

Association for Information Systems AIS Electronic Library (AISeL)

ICIS 2010 Proceedings

International Conference on Information Systems
(ICIS)

2010

Why do People Reject Technologies? – Towards an Understanding of Resistance to IT-induced Organizational Change

Sven Laumer

Otto-Friedrich University Bamberg, sven.laumer@uni-bamberg.de

Andreas Eckhardt

Goethe-University Frankfurt, eckhardt@wiwi.uni-frankfurt.de

Follow this and additional works at: http://aisel.aisnet.org/icis2010_submissions

Recommended Citation

Laumer, Sven and Eckhardt, Andreas, "Why do People Reject Technologies? – Towards an Understanding of Resistance to IT-induced Organizational Change" (2010). *ICIS 2010 Proceedings*. 151.

http://aisel.aisnet.org/icis2010_submissions/151

This material is brought to you by the International Conference on Information Systems (ICIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICIS 2010 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Why do People Reject Technologies? – Towards an Understanding of Resistance to IT-induced Organizational Change

Research-in-Progress

Sven Laumer

Centre of Human Resources
Information Systems
Otto-Friedrich University Bamberg
Feldkirchenstraße 21
96052 Bamberg, Germany
sven.laumer@uni-bamberg.de

Andreas Eckhardt

Centre of Human Resources
Information Systems
Goethe-University Frankfurt am Main
Grueneburgplatz 1
60323 Frankfurt am Main, Germany
eckhardt@wiwi.uni-frankfurt.de

Abstract

Research on resistance to information technology is characterized by the fact that there is still no unified understanding about resistance to change of IT-induced organizational change projects (Vithessonthi 2007). In order to provide a deeper understanding why people reject technologies when introduced in organizations this paper develops a Model of Resistance to IT-induced Organizational Change based on micro-organizational change (Oreg 2006) and technology acceptance literature (Venkatesh and Bala 2008). The model posits that work, technology and process related outcomes of business process change are determined by a tri-dimensional resistance to change conceptualization (Piderit 2000; Oreg 2006) and evaluation of process and technology characteristics (Venkatesh 2006). Moreover these dimensions are determined by the context of the change and individual differences such as personality traits. First case study results show that the model is appropriate to gain a deeper understanding why people reject technologies.

Keywords: Change Management, Personality, Human Resources IS, IS Implementation, Resistance to Change

Introduction

Technology could improve work and work outcomes by simplifying work, automating tasks, and enabling business processes previously unimaginable. It has hence become an integral part of private and business life. However convincing the potential benefits might be, there are many individuals not too inclined to adopt new solutions and reject new technologies (Venkatesh and Brown 2001; Bhattacharjee and Hikmet 2007). Especially IT-induced organizational change projects show substantial failure rates as individuals do not behave and use technologies as initially expected (Venkatesh and Bala 2008). Accordingly, a Society for Information Management (SIM) survey shows that management of change and the associated resistance problems are among the ten most important CIO challenges (Luftman and Kempaiah 2008). While technology resistance and non-use of information systems have long been identified as reasons for failed projects (e.g.: Lucas 1975; Dowling 1980; Gladden 1981; Maurer 1996), there is still no unified definition of what resistance actually is (Vithessonthi 2007), mainly because of the many differing forms it can take (Hirschheim and Newman 1988).

An important open question thus is: What drives users to adopt a specific IT based service, and in particular what drives those who do not adopt it? Existing research strongly suggests that the technology acceptance model (Davis et al. 1989) and its extensions (for a discussion see Venkatesh et al. (2003)) are solid models to explain an individual's intention to use an information system (Lee et al. 2003). However, the phenomenon of user resistance towards the use of information technology is under researched. Lapointe and Rivard (2005) could identify only four articles opening the black box of technology resistance by individuals. They show that information systems non-adoption, rejection or resistance has been a research objective in the early beginning of the discipline (Keen 1981; Markus 1983; Hirschheim and Newman 1988) with few articles in the 1990s (Joshi 1991; Marakas and Hornik 1996) and at the beginning of this century (Cenfetelli 2004; Ferneley and Sobrepeze 2006; Bhattacharjee and Hikmet 2007). One of the few outcomes is that the most important drivers of resistance are perceived threats by individuals like perceived loss of power. Furthermore, resistance to change has been presented as one of the most frequently encountered reasons for the non-use of innovations over the past two decades. However, we still lack a unified understanding of resistance to change in the context of IT-induced organizational change projects (Vithessonthi 2007).

Since employees experience increasing amounts of transformation in their work environment, monitoring and managing their attitudes toward change can make all the difference between success and failure (Armenakis and Bedeian 1999). In general, the failure of many major change initiatives can be attributed to employee change resistance (Maurer 1996; Clegg and Walsh 2004). IT changes often require work-related changes in tasks and processes concurrent with or in advance of the introduction of new information systems (Dixon 1999). This technology-driven organizational change has even earned the title "technochange" (Markus 2004). Within this world of "technochange" individuals need to continuously adopt and use new technologies and organize their private and business life around these systems. Research on individual-level IT acceptance and adoption is well established providing rich theories and explanations of the determinants of adoption and use (Venkatesh et al. 2003; Venkatesh 2006; Venkatesh et al. 2007; Venkatesh and Bala 2008). Nonetheless, research on change management processes specific to technology adoption is limited (Venkatesh 1999; Ruta 2005). Only few strategies have been developed within IT research that work reliably in successfully implementing information technologies. IT enables organizational change, but it does not guarantee it (Markus 2004). And even if technologies are accepted, the desired organizational change will not necessarily be achieved (Dixon 1999). We can summarize that the lack of managing change recipients while managing technological change has led – and is still leading – to too many IT failures.

As a consequence, this research investigates an individual's resistance to IT-induced organizational change by addressing the research question: *Why do people reject IT-induced organizational change?*

Change management literature in general has frequently used the term resistance to change, usually as an explanation why efforts to introduced large-scale changes in technology, production methods, management practices or compensation systems fall short of expectations, or fail altogether (Oreg 2006). Despite the popularity of the term resistance to change, some have suggested to relinquish it as it misrepresents what really happens (Dent and Goldberg 1999). According to Dent and Goldberg (1999), organizational members resist negative consequences (e.g. losing one's job) and not necessarily change itself. Therefore, the belief that people resist change hinders organizations' chances of understanding and dealing with real organizational problems. In addition Nord and Jermier (1994) argue that the term is often used as part of an agenda that may overshadow employees' legitimate reasons for objecting to change. However, rather than "resist resistance" and abandon the concept, researchers should try to better address employees' subjective experiences in order to obtain a more valid understanding of what resistance is really about. In this context, Oreg (2006) provides an integrative model of personality, context and resistance. Extending this model, in the following a Model of Resistance to IT-induced Organizational Change (MRTOC) will be developed to integrate micro-level organizational change and technology acceptance research.

Therefore the remainder is organized as follows. First, the theoretical background of technology resistance and micro-level organizational change research is presented. Then, a Model of Resistance to IT-induced Organizational Change (MRTOC) is introduced. The paper concludes with first results of a qualitative study of an IT implementation process by discussing interview results of the pre-implementation phase of the project.

Theoretical Background

The Model of Resistance to IT-induced Organizational Change is proposed to integrate technology acceptance and organizational change research in order to provide insights into the enduring question why people reject technologies and especially IT-induced organizational change. Therefore the theoretical background of technology resistance and micro-organizational change research is presented.

Technology Resistance

For decades, some researchers have been looking at the other side of information systems acceptance: information systems non-adoption, rejection or resistance (Keen 1981; Markus 1983; Hirschheim and Newman 1988). However, as Lapointe and Rivard (2005) argues, by 2005 there were only four articles which opened the black box of why and how resistance takes place. Their review of 20 IT related journals over the past 25 years found 43 articles recognizing and outlining resistance as a critical variable. “*Better theories of resistance will lead to better implementation strategies and hopefully to better outcomes*” was the objective of researchers trying to explain why people resist technology (Markus 1983). Resistance in general is defined as “*opposition, challenge or disruption to process or initiatives*” (Jermier et al. 1994; Ferneley and Sobreperez 2006) and can be divided into a negative resistance as the rationale to oppose or deceive (Marakas and Hornik 1996) and a positive one as the rationale to support or improve (Joshi 1991).

IT-induced organizational change can be defined as an IT-enabled change in the work behavior of employees (Gibson 2003). User resistance becomes particularly significant in such IT-induced organizational change or IT implementation projects due to the resulting multifarious changes in the organizational social as well as technical systems (Gibson 2003; Kim and Kankanhalli 2009). The different resistance behaviors that can occur vary from lack of cooperation as one extreme to deliberate sabotage as another (Waddell and Sohal 1998; Prasad and Prasad 2000; Lapointe and Rivard 2005). Ferneley and Sobreperez (2006) come up with a categorization of three different resistance behaviors related to the rejection of information systems: compliance, resistance, and workaround. Based on their analyses and case study research they develop a compliance resistance workaround model which identifies workaround as “*a related but separate and distinct phenomenon from that of resistance*” and compliance “*assumes that the user interacts with the system in the prescribed manner*”. Both are distinct from resistance as resistance is defined as “*opposition, challenge or disruption to processes or initiatives*”. Therefore, Ferneley and Sobreperez (2006) distinguish between two resistance phases. The first one is the individual cognitive or emotional process that results in a non-adoption or resistance decision. The second is the actual resulting behavior of the individual which can be compliance, negative or positive resistance or workaround. Cenfetelli (2004) offers a conceptualization of the perceived threats which lead to resistance behavior and which are important in the first emotional or cognitive resistance phase. Lapointe and Rivard (2005) identify five basic components of resistance: behaviors, object, subject, threats, and initial conditions. They argue that when a system is introduced, users will first assess the system in terms of its interplay between its features and the user’s initial conditions and tasks. In the last four years the ideas and concepts of technology resistance have been extended and used to explain mainly physicians’ resistance toward healthcare information technologies (Bhattacharjee and Hikmet 2007; Ilie et al. 2007; Lapointe and Rivard 2007) or to investigate social influence as a key driver of non-adoption by individuals (Brown and Venkatesh 2005; Eckhardt et al. 2009).

All the discussed models of user resistance have in common that they consider resistance to be neither good nor bad and that they assume that resistance results from the mutual adjustment of several antecedents. Regarding the research objective of this paper it is interesting to see that, according to this literature review, resistance was conceptualized as a part of the behaviors and outcomes (Enns et al. 2003), different perceived threats (Jiang et al. 2000) or the intention not to comply with the change introduced (Kim and Kankanhalli 2009). However, no integrative approach of technology acceptance and organizational change could be found.

Micro-Level Resistance to Change

Organizational change is linked to change recipients’ beliefs, interpretive schemata, paradigms, and behaviors (Smollan 2006; Walinga 2008; Elias 2009). The failure of many major change initiatives can be attributed to employee change resistance (Maurer 1996; Clegg and Walsh 2004). Therefore it is very important to understand the role of affective, cognitive and behavioral processes among change recipients (Smollan 2006). The related strand of IS literature has focused on understanding and managing employee reactions to change in IT (Agarwal

and Karahanna 2000) and concluded that IT acceptance and usage are determined by change recipients' beliefs and attitudes (Venkatesh 2006; Venkatesh and Bala 2008).

Individual resistance can be expressed both actively and passively (Dervitsiotis 1998), hindering change efforts, lowering morale and productivity, increasing turnover and as a result, increasing the likelihood of organizational failures (Dervitsiotis 1998; Abrahamson 2000; Stanley et al. 2005). Moreover, Heath et al. (1993) posited that the psychological process of experience change leads to negative reactions because humans prefer known situations over an unknown future. In addition, while change involves both gains and losses, people tend to experience the pain of loss with greater intensity than they experience the pleasure of gain and people tend to see existing entitlements as greater than they actually are. The sense making processes of change recipients causes them to first evaluate the personal significance of a change initiative and then extend their appraisal to cover the impact of the change initiative on other change recipients and the organization itself (Weick and Roberts 1993; Weick and Quinn 1999). Their secondary appraisal includes an examination of the causes of change, the change agents, and potential coping strategies (Rousseau and Tijoriwala 1999; Jordan et al. 2002; Jordan et al. 2007).

Nord and Jermier (1994) and Jermier et al. (1994) as well as Piderit (2000) argue that the term resistance to change is often used to cover all these aspects and dismiss the multitude of legitimate reasons for objecting to a change rather than trying to understand and resolve real organizational problems. For that reason within recent change management literature resistance to change is modeled as a tri-dimensional conceptualization of change recipients' affective, cognitive, and behavioral responses to change (Oreg 2006; Smollan 2006). George and Jones (2001) suggest in their model that resistance to change comprises both cognitive and affective components that come into play at different stages of the resistance process. In addition Piderit (2000) states that resistance may often involve a sense of ambivalence whereby employees' feelings, behaviors and thoughts about the change may not necessarily coincide. Accordingly she proposes that resistance be viewed as a multidimensional attitude towards change, comprising affective, cognitive and behavioral components. Oreg (2006) provides an integrative model of personality, context and resistance which will be adapted and extended for the purpose of this study to integrate micro-level organizational change and technology acceptance research

Therefore, the next section develops an integrative model of technology implementation, technology acceptance, process changes and organizational change based on Oreg (2006) to better understand why people reject technology and what is the impact of IT-induced change on individuals.

Model of Resistance to IT-induced Organizational Change

Based on general resistance to change (especially on Oreg (2006)) and the technology acceptance literature we develop a Model of Resistance to IT-induced Organizational Change (MRTOC) as illustrated in Figure 1. The different parts of the model will be explained in this section and some first results of our case study research will be discussed afterwards.

Resistance to Change

The main part of the model is a tri-dimensional resistance to change construct as already suggested in Oreg's (2006) model. Resistance to change is defined according to (Piderit 2000) as a tri-dimensional attitude towards change, which includes affective, behavioral and cognitive components. These components reflect three different manifestations of an individual's evaluation of an object or situation (Mcguire 1985; Smollan 2006). The affective component regards "*how one feels about the change (e.g. angry, anxious)*" (Oreg 2006, p.76), the cognitive component involves "*what one thinks about the change (e.g. Is it necessary? Will it be beneficial?)*" (Oreg 2006, p.76) and the behavioral component involves "*actions or intention to act in response to the change (e.g. complaining about the change, trying to convince others that the change is bad)*" (Oreg 2006, p.76). The three components are certainly not independent of one another, and what people feel about a change will often correspond with what they think about it and with their behavioral intentions in its regard. However, the components are distinct and each highlights a different aspect of the resistance phenomenon (Oreg 2006).

Oreg (2006) points out that using a tri-dimensional attitude towards change will, on the one side, make the investigation of antecedents and consequences more complex compared to earlier resistance studies. On the other side, however, it will enable "*a higher resolution that highlights the particular resistance that is associated with each of the antecedents and consequences*" (Oreg 2006, p.76) like technology usage and acceptance. Furthermore a tri-dimensional attitude of resistance to change related to attitude towards technology and processes will enable researchers to provide deeper insights into technology implementation phenomena. Therefore the tri-dimensional resistance to change construct is the foundation of our proposed model.

Process Characteristics

Process characteristics are based on the evaluation of process changes by individuals. (Venkatesh 2006) discusses business process change as a promising area for future research for individual technology adoption research. He points out that “*research has examined various aspects of business process change, little research has focused on the individual employee and studied the drivers of process adoption by employees, the factors influencing resistance, the impacts of process change on employees and potential interventions to ease the transition*” (Venkatesh 2006, p.501). Therefore, process characteristics are based on an individual’s evaluation and beliefs of process characteristics and change like perceived ease of implementing a process change or the perceived usefulness of different process steps. However, as Venkatesh (2006) points out, research so far has not focused on the adoption of process changes. Hence, this research aims at providing some insights into the adoption behavior of individuals regarding process characteristics and process changes.

Technology Characteristics

Technology characteristics are based on IT acceptance research. All constructs that model the evaluation of and beliefs about technologies by individuals and which have been thoroughly researched fall in this category. Two of the famous constructs are perceived ease of use and perceived usefulness (Davis 1989). However, IT adoption research has discussed many more antecedents (Petter et al. 2007) of the intention to use an information system which are also useful for looking at IT-induced organizational change situations (Venkatesh et al. 2003; Venkatesh 2006; Venkatesh and Bala 2008). These constructs include perceived threats (Lapointe and Rivard 2005), effort and performance expectancy (Venkatesh et al. 2003), among others.

Resistance to change - as a tri-dimensional attitude towards IT-induced change - and the evaluation of technology and process characteristics are the center part of the proposed model and are influenced by individual differences of change recipients as well as the change context.

Individual Differences and Personality

Individual differences such as age, gender, tenure, educational background, etc. of individuals can influence an individual’s evaluation and attitude towards the induced change, technology and process characteristics (Venkatesh and Morris 2000). Moreover, a number of studies reveal that employees’ openness to experience and especially organizational change can be predicted through traits such as self-esteem (Wanberg and Banas 2000), risk tolerance (Judge et al. 1999), need for achievement (Miller et al. 1994), and locus of control (Chung-Ming and Woodman 1995). Although these traits are related to how people react to change they have not been conceptualized with the purpose of assessing the dispositional inclination to resist change. In this context, Oreg (2003) establishes the concept of dispositional resistance to change and designs a measure for the personality component of resistance to change (Oreg 2003). According to Oreg people differ from one another in their national inclination to resist or adopt changes. People that are high on dispositional resistance to change, which is conceptualized as a stable personality trait, are less likely to voluntarily incorporate changes into their lives. And when change is imposed upon them they are more likely to experience negative reactions, such as anxiety, anger and fear change (Oreg 2003; Oreg 2006). A approach in IS research shows that Oreg’s scale is appropriate to predict the evaluation of technology by dispositional resistance (Laumer et al. 2010). Therefore, we expect for personality in general and for dispositional resistance to change in particular that there is a positive correlation with employees’ behavioral, affective and cognitive resistance to change (Oreg 2006) and the evaluation of technology and process characteristics (Venkatesh 2006).

Context

Theories and research on resistance to change have primarily addressed the context-specific antecedents of resistance. A large variety of contextual variables have been proposed as related to employees’ resistance to change. While some antecedents deal with the outcomes of change (e.g. losing or gaining power), others focus on the ways change is implemented (e.g. the amount of information about the change that is given to employees) (Watson 1971; Tichy 1983; Miller et al. 1994; Wanberg and Banas 2000; Armenakis and Harris 2002; Kotter and Schlesinger 2008). This distinction resembles the distinction between perceptions of distributive and procedural justice (Greenberg and Cropanzano 2001). The literature on resistance to change does not distinguish between the two types of resistance: reactions to change outcomes and reactions to the change process. One reason why such a distinction has not been observed may have to do with the fact that resistance was viewed as a one-dimensional construct (Oreg 2006). For the hypothesized Model of Resistance to IT-induced Organizational Change the resistance context will be considered as a multidimensional phenomenon and therefore outcome and process variables will be included in the model as suggested by Oreg (2006). As outcome factors, power and prestige (Tichy 1983), job security (Mcmurphy 1947; Probst 2003) and intrinsic rewards (Hackman and Oldham 1980; Tichy 1983) have been discussed in the literature while trust in management (Stanley et al. 2005; Kotter

and Schlesinger 2008), social influence (Gibbons 2004) and information about the change (Miller et al. 1994; Wanberg and Banas 2000) are typical process factors. The context variables might influence the resistance to change dimensions as well as the evaluation of the technology and the process characteristics (Oreg 2006).

Moreover, these context aspects will influence different work, technology and process related outcomes like different behaviors and satisfaction of users, mediated through resistance to change, technology and process characteristics evaluation.

Work related outcomes

A number of studies suggest that conditions of change and change in general predict organizational outcomes such as job satisfaction, organizational commitment and intention to leave the organization (Wanberg and Banas 2000). Overall, it is expected that positive attitudes towards change will be associated with improved outcomes (Oreg 2006).

Technology related outcomes

In response to the work related outcomes technology related outcomes are also important in IT projects. Those outcomes are the different usage behaviors of change recipients (Burton-Jones and Straub 2006). In mandatory usage settings individuals could resist the expected behavior, could comply to it or work around (Ferneley and Sobreperez 2006). The resistance of change recipients as well as their technology and process change evaluation are hypothesized to influence the technology related outcomes such as attitude towards technology, intention to use and use as shown by technology acceptance research in general (Venkatesh et al. 2003).

Process related outcomes

Process related outcomes of IT-induced change projects are, for example, behaviors of individuals concerning recently introduced processes. Change recipients could, for instance, behave as expected and accept the changes introduced. They could, however, also behave in unexpected and opposing ways (Ferneley and Sobreperez 2006).

The process related and technology related outcomes could be intertwined. As Goodhue and Thompson (1995) point out, the fit between tasks (processes) and technology is important. It is hence instructive to control for the task-technology fit in order to discuss how process and technology related outcomes are linked. In the section of the pre case study results we will discuss in more detail how both could be different and how both are connected.

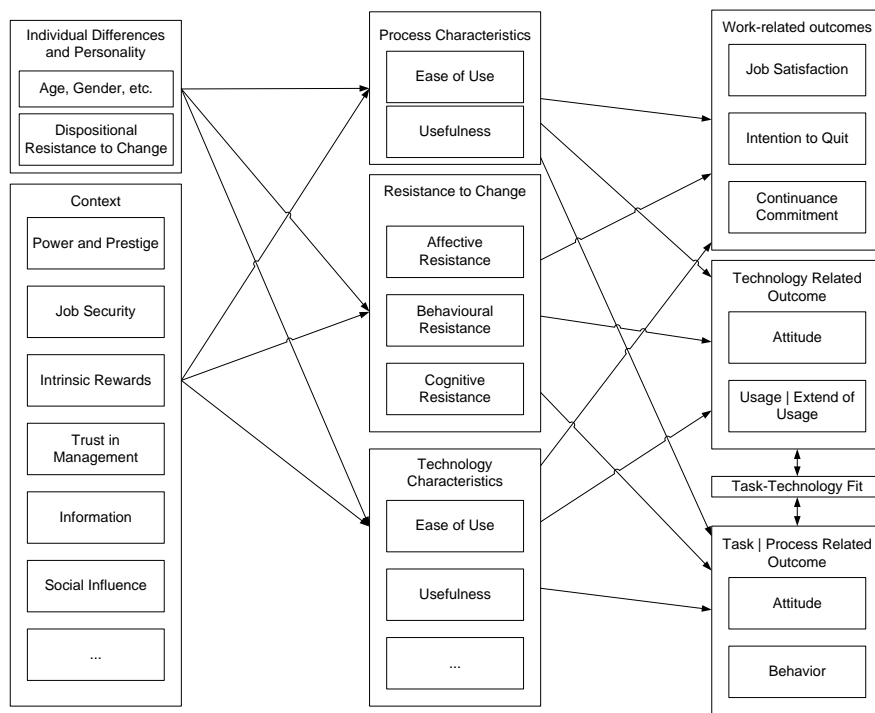


Figure 1: The Hypothesized Model of Resistance to IT-induced Organizational Change (MRTOC)

The model will be empirically evaluated using both a qualitative and a quantitative study. The next section describes first results of a case study on the pre-implementation phase of a complex information system implementation that offer some insights into resistance behaviors of individuals regarding IT-induced organizational change.

First Case Study Results and Future Research

The company investigated is a German automotive supplier with headquarters in southern Germany. The firm has approximately 61,000 employees at over 180 locations in more than 50 countries worldwide and has generated sales of 7.3 billion Euros in 2009. The project researched is the implementation of a new human resources information system aimed at supporting the company's recruiting process that is run by 150 recruiters. The project started in January 2010 and the system has been implemented by July 2010. Parallel to the introduction of the new information system, different steps of the recruiting process will be changed as well. One major process change is the introduction of a new process role. Talent managers will be in charge for applicants and candidate relationship management (Weitzel et al. 2009). During the pre-implementation phase of the new information system we have conducted interviews with different employees of the organization. For each interview two members of the research team have interviewed one employee. Each interview lasted around two hours and was conducted at one of the organization's branches. The interviewed employees were selected in order to get a cross-sectional view on the acceptance of the new HRIS in the organization. The interviewees work at different branches and are at different hierarchy levels (e.g. Recruiter, HR manager, HR project manager). As a consequence, the age of the interviewed employees varies between 26 and approximately 53 years of age. 70 per cent of the employees questioned are female and 30 per cent are male. We conducted semi-structured interviews based on the variables of the proposed model following the guidelines by (Yin 2003). In this context Myers and Newman (2007) have criticized the way in which interview-based IS research is conducted, highlighting its failure to employ established data elicitation techniques and to consider contextual variables in its analysis and reporting. In order to address some of these shortcomings, the interviews conducted for this research followed at first the Critical Incident Method (Flanagan 1954). We asked each individual interviewed for his/her very extreme bad and good expectations to the projects and where he/she sees challenges and benefits. Based on these answers we asked for reasons why he/she believes that a particular aspect of the project is a challenge or a benefit. Therefore, we focused on very specific expectations in relation to system acceptance in the pre-implementation phase of an HRIS project. In addition to this we asked, in a second step, for several constructs of our research model based on the items reported by the particular underlying research. Therefore, our interviews could be classified in terms of pragmatic reflexivity (Alvesson 2003). The following section provides first results from interviews with change recipients in the pre-implementation phase of the project.

Resistance to Change

All interviewed change recipients have an essentially positive view of an IT-supported staffing process, and they have the perception that all their colleagues feel positive as well. However, asking for a more detailed evaluation of different aspects the interviewed recruiters highlighted different affective and cognitive responses to the introduced changes and reported different resistance behaviors. Regarding affective resistance to change, it is expected that the reaction of change recipients has a positive impact on the change outcomes and will enable project success. Still, for the cognitive dimension the reactions were different concerning the expected benefits. One recruiter stated that *"I am really looking forward to the new system, as I believe that we will get a system improving our daily work"*. Another recruiter, though, pointed out that *"I'm skeptical as I have not seen that any system behaves as expected and I don't believe that the proposed changes will be suitable for our daily work"*. Another change recipient stated that *"in general I believe that every recruiter is skeptical about two things: first, does the system behave as expected and second, does it really provide the added value as promised. There are some of us who see more benefits than challenges, but also some who perceive more challenges than benefits"*. Furthermore, some change recipients reported that they were talking critically about the proposed process changes with their colleagues. For example, one reaction regarding one process change (introduction of new process role) was: *"What will be our job? The talent manager is exactly doing what I do at the moment, so what will be my job in the future? I have already discussed this issue with my colleagues and they all agree with me."* These pre-implementation interview results of change recipients show that the tri-dimensional conceptualization of resistance to change is appropriate to provide a deeper understanding why people reject technologies. In this case, one could expect that although the interviewees have an overall positive attitude towards e-recruiting their cognitive reaction might lead them to resist the change. Indeed, they have already started to resist the change as they were talking to others in a negative way about the project.

Technology and Process Characteristics

In response to process and technology change aspects one recruiter pointed out that *“the system will only be a success when all technical challenges will be addressed, as every system has its pitfalls. If the system is running without any effort then it will be accepted. However, if for example I have to spend one year due to teething problems I will reject using it”*. Regarding the differences in process and technology change one recruiter pointed out *„both aspects are important and could not be treated independently. The grooviest IT will not provide any benefit if the process does not fit the requirements.”* In addition to the behavioral component of resistance to change the same recruiter pointed out that *“if they change my role I won’t comply with the project. I think that e-recruiting is a good thing; however, the company should leave some responsibility at the recruiter level”*. Process related characteristics are therefore more important for the project success than technology related characteristics. However, both aspects could not be treated independently.

Individual Differences and Personality

Regarding individual differences and personality, one change recipient pointed out that *“in general it is a personal problem if someone prefers working with information systems or with a paper-based process”*. Another one stated that *„I expect that some of my colleagues will badmouth any possible benefits as they are not open to new things in general.”* One of the team leaders explained that this kind of reaction *“is a problem that is based in the individual and independent of the change in question. It is about their personality and their openness towards new things”*. The manager continued that *“already in past change initiative more or less the same people reacted negatively and tried to prevent the change to have an impact on them”*.

Future Research

Complementing these first case study results, as next steps in evaluating the Model Resistance of IT-induced Organizational Change (MRTOC) we will continue gathering data at different points of time using qualitative and quantitative methods. The described new HRIS went live on July, 1st this year. In order to get a broader idea of user acceptance we have already conducted an empirical survey with the 150 recruiters in the pre-implementation phase from mid May to the end of June. . For this purpose, we will transfer our research model into a structural equation model and use the Partial Least Squares approach (Chin 1998) to validate the model. At the current stage we are in the second interview round of talking with HR employees about their first experiences with the system. We will use the Critical Incident Technique again to ask for positive and negative experiences with the new HRIS. Afterwards, we will conduct a second empirical survey with the same target group of change recipients in order to validate the proposed research model in the post-implementation phase and to compare how the explanatory power of the model differs for the two phases. A third empirical survey will be conducted by the end of 2011 to validate employees’ acceptance after one year using the new HRIS system. This approach will enable us to investigate the explanatory power of our proposed model at three different stages of an IT implementation project: pre- and post implementation as well as after a longer period of experience. However, as we collect data at only one company we will also conduct a control study with a different organization implementing a similar system in order to validate the generalizability of our results

With this approach we expect to provide some insights for the enduring question why people reject technologies, as we hypothesize that the proposed model has a high explanatory power for IT-induced organizational change and that integrating organizational change and information systems research at an individual level will lead to interesting future results.

Conclusion

While some individuals may claim to be looking forward to the introduction of a new information system, others might resist the system and related process changes.

Therefore our proposed model integrates different IT resistance approaches like resistance as a personality trait, resistance as an attitude towards change and resistance as a behavior within one model in order to explain individual reactions to IT-induced organizational change. The basic parts of the model are accomplished by constructs measuring technology and process change evaluations by individuals and work, technology and process related outcomes. Therefore the model incorporates technology acceptance and micro-level organizational change research to enable a unified understanding of individual resistance to change to IT-induced organizational change projects.

First case study insights indicate that our proposed model, based on a tri-dimensional construct of resistance to change, individual differences and context variables, is appropriate to predict work, technology and process related change outcomes. At the pre-implementation stage of the project one could see that emotional and affective resistance as well as resistance behaviors will influence the implementation of the project, as some

change recipients react more positively than others. It could also be shown that individual differences and especially personality traits are an important antecedent of the attitude towards change, technology and process characteristics.

References

- Abrahamson, E. (2000). "Change without Pain." *Harvard Business Review* **78**(4): 75-79.
- Agarwal, R. and E. Karahanna (2000). "Time Flies When You're Having Fun: Cognitive Absorption and Beliefs About Information Technology Usage." *MIS Quarterly* **24**(4): 665-694.
- Alvesson, M. (2003). "Beyond Neopositivists, Romantics, and Localists: A Reflexive Approach to Interviews in Organizational Research." *Academy of Management Review* **28**(1): 13-33.
- Armenakis, A. A. and A. G. Bedeian (1999). "Organizational Change: A Review of Theory and Research in the 1990s." *Journal of Management* **25**(3): 293-315.
- Armenakis, A. A. and S. G. Harris (2002). "Crafting a Change Message to Create Transformational Readiness." *Journal of Organizational Change Management* **15**(2): 169-183.
- Bhattacharjee, A. and N. Hikmet (2007). "Physicians' Resistance toward Healthcare Information Technology: A Theoretical Model and Empirical Test." *European Journal of Information Systems* **16**(6): 725-737.
- Brown, S. A. and V. Venkatesh (2005). "Model of Adoption of Technology in Households: A Baseline Model Test and Extension Incorporating Household Life Cycle." *MIS Quarterly* **29**(3): 399-426.
- Burton-Jones, A. and D. W. Straub (2006). "Reconceptualizing System Usage: An Approach and Empirical Test." *Information Systems Research* **17**(3): 228-246.
- Cenfetelli, R. T. (2004). "Inhibitors and Enablers as Dual Factor Concepts in Technology Usage." *Journal of the Association for Information Systems* **5**(11-12): 472-492.
- Chin, W. W. (1998). *The Partial Least Squares Approach to Structural Equation Modeling*. Modern Methods for Business Research. G. A. Marcoulides. Lawrence Erlbaum, Mahwah, NJ: 295-336.
- Chung-Ming, L. A. U. and R. W. Woodman (1995). "Understanding Organizational Change: A Schematic Perspective." *Academy of Management Journal* **38**(2): 537-554.
- Clegg, C. and S. Walsh (2004). "Change Management: Time for a Change!" *European Journal of Work & Organizational Psychology* **13**(2): 217-239.
- Davis, F. D. (1989). "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology." *MIS Quarterly* **13**(3): 319-340.
- Dent, E. B. and S. G. Goldberg (1999). "'Resistance to Change': A Limiting Perspective." *Journal of Applied Behavioral Science* **35**(1): 45-47.
- Dervitsiotis, K. N. (1998). "The Challenge of Managing Organizational Change: Exploring the Relationship of Re-Engineering." *Total Quality Management* **9**(1): 109-122.
- Dixon, D. R. (1999). "The Behavioral Side of Information Technology." *International Journal of Medical Informatics* **56**(1-3): 117-123.
- Dowling, A. F. J. (1980). "Do Hospital Staff Interfere with Computer System Implementation?" *Health Care Management Review* **4**: 23-32.
- Eckhardt, A., S. Laumer and T. Weitzel (2009). "Who Influences Whom? Analyzing Workplace Referents' Social Influence on It Adoption and Non-Adoption." *Journal of Information Technology* **24**(1): 11-24.
- Elias, S. M. (2009). "Employee Commitment in Times of Change: Assessing the Importance of Attitudes toward Organizational Change." *Journal of Management* **35**(1): 37-55.
- Enns, H. G., S. L. Huff and C. A. Higgins (2003). "Cio Lateral Influence Behaviors: Gaining Peers' Commitment to Strategic Information Systems." *MIS Quarterly* **27**(1): 155-176.
- Ferneley, E. H. and P. Sobreperez (2006). "Resist, Comply or Workaround? An Examination of Different Facets of User Engagement with Information Systems." *Eur J Inf Syst* **15**(4): 345-356.
- Flanagan, J. C. (1954). "The Critical Incident Technique." *Psychological Bulletin* **51**(4): 327-359.
- Gibbons, D. E. (2004). "Network Structure and Innovation Ambiguity Effects on Diffusion in Dynamic Organizational Fields." *Academy of Management Journal* **47**(6): 938-951.
- Gibson, C. F. (2003). "It-Enabled Business Change: An Approach to Understanding and Managing Risk." *MIS Quarterly Executive* **2**(2): 104-115.
- Gladden, G. R. (1981). "Stop the Life-Cycle, I Want to Get Off." *Software Engineering Notes* **2**: 35-39.
- Goodhue, D. L. and R. L. Thompson (1995). "Task-Technology Fit and Individual Performance." *MIS Quarterly* **19**(2): 213-236.
- Greenberg, J. and R. Cropanzano (2001). *Avances in Organizational Justice*. Stanford, Stanford University Press.
- Hackman, J. R. and G. R. Oldham (1980). *Motivation through the Design of Work*. Reading, MA., Addison-Wesley.
- Heath, C., M. Knez and C. Camerer (1993). "The Strategic Management of the Entitlement Process in the Employment Relationship." *Strategic Management Journal* **14**(S2): 75-93.

- Hirschheim, R. and M. Newman (1988). "Information Systems and User Resistance: Theory and Practice." *The Computer Journal* **31**(5): 398-408.
- Ilie, V., J. F. Courtney and C. V. Slyke (2007). Paper Versus Electronic: Challenges Associated with Physicians' Usage of Electronic Medical Records. 40th Hawaii International Conference on System Science. Waikoloa, Hawaii, USA.
- Jermier, J. M., D. Knights and W. Nord, Eds. (1994). Resistance and Power in Organisation. London, Routledge.
- Jiang, J. J., W. A. Muhanna and G. Klein (2000). "User Resistance and Strategies for Promoting Acceptance across System Types." *Information & Management* **37**(1): 25-36.
- Jordan, M. H., H. S. Feild and A. A. Armenakis (2002). "The Relationship of Group Process Variables and Team Performance - a Team-Level Analysis in a Field Setting." *Small Group Research* **33**(1): 121-150.
- Jordan, M. H., M. Schraeder, H. S. Feild and A. A. Armenakis (2007). "Organizational Citizenship Behavior, Job Attitudes, and the Psychological Contract." *Military Psychology* **19**(4): 259-271.
- Joshi, K. (1991). "A Model of Users' Perspective on Change: The Case of Information Systems Technology Implementation." *MIS Quarterly* **15**(2): 229-242.
- Judge, T. A., C. J. Thoresen, V. Pucik and T. M. Welbourne (1999). "Managerial Coping with Organizational Change: A Dispositional Perspective." *Journal of Applied Psychology* **84**(1): 107-122.
- Keen, P. G. W. (1981). "Information Systems and Organizational Change." *Commun. ACM* **24**(1): 24-33.
- Kim, H.-W. and A. Kankanhalli (2009). "Investigating User Resistance to Information Systems Implementation: A Status Quo Bias Perspective." *MIS Quarterly* **33**(3): 567-582.
- Kotter, J. P. and L. A. Schlesinger (2008). "Choosing Strategies for Change." *Harvard Business Review* **86**(7/8): 130-139.
- Lapointe, L. and S. Rivard (2005). "A Multilevel Model of Resistance to Information Technology Implementation." *MIS Quarterly* **29**(3): 461-491.
- Lapointe, L. and S. Rivard (2007). "A Triple Take on Information System Implementation." *Organization Science* **18**(1): 89-107.
- Laumer, S., C. Maier and A. Eckhardt (2010). Why Do They Resist? - an Empirical Analysis of an Individual's Personality Trait Resistance Regarding the Adoption of New Information Systems. Proceedings of the 18th European Conference on Information System (ECIS 2010). Pretoria, South Africa.
- Lee, Y., K. A. Kozar and K. R. T. Larsen (2003). "The Technology Acceptance Model: Past, Present and the Future." *Communications of the AIS* **12**: 752-780.
- Lucas, H. C. (1975). Why Information Systems Fail. New York, USA, Columbia University Press.
- Luftman, J. and R. Kempaiah (2008). "Key Issues for It Executives 2007." *MIS Quarterly Executive* **7**(2): 99-112.
- Marakas, G. M. and S. Hornik (1996). "Passive Resistance Misuse: Overt Support and Covert Recalcitrance in Is Implementation." *Eur J Inf Syst* **5**(3): 208-219.
- Markus, M. L. (1983). "Power, Politics, and Mis Implementation." *Commun. ACM* **26**(6): 430-444.
- Markus, M. L. (2004). "Technochange Management: Using It to Drive Organizational Change." *Journal of Information Technology (Palgrave Macmillan)* **19**(1): 4-20.
- Maurer, R. (1996). "Using Resistance to Build Support for Change." *Journal for Quality & Participation* **19**(3): 56.
- Mcguire, W. J. (1985). Attitudes and Attitude Change. Handbook of Social Psychology. G. Lindzey and E. Aronson. New York, Random House. **2**: 233-346.
- Mcmurry, R. N. (1947). "The Problem of Resistance to Change in Industry." *Journal of Applied Psychology* **31**(6): 589-593.
- Miller, V. D., J. R. Johnson and J. Grau (1994). "Antecedents to Willingness to Participate in a Planned Organizational Change." *Journal of Applied Communication Research* **22**(1): 59 - 80.
- Myers, M. D. and M. Newman (2007). "The Qualitative Interview in Is Research: Examining the Craft." *Information and Organization* **17**: 2-26.
- Nord, W. R. and J. M. Jermier (1994). "Overcoming Resistance to Resistance: Insights from a Study of the Shadows." *Public Administration Quarterly* **17**(4): 396-409.
- Oreg, S. (2003). "Resistance to Change: Developing an Individual Differences Measuer." *Journal of Applied Psychology* **88**(4): 680-693.
- Oreg, S. (2006). "Personality, Context, and Resistance to Organizational Change." *European Journal of Work & Organizational Psychology* **15**(1): 73-101.
- Petter, S., D. Straub and A. Rai (2007). "Specifying Formative Constructs in Information Systems Research." *MIS Quarterly* **31**(4): 623-656.
- Piderit, S. K. (2000). "Rethinking Resistance and Recognizing Ambivalence: A Multidimensional View of Attitudes toward an Organizational Change." *Academy of Management Review* **25**(4): 783-794.
- Prasad, P. and A. Prasad (2000). "Stretching the Iron Cage: The Constitution and Implications of Routine Workplace Resistance." *Organization Science* **11**(4): 387-403.
- Probst, T. M. (2003). "Exploring Employee Outcomes of Organizational Restructuring: A Solomon Four-Group Study." *Group Organization Management* **28**(3): 416-439.

- Rousseau, D. M. and S. A. Tijoriwala (1999). "What's a Good Reason to Change? Motivated Reasoning and Social Accounts in Promoting Organizational Change." *Journal of Applied Psychology* **84**(4): 514-528.
- Ruta, C. D. (2005). "The Application of Change Management Theory to Hr Portal Implementation in Subsidiaries of Multinational Corporations." *Human Resource Management* **44**(1): 35-53.
- Smollan, R. K. (2006). "Minds, Hearts and Deeds: Cognitive, Affective and Behavioural Responses to Change." *Journal of Change Management* **6**(2): 143-158.
- Stanley, D. J., J. P. Meyer and L. Topolnytsky (2005). "Employee Cynicism and Resistance to Organizational Change." *Journal of Business and Psychology* **19**(4): 429-459.
- Tichy, N. M. (1983). *Managing Strategic Change. Technical, Political and Cultural Dynamics*. New York, Wiley.
- Venkatesh, V. (1999). "Creation of Favorable User Perceptions: Exploring the Role of Intrinsic Motivation." *MIS Quarterly* **23**(2): 239-260.
- Venkatesh, V. (2006). "Where to Go from Here? Thoughts on Future Directions for Research on Individual-Level Technology Adoption with a Focus on Decision Making." *Decision Sciences* **37**(4): 497-518.
- Venkatesh, V. and H. Bala (2008). "Technology Acceptance Model 3 and a Research Agenda on Interventions." *Decision Sciences* **39**(2): 273-315.
- Venkatesh, V. and S. A. Brown (2001). "A Longitudinal Investigation of Personal Computers in Homes: Adoption Determinants and Emerging Challenges." *MIS Quarterly* **25**(1): 71-102.
- Venkatesh, V., F. D. Davis and M. G. Morris (2007). "Dead or Alive? The Development, Trajectory and Future of Technology Adoption Research." *Journal of the Association for Information Systems* **8**(4): 268-286.
- Venkatesh, V. and M. G. Morris (2000). "Why Don't Men Ever Stop to Ask for Directions? Gender, Social Influence, and Their Role in Technology Acceptance and Usage Behavior." *MIS Quarterly* **24**(1): 115-139.
- Venkatesh, V., M. G. Morris, G. B. Davis and F. D. Davis (2003). "User Acceptance of Information Technology: Toward a Unified View." *MIS Quarterly* **27**(3): 425-478.
- Vithessonthi, C. (2007). "Perceptions Affecting Employee Reactions to Change: Evidence from Privatization in Thailand." *Journal of American Academy of Business, Cambridge* **12**(1): 248-255.
- Waddell, D. and A. S. Sohal (1998). "Resistance: A Constructive Tool for Change Management." *Management Decision* **36**(8): 543-548.
- Walinga, J. (2008). "Toward a Theory of Change Readiness: The Roles of Appraisal, Focus, and Perceived Control." *Journal of Applied Behavioral Science* **44**(3): 315-347.
- Wanberg, C. R. and J. T. Banas (2000). "Predictors and Outcomes of Openness to Changes in a Reorganizing Workplace." *Journal of Applied Psychology* **85**(1): 132-142.
- Watson, G. (1971). "Resistance to Change." *American Behavioral Scientist* **14**(5): 745.
- Weick, K. E. and R. E. Quinn (1999). "Organizational Change and Development." *Annual Review of Psychology* **50**(1): 361.
- Weick, K. E. and K. H. Roberts (1993). "Collective Mind in Organizations: Heedful Interrelating on Flight Decks." *Administrative Science Quarterly* **38**(3): 357-381.
- Weitzel, T., A. Eckhardt and S. Laumer (2009). "A Framework for Recruiting It Talent: Lessons from Siemens." *MIS Quarterly Executive (MISQE)* **8**(4): 175-189.
- Yin, R. K. (2003). *Case Study Research: Design and Methods*. Thousand Oaks, London, New Dehli, Sage Publications, Inc.