approved lock)?

\(^3\) The fourth step happens manually and covers the question “How much money has to be paid out in the end of the process. There is no help from the system. The call center agent has to know how to do it, calculate the reserve based on the value of the bike, age and depreciation. With the “guidance system” it is possible to register the claim step by step and calculate the reserve based on the value and age of the bike. The system calculates everything by itself.

\(^4\) The call center agent follows the instructions manually and evaluate if there are more question needed to ask. The guidance system helps the call center agent based on the customer history and - statistic if a customer is identified as “green” or “yellow” customer. An example could be: A customer did not pay his/her insurance fee and he/she is automatically marked as yellow.

\(^5\) Based on the information the call center agent has, he/she decides. “Guidance system”: the system tells you based on the information it has if it is clear to be paid out.

\(^6\) The final reserves are most commonly the same like reserved adjusted in the bike example. The sub-process is done mainly manually. For example the calculation of the value of the bike has to be done by looking up the value of the bike of a Google page or Bike shop website. After that the deduction is calculated manually through a chart.
Lastly, the **Pay-Out Process (POP)** as a sub-process is conducted, which is divided into two steps:

10. The case worker calculates the payment\(^7\) and  
11. Makes the payment.

As indicated by the process description above, the introduction of the IT-system “Guidance”, have automatized steps in the process that were previously done manually. The major differences are how information about the customer and customers history is retrieved, the calculation of the sum to be paid out after depreciation and deductibles and the registration of payment. These steps are fully automatized through the “Guidance” system, but are conducted manually through the traditional systems.

### 4.5 Examples of a Stolen Bike Claim - the Lady and the Youngster

*Through shadowing, this paper can highlight two different cases of bike claims: (1) The typical bike claim call-in and (2) the optimal bike claim call-in.*

**The typical bike claim:** The customer - a middle-aged lady - calls in and case worker 3 types all general information about the customer. The claim cannot be closed because the customer did not have the required information about the specific bike, she had not reported the theft to the police, the price of the bike was unknown and she did not know the date of purchase. Her reason to call in was to “check if she has a valid insurance for the claim”. The case workers’ all agreed that this is a “typical case”. (Shadowing 2)

**The optimal bike claim:** The customer - a 22 year old youngster - called in and reported his bike stolen (see appendix 4). After checking if the customer has a valid insurance, case worker 2

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\(^7\) This represents the number of subjects represented by the companies of the leading Swedish insurance organization. Due to this relative small number a regression analysis could not be conducted. To see trends, this paper conducted a t-test and a scatter analysis instead.
documented all details like personal number, police case number, price and the way of locking the bike in the “Guidance” system. When any information is not typed in the required field the system makes a failure and does not allow the user to close the case. An example was that the current market price was not applicable and therefore the Guidance system jumped back to the missing field. The optimal case, with only one piece of information missing, took the employee five minutes from starting point to saving the file. (Shadowing 2)

4.6 IT-Usage: From Informatization towards Automatization

Due to the fact that this paper focuses on the local branch in Uppsala (number 31), there was no possibility to gather information or interviews with other units. Therefore, the numeric differences of the whole organization are just explained briefly in this paper with the main focus on department 31. Table 2 shows how the implementation of the “Guidance” system has affected costs and time spent on cases of stolen bike claims. The green color presents very well performing departments within one column. The closer a unit comes to red, the lower the performance.

The whole organization is divided into 23 different companies around Sweden. All of these departments have introduced the “Guidance” system and at the starting point the organization measured the performance of the bike claims based on the main factor of percentages of IT usage and non IT usage and the four key indicators of the bike claim process: (1) costs with IT usage; (2) cost without IT usage and (3) time spent without IT usage; and (4) time spent with IT usage.
Table 2: Statistical information about traditional and automatized IT-usage of the Swedish insurance company based on time and costs

<table>
<thead>
<tr>
<th>Department</th>
<th>Percentage Manual</th>
<th>Percentage &quot;Guidance&quot;</th>
<th>Average cost Manual</th>
<th>Average cost &quot;Guidance&quot;</th>
<th>Average cost total</th>
<th>Average cost &quot;zero point&quot;</th>
<th>Time spent on case manual</th>
<th>Time spent on case &quot;Guidance&quot;</th>
<th>Time spent on case &quot;zero point&quot;</th>
<th>Time spent on case &quot;Guidance&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>19.35%</td>
<td>80.65%</td>
<td>2.211 kr</td>
<td>1.971 kr</td>
<td>2.036 kr</td>
<td>2.042 kr</td>
<td>27.0</td>
<td>36.7</td>
<td>34.8</td>
<td>33.0</td>
</tr>
<tr>
<td>8</td>
<td>64.14%</td>
<td>35.86%</td>
<td>2.119 kr</td>
<td>1.861 kr</td>
<td>1.865 kr</td>
<td>1.873 kr</td>
<td>24.1</td>
<td>41.9</td>
<td>33.4</td>
<td>34.8</td>
</tr>
<tr>
<td>9</td>
<td>34.52%</td>
<td>65.48%</td>
<td>2.040 kr</td>
<td>1.853 kr</td>
<td>1.914 kr</td>
<td>1.926 kr</td>
<td>24.5</td>
<td>36.9</td>
<td>32.2</td>
<td>30.8</td>
</tr>
<tr>
<td>10</td>
<td>8.14%</td>
<td>91.86%</td>
<td>2.011 kr</td>
<td>1.858 kr</td>
<td>1.879 kr</td>
<td>1.893 kr</td>
<td>8.8</td>
<td>23.4</td>
<td>22.5</td>
<td>17.6</td>
</tr>
<tr>
<td>11</td>
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<td>93.01%</td>
<td>1.951 kr</td>
<td>1.865 kr</td>
<td>1.897 kr</td>
<td>1.916 kr</td>
<td>16.9</td>
<td>38.7</td>
<td>37.3</td>
<td>36.9</td>
</tr>
<tr>
<td>14</td>
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<td>50.50%</td>
<td>2.070 kr</td>
<td>1.874 kr</td>
<td>1.972 kr</td>
<td>1.985 kr</td>
<td>14.1</td>
<td>33.6</td>
<td>24.0</td>
<td>20.8</td>
</tr>
<tr>
<td>15</td>
<td>50.26%</td>
<td>40.71%</td>
<td>1.625 kr</td>
<td>1.495 kr</td>
<td>1.610 kr</td>
<td>1.629 kr</td>
<td>32.8</td>
<td>46.8</td>
<td>48.7</td>
<td>34.9</td>
</tr>
<tr>
<td>16</td>
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<td>86.89%</td>
<td>1.687 kr</td>
<td>1.870 kr</td>
<td>1.892 kr</td>
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<td>37.5</td>
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<tr>
<td>21</td>
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<td>80.49%</td>
<td>1.607 kr</td>
<td>1.780 kr</td>
<td>1.797 kr</td>
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<td>35.9</td>
<td>31.3</td>
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<tr>
<td>24</td>
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<td>40.48%</td>
<td>2.124 kr</td>
<td>1.729 kr</td>
<td>2.250 kr</td>
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<td>1.712 kr</td>
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<td>1.850 kr</td>
<td>2.029 kr</td>
<td>2.076 kr</td>
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<td>37.7</td>
<td>31.4</td>
<td>31.3</td>
</tr>
<tr>
<td>29</td>
<td>24.71%</td>
<td>75.29%</td>
<td>2.144 kr</td>
<td>1.825 kr</td>
<td>2.069 kr</td>
<td>2.092 kr</td>
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<td>34.6</td>
<td>36.9</td>
<td>36.5</td>
</tr>
<tr>
<td>31</td>
<td>50.54%</td>
<td>49.46%</td>
<td>1.650 kr</td>
<td>1.975 kr</td>
<td>1.810 kr</td>
<td>1.820 kr</td>
<td>11.9</td>
<td>16.4</td>
<td>14.1</td>
<td>27.9</td>
</tr>
<tr>
<td>32</td>
<td>16.05%</td>
<td>82.95%</td>
<td>1.988 kr</td>
<td>2.143 kr</td>
<td>2.051 kr</td>
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<td>17.0</td>
<td>15.9</td>
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</tr>
<tr>
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<td>1.948 kr</td>
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<td>18.1</td>
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In its entirety, the Swedish insurance organization uses the guidance system every third time, which is represented through the mean usage. Which company is the best performer according to the available four key indicators? To decide, a ranking from 1 to 23 of the data was conducted by ranking all four indicators. The result is that company 31 had the best score with 6.50 points, which is represented by Uppsala as the leading insurance company within the whole organization. Before the implementation they spent almost 17 days handling a bike claim. By using the system it takes the case workers five days less, which is time saving of almost 30 percent. Based on the pay-out before the guidance system, almost 2,000 SEK were paid-out on average per bike claim. After the implementation costs of almost 350 SEK could be saved, which is a cost saving of more than 15 percent.

By comparing Uppsala as the best performer with the worst performer, an enormous gap of 1,500 SEK in pay-out and 41 days in time spent can be seen. The project manager stated that these data represent the successfulness of implementing the “Guidance” system, where the units
with successful implementations have experienced more improvement. It is further argued that in the role as support in the implementation process, there has been a pattern that indicates that issues in using the system is related to the workers ability to change the way they work and that this is further related to management's ability to enforce these changes.

The insurance claims controller stated that a reason for the 50:50 ratio of usage is that the IT-system does not support all claims, but that it is rather the simplest cases that can be automatized through the “Guidance” system. With experienced case workers, the “Guidance” system tends to slow down the process in more complicated cases. The controller stated that the employees have such an established routine that it will rather be time saving to register the claim through the older system (Respondent 5). In the old system, the user is able to save documents in the case as well as to put it on a watch-list where the user can keep track of the case and see if the customer has sent in the required documents or information. This is considered an important feature as the customer often lacks all the necessary information to perform the entire claim and close the case in the very first contact with the customer. Without these features, the case risk being left open for several months which in turn means that the reserve that has been set off will remain a liability in the company’s balance sheet. Due to this, both systems have to be used simultaneously (Shadowing 1). Case worker 1 and 3 tend to register everything in the old system, rather than operating in two systems simultaneously. Case worker 2 first registers the claim in “Guidance” and then completes the case in the older system (Shadowing 2).

It is stated that the new system has many positive features that simplifies the work, such as the automatization of control and evaluation of the customer, calculation of the claim and the creation of accounting and payment data. However, these positive aspects of the systems does not outweigh the amount of work it takes to make the way through the process whenever the claim gets slightly more complicated. Therefore, all three case workers as well as the insurance claims controller agree that the “Guidance” system is great for the almost all simple cases as well as for inexperienced worker who need the extra support that the system offers. They all further state that in their case, when there is a routine already in place, the time efficiency that the new system aims to provide is lost. (Shadowing 1)
According to the project manager, it has been communicated from the beginning that the systems aim is to be used for the “direct claims” and that the new system will not replace the old one. Furthermore, it is stated that the most common implementation issue has been the change in how work is done as the employees no longer have to keep all the knowledge in their minds but can rather work of the checklist offered by the system. However, there have been some difficulties in changing the behavior of the workers as “their patterns are ingrained in their backbone”. This has resulted in the workers experiencing that each case takes longer than it did through their old way of working. (Respondent 1)

However, the statistics show that this is not the case as the time spent on each case has decreased since the implementation of the “Guidance” system. On the one hand, the negative feedback has been regarding the system being too rigid, while the positive feedback has been that the system is supporting the way work is done and that especially new employees find it very helpful. Therefore, the project manager states, the positive and negative feedback are really just two sides of the same coin and that the success of the implementation has been a lot depending on the attitudes of the workplace. It is a question of management and the management’s ability to communicate the system with regard to the employee’s attitudes. “Only the management can know their employees as individuals”. Many of the case workers are also highly skilled and very experienced, which is one of the reasons as to why the system might be difficult to adopt, as the support the system offers can be perceived as a threat.
5. Discussion and Analysis

5.1 How Work is Done – Work IT

Through work shadowing, this paper analyzed in detail how work is done at the Swedish insurance company. The ways in which the three workers find solutions by traditional- and automatized IT usage were different based on their individual habits and routines. The case workers differences in attitudes and conducting the work indicate that the way solutions are found to the bike claim process depends on two factors: (1) background and previous experience in their decision making process and (2) goal-oriented behavior (Shadowing 2).

These factors are connected to the habits and routines of the case workers’ workflow, which is supported by Polites and Karahanna (2013) as well as Schultz (2007), who state that the workers develop these behaviors over time and that they are commonly triggered by certain situations. When changes, like implementing a new IT-system, are done employees keep their old behavior in mind and therefore a long-term-oriented implementation strategy should be developed. This should be especially considered, due to the 50:50 distributions for traditional and automatized way of working. All respondents unanimously stated that the reason for this is that it in fact sometimes delay the process and make it more complicated, rather than streamlining it. Although the systems aim is not to support all claims, the 50:50 ratio shows that it is not only that the system does not support the way work is done, but also a result of differences in routines, habits and attitudes.

The findings of the case workers user-habits towards the new system can further be explained through the discussion of change readiness where organizational change can be inhibited through limited participation among employees (Cunningham et al., 2002). Armenakis et al. (1993) as well as Bandum (1982) argue that employees with high confidence tend to have higher willingness to contribute to change. Executives should consider employees attitudes as a change readiness factor and, as also stated by the project manager, it is therefore important to have knowledge about your employees attitudes in order to know individuals readiness and willingness to contribute to change (Respondent 1).
5.2 Empowerment of Business Processes – Empower IT

Ten years ago, the leading Swedish insurance company applied a process view to their operations. This was important because they considered it central to create a framework of how the work is done. The insurance claims controller highlighted that this framework does not mean that everybody should “conduct all tasks in the exact same way” (Respondent 5). It should rather be a guidance, which should make it easier to create customer value through the whole process. By reflecting on the definition of business processes established, it can be underpinned that this approach of framing the process in general puts focus on a certain input - the starting point of the bike claim process, and a certain output. This is a combination of two things: the final decision for the customer as a payout or not payout and the customer value based on the whole bike claim process.

To reflect between the theoretical process definition and the empirical information gathered, it can be underpinned that a process view was necessary for the insurance company. Under the conduction of the claims controller, the framework of how work is done was created. This built a frame but did not force the employees to work in static and repetitive way of conducting the tasks. In the bike claims process as an event, the frame is the relationship between input and output, which can be explained through the definition which was developed in the paper: Business process is the “relationship between input and output through a set chain of events. The inputs are transformed into outputs through a series of activities, aiming to create customer value.”

In this case, the input can be seen from two perspectives: the company- and the process view. The company view is the moment when there is a legal contract with continuous payment between the customer and the insurance company. The process view’s input can be defined as the moment when the customer calls-in and reports that his or her bike got stolen. The output is for the company- and process view the same: the service delivered with the aim to achieve customer satisfaction. The service is the handling of the insurance claim of the customer. The aim of the company is to have “satisfied customers who are well-served” (Respondent 5) regardless if they get monetary accomplishments out of their (bike) claim. Through the empirical information gathered, this paper can clearly see the aspect of transformation of input into output.
Out of this, two important factors are created: customer value and data collection for the company.

By framing a process like the insurance company is doing, an environment of work empowerment is enabled. The key element in this is framing of the process creates soft boundaries. The way of how the people work within the process is free of choice. Through the shadowing, it could be seen that this created an environment of helpfulness, trust and openness, which creates customer satisfaction.

**5.2.1 Applying a Process View – Apply IT**

As previously stated, the output delivered is a service for which the consumer has been paying for as a method to hedge the risk of a loss. This further means that the customer transfers his/her risk to the insurance company in exchange for payment. To change the angle of vision this means that the customer buys a certain safety for the internal clumsiness and external danger of the environment.

Due to these circumstances, an insurance company’s customer value is truly created in the process of insurance claims, as it is in these events that the customer gets to experience the value of what they have been paying for. Through Aguilar-Savén’s (2004) as well as Arlbjörn and Haug’s (2010) definition of a core process, it can be established that the process of insurance claims is one of the organizations core processes as it is a customer value creating process.

Furthermore, this means that consistency towards the customer is key, as it is highly important that all customers get the same service delivered with the outcome being consistent regardless of which case worker handles the claim. As Davenport (1993) and Ljungberg (1998) state, applying a process view to an organization creates a holistic view and exposes the entire chain of activities in which the output is created. Therefore, applying a process view to the chain of events for insurance claims achieves a holistic view and help the employees visualize the tasks to be carried out. Arlbjörn and Haug (2010) emphasizes that optimizing processes is key in staying competitive and that organizations with inefficient processes will eventually fail. In the case of the process for insurance claims for stolen bikes, optimizing this core process would mainly
entail cutting costs through more accurate calculations of claims as well as through time efficiency, as these two factors are what create value for the consumer.

More accurate calculations of claims lead to a higher level of consistency towards the customer. Time efficiency, on the one hand means cutting costs through decrease in manpower while on the other hand creating higher quality for the customer as the claims are being handled faster. Moreover, these two factors are the key objectives when implementing the new IT-system “Guidance”. However, as will be discussed further in this paper, the question of success for this method of optimizing the process is depending on the embeddedness of this new IT-system and the support it aims to provide.

5.2.2 Business Process Mapping - Map IT

The insurance company’s reason for conducting process mapping of its operations was not only because they believe it helped them to become more orderly, but also because it facilitates the inventory of risks necessary for the Solvency II requirements.

This means that in the case studied, it is not only the identification of true value creation that is of importance, as Arlbjörn and Haug (2010) states. It is rather a way of applying control to the operations through identifying where the largest risks occur and where risk can be minimized through control mechanisms. Secondly, identifying value creation is important, but is not the main focus of the process mapping within the insurance company. This is connected to the main obstacle of mapping processes, which Ljungberg (1998) highlighted. Business processes tend to be invisible before having a process view and mapping it. Without a process view, employees tend to just work and might not reflect on these invisible processes. Therefore, they risk losing the holistic view of the organization and how all tasks are interrelated. However, as the insurance company already had a long history of applying a process view, this obstacle seems to have been easy to overcome and interviews with the employees working in the process enabled the map to be graphed. This combination and the importance of having the experience of the insurance claims controller and the employees working in the process supported the visualization and graphical illustration of what occurs in the process.
It is also stated that when mapping the process, the aim is to not only map it as it is, but to also reflect upon a desired state of how the process should be (Respondent 5). As Kalman (2002) states, process mapping helps to identify discrepancies between the actual process and a desired process, which is what the insurance company claim they do. However, then the question remains as to whether illustrating a desired state alone actually allows it to be reached. This question can, in part, be explained through Kalman’s (2002) findings that process mapping acts both as an analytical tool as well as a process intervention. In this case, the analytical tool would entail the analysis of risks as well as the continuous work with minimizing both these risks as well as costs caused by inefficient ways of doing the work. Lastly, it can be seen as a catalyst for change as the mapping itself is a constant source for debate on how things can be improved (Respondent 5; Kalman, 2002). Furthermore, the mapping of the process was one of the methods used when developing the new system, which in the end aims to improve the process (Respondent 1).

In the case of the insurance claims process and as supported by Arlbjörn and Haug (2010), the visualization of the process increases the workers knowledge of each step in the process. This creates an understanding for how a single task might affect other steps in the process. This argument might be more applicable in processes that are extended over different units of an organization, although there are some aspects of the way work is done that still make the visualization important. The bike claim process is contained to one department, but as it is very common that the customer has to contact the insurance company several times with additional information, several different case workers are involved in one single case. This is why it takes on average almost one month until a case is closed (see Table 2).

Furthermore, visualizing the process can aid in creating a holistic view of one case constituting the process, creating knowledge of how one’s work might affect others in (Arlbjörn & Haug, 2010). However, here it becomes important to note that the case workers state the importance in being able to create watch-lists and add attachments to the case, which is not a feature offered by the new IT-system. This indicates that although the visualization of the process can increase the workers knowledge of all the steps, the new IT-system does not necessarily support this holistic view where several case workers are involved in one case.
Today, business operations involve a huge amount of IT usage with different kind of IT-systems. This helps to transform inputs into outputs, and creates interdependency between IT and work (Arlbjörn & Haug, 2010). This interdependency can also be found in the insurance company. As the “Guidance” system was developed, the IT usage was mapped in order to identify which step could be automatized through the new system. As stated by both parties, the executives and operatives, the system’s purpose is to deal with direct claims. Therefore some features were left out, which makes it necessary to use other systems to handle more complex insurance cases. However, this further meant that yet another IT-system was introduced in the process, seemingly creating uncertainty among some of the case workers. This condition of having multiple IT-systems can be underpinned by Arlbjörn and Haug (2010). They stated that IT mapping helps on the one hand to identify the system used and enables the elimination of unused IT-system resources. This helps to focus and makes investing decisions easier. On the other hand it helps to introduce new IT-systems and using the old system as a manual choice too.

5.3 Embedded IT – Just Use IT

As previously established and indicated by the process description in the empirical material, many different IT-systems are used throughout the process of insurance claims for stolen bikes. An important finding from shadowing and interviews with all actors, is the fact that the more complicated the case becomes, the more IT is used (Shadowing 1 & 2; Respondent 5; Respondent 4) Arlbjörn and Haug’s (2010) definition of an IT-system includes everything from an ERP system to manual paper based system. Based on this definition, even more systems are in use than what is given by the process description. This description mentions the organizations CRM system, the old claims system as well as the “Guidance” system. However, a review of the process demonstrates that there must also be systems used when customers’ receipts, police reports, letters and emails are being sent in as complementary information, which are then attached to the claim. In the case of the insurance company, it is important that the case workers have IT embedded in the workflow, where they can attach documents and create watch lists for the status of a case (open/closed). This helps to work more cost saving because every open case entails monetary resources to be put aside for the company. (Shadowing 1) The proactive way of
thinking about companies’ resources requires work routine, which is developed over time and makes the case worker more experienced.

Comparing the time spent with the traditional system versus the guidance system, there is an enormous gap of 49 days, which is an indicator for the executives to call for action for the low performing company to improve the process. By using a stereotypical customer as a constant, the only changing variable is the case worker, who is handling the case. This is strongly connected to routines and change readiness influencing the embeddedness of IT. Firstly, if a case worker is not aware of his or her new IT-system, there is a tendency to avoid it and return to old habits (Schultz 2007). Secondly, “more experienced employees... [handle cases] quicker than inexperienced ones.” (Respondent 5) Thirdly, management should be more involved to close the gap. This should be done through explaining how and why the IT-system is used. The main reasons for using the system are that it is time-saving, cost-saving and make the guidance system more embedded. This can be achieved through more coaching, training and teaching employees in weak performing companies (Polites & Karahanna, 2013). More habits, routines and experience leads to more embeddedness. Lastly, the IT-system automate and standardize the process, as a decision-making tool and through standardizing so the customer gets the same service regardless of who they speak to. This further helps to create an embedded IT-system.

This notion in combination with this paper's definition of embedded IT, show that there are IT-systems used in the workflow that are ingrained to such an extent that it is completely outside of the users awareness. However, the shadowing of the work showed that the usage of the “Guidance” system versus the traditional system is based on more conscious choices established though the case workers habits and routines, which in turn have been developed through experience.

5.3.1 Routines, Habits and Embedded IT - Communicate IT

When integrating new IT to workflows, it becomes important to be well aware of workers habits and routines and how these are related to IT usage, and as Yeo (2002) argue, management must have the power to change these workflows to enable a successful implementation.
It is when a successful implementation has been achieved in alignment with the routines and habits of the case workers that the IT can be seen as embedded in its organizational workflows and the intended benefits of the system can be reached. In the implementation of the new IT-system for the whole insurance claim process, the insurance claims executives hold the utmost responsibility.

The most common implementation problem has been to change the workflow of the employees working with the insurance claims. The workers experienced that the new way of working takes longer, however the statistics clearly show a decrease in time spent with the guidance system (Respondent 1). This is strengthened by the argument that management need to exercise their power to change employees’ routines and habits. When doing so, one obstacle is the insecurities the changes cause, often due to poor communication (Schultz, 2007). In the case being studied, this paper argues that it could be helpful to create an open environment of two-way communication with the workers (Schultz, 2007). Due to some of the negative attitudes presented, it can be assumed that the communication of the system is a point of improvement in the implementation phase, as the literature also highlights this as one of the most common issues (Schultz, 2007). An improved two-way communication would result in the workers being free to express their feelings regarding the new system slowing the process down, whereas management could communicate the positive effects and use statistics to show that although it might feel like a slower process, this is not the case. Moreover, “Only the management can know their employees as individuals” (Respondent 1), arguing that management need to communicate the system to the employees with regard to the individual attitudes.

Polites and Karahanna (2013) also argue the importance of management intervention strategies to enable an environment that support embeddedness of IT, such as monitoring and feedback and training-in-context. In the implementation of the “Guidance” system such intervention strategies could also entail clear instructions for when the system should be used and not, in order to achieve the highest level of time and cost efficiency. The empirical data indicates some knowledge gaps regarding when to use the new system. The shadowing indicates that the usage of the “Guidance” system is connected to workers previous experiences, routines and habits, rather than a result of management interventions. Throughout the shadowing, the case workers
state that they sometimes do not use the system because their experience tells them it is not time efficient. Although routines and habits of employees are what make IT embedded, the question of how to embed new IT-systems, aiming to improve processes, arise.

D’adderio (2003) discusses the aspect of embedding knowledge and routines in software to enable knowledge sharing across units and functions. In the insurance company, this is highly important, as knowledge about a customer's history is valuable when evaluating the risk of the customer relationship. In the “direct claims”, it is given automatically to the user whereas in the more complicated cases, the system aims to inform the user.

5.3.2 IT’s Effect on Organizational Processes – Automatize IT

Yeo (2002) argues that an IT-system’s main purpose is to provide its users with information to support decision-making in the real world. Zammuto et al. (2007) discusses IT’s automatization properties where some routine information collection activities are replacing people without changing how work is done. Through studying the process, it becomes visible that the old IT-system in combination with the CRM system provides the users with information about the customers insurance and his/her history in relation to the insurance company, which have to be evaluated for the decision-making purpose. However, the “Guidance” system has replaced this human agency and automatized the gathering and evaluation of customer data as well as the calculating and registration of the payout. Based on this, it becomes evident that the traditional system focuses on informatization, whereas the new system focuses on automatization. This process of transforming business objectives into information systems has a top-down approach (Davenport, 1993; Mahoney, 2008), which is evident through the management initiatives in the case company.

As the “Guidance” system was developed, the process of direct insurance claims was mapped through looking at how the case workers conducted their tasks. Zammuto et al. (2007) state that the move towards process-based IT-systems helps both management and employees to understand and integrate the whole workflow. In the case of the “Guidance” system, the IT offers a lot of support for the user and makes the entire workflow visible. However, the users state that the system is too rigid and is therefore great for inexperienced case workers. For workers with a
high level of routine in their work it tends to feel like a hindrance, rather than a support in the workflow. This means that whereas, as Zammuto et al. (2007) argue, the IT helps operatives and executives to integrate and understand the whole process, its supporting features can also verge on being too rigid and therefore be perceived as a hindrance. This discussion leads to the argument that when developing IT that aims to automate and support the way work is done, it is not only important to be aware of users routines and habits through mapping and understanding of the process. It is also imperative to find a balance between supporting qualities and automatization as well as rigidness and flexibility.

Yeo (2002) discuss implementation of IT-systems and the reasons as to why the results sometimes can be viewed as a failure. Although this paper does not focus on the implementation of new IT-systems, but rather the usage of IT in a workflow, these types of failure can aid in explaining why some complications has occurred in the embeddedness of IT. This is due to embedded IT being dependent on the systems being implemented and fully integrated in the organizational workflows. Correspondence failure, expectation failure and interaction failure (Yeo, 2002), all have in common that they refer to user acceptance, user expectations and level of usage and highlights the importance of two factors. Firstly, developing a system which corresponds with user needs and secondly to communicate what these functions are and what the purpose of the system is. The project manager stated that the purpose of the system is and has always been to only handle “direct claims” (Respondent 1). However, the three case workers as well as the insurance claims controller say that they think that the system is best used only for claims that can be handled right away in the very first contact with the customer. This statement indicates that the purpose of the system has not been fully communicated by the unit developing it. This is based on the shadowing implying that the case workers have found this to be the case, instead of it being something that is well-defined and clearly communicated.

5.3.3 Embedded Business Intelligence – Be IT
Business intelligence is used to enable real-time decision-making and entails three important factors of time, relevance and action. The purpose is to support proactive rather than reactive decision-making, where a bottom-up information process is used to attempt to adapt business processes to be in line with organizational strategies (Golfarelli et al., 2004). The end purpose of
the “Guidance” system is to create a web-based solution where customers can handle their simple claims online. This change in the process would result in cost savings and liberating case workers’ time to be spent on more complicated and time-consuming cases. This full automatization of the business process is embedding business intelligence, where proactive measures are taken to align the process of insurance claims with the strategies of the organization. The final aim is going to be to offer a real-time service for customers to report simple cases to increase the customer satisfaction, cost savings and to enable a better customer service for the complicated claims (Respondent 5). However, the web based solution is not going to exclude the other contact channels, but the traditional way of coming by the office or phoning in will still be available. The intention is rather to minimize these ways of communication in order to cut cost and create time efficiency, hence improving the business process of insurance claims.
6. Conclusion

As established in the introduction, this thesis aims to answer the following: How can embedded IT lead to improved workflows? and How is embedded IT used in a workflow? What support and hindrance can IT offer?

Through using the theoretical framework in analyzing the case study, it has been shown that information technology can be an important factor in the way work is done in today’s organizational workflows. Investing in IT is costly and in order to achieve the intended benefits of the system, it needs to be fully embedded in the employee’s workflow routines and habits. When routines and habits of workers subconsciously affect choice of system, IT can be seen as fully embedded and when this occurs, it is more likely to support the way work is done.

Furthermore, through the case, it was discovered that if IT is not fully integrated in workflows, it can also act as a hindrance for employees working in the process. This occur when IT fails in meeting its objectives or when the process which it intends to support has not been properly mapped, which in turn means that it is not fully known how work is truly conducted. The case study also showed that embedded IT, in its interdependency with workers routines and habits, can act both as support as well as hindrance. The support was due to its automatization properties, while its hindrance lies in its rigidness.

Based on these two findings of the insurance company, it was discovered that embedded IT can lead to improvement in processes when there is knowledge about how work is truly done. This further entails that habits and routines as well as workers attitudes are known. When these objectives are met, management intervention strategies can be used to successfully integrate embedded IT in workflows and process improvement can be achieved.

The paper has developed a model (graph 3), which has an organizational approach and explains the interaction and relationship between the three pillars of this study. This was introduced in the theoretical summary, and further strengthened through the case study conducted and the subsequent analysis of the insurance company.
The first relation represents that between embedded IT and workflow habits and routines (I). As established throughout this paper, IT can become embedded within the organizational workflows through the employees’ routines and habits affecting the usage. Furthermore, the embeddedness of IT also influences the workflow through changing habits and routines through successful implementation. The relation between workflow and process (II) is due to the importance of mapping the process to identify how work is conducted, in order to support the employees and make the workflow visible. Identifying business processes entails visualizing workflows, enabling improvement to be detected and acts as a catalyst for change. The case study also allowed this paper to explore the relation between Process and Embedded IT (III). The finding is that the more complicated an event becomes, the tendency is to use more IT. As established, IT aims to support its users through automatization or informatization. To enable this support, the IT needs to become embedded and the processes for which it aims to support needs to be fully known. This interdependence represents the relationship between processes and embedded IT.

To conclude this paper, IT can support the way work is done only if the above-mentioned aspects are met. Through the support of IT, process improvement can be achieved through cost saving.
and time efficiency capabilities. Furthermore, in the short term, IT can support through automatization and informatization. However, in the long term it has the tendency to replace human agency through process automatization. After presenting these findings, it becomes important to note that these are rather limited in its generalisability, creating a knowledge gap that could be filled through future research.

**Recommended future research**

The research for which this paper is based upon and the conclusions that was drawn from it adds to a field of study still quite unexplored. There are many studies conducted on business processes, routines and habits as well as IT, however as mentioned previously, research on the combination of the three is rather limited. This thesis contributes to this unexplored area, however somewhat limited as only one deep within-case analysis was conducted. Due to this, further research using a larger sample would contribute to the view of workflow routines and habits and embedded IT’s relation to process improvements, where possibly more general conclusions could be drawn. Furthermore, conducting another analysis of a different case could facilitate a test of the model developed in this paper. Lastly, further research could analyze the relationship from informatization and automatization and the importance of having a process view. This could contribute to the field of embedded- and real-time business intelligence for the web-based solution for the insurance company.
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Appendix

Appendix 1
Overview of Respondents and Time of Interview

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<th>No.</th>
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<th>Time of Interview (in minutes)</th>
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<td></td>
<td>7</td>
<td>Case Worker 1</td>
<td>Work shadowing 2</td>
<td>07 May 2013</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>Case Worker 2</td>
<td>Work shadowing 1</td>
<td>15 April 2013</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>Case Worker 2</td>
<td>Work shadowing 2</td>
<td>07 May 2013</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>Case Worker 3</td>
<td>Work shadowing 1</td>
<td>15 April 2013</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>Case Worker 3</td>
<td>Work shadowing 2</td>
<td>07 May 2013</td>
<td>160</td>
</tr>
</tbody>
</table>

Sum in minutes: 1,198
Sum in hours: ~20
Appendix 2
Interview Questions & Transcriptions

Interview Questions Respondent 1 (Project manager, HQ)

Implementation
Which are the largest difficulties that you have noticed while working with the implementation of the new system?

What has been the most common critique/positive response to the system?

Function of the system
Why have you chosen to not have some of the functions of the old system transferred to the new system? Will these functions be added later on? Will the system be further developed?

Is the long-term goal for the new system to replace the old?

Tell the respondent what the shadowing indicated and allow for comments:

The case workers say that the “Guidance” is only used 50% of the times because it only supports the simplest cases which can be handled in the very first call with the customer. Is it a conscious choice for both systems to be used side by side?

The “Guidance” system was found to be of best support for inexperienced case workers, do you think that is true? The experienced workers say it takes longer for them to use it.

Interview Questions for Respondent 4 (Insurance claims manager) and Respondent 5 (Insurance claims controller)

General information
1. Tell us about what you do at (the company)?
2. How come (the company) decided to take a process mapping approach?
3. How long would you say you have had process mapping in the organization (before solvency II)?
4. Where do you see the motivation in mapping a process?

Process
1. Where do you see the strength/weaknesses within the process?
2. Do you speak about points of improvement?

General Process Mapping
1. Do you think it is necessary to map a process?
2. Do you think it is necessary to improve the process? Why / why not?

**Process Mapping: Step-by-step**
Go through the process and get the steps explained
Appendix 3
The Visualization and Description of the different IT-systems used During the Bike Claim Case within the Insurance Company

To gain a knowledge about how the IT-system is correlated this paper visualize it as follows:

The blue range describes the outer-circle. These applications are external developed and have no connection to the other IT-systems. The orange range describes the middle-circle and includes applications and IT-systems connected with each other. Generally, Microsoft Word 2013 can be described as an external application but it has an interface CRM-system, Väglädning and Winkosk. The green range describes the inner-circle and consists the “heart” (Respondent 4, 2103) of the IT-systems, because all systems and applications interact with this system. The table below describes the systems and applications detailed:
<table>
<thead>
<tr>
<th>IT-system</th>
<th>Description</th>
<th>Use for bike claim process</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VoIP-System</strong></td>
<td>Voice Over Internet Protocol (VoIP) describes all phone devices connected to the internet to make calls. Traditionally, the standard phone will be plugged into the VoIP adapter to be used. (Davidson et al., 2007)</td>
<td>Retrieve Information: customer contact via phone</td>
</tr>
<tr>
<td><strong>Microsoft Outlook 2013</strong></td>
<td>Outlook is a personal information manager and can be used as a stand-alone application. It is mainly used for its email application but it also includes a calendar, task manager, contact manager, a journal and web browsing. (ENI Publishing, 2008)</td>
<td>Retrieve Information: customer contact via email Pay-Out Process: customer is contacted via email about the pay-out.</td>
</tr>
<tr>
<td><strong>CRM-system</strong></td>
<td>A Customer Relationship Management system collects customer data. It includes products, commitment watch lists, reminder function, bank information, campaign function and analytical application. (Respondent 4, 2013)</td>
<td>In all process parts used.</td>
</tr>
<tr>
<td><strong>Microsoft Word 2013</strong></td>
<td>Word is a word processor which is a stand-alone product. It includes WordArt, Marcos, bullets and numbering and auto summarize functions. It is a MicrosoftOffice programme. (Duffy, 2013)</td>
<td>Retrieve Information: case worker types in additional information as a note pad. Pay-Out Process: case worker uses it to prepare the standardized email for the customer.</td>
</tr>
<tr>
<td><strong>Vägledning/Guidance system</strong></td>
<td>Vägledning is the guidance system and is a customized program for the Swedish leading insurance company. It automizes certain steps in the insurance claim process and supports the user. It can be described as an add-on of the CRM-system. (Respondent 4, 2013)</td>
<td>In all process parts used.</td>
</tr>
<tr>
<td><strong>Winkosk</strong></td>
<td>Winkosk is the traditional system and it informs the user through a manual fill-in and calculation function. It can be described as a CRM-system. (Respondent 4, 2013)</td>
<td>In all process parts used.</td>
</tr>
</tbody>
</table>
Appendix 4

The Optimal Bike Claim Process Case

The bike claim of a youngster calling in at the 9th of May 2013. The call was recorded and transcribed to exemplary of a optimal bike claim process case at the Swedish leading insurance company. The call took place between 10.34 AM and 10.39 AM.

<table>
<thead>
<tr>
<th>Person</th>
<th>Dialog</th>
<th>IT-used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Worker</td>
<td>“Hello Swedish Insurance company*, you are speaking with case worker 1*. How can I help you?”</td>
<td>Case Worker opens the CRM system and the mask of a new customer pops up</td>
</tr>
<tr>
<td>Customer</td>
<td>“Hello, my name is customer* and my bike got stolen. Do you need my personal number?”</td>
<td></td>
</tr>
<tr>
<td>Case Worker</td>
<td>“Yes please. Can you repeat your name?”</td>
<td></td>
</tr>
<tr>
<td>Customer</td>
<td>“My personal number is...880928-1234* and my name is customer*”</td>
<td>Case worker types name and personal number in the field at …</td>
</tr>
<tr>
<td>Case Worker</td>
<td>“When was the date of lost?”</td>
<td>Case worker opens the “Guidance system”. The “date of lost” is the next field in the IT-system</td>
</tr>
<tr>
<td>Customer</td>
<td>“The 29th of April”</td>
<td>Case worker types the date in the field</td>
</tr>
<tr>
<td>Case Worker</td>
<td>2013.”</td>
<td>“...” at ...</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>“Do you have the registration number of the police?”</td>
<td>The “Police registration number” is the next field in the IT-system</td>
<td></td>
</tr>
<tr>
<td>Customer</td>
<td>“Yes, the number is 1234567890*”</td>
<td>Case worker types in the number in the “Police registration number”-field at ...</td>
</tr>
<tr>
<td>Case Worker</td>
<td>“Which type of bike is it?”</td>
<td>The “Bike type” is the next field in the IT-system</td>
</tr>
<tr>
<td>Customer</td>
<td>“It is a Mustang*.”</td>
<td>Case worker types in the number in the “Bike type”-field at ...</td>
</tr>
<tr>
<td>Case Worker</td>
<td>“What is the frame identification number?”</td>
<td>The “frame identification number” is the next field in the IT-system</td>
</tr>
<tr>
<td>Customer</td>
<td>“Hold on a second, I have to search for it...” (After 2 minutes) “...I found it. It is 1234567890987*”</td>
<td>Case worker types in the number in the “Frame identification number”-field at ...</td>
</tr>
<tr>
<td>Case Worker</td>
<td>“How many gears does it have?”</td>
<td>The “frame identification number” is the next field in the IT-system</td>
</tr>
<tr>
<td>Customer</td>
<td>“Seven.”</td>
<td>Case worker types in the number in the “Frame identification number”-field at ...</td>
</tr>
<tr>
<td>Case worker</td>
<td>“When did you buy it?”</td>
<td>The “purchase date” is the next field in the IT-system</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Customer</td>
<td>“July 2011.”</td>
<td>Case worker types in the number in the “purchase date” in the Guidance system</td>
</tr>
<tr>
<td>Case worker</td>
<td>“Where did you buy it?”</td>
<td>The “notes” is the next field in the IT-system</td>
</tr>
<tr>
<td>Customer</td>
<td>“Cykelhörnan.”</td>
<td>Case worker types in the number in the “notes” field of the Guidance system</td>
</tr>
<tr>
<td>Case worker</td>
<td>“How much does it cost when you bought it?”</td>
<td>The “purchase price” is the next field in the IT-system</td>
</tr>
<tr>
<td>Customer</td>
<td>“4 000 SEK.”</td>
<td>Case worker types in the number in the “purchase price” field of the Guidance system</td>
</tr>
<tr>
<td>Case worker</td>
<td>“How much would it cost now?”</td>
<td>The “current price” is the next field in the IT-system</td>
</tr>
<tr>
<td>Customer</td>
<td>“I do not know. Let me check the internet...” (2 minutes later) “...I do not know it. Can I call you back later?”</td>
<td></td>
</tr>
<tr>
<td>Case</td>
<td>“Yes, you can use the</td>
<td>-</td>
</tr>
<tr>
<td>Worker</td>
<td>case number so we can find the case quickly when you call us again. It is 12345*.”</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Customer</td>
<td>“Thank you. Good bye.”</td>
<td>-</td>
</tr>
<tr>
<td>Case worker</td>
<td>“Thank you for calling. Good bye.”</td>
<td>-</td>
</tr>
</tbody>
</table>
Appendix 5
The Original Process Map and Description for Insurance Claims
Mapped by the Swedish Insurance Company

Retrieve Information
Conduct Claim

Follow-Up