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EP adoption and non-adoption More than just the mirror image?

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Abstract / Summary

The emergence of internet technology in the purchasing function has spurred many scholars to understand, explain, and predict the processes and situations in which organizations adopt E-Procurement. In this paper we challenge the mainstream view of a.) adoption as something solely beneficial, b.) non-adoption as the opposite to adoption and c.) adoption and non-adoption as something binary or dichotomous. Based on four exploratory case studies we present a framework for a better understanding the interaction between individual and organizational level outcome and decision process of adoption and non-adoption. We demonstrate that adoption and non-adoption are more than just each others mirror image.

Key words

Adoption, non-adoption, process, *e*-procurement.

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Introduction

The emergence of internet technology in the purchasing function has spurred many scholars to understand, explain, and predict the processes and situations in which organizations adopt E-Procurement. Following the definition of de Boer et al. (2002) EP can be defined as procurement processes supported by network-based information systems. EP has the propensity to contribute to purchasing process efficiency and effectiveness. Just a few years ago, the opportunity to manage marketing and procurement electronically was a privilege that almost only large business firms could afford. Network based information systems for instance EDI or EPR systems were either too costly or too complex for many firms to employ. Nowadays, the way purchasing and supply management is conducted has undergone some fundamental changes. Development of new, less expensive technology and user friendly technological applications for internet-based procurement has contributed to more efficient and effective processes.

Despite the fact that EP might contribute to purchasing process efficiency and effectiveness, not all applications win support and are adopted by the firms they are presented to. Various reasons can be identified for non-adoption, e.g. organizations can (often) choose not to adopt or not be able to adopt a certain technology. When an active choice is made, a procurement technology offered by a business partner or a third party supplier might not fit a firm's needs and wants. Sometimes, it might not fit the business processes built up in the relationship. Not being able to adopt could result from a system that is too complex or too expensive to manage. Scholarly attention is often given to adoption, while non-adoption has only been addressed by a few (e.g., Rogers 1995). A clear selection and pro-innovation bias can be seen. Despite the vast knowledge base on adoption issues and continued research interest in adoption, still research areas remain unexplored for non-adoption. A review of contemporary (non-) adoption research shows the following leads for future research:

- A reoccurring critique is the tendency to focus on successful adoption (i.e., selection bias) (Strang and Soule 1998) and, also, the attitude among researchers that have created an inherent belief that the object of adoption is something that benefits the adopter (i.e., pro-innovation bias) (Abrahamson 1991:487-489; Frambach 1993:36-37).
- When non-adoption is included in research it is used as the opposite to adoption and synonymous to rejection (c.f., Rogers 1995). This seems to have been partly and only just briefly been reflected on elevated in previous studies (e.g., Gatignon and Robertson 1989).
- In addition, there has been a tendency in adoption research to treat adoption as something binary, i.e., that the outcome of an adoption process is either complete rejection or complete adoption. One classic example is the Bass model that assumes that potential adopters either adopt or do not adopt the innovation in a discrete manner (Mahajan et al. 1990:13-14).

In this paper we challenge the mainstream view of a) adoption as something solely beneficial, b) non-adoption as the opposite to adoption and, c) adoption and non-adoption as something binary or dichotomous. The purpose of this paper is to outline a framework for understanding of adoption and non-adoption processes, with specific focus on the fact that we need to include level of adoption and characteristic of decision process into our analysis. Our approach is inductive and exploratory.

The paper is structured as follows. First, after a brief discussion of the methodology, we present a theoretical basis for studying adoption and non-adoption. In this section of the paper, we choose the dimensions for our further analysis. Second, we present our empirical findings. The empirical section of the paper is built on four separate illustrations of adoption and non adoption. Third and final, we will present a cross-case analysis and a discussion on adoption and non-adoption. In this section, we present what we consider to be the main contribution of the paper – a framework for enhanced understanding of adoption and non-adoption processes, being more that just each others mirror image.

Comment [BA1]: a little bit confusion to call the theoretical outcome a framework as well as the outcome of the cases…. to keep it inductive I thought to start calling it a framework after our cases…..

Methodology

The research presented here follows a case study research approach. Yin (1994) states the following three conditions to asses the applicability of case studies as research strategy: the type of research question, the control of the investigator over the actual behavioural events, and the focus on contemporary phenomena. In general, case studies are recommended when 'how' or 'why' questions are being posed, when the investigator has little control, and when the focus is a contemporary phenomenon in a real-life context. The exploratory nature of this research fits well with the case study approach. The research presented is qualitative and the illustrations are taken from various industries in Sweden and the Netherlands. The case studies are based on four separate adoption processes. For each case study, individual case accounts have been developed with separate within-case displays and analyses (Miles and Huberman 1994). Each case study is based on interviews with focal firm representatives and other actors relevant in the adoption process. For each of the four illustrations, we have conducted five interviews. When planning and executing interviews, the goal has been, in line with the suggestions of for example Wilson (1996), to capture the focal dyad by interviewing both sides of the studied relationship. Special attention is given to the discussion of the identified adoption and non-adoption mechanisms.

Our research approach is inductive in the sense that it aims at creating a new understanding rather than testing prevalent theory. However, we do not start of with a blank piece of paper. The main contribution lies in the development of the framework, based on the empirical cases rather than existing theory. Eisenhardt (1989) advocates theory as a starting point for case research. We follow this suggestion and draw on established research on EP and adoption. In the coming section, a theoretical basis for studying adoption and non-adoption is outlined.

Theoretical basis for studying adoption and non-adoption

The field of adoption research has stretched to include a lot of different academic disciplines as psychology, economics and business administration. A lot of contemporary research on adoption and diffusion is influenced by the work of Everett Rogers, who defines adoption as "... the decision to make full use of an innovation as the best course of action available" (1995:21). In this section we choose three dimensions for studying adoption and non-adoption: a.) the adoption decision outcome b.) the interplay between organizational and individual level and c.) the adoption outcome. First, previous EP adoption research is reviewed.

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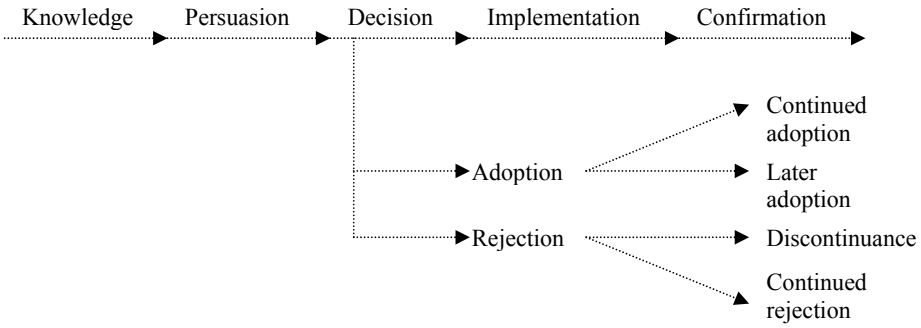
Recently, several authors have engaged in adoption research with EP as a research object. The prime questions are focused on how contextual factors stimulate or impede organizational level EP adoption decisions and success. For instance, Osmonbekov et al. (2002)

study the impact of EP on the buying center structure, in terms of size (number of individual participants), hierarchical level (managerial authority), functional level (degree of specialization) and participation (involvement in procurement stages by members). They conclude that EP is more likely to be adopted with a high size, low hierarchy level, less functional specialization and high participation. Other studies stress the effect of process characteristics and characteristics of the purchasing organization (Subramaniam and Shaw 2004); aggressive or follower adoption strategy and industry characteristics (Davila et al. 2003). Discriminating characteristics of adopters and non-adopters were further explored by Min and Galle (2003), showing the influence of organizational readiness, user characteristics and IT infrastructure.

Several researchers have developed methods to assess the applicability of certain EP forms or tools. Both conceptual (Hartmann 2002) and practical (Harink 2003) methods have been developed. In addition, concepts (de Boer et al. 2002) , frameworks (Subramaniam and Shaw 2004) and (consultant) tools have been developed to identify the ex-ante value of EP (e.g. iCARE, ePAT). The tools can be used for assessing the fit of EP and a given purchasing situation on an organizational, process or commodity level, i.e. compiling 'the business case'. Individual-level adoption issues, however, have hardly been dealt with (e.g., Harink 2003). Both descriptive and prescriptive intra-organizational adoption research specific for EP has not been found and presents a promising research opportunity. Besides the interplay between organizational and individual level, also no non-adoption research has been found for EP.

In this paper, we choose to view adoption as a process and not as an atomistic decision. To view adoption in this way is to acknowledge that they are processes that unfold over time. Rogers (1995:163), for example, who divided the adoption of a technology into five different phases, represent one such attempt. The figure above show the steps *knowledge* (the subject of diffusion is exposed to the existence of the object of diffusion), *persuasion* (the subject of diffusion forms an attitude about the object of diffusion in question), *decision* (based on the outcome in the persuasion stage, a decision is made to either adopt or to reject), *implementation* (if the subject of diffusion decides to adopt, the object of diffusion is put into use), and, *confirmation* (evaluation of the decision to adopt to either continued use or discontinuance in use). As the figure illustrates, the confirmation stage implies that adoption not always is binary (e.g., yes-no, adoption-rejection) and a decision can change over time.

Figure 1: The adoption process (Rogers 1995)



The view of adoption as a process and the phases above is applicable independent of whether the object of adoption is an organization or an individual. For organizations however, adoption can be viewed as a two-sided phenomenon with a decision made both on an individual and on an organizational level (e.g., Frambach and Schillewaert 2002; Rogers 1995). Using the defi-

nition provided by Rogers would then mean that to make full use of EP, the innovation needs to be adopted on both organizational and individual level. The two-phased approach toward adoption is generally interpreted as a firm level decision to adopt (primary adoption), and from thereon, the spread of adoption on the individual level (secondary adoption). However, more complex interactions between organizational and individual level are possible. Individual adopters and non-adopters in an organization influence each other in a dynamic process until equilibrium is reached. This can be anywhere between totally adopted and rejected on an organizational level. We choose to include the interplay between organizational and individual level adoption in our analysis.

As mentioned in the very beginning of this paper, not all adoption processes have a successful outcome in the sense that they end up with adoption. Rogers (1995:412-422) summarizes studies on the outcomes of diffusion by addressing *direct and indirect effects*, *desirable and undesirable outcomes*, *anticipated and unanticipated outcomes* and, when addressing non-adoption, both *active and passive rejection*. For example, a technology that never really comes into consideration of a potential adopter is an example of passive rejection. A technology that is taken into consideration and maybe even trial and then is rejected, however, is an example of active rejection. Considering adoption as a two-sided sequential phenomenon with a decision made both on an individual and on an organizational level also affects how we analyze outcomes of adoption. For example, a decision to adopt can be made on an organizational level but is not necessarily followed by an individual level to actually use (individual adoption) the application. We include the decision process in our analysis. In the next section four empirical illustrations are show and analyses on the three dimensions found in theory: the adoption decision, the interplay between organizational and individual level and the adoption outcome.

Four empirical illustrations of EP adoption

In this section, four illustrations of separate adoption processes are presented. All illustrations represent cases of adoption decision processes regarding EP applications. For reasons of discretion, the names of companies and persons in the illustrations have been disclosed. All four illustrations aim at describing the object and subject of adoption and the three dimensions identified from theory: the adoption decision, the interplay between organizational and individual level and the adoption outcome. Relevant details are shown to create a deeper understanding of why events. The illustrations are taken from various industries and firms in Europe.

Technology adoption at EnergyTech

EnergyTech is part of a Dutch based global energy company directed at the exploration and production of oil, gas and fossil fuel. In 2000, EnergyTech decided to initiate a global e-business strategy in order to get better management information. A part of this strategy was also translated to the purchasing function and (amongst other things) an e-ordering system was chosen to improve tactical and operational purchasing. At EnergyTech, the majority of the purchasing spend are services, e.g. for exploration and production. In this first illustration, we aim to describe how EnergyTech managed to implement a webportal. The web-portal (or exchange) had the purpose of facilitating the ordering process between EnergyTech and its suppliers. The internal system for EnergyTech is based on Enterprise Buyer Professional (EBp from SAP) which provides a web-layer upon the different SAP systems. The information-flow

is as follows: EBp to SAP to the webportal to the supplier. The combination of EBp and the webportal facilitates the ordering-process and integrates different process steps. Catalogs are used, as well as supplier sites ('punch out') and free format orders. In addition, a workflow engine supports the right process execution. Increased efficiency due to less steps, increased contract compliance, and increased transparency can be seen as the major advantages of the system and using a 'punch-out' (using information of the supplier's website in the ordering system) ensures that they product information is up to date. All information flow between suppliers and EnergyTech is also channeled, which facilitates analysis of spend data.

The adoption process followed a classical top-down approach. EnergyTech was in the middle of a reorganization to centralize operations on a European level and the plans to initiate an e-ordering system and web-portal were integrated in this organizational change effort. Top management formulated high level plans and propagated them in the organization. In the beginning some internal individual resistance was seen: tactical purchasers feared for 'their' purchasing relationships; operational purchasers for their job; and business users and IT (data) annalists for extra work. Overall, the resistance to change was limited due to careful preparation and high-level ownership and support and high budget availability to realize the (technical) change. A change organization was set up with a program board and project team. Change managers held preparatory 'design' sessions with tactical purchasers and potential suppliers to jointly develop a process that was mutually satisfactory. These sessions were also used to make detailed arrangements on technical implementation. Membership-fees for the web-portal were waived and paying terms were shortened to compensate the effort for suppliers in developing a catalogue. After careful preparation, the first transaction was made in April 2002. By now over 80 companies and over a hundred catalogs are added. Getting suppliers online and increasing the flow through the system is one of the major objectives for the eProcurement team. The target is to get € 320 mln. of spend (60% of the total spend) by the end of 2004. The outcome of the adoption process has shown several benefits for EnergyTech. Process standardization and control was perceived as the most important result. In addition, process savings were realized. Substantial headcount reduction opportunities were identified in the purchasing department and realized. Also cost savings were made due to increased process efficiency.

Technology rejection at AutoTech

In March 2001, several central actors in the European automotive industry came together to collaborate on demand and capacity management. The project aimed for integration and information sharing regarding data handled in ERP-systems. For several years, many different interesting solutions had been introduced on the software systems market. The problem, however, was that there was no standard solution available. The different types of software were either introduced as add-on applications to ERP-systems or systems alike, or stand-alone systems. A task force put together by the industry stakeholders was formed to develop a demand and capacity management system. In May 2003 the technical phase was completed and implementation projects were initiated immediately afterwards in France, Germany and Sweden. AutoTech, a very large European automotive industry group with more than 100.000 employees, decided to implement a supply management application. The reasons for AutoTech to aim for increased integration to secure supply were that disturbance in production and distribution was extremely costly for them. In addition, the firm structure and production requirements had changed quite a lot during the years. Trends like outsourcing and increased cost pressure made the information handling needs both within and across continents and firm borders even more severe. In heavy industries like the automotive industry, it has recently been argued that the information handling costs, broadly defined, account for 80 % of total

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costs (Holland and Naude 2004). In the case of AutoTech, it was argued that the industry was facing a challenge where a comprehensive flow of information must be made transparent between supply chain partners. This transparency could not be fulfilled just by exchanging EDI messages, but there had to be real-time exchange, synchronization, aggregation etc.

AutoTech started the implementation of the supply integration application in June 2003. The idea was to start with a test to implement the application in a specific supply chain before a full roll out of the system. The implementation of the system was part of a bigger project that aimed at reducing the number of problems in production on a more general level. The project had top management support. The supply chain that was chosen for the implementation was a supply chain that supplied AutoTech with a central component in the final product. The first tier was a company named AutoComponent. Initially, there was a clear mutual interest to implement the application. From both firms perspectives the need to increase efficiency and effectiveness in purchasing from AutoComponent was recognized. Difficulties in managing the supply chain contributed to this. Traditionally, each buying firm dealt with their own supplier and made sure that they kept a smooth supply. But now, things were different. Instead of letting each firm in the supply chain deal with their own problems, AutoTech aimed at creating transparency that reached further up the supply chain than to first tier. During the implementation, AutoComponent started to become suspicious and began to show some reluctance during the implementation. Even though the project was prosperous in the beginning, the illustration shows that problems started to pile up for AutoTech after a while. In mid-September 2003, a severe conflict between AutoComponent and AutoTech completely stopped further implementation. According to AutoTech, the main reason was that suppliers like AutoComponent wanted written agreements on authorization and regulation on how the data that they were about to share was going to be used and to whom it was to become accessible. For example, AutoComponent did not want the purchasing department at AutoTech to have access to the data since this could become disadvantageous for AutoComponent in coming negotiations. If this was taken care of, AutoComponent had no problems with sharing extensive amounts of data. The outcome of the adoption process was that the application was never fully implemented. In fact, despite the initial positive attitude among both actors, the application was never even tested in smaller scale in the supply chain. Even though AutoTech was an important customer, AutoComponent had the strength to hold implementation back until the implementation project finally was shut down.

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Technology fading in at ElectronicsTech

This illustration deals with a collaborative planning tool for supply chain integration between two divisions and subcontractors. The case is set at ElectronicsTech, one of the world's biggest electronics companies, with over 150.000 employees and active in the areas of lighting, consumer electronics, domestic appliances, semiconductors, and medical systems. In this case we focus on two divisions with in ElectronicsTech that operate nearly completely independent of each other and where one supplies IC's to the other division with the help of various sub-contractors. Both divisions had limited visibility in each others operations and their buyer-supplier relationship could be characterizes as 'arms length'. The focus was local and sub-optimized to the own business unit / business line. This led to relatively high stock levels and an oscillation effect ('bullwhip effect') due to delayed information sharing: ramping-up or –down production gave problems with inventory and supply (shortages). The total system lacked flexibility and an information lead-time with subcontractors was high. In addition, the market is quite cyclical and macro-economical development (need for shorter life cycles, global production, outsourcing, etc.) stress the need for supply chain integration. The need was most highly felt by the supplying and buying operational units.

The adoption process of a collaborative planning tool showed took place incrementally and bottom-up. An atmosphere of buyers and suppliers blaming each other for supply chain management issues made place for a 'quick fix'. A 'containment action' was initiated by the business. In '99 weekly conference calls started in for relatively simple purchasing and planning situations (3 or 4 IC's) and with limited 'e-tools'. Individual buyers and planners mailed spreadsheets and discussing them in weekly meetings. This showed some positive results, although actual sharing of 'real' information did not take place: a lot of 'gaming' and 'partial disclosure' took place. This way of working continued to evolve and set the basis of trust and mutual commitment in organizing the supply of IC with subcontractors. The SCM manager of the buying division recognized the need for a more sophisticated tool in the near future to facilitate an increasing business complexity. At this point a project was formulated to develop the IT support for collaborative planning and ordering. Great plans were conceived, which leaded to some disbelief of end-users: 'will the tool work? The spreadsheets work just fine!'. In June 2000 a pilot started with a group of inter-linked products. A rudimentary collaborative planning tool was developed by high personal effort of planners and buyers. However, the buyers that were not included were disappointed by the limited capabilities of the tool. This tool replaced the spreadsheets and was used in the weekly conferences. Stock levels (also from sub-contractors) were mailed, the tool was run, a collaborative planning session held, and then orders were set (also on behalf of subcontractors). The ordering cycle was hereby reduced from 15 weeks to 2, but a high level of discipline and trust was required. In addition, no other way of ordering key IC's was allowed. Various go / no-go decisions were made as the project grew quite autonomously. A relatively long process of aligning different way of working and the parallel development and implementation was further challenged by external factors, e.g. changing product groups, high market volatility, and other organizational change along with this project. In addition, subcontractors had to be convinced to co-operate. Their acceptance was high even though they had to put in extra effort of providing data. The main reasons for this were that had significant advantages like one single communication line and increased information transparency. The overall resistance at the divisions of ElectronicsTech was limited due to the clear joint advantage and high degree of personal ownership of the project. The outcome of the adoption process at ElectronicsTech was a working system that developed from using a simple spreadsheet tool into a collaborative planning tool on the internet. The system has demonstrated its benefit in managing a complex information flow between two divisions and subcontractors and the implementation lead to substantial process efficiencies, higher planning effectiveness and decrease in inventory levels.

Technology fading out at SmallTech

In the role of supplier to relatively larger businesses within for example the automotive industry and the automation industry, SmallTech produces a range of different products in competition with other incumbent and potential suppliers both within and outside Sweden. The production mainly consists of machining pre-specified details in metal, i.e. to drill, mould, cut and mill details according to drawings and specifications made by the customer. The focal relationship in this illustration is the relationship between SmallTech and the tooling firm ToolTech from which SmallTech purchases most of their tooling equipment. ToolTech is a well known industrial firm and part of the TechGroup, a multinational engineering group with operations world wide and more than 30.000 employees. During the summer of 2001, a project with the objective to develop and test a supplier collaboration platform as a part of an electronic business offer was launched at the headquarters at ToolTech. One of the firms invi-

ted to participate in the project was SmallTech. At SmallTech, a constantly increasing pressure from their respective customers has made it important for the management to achieve a higher level of productivity in their production processes. Demands to cut the prices with a specific percentage annually were common in the industry and, in addition, during the last years, SmallTech's customers have expressed an aim to concentrate the supply base and to migrate towards more collaborative relationships. Thus, if the supplier collaboration platform could increase efficiency in the production, it was without a doubt interesting. The idea of a supplier collaboration platform was even more interesting due to the current situation in the focal relationship at the time. The purchasing and production functions at SmallTech had experienced some communication problems in the relationship for some time. Since the relationship between SmallTech and ToolTech was important for the production to run smoothly, (ToolTech supplied SmallTech with 95% of its consumption of tooling equipment) this was a concern that was prioritized by the production manager at SmallTech.

The collaboration platform was seen as a solution to communication problems that recently affected the two firms. A few months after the introduction of the idea, the platform was implemented. The implementation on an individual level, however, was not as successful as the intentions on an organizational level. After a few months, the collaboration platform was shut down. The reason was that the people at SmallTech simply did not use it. The management at SmallTech and the people at ToolTech were a bit puzzled. So many things spoke for an implementation and not against; a) SmallTech had no own resources to develop any collaboration platform b) SmallTech seemed to find the technology useful and promising c) the relationship between SmallTech and ToolTech could be characterized by long-term orientation and trust. The outcome of the adoption process at SmallTech was non-adoption. Analysis of the non-adoption in the SmallTech-case shows that there was no formal decision made not to use the platform. At least two different reasons for the non-adoption can be found. First, at the same time as ToolTech introduced the collaboration platform to SmallTech, other firms in the firm network also introduced new purchasing applications for the people at SmallTech. In retrospect, the people working at the purchasing and production functions at SmallTech had to prioritize the applications offered to them , which resulted in the non-adoption of the collaboration platform offered by ToolTech . They just could not deal with more than a hand-full of applications. Second, at the time for implementation, the production at SmallTech was relatively stable. A collaboration platform was mainly needed for production ramp-up, which did not happen when mainly long series were produced. Therefore, the people at SmallTech did not feel any need for the application at the moment it was implemented.

Analysis and discussion

The four illustrations all concern EP technology adoption decision processes. The illustrations are however, in many other respects, very different from each other. To facilitate the overview of our four illustrations, a cross-case display is outlined in table 1. The EP applications in our illustrations range from very collaborative applications like collaborative platforms as the case of SmallTech and ElectronicsTech to more competitive applications like the AutoTech illustration. The adopter is either the buying firm or someone else. In the AutoTech illustration, the buying firm is also the technology supplier in the sense that it was AutoTech that offered AutoComponent the EP technology application. The outcome is also different across the illustrations. SmallTech and AutoTech are similar since they both represent non-adoption. EnergyTech and ElectronicTech are similar since they both are cases of adoption.

Table 1: Four cases of adoption decision processes: a cross-case display

	SmallTech	*AutoTech*	*EnergyTech*	*ElectronicsTech*
Adoption outcome	Non-adoption	Non-adoption	Adoption	Adoption
Adoption decision	Emergent	Planned	Planned	Emergent
Adoption process	Organizational level adoption followed by individual level rejection	Initial organizational level rejection	Organizational level adoption followed successfully by series of individual level adoption	Individual level adoption culmination towards organizational level adoption
Object of adoption	Collaborative planning tool	Supply integration application	Webportal and e-ordering system	Collaborative planning tool
Subject of adoption				
- *line of business*	Metal machining	Automotive	Fossil fuel	Electronics
- *Buying firm's role*	Technology adopter	Technology supplier	Technology adopter	Technology adopter & supplier
- *Relationship atmosphere*	Cooperation	Conflict	Cooperation	Cooperation

Besides the outcome of the adoption process in adoption and non-adoption, the other dimension identified in literature, the interplay between organizational and individual level and the adoption process can bring forward additional interesting aspects. The outcome is viewed as a continuum ranging from adoption to non-adoption, which is congruent with the equilibrium of individual level influencing processes mentioned above. The decision process is seen as a continuum from emergent to planned adoption/non-adoption. The general idea is that an adoption decision process could either be more or less planned. For example, in the case of AutoTech, AutoComponent was, on an organizational level, not very keen on adoption. In the case of SmallTech, organizational level adoption was followed by individual level rejection since the purchasing department employees had to prioritize adoption of other applications and therefore the collaboration platform offered by ToolTech was not adopted.

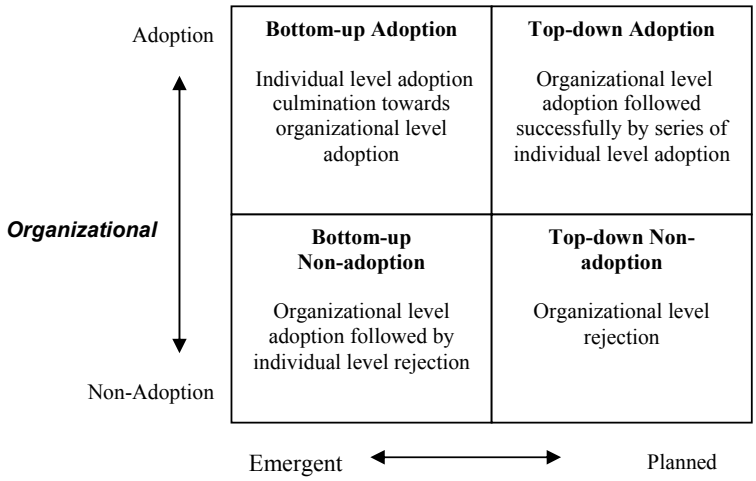
Based on this conceptualisation and the support of the illustrations, a four-field matrix of bottom-up and top-down adoption and non-adoption is constructed. The framework yields a better understanding of the interaction between individual and organizational level outcome and decision process of adoption and non-adoption. This conceptual framework, shown in Figure 2, creates a more holistic and comprehensive view of adoption and non-adoption processes.

The purpose of this paper was to outline a framework for understanding of adoption and non-adoption processes, with specific focus on the fact that we need to include level of adoption and characteristic of decision process into our analysis of adoption processes. Our approach has been inductive and exploratory. Based on four exploratory case studies, from which we have extruded four illustrative examples of adoption processes, we present a framework of the interaction between individual and organizational level outcome and decision process of adoption and non-adoption. The framework can help to provide a better understanding of adoption processes dynamics and outcomes. We aim to demonstrate that adoption and non-adoption are more than just each others mirror image. Through our conceptual contribu-

tion, this paper adds to the extensive field of (EP) adoption research and challenges the mainstream view of a.) adoption as something solely beneficial, b.) non-adoption as the opposite to adoption and c.) adoption and non-adoption as something binary or dichotomous. Three dimensions are found in theory to analyse adoption in conjunction with non-adoption: a.) the adoption decision, b.) the interplay between organizational and individual level and c.) the adoption outcome. Based on four exploratory case studies EP, analyzed with these dimension, we present a framework for a better understanding the interaction between individual and organizational level outcome and decision process of adoption and non-adoption. We demonstrate that adoption and non-adoption are more than just each others mirror image.

Figure 2: Conceptual Framework of Organizational Level Adoption & Non Adoption

Concluding remarks and suggestions for further research



This paper has several implications for future research. The paper advocates a process perspective for researching adoption. As several of the cases show, in order to understand the outcome of adoption processes, regardless of if it is adoption or non-adoption, we need to approach the process and not just the object, subject or outcome of adoption. In addition, it advocates a break from the pro-innovation and selection bias by including non-adoption as possible adoption process outcome. The illustrative cases show some initial support for using the adoption decision process, the interplay between individual and organizational level adoption for an increased and understanding of EP adoption and non-adoption outcome. Future research could be directed at identifying further support for this framework and/or applying it in new or extended research. The framework can also be beneficial for managerial practice. More specific, the inclusion of non-adoption in managerial practice could yield approaches towards active mitigation of non-adoption, besides the more general portfolio of measures to stimulate adoption in an intra-organisational context.

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