Diagnosing organizational risks in software projects: Stakeholder resistance

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Abstract

Critical success and failure factors of software projects were extensively studied. However, software project risk management has rarely researched organizational risks even though most problems occur when the social aspects are not addressed. By employing the resistance to change theory, our paper develops an organizational risk diagnosing (ORD) framework in order to show how can organizational risks be better understood and managed. Organizational risk factors may have non-trivial underlying root causes. A failure to diagnose them may result in ineffective risk responses that address the symptoms. A case study of a loan application software project has been conducted in one of the biggest banks in South-Eastern Europe. An analysis of the risk management process in the studied case allows a better understanding of organizational risk management.

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1. Introduction

Software project failure rates remain alarmingly high despite surging investments in information systems and their importance for contemporary organizations (Altuwaijri and Khorsheed, 2011; Baccarini et al., 2004; Bannerman, 2008; El Emam and Koru, 2008; Hong and Kim, 2002). According to the CHAOS Manifesto 2013 (The Standish Group, 2013), only 39 percent of software projects were successful, i.e., completed on-time and on-budget, with all features and functions as initially specified. Another 43 percent of projects were challenged, i.e., completed and operational but over-budget, over the time estimate, and offer fewer features and functions than originally specified. The remaining 18 percent of software projects have failed, i.e., they were cancelled prior to completion or delivered and never used. When considering only large software projects, only 10 percent were successful, 52 percent were challenged and 38 percent have failed. This is at least worrying as large software projects failure may negatively affect the whole implementing enterprise (Bernroider et al., 2014; Hong and Kim, 2002; Lavbič et al., 2010).

Software projects are high risk activities due to the rapid pace of technological changes and the organizational changes they may impose (Aloini et al., 2007; Altuwaijri and Khorsheed, 2011; Bannerman, 2008; Cule et al., 2000; Hong and Kim, 2002; Kwahk and Kim, 2007; Li et al., 2011) therefore risk management is essential for project success (Baccarini et al., 2004; Tiwana and Keil, 2004; Wallace et al., 2004). In the recent years, much has become known about why software projects fail (de Bakker et al., 2010). Several risk factors have been identified and joined into checklists and classification frameworks (Bannerman, 2008). Also, stepwise tasks for managing risks, also known as process models, are widespread in theory and practice (Aloini et al., 2012; Bannerman, 2008).

However, software project risk management seems to be rather immature as risks are still not managed effectively (Aloini et al., 2007; Bannerman, 2008; de Bakker et al., 2010; Geraldi et al., 2011; Kappelman et al., 2006; Kutsch and Hall,
In addition to technical risks, software projects are subjected to organizational risks since they affect or are affected by the way of doing things in an organization (Benaroch et al., 2006; Sanderson, 2012; Sharma and Gupta, 2012). These risks should not be overlooked as most problems occur when the social aspects are not addressed (Atkinson et al., 2006; Laumer, 2011). People are one of the greatest sources of uncertainty in any project undertaking therefore organizational risks are difficult to manage and knowledge of risks alone is not enough to contribute to project success (de Bakker et al., 2010; Thamhain, 2013). Nonetheless, organizational risk factors have been rarely researched (Alöini et al., 2007). Risk management research has only recently shown more interest in stakeholder-related processes and put an emphasis on “soft skills” as a complement to the “hard skills” (de Carvalho and Rabechini Junior, 2015; Söderlund and Maylor, 2012). Research shows that different stakeholder perspectives need to be considered in order to build the bigger picture and manage risks effectively (Hartono et al., 2014).

Among the most prominent and well-researched organizational risks in software projects is resistance to change (Hong and Kim, 2002; Jiang et al., 2000; Kim, 2011; Kwahk and Kim, 2007; Laumer, 2011; Lundy and Morin, 2013; Meissonier and Houzé, 2010; Rivard and Lapointe, 2012; Žvanut et al., 2011). It has been thoroughly researched for over half of a century in managerial psychology and information systems research (Laumer, 2011; Oreg et al., 2011; Rivard and Lapointe, 2012). Resistance to change is a complex phenomenon and several sources of resistance which can be considered as risk factors have been identified in the literature. The success of resistance management depends on the ability to diagnose resistance, i.e., to distinguish symptoms from root causes (Fiedler, 2010; Laumer, 2011; Lundy and Morin, 2013; Rivard and Lapointe, 2012; Zander, 1950).

The paper builds on the premise that organizational risks may not be managed effectively if one only focuses on project-specific risks or uses existing risk management approaches, such as checklists and classification frameworks. Furthermore, improving the existing approaches by considering different stakeholder perspectives may not be enough if the stakeholders themselves do not distinguish the symptoms from the root causes. The purpose of this paper is to move beyond the limitations of existing risk management approaches and advance the diagnosing of root causes of organizational risks from multiple stakeholder perspectives. By employing the resistance to change theory we develop a new theoretical model – the organizational risk diagnosing (ORD) framework. The ORD framework attempts to identify in a novel way the non-trivial underlying root causes which organizational risk factors may have.

This paper is structured as follows. First, extant work on software project risk management and resistance to change is summarized. The concept of stakeholder resistance is introduced. Next, the resistance checklist aggregating various works on resistance to change is developed. Afterwards, the proposed ORD framework is presented along with an application to the resistance context. A case study of a software project introducing new loan application software is presented and analyzed. The contributions of our research to risk management and resistance research are then discussed including the limitations of the study and further research opportunities.

2. Theoretical background

2.1. Software project risk management

The ISO 31000 Standard defines risk as the “effect of uncertainty on objectives” (ISO, 2009). Even though they are commonly viewed from the narrow perspective of the negative side of the possible effect (Hartono et al., 2014), risks can have both a positive or a negative effect on a project when present (Benaroch et al., 2006; ISO, 2009; Wallace and Keil, 2004). In software projects, much work has been done on discovering risks, also known as risk factors (Benaroch et al., 2006). Other terms, such as “sources of risk”, “critical success factors”, “uncertainty factors”, “risk drivers” or “risk items”, can also be found in literature (Alöini et al., 2007; Bannerman, 2008; Tiwana and Keil, 2004). In some risk management fields, such as construction, risk factors are differentiated from risks. In contrast to established software project risk management where risk factors are usually directly related to their effects (Alöini et al., 2007; ISO, 2009), construction project risk factors do not affect the project directly but do so through risks (Tah and Carr, 2001). This distinction helps in risk evaluation because the risk factors are more concrete abstractions of a risk and define situations that can be individually assessed with a limited amount of vague information or facts (Tah and Carr, 2001).

Three main approaches to software project risk management can be found in theory and practice (Bannerman, 2008; de Bakker et al., 2010): checklists, classification frameworks, and process models. Checklists are formed by joining risk factors that have been identified in past projects (de Bakker et al., 2010). Various checklists can be found in literature (Alöini et al., 2007; Schmidt et al., 2001). Risk factors in checklists are commonly a mixture of technical and organizational risks ordered by general risk probability in software projects (Alöini et al., 2007). Checklists are often comprised of too many potential risk factors to effectively identify and manage them (Bannerman, 2008; Cule et al., 2000). To deal with this issue, some risk factors can be grouped and managed together. Using the construction project risk management terminology, risk factors are grouped into risks using some classification framework according to different criteria, e.g., their perceived source (Baccarini et al., 2004; Bannerman, 2008; Cule et al., 2000; Keil et al., 1998; Liu and Wang, 2014; Wallace et al., 2004). Since checklists and classification frameworks are closely related, they both have the same drawback. Risk factors are generic and based on past research which raises the prospect that risk assessment may be biased or limited in scope (Bannerman, 2008).

The third risk management approach is process models. Process models specify risk management activities which follow a general risk management process: establishing the context, risk identification, risk analysis, risk evaluation, risk treatment,
communication and consultation, and monitoring and review (Alonzi et al., 2012; Baccarini et al., 2004; Bandyopadhyay et al., 1999; Bannerman, 2008; de Bakker et al., 2012; ISO, 2009; Kwan and Leung, 2011). It is not uncommon to use all presented approaches combined, e.g., to use checklists or classification frameworks in risk identification (Bannerman, 2008; de Bakker et al., 2010). When combining these approaches, the focus is on project-specific risk factors rather than the top-ranked generic risk factors (de Bakker et al., 2010). To achieve this, free-format information generation techniques, such as brainstorming, may be employed (de Bakker et al., 2010).

Until recently risk management research focused on “hard skills” centering around administrative tasks (Söderlund and Maylor, 2012). Software projects involve a variety of stakeholders with complex interrelationships and diverse backgrounds (de Carvalho and Rabechini Junior, 2015). Different stakeholders may have varying or even conflicting perspectives on risks (Hartono et al., 2014; Osipova and Eriksson, 2013; Saunders et al., 2015). As it became apparent that effective risk management requires broad involvement and collaboration of stakeholders, the focus of risk management research broadened to encompass the “soft skills” concerning the management of interpersonal relationships and the notion of project environment as well (de Carvalho and Rabechini Junior, 2015; Liu and Wang, 2014; Sanderson, 2012; Söderlund and Maylor, 2012).

2.2. Resistance to change

Lewin (1947) was one of the first researchers to use the term resistance to change defined as the force against change in organizations (Laumer, 2011). Resistance to change has been thoroughly studied both in managerial psychology and information systems research (Laumer, 2011). Managerial psychology research mostly focused on individuals and some researchers even considered resistance as a personal trait (Laumer, 2011; Oreg, 2003). Information system research focused on user resistance defined as opposition of an individual user or groups of users to change associated with a software project (Kim and Kankanhalli, 2009). User resistance may be present in before, during and/or after a software project (Kim and Kankanhalli, 2009; Meissonier and Houzé, 2010; Pardo del Val and Martínez Fuentes, 2003). Some authors even argue that user resistance is embedded in the change process and therefore inevitable (Ferneley and Sobrepeerez, 2006; Meissonier and Houzé, 2010).

By itself, user resistance is neither positive nor negative even though it is commonly associated by a negative connotation (Ferneley and Sobrepeerez, 2006; Hultman, 2003; Lawrence, 1954; Rivard and Lapointe, 2012; van Offenbeek et al., 2013). On one hand, it can be destructive and consume excessive resources (Hong and Kim, 2002; Kim, 2011). On the other hand, there may be good reasons for user resistance. In such cases, user resistance can be constructive, e.g., if it reveals flaws of the new software (Ferneley and Sobrepeerez, 2006; Ford et al., 2008; Jiang et al., 2000; Kim and Kankanhalli, 2009; Lundy and Morin, 2013; Marakas and Hornik, 1996; Piderit, 2000). User resistance therefore needs adequate management whether it is positive or negative (Rivard and Lapointe, 2012).

User resistance manifest itself in various ways, such as inaction, distance, lack of interest, delay tactics, excuses, persistence of former behavior, withdrawal, voicing opposite points of view, asking others to intervene or forming coalitions (Lapointe and Rivard, 2005). In the most aggressive manifestations, user resistance seeks to be disruptive and may even be destructive, e.g., infighting, making threats, strikes, boycotts and sabotage (Lapointe and Rivard, 2005).

Most resistance research focuses on resistance of the change recipients. However, research shows that other stakeholders may be contributing to resistance or resist themselves (Fiedler, 2010; Ford et al., 2008; Laumer, 2011; Markus, 1983; Nutt, 1998; Rivard and Lapointe, 2012; Sigala, 2013). Focusing on user resistance therefore may not be sufficient. The stakeholder theory may be applied to resistance to change theory to extend it. The stakeholder concept has its roots in strategic management and has already been applied to other research fields, such as project and portfolio management (Beringer et al., 2013). A software project stakeholder is any individual or group who can affect or is affected by a software project (de Bakker et al., 2011; Freeman, 2010). Different stakeholder views have to be considered in order to adequately analyze resistance (Beringer et al., 2013; Ford et al., 2008; Laumer, 2011). Therefore, we promote the concept of stakeholder resistance instead of the established but misleading term user resistance throughout this paper.

2.3. Resistance checklist

Theoretical explanations of stakeholder resistance and checklists can be found in information systems research. Theoretical explanations provide an insight into the stakeholder resistance black-box (Rivard and Lapointe, 2012). Hirschheim and Newman (1988) state that resistance is a complex phenomenon which can have a variety of causes, such as innate conservatism, lack of felt need, and uncertainty. According to Joshi (1991) users evaluate the software project on the individual, peer group and organizational level. Resistance occurs when perceived inequity on either level of evaluation. Marakas and Hornik (1996) argue that perceived threats or stresses that an individual associates with a software project cause covert resistance. Martinko et al. (1996) posit that individuals make causal attributions of a software project based on internal and external influences. These attributions lead to expectations about future performance outcomes which may lead to resistance. Ferneley and Sobrepeerez (2006) identified four antecedent conditions to resistance, i.e., enforced proceduralization, organizational and personnel issues, discipline and non-engagement with the system, which may result in various kinds of workarounds. Kim and Kankanhalli (2009) argue that switching costs indirectly increase resistance by negatively impacting perceived value. Markus (1983) adopted a political perspective of the interaction theory and suggested that resistance is a result of conflict among groups who are vying for power. Lapointe and Rivard (2005) found that resistance is milder in the earlier stages of a software project. In these stages, resistance emerges as a combination of independent individual behaviors.
In later stages of a software project, however, resistance may strengthen if individual behaviors converge. Additionally, the object of resistance is not always the new software. If the balance of power between interest groups is disrupted due to the software project, the object may switch from the new software to new software significance or even to the new software change agents.

Stakeholder resistance has been compared to the symptoms of a bodily disease and *checklists* may help to diagnose it (Lawrence, 1954; Rivard and Lapointe, 2012). In this paper, we

<table>
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<th>Table 1 Resistance checklist.</th>
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<tr>
<td>Source of resistance</td>
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<td>Lack of top management commitment</td>
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<td>Past outcomes</td>
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<td>Perceived threats</td>
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<td>Organizational politics</td>
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<td>Direct costs</td>
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<td>Capabilities gaps</td>
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<td>Collective action problems</td>
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<td>Myopia</td>
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<td>Reactive mindset</td>
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<td>Incommensurable beliefs</td>
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<td>Groupthink</td>
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<td>Speed and complexity</td>
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<td>Lack of perceived value</td>
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References:
- Alter (2011); Baccarini et al. (2004); Ferneley and Sobreprez (2006).
adopted Rumelt’s checklist which has also been empirically tested (Pardo del Val and Martínez Fuentes, 2003; Rumelt, 1995). We adapted Rumelt’s checklist as presented in Table 1 to include the complementary findings.

2.4. Towards an organizational risk diagnosing (ORD) framework

The main premise of this paper is that some organizational risk factors may be symptoms with root causes that are not trivial to determine. If risk factors are not properly diagnosed, risk responses may therefore just address the symptoms while leaving the underlying causes intact. In turn, this may lead to ineffective risk responses and hinder the success of risk management. To address these issues, the organizational risk diagnosing (ORD) framework is proposed. For easier understanding, the ORD framework is applied to the resistance context developed throughout the paper. The resulting ORD framework is presented in Fig. 1.

First, stakeholder resistance can be considered as a software project risk (Fiedler, 2010; Vrhovec and Rupnik, 2011). Next, sources of this risk can be considered as risk factors. Finally, a variety of root causes may be underlying these risk factors. These causes may be project-specific and therefore cannot be predetermined. In contrast to the traditional software project risk management theory, we argue that it is vital that organizational risk factors are first diagnosed in order to determine the underlying root causes. Adequately determined root causes may significantly change the management actions during and after the software project with reference to effective risk management.

3. Research method

An explanatory case study was used as research approach due to several reasons. First, the complex interaction of different stakeholders and new software can be best analyzed with a case study (Trkman and Trkman, 2014; Vavpotič and Hovelja, 2012). Next, case study is the most suitable research approach for investigating contemporary events with no control over the environment (de Bakker et al., 2011; Trkman and Trkman, 2009; Yin, 2009). Finally, case study is particularly appropriate for studying software development and implementation in natural organizational settings (Bansler and Havn, 2004; Darke et al., 1998; Trkman and Trkman, 2014).

The unit of analysis of the case study was a software project in one of the biggest banks in South-Eastern Europe. This bank competes in several national markets (e.g., Austria, Italy, Slovenia, Germany, and Serbia) and from this point of view can be considered a typical bank for the region. The new loan application software that was implemented in the studied project replaced a legacy core banking system. The software project duration was 14 months and it primarily affected approximately 300 loan officers. Five key stakeholders were identified: project management, business process management, IT personnel, key users, and loan officers. The project was managed by a project manager and his staff from the project management office with the help of the chief training officer from the IT department. The project team additionally included the IT personnel from the IT department. Key users were also assigned to the project however they were not officially part of the project team. They were selected among loan officers by their superiors. The project team gathered requirements directly from the key users. This included business processes requirements which had to be later synchronized with the business
4. Results and discussion

4.1. Risk factors

This subsection presents the results of the resistance checklist survey and the focus groups. The initial resistance checklist evaluation was done in a survey. The results are presented in Table 2.

Based on the results of the survey, risk factors were categorized into four groups according to effect and probability means for all risk factors (effect mean = 0.17, probability mean = −0.17) as presented in Table 3. For example, risk factor “Past outcomes” has above mean effect (effect = 0.80) and below mean probability (probability = −0.25). Therefore, it is categorized as high effect and low probability.

Categorized risk factors were an input to the focus groups that had to interpret them. Summarized and consolidated different stakeholder interpretations are presented in the following paragraphs. First, risk factors with high effect and probability were interpreted. The key users, the business process management and the loan officers stated that incommensurable beliefs stem from a lack of knowledge of the IT personnel about the bank’s business processes that manifested itself from the start of the project. The key users complained “We had to explain the business process over and over again”, which prolonged the business process analysis considerably. Even so, they claimed that the first prototypes presented to them were inadequate because the IT personnel did not sufficiently understand the business processes. The IT personnel however complained that the key users were giving superficial descriptions of business processes. Also, in their opinion the key users tended to change their descriptions during the programming phase long after the business process analysis had been completed. Regarding groupthink, the business process management explained that the IT personnel tried to change the business processes during the business process analysis phase. They believed that they were not competent enough to propose a redesign of business processes. The key users took a similar posture by stating that “They are just creating unnecessary work for us.” The IT personnel however explained that the key users and business...
process management just wanted them to mindlessly replicate the existing business processes in the new software. An additional complaint of the IT personnel was that the key users were a priori negatively biased towards any proposed changes during the business process analysis. The loan officers did not address the described conflict. Instead, they complained that they were poorly informed about the project. Their pre-conceived negative opinion was based on their fear that the project would trivialize the loan application process to the extent that “Even tellers could do it.” Loan officers with opposing ideas were peer-pressured into changing their views or isolated which suppressed the positive opinions among loan officers about the project. Interpreting speed and complexity, the key users criticized the pace of work of the IT personnel by stating “It takes ages to implement a single checkbox!” The project management and IT personnel however attributed this to the European Central Bank (ECB) for overloading them with fast changing regulations that had to be implemented in the new software. During the course of the project ECB required that additional restrictions and fail safes to be added to the new software. To make matters even more problematic, these new restrictions were not part of a single package but were released over several weeks.

Next, risk factors with high effect and low probability were interpreted. The key users were of the opinion that the bank’s official strategy is not updated often enough which in their opinion clearly shows the lack of top management commitment to the project. They complained that it takes too much effort to submit and implement an idea that is yet to become a part of the project. They complained that it takes too much effort to do so. The IT personnel additionally complained that they spend a lot of energy on solutions that do not bring significant long-term benefits to the bank, which decreases their motivation to work on the project. Two interpretations of reactive mindset were emphasized. The IT personnel brought up the issues with the legacy core banking system. In the past, the IT personnel were very accommodating to the business demands. The result was a very complex software environment consisting of hundreds of software applications in several programming languages. Such software environment was a challenge to maintain. A large part of the IT personnel accepted such environment as normal. For this reason, it is not hard for them to accept new demands in the project especially since this means additional paid work hours. The key users also considered the project in conflict with their interests. Not only that they did not receive any additional remuneration for their work on the software project, they also lost their variable performance bonus from their regular assignments. Since the key users believed this issue was inevitable, this significantly lowered their motivation to engage the project.

Afterwards, risk factors with low effect and high probability were interpreted. Concerning conservatism, the loan officers explained that the new software makes them more error-prone, which is one of the criteria the management uses to compile the lay-off list that is a part of the post-financial crisis downsizing plan. The downsizing plan had already reduced the workforce by approximately 15 percent. Thus, the loan officers attempted to defend the current way of doing things to minimize the threat of making errors. This in turn impeded good collaboration of loan officers with the project team. It also increased the loan officers’ dislike of new technologies because, as they stated, “At present, it is hard to see over the edge of one’s cubical.” When interpreting lack of perceived value, the loan officers and key users remarked that the new loan application system will be beneficial as it will be more centralized. However, they also mentioned that the value of such centralized system would be diminished if the improvements and bug-fixes would only be locally applicable as they have been in the past. The question whether middle managers were sufficiently informed on the project as they show apathy towards it arose when loan officers interpreted collective action problems. However, this was not considered as an important issue since the middle managers were not opposing the project.

Finally, risk factors with low effect and low probability were interpreted. Stakeholders addressed these risk factors and confirmed the evaluation done by the survey. However, no interpretations were provided since all stakeholders considered them as not present in the studied project.

4.2. Diagnosing risk factors

Each stakeholder group presented their interpretation to the others. The results of the inter-group discussion are presented in this subsection. Four root causes have been identified.
underlying some of the risk factors as presented on Fig. 2. The root causes are elaborated in the following paragraphs.

Organizational issues have been identified as the first root cause. This root cause was underlying five risk factors: lack of top management commitment, past outcomes, myopia, reactive mindset, and conservatism. Organizational issues encompass the problems that four different stakeholders need to work with. In the current organization, the key users never felt fully engaged in the project because “It takes too much effort to realize an idea that is not already a part of the strategy.” Additionally, the key users do not fully commit to the project because their involvement in it directly reduces the variable part of their salary. The IT personnel need to deal with the tendency of the business to push the short-term goals at the expense of the long-term ones. In their opinion, this not only negatively affects the long-term quality of the new software but also hinders the development of new banking products. Another organizational issue was identified involving the middle management. When the loan officers presented their interpretation of past outcomes, the business process management openly opposed it. Instead, they proposed that middle management’s apathy may stem from overload with daily routine tasks. The project management confirmed this assumption by stating that the middle management was significantly overworked due to a recent downsizing plan. As a consequence, the project was seen as a workforce drain that hindered their day-to-day work. The downsizing plan also caused a final organizational issue involving the loan officers. New software was being introduced to them in an environment where each mistake could put them on the lay-off list. It is therefore not a surprise that they tried to defend the way of doing things they were accustomed to.

Struggle for power was identified as the second root cause. It described how the IT personnel, the key users, and the business process management were vying for power. Struggle for power was underlying two risk factors: incommensurable beliefs, and groupthink. The conflicts between the IT personnel on one side, and the key users and the business process management on the other over who has the right to propose changes to business processes have their roots in the desire of these stakeholders to be in control of the business process redesign. The discussion showed that there is little willingness of both sides for compromise and to accept the reasoning of the other. The business process management and the key users justified their current dominant status through tradition. In contrast, the IT personnel felt that their status was not being recognized because they were prevented from modifying the business processes.

As the third root cause, threats to status were identified. This root cause is also underlying two risk factors: groupthink, and reactive mindset. The loan officers and the IT personnel perceived that their status has been threatened. The loan officers were concerned that the new software will enable employees with a lower status than themselves, such as tellers, to conduct the loan applications without any significant training. They considered this as a direct threat to their status and worth. One of the main goals of the software project was to simplify the complex software environment. Some of the IT personnel considered this to be in direct conflict with their interest and status. Even though they realize that the current software environment is too complex, the IT personnel still take professional pride in the fact that they can implement all business requests not considering the consequences for the software environment.

Communication issues were identified as the last root cause. It underlies two risk factors: groupthink, and speed and complexity. Communication issues predominantly affected the loan officers. They were informed about the project and its benefits through routine daily bank-wide newsletters. However, this communication channel proved ineffective as most loan officers ignored or missed the positive information about the project. The effectiveness of these newsletters was reduced due to information overload. On a typical day, up to five newsletters each consisting of one to five A4 pages plus attached documentation were sent. As a result, an environment was created where preconceived negative attitudes towards the project and its team were spread through unfounded rumors.
issues between the project management and the IT personnel on one side, and the key users on the other were also identified. The key users did not understand the reasons for seemingly long IT personnel response times. The project management and the IT personnel apparently failed to communicate the reasons to them.

4.3. Analysis and discussion

With the application of the ORD framework we showed how organizational risks can be better understood. The results of the case study show that risk factors may indeed have non-trivial underlying root causes. For eight risk factors out of fourteen resistance checklist items, four root causes have been identified and analyzed: organizational issues, struggle for power, threats to status, and communication issues. The analysis of the root causes and their relations to risk factors raised several interesting questions.

In our case, the use of the checklist approach to risk management would very likely be ineffective. For example, struggle for power was one of the identified root causes. Although this is an example of the organizational politics risk factor, both the survey and the individual stakeholder focus groups failed to detect it. Struggle for power surfaced only after interpretations of different stakeholders were put together. Similarly, perceived threats were initially not detected but the threats to status were identified as one of the root causes. These findings seem to be in line with the study of de Bakker et al. (2011) who reported that risk management activities which are meeting different stakeholder views, such as risk identification, create awareness and a common view among stakeholders. However, the possible implications of our case go another step further. Our findings suggest that looking at an issue from different stakeholder viewpoints and just aggregating the pieces of information does not necessarily unfold all the details. A key step in creating awareness may be the “brainstorming effect” that took effect during the inter-group discussion.

During the case study, a stakeholder that was not participating in risk management activities has been identified. The project management initially did not consider the middle management as one of the key stakeholders. The middle management was first mentioned in loan officers’ interpretations. When presented with them, both the business process management and project management quickly discharged their interpretations since they believed that they saw the bigger picture themselves. Even though some organizational issues addressed the middle management, they were not directly included into the risk management process as this was not deemed necessary. Instead, the project management and the business process management devoted themselves to consider them more in further risk management activities.

The proposed resistance checklist was compared against the results of the study. Risk identification using the resistance checklist proved only partially effective as the stakeholders misjudged the significance of at least two risk factors. This observation coincides with extant research on stakeholder resistance which considers it a complex phenomenon that is a challenge to diagnose (Fiedler, 2010; Hultman, 2003; Laumer, 2011). Hultman (2003) even suggests that all conclusions need to be regarded as hypotheses, open to modification if new information is revealed. As such, the resistance checklist may only be one of the tools needed to adequately diagnose stakeholder resistance. The results of its use may be used in further resistance diagnosing activities preferably including various stakeholders, such as the inter-group discussion that we employed in our case.

5. Conclusion

The challenge of the management of organizational risks has its roots in one of the greatest sources of uncertainty in any project undertaking – people. This paper makes a number of theoretical and practical contributions to the understanding of this field. The first contribution is theoretical. We attempt to advance the understanding of organizational risks by proposing the ORD framework. The ORD framework posits that some organizational risk factors may be symptoms with root causes that are not trivial to determine. Therefore, organizational risks need to be diagnosed in order to identify the underlying root causes. Our case study showed that only risk responses addressing these root causes may be truly effective. The second contribution is practical. We demonstrated how to use the proposed ORD framework to diagnose the risk of resistance to change. Similarly, the framework could be used to diagnose other organizational risks. The ORD framework has however an important limitation which needs to be noted. It relies on stakeholders providing their own views and opinions. If some of the key stakeholders refuse to cooperate or do not cooperate faithfully in risk management, its effectiveness may be hindered. The third contribution is theoretical. This paper updates Rumelt’s resistance checklist based on a review of both managerial psychology and information systems research. The proposed resistance checklist consolidates into a common framework the various aspects of stakeholder resistance that have been researched. The fourth contribution is practical. We demonstrated how to use the proposed resistance checklist. It has proved to be an effective tool for early resistance identification. Nevertheless, the derived conclusions should be regarded as hypotheses that need further investigation to confirm or reject them.

This paper has some limitations the readers should note. A single case study was conducted thus caution is needed when generalizing its results. The selected case was a single project in a large bank where various stakeholders were present. Other organizational settings, such as smaller organizations with fewer stakeholders, may produce different results. The case study exposed software development methodology flaws regarding the communication of the project team with other project stakeholders. Additional research on improving these issues would be valuable. In our study, only the resistance risk was considered. Research considering other organizational risks would also be beneficial.
Conflict of interest

There is no conflict of interest.

References


economic and organizational factors of IT deployment in enterprises and IT projects success criteria. His research has appeared in journals such as Technological and Economic Development of Economy, Journal of Systems and Software, Computer Science and Information Systems, Economic and Business Review for Central and South-Eastern Europe and others.

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