Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

Enhancing innovation speed through trust: -A case study on reframing employee defensive routines

Christina Marie Mitcheltree (christina.mitcheltree@ntnu.no)
The Norwegian University of Science and Technology

Research

Keywords: Trust, innovation speed, innovation adoption, organizational innovation, defensive routines, health care, case study

Posted Date: December 7th, 2020

DOI: https://doi.org/10.21203/rs.3.rs-70195/v2

License: This work is licensed under a Creative Commons Attribution 4.0 International License.
Read Full License

Version of Record: A version of this preprint was published on January 21st, 2021. See the published version at https://doi.org/10.1186/s13731-020-00143-3.

Abstract

Trust in organizations plays an essential role for efficient innovation implementation. However, trust between managers and employees is under communicated in relation to innovation speed. Innovation speed is related to innovation adoption, concerning new ways of performing laboratory services within the health sector. The purpose of this case study is to investigate how trust mechanisms may enhance innovation speed by reducing employee decisions to perform defensive routines. The focus is related to trust as a social condition for enhancing innovation acceptance in the context of management and organizing styles subject to the Norwegian Work Life Model.

The study found that a lack of employee participation and involvement, may result in emotional tension, a sense of uncertainty, disconnect, and various defensive mechanisms towards management and the innovation. Consequently, employees' attention, loyalty and responsibility might be redirected away from the innovation.

Introduction

Organizational innovation and change are significant for hospitals to maintain and enhance the quality of the health service offer at their laboratories. However, innovation adoption relies on managers' ability to generate trusting relationships with their employees. This derives from the notion that being involved and considered in innovation decisions may limit defensive reactions to new ways of performing laboratory service tasks. Although this may be true, multi-location organizations with complex organizational structures may make dialogue between managers and employees more difficult to achieve. In the light of this, the paper emphasizes various trust mechanisms, and their ability to reduce defensive reasoning and strategies in relation to innovation implementation in complex organizations. The paper is written within the context of the Norwegian Work Life Model. Consequently, we emphasize key elements that may enhance the pace of innovation adoption within this context.

For innovation purposes, trust is stated as "an expectancy of reasonable and positive reactions by others in response to individual innovation attempts." (Clegg, Unsworth et al. 2002). Hence, as innovation involves risk and effort, innovation engagement may either result from an expectation of a positive response, from believing that suggestions will be heard, or from acquiring innovation benefits (Clegg, Unsworth et al. 2002). However, due to disciplinary differences, there is no collective confirmed operationalization of trust (Clegg, Unsworth et al. 2002).

Individuals naturally resist change (Lynn and Seth 2008). Moreover, the speed at which an organization adopts an innovation relies on innovation characteristics and contextual factors (Webb and Pettigrew 1999). The context thus depends on individual characteristics, the nature of the industry, stage and type of innovation. Nevertheless, an institutional perspective of adoption is argued to be socially deterministic and involves managerial action (e.g. quality of leadership), human resources and skills (Webb and Pettigrew 1999). An underutilization of knowledge or ideas from e.g. employees of lower rungs of the

hierarchy in the innovation elaboration process (e.g. participation) may thus act as a barrier to organizational value creation (e.g. organizational products and processes) (Yang and Konrad 2011). Therefore, organizational defensive reasoning and defensive strategies involve avoidance, preventing organizational learning and capability (Argyris 1986). Accordingly, it may be a barrier to change (in this case innovation speed) (Riley, Cudney et al. 2013). Since negative emotions should be avoided, there is a need for answers to effective ways that facilitate trust, caring and commitment in organizations (Argyris 2004). Moreover, what processes facilitate innovation adoption, and what characterizes innovative organizations, has not been answered properly (Damanpour and Schneider 2006).

For this reason, the purpose of this paper is to examine the concept of emotion (main emphasis on emotional tension), defensive routines and trust to understand *how trust may impact innovation speed.* A focus is placed on how trust may provide valuable and enhanced insight for multi-location organizations within complex organizational structures facing organizational innovation and change. The paper is based on a case study related to a hospital and its laboratory service. It is the result of an investigation done during a three-month placement at the hospital to *seek understanding* of workers experiences with change and organizational innovation. Addressing innovation speed is related to understanding barriers to innovation, in this case emotional tension and defensive behavior, and how trust mechanisms on behalf of the laboratory employees may enhance innovation adoption in this context.

To facilitate understanding of the innovation situation, the paper starts with an explanation of the paper context. The paper does not go into depth on the Norwegian Work Life Model but seeks to gain an *understanding* of the way the hospital has organized the innovation and the consequences for employees. Second, to be able to recognize the pace of employee innovation adoption within the hospital division, the concept of organizational innovation, innovation adoption, and innovation speed is described. Hence, to know what might enable or hinder employee innovation adoption, different barriers and enablers to innovation speed are addressed. Subject to barriers to innovation speed is the concept of defensive routines. This concept is explained from emotional tension and defensive reasoning/strategies on behalf of the employees within the hospital. This behavior is understood to slow down the pace of innovation adoption (barrier to innovation), hindering organizational innovation success. Hence, for innovation adoption, we argue that negative emotions (emotional tension) and defensive routines should not occur. This requires that trust and positive emotions must be present (see figure 1). Following the literature review comes an introduction to the hospital case, an explanation of the method used, and a combined result and discussion section. Finally, practical implications, limitations and further research, policy implications, as well as a conclusion is made.

Context

The Norwegian Work Life Model involves good working conditions between managers and employees where participation is a key factor (Ingvaldsen, Rolfsen et al. 2012). The model contributes to a power balance between manager and employee, where co-determination for employees to plan and carry out

their own working day ensures decision-making influence, involvement and commitment. The model has thus resulted in a high level of trust between employees and management (Ingvaldsen, Rolfsen et al. 2012). Innovation and efficiency are in this sense based on employees' rights and opportunities to take responsibility. This contrasts with other work organization styles e.g. Scientific management, where competition and the ability to innovate were characterized by a focus on economic efficiency (Levin 2012).

As there are complexities involved regarding employee motivation and managing improvement and progress in organizations, the following literature section seek to highlight important aspects for employee innovation adoption.

Literature Review

In this section a theoretical framework is provided to understand how trust may enhance innovation speed towards innovation adoption. The theoretical framework is structured as shown in figure 1. Figure 1. displays a *speed line* measuring *innovation speed* (pace). A high level of innovation speed leads to *innovation adoption*, whereas a low level result in a state of *standstill.* The process is as such a dichotomy and understood as continuous.

To achieve a high pace (innovation speed) of innovation adoption, we argue that there are mainly three factors that needs to be considered: *Emotion*, *Defensive routines* and *Trust. Emotion* may be directed two ways (either towards standstill or innovation adoption) depending on different variables. *Defensive routines* will in this case only be directed one way as they are understood to reduce innovation speed. *Trust* may be directed both ways. The movement either from left to right on the speed line is thus dependent on these three factors. Consequently, for innovation adoption to occur, *Emotion* should be at a positive level, *defensive routines* should be avoided, and *trust* needs to be present.

Trust and defensive routines are in this way discussed as two opposites towards innovation adoption: A higher level of trust reduces emotional tension, which reduces defensive routines and thus enhances innovation adoption pace. In effect, trust acts as a countermeasure (over-rules) for emotional tension and defensive routines. In contrast, a lack of trust facilitates a sense of disconnect which may enable emotional tension and defensive routines towards the innovation, consequently reducing innovation adoption pace.

As a high level of innovation speed is understood to impact innovation adoption in this case, we acknowledge that a low or standstill level of innovation speed may be necessary in some instances for change to take place. Moreover, there exist difficulties with changing all variables impacting innovation adoption at once. For an elaborated version of figure 1 showing contributing variables to innovation speed as well as the connection between emotion, defensive routines and trust, see figure 3.

Theoretical framework to understand innovation speed

Organizational innovation, innovation speed and adoption

Organizational innovation is described as “a new or significantly improved knowledge management system implemented to better use or exchange information, knowledge, and skills within the firm” (Sapprasert and Clausen 2012). Organizational innovation may be subject to the *adoption* of any type of novelty in an organization.

Innovation speed may be looked upon as “the time elapsed between (a) initial development, including the conception and definition of an innovation, and (b) ultimate commercialization, which is the introduction of a new product into the marketplace” (Murmann 1994; Kessler and Chakrabarti 1996). Hence, innovation speed involves the stimulating activities performed between initial ideas and the final product and is significant to create and sustain competitive advantage (Kessler and Chakrabarti 1996). Innovation thus involves carrying *the occurrence* into practice (implemented or institutionalized) (Van de Ven 1986). From an organizational point of view, innovation speed is associated with successful change by acquiring a *true sense of urgency* among a large enough group of people (avoiding negative emotions and complacent behavior) (Kotter 2008). Innovation speed is as such dynamic and may vary according to various factors.

Decision involvement is argued to make it easier for commitment and acceptance (Vennix, Akkermans et al. 1996), as well as facilitate a sense of dignity, community and meaning (Weisbord 1987). When introducing a new solution, Romme (2003) argues that involvement and participation should be done from the start for those who will carry out a new solution. Therefore, ignoring input from others (associated with traditional methods) can lead to a sense of uneasiness and a lack of trust (Stachowicz-Stanusch, Amann et al. 2017).

For the purpose of the hospital case, an emphasis is placed on organizational innovation (e.g. the new instruments and way of performing blood tests analysis), and the mechanisms in place (trust and defensive routines) which may enhance or hinder innovation adaption, adoption and realization. Innovation speed in this case relates to the pace of innovation adoption which may impact the overall efficiency of the innovation implementation. Thereupon, organizational innovation relates to the new laboratory service situation, degree of employee participation/involvement, and thus the pace of innovation adoption.

The next section will address some important barriers to innovation by looking at defensive responses from emotion and thus emotional tension.

Emotional tension and defensive routines

Organizational changes might facilitate challenges regarding social structures and relationships (hindering innovation). Earlier studies addressing defensive routines in organizations e.g. (Whyte 1949) on social structures of restaurants, are important examples of how activity coordination is essential in connection with business growth. Emotional balance between employees may thus be provided from

compensation; with an increase in one activity one need to decrease activity for the employee in other areas (Whyte 1949). Furthermore, behavior from emotional tension is addressed in Donald's (1959) study on a group of machine operators.

More recent views on defensive routines have been related to organizational theories of action, and how these theories may hinder or contribute to learning in organizations (Argyris and Schön 1974; Argyris and Schön 1996). Defensive routines from this view, are described as "thoughts and actions used to protect individuals', groups', and organizations' usual way of dealing with reality." (Argyris 1985). It involves defensive reasoning and action strategies that seek to avoid embarrassment or threats (Argyris 1991; Argyris 2002). Defensive reasoning is about thought processes and cognitive rules that facilitate action (Argyris 1991; Argyris 2002).

Defensive routines have been described in various ways. For example, it may involve mixed messages (inconsistency) (Argyris 1986), self-censorship (e.g. silence), and performing unilateral control through defensive reasoning approaches (Argyris, Putnam et al. 1985). Defensive silence has been mentioned as deriving from fear of personal losses from speaking up (Dyne, Ang et al. 2003). This is especially true for organizations where managers have given signs of not being interested in input from lower levels within the organization (Hornstein 1986, Dyne, Ang et al. 2003). In the light of this, rational *self-interest-seeking behavior* is stated to derive in contexts where actors are *detached* from everyday routines (Bachmann and Zaheer 2008). As separated activity/focus and lack of dialogue is associated with challenging social environments, facilitating dialogue and frictionless "cooler" environments may refocus group attention and attention towards the "living social processes that sustain them" (Bohm and Nichol 1996, Fulmer and Keys 1998).

Being accountable is mentioned as both an enabler and a barrier to organizational learning (Schillemans and Smulders 2015). From this view, organizational learning and institutional accountability arrangements impacts relationships (e.g. between an actor held to account and a forum holding the actor accountable). For instance, individuals tend to judge and make decisions based on accountability anticipation e.g. *expectations* of having to justify feelings or beliefs to others (Lerner and Tetlock 1999; Schillemans and Smulders 2015). In effect, the threat of being accountable may enhance *self-criticism* and *defensive bolstering* (e.g. justifying positions to which one feel committed) (Tetlock, Skitka et al. 1989; Schillemans and Smulders 2015). Nevertheless, conditions for learning relates to management structure (macro-level) and self-criticism from an actor's anticipation of being accountable.

The decision to trust is understood to derive from reasoning (Argyris and Schön 1996). As a result, defensive reasoning may hinder innovation speed. For this purpose, an emphasis is placed on employee experiences, and what may constitute defensive reasoning and strategies from an organizational perspective. To enhance the pace of innovation adoption by reducing defensive routines, the next section will introduce the concept of trust.

Different perspectives on trust

Gambetta (1988) explains trust as “the probability that he will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of cooperation with him”. Bradach and Eccles (1989) describe it as a form of expectation that limits the risk of an exchange partner acting opportunistically. Similarly, trust is argued to guard against opportunistic behavior by “encouraging individuals to suspend judgment of others” (McEvily, Perrone et al. 2003). It has thus been defined as mutual confidence that actors within an exchange will not exploit others’ vulnerabilities (Sabel 1993). In this way, it is the perceived likelihood of another actor not operating in a self-centered manner (Madhok 2006).

Trust is argued to influence “the density, multiplexity, stability, and non-redundancy of social structure”. In this view, *delayed reciprocity* is mentioned (McEvily, Perrone et al. 2003). Delayed reciprocity and stability are about trust, explained to facilitate expectation of balance in future relationship exchanges (serial equity). This then minimizes the need for value or compensation coherence in single exchanges (enhances ability to manage uncertainty) (McEvily, Perrone et al. 2003).

Different dimensions of trust

Interpersonal trust is argued to involve two dimensions: Cognitive and affective factors (McAllister 1995; Chae 2016). As cognition-based trust is about perceived expertise (confidence in others ability) and reliability of a partner (e.g. track record and reputation), affective-based trust involves emotional bonds (e.g. concern, caring and faith in the trustworthy intentions of others) (Chua, Morris et al. 2012). Hence, the type of trust provides different outcomes (e.g. variables) (McAllister 1995; Chua, Morris et al. 2012).

Context is critical to understand trust, and various forms of trust may be mixed based on the situation. Therefore, conceptualizing trust in one form within a relationship is critical, as it may miss the rich diversity of trust in organizational settings (Rousseau, Sitkin et al. 1998). Recognizing that different relationships have various variations of trust, which may vary in terms of degree and setting, is thus important.

This paper seeks to provide a contextual description (case) of trust, discussing the implications of trust for innovation speed within organizations. In addition to a contextual definition of trust, the paper emphasizes an affect-based notion of trust between managers and employees. However, an emphasis is placed on the told experiences of hospital laboratory employees regarding the innovation situation. Thereupon, to understand the innovation situation as well as the role trust plays in innovation adoption, the hospital case will be introduced next.

The Case

Case background

This case is based on a project (starting in 2015) involving the laboratory service and the implementation and centralization of new laboratory instruments for analyzing blood samples on behalf of a public

hospital (enhance efficiency). The study is inspired by the hospital management's wish for enhanced understanding of laboratory employee's perceptions and needs in relation to facilitate innovation implementation success. The hospital operates in different geographical locations. This paper emphasizes four of these locations.

The hospital project report from 2018 states that work processes and organization should be developed in connection with increased automation and collaboration, both internally within the hospital laboratories and with the primary health service (clinics). All the laboratories related to one of the hospitals' divisions were thus to have new analysis equipment adapted to various needs in place within the end of 2017. The project was divided into the following milestones:

- Project organization and project plans.
- Organization of a new workflow from patient needs, competence needs and collaboration with the clinics.
- Acquisition of new analytical equipment.
- The implementation of new analytical equipment.

Due to e.g. complaint handling, the supplier contract was delayed and signed in March 2018. The project was decided to be completed after signing the contract. Consequently, transferring the responsibility for the equipment implementation, training of staff, method validation, routine operation and disposal of old equipment to a new project subject to the operational organization.

A project group was developed where one employee (subject coordinator) from each of the laboratory departments was represented. The subject coordinator from each group could thus contribute to decisions, efficient information flow, and coordination within the project. Furthermore, working groups (representatives/employees from each of the disciplines/geographies) would provide input with regards to requirements specification and choice of solution. Various dialogue meetings on behalf of the procurement and project information plans (e.g. status and orientations) was presented every half year at different locations. Additionally, project information plans (e.g. status and orientations) were presented every half year by the division director and/or project manager at different locations.

As part of the project with regards to the project distribution of blood samples from the primary health service, there were two models that were examined by the hospital division. The first model was related to the continuation of the current division of labor associated with separate laboratory analysis operations (current model). The second model consisted of collecting samples from the primary health service (associated with different geographical areas) and sending them to one of the hospital division laboratories (integrated model). The choice of model was based on an investigation of the organization in 2017 were an emphasis was placed on the consequences of the integrated model for service, quality, staff and finances.

From the hospital division decision note (2017) the hospital division board concluded that a replacement of laboratory equipment would collectively represent an efficiency improvement that could be utilized in better quality, collaboration between laboratories, service or financial savings. The alternative was to introduce a greater degree of automation of the sample flow. In this case, the investment need would be higher, however, with such a solution it would be possible to achieve a more efficient operation. The report concluded that it would be most profitable to centralize most of the sample analyses to one location. Moreover, other analyses would be performed at the different hospital locations. However, analyzing samples from the internal hospital polyclinic would be done locally at each hospital division with new automated instruments. The procurement was carried out through a competition, where the supplier complied with various criteria and requirements specifications on behalf of the hospital. Hence, the innovation in this case is tailored to the hospital division needs, and thus related to the new way for employees to produce blood test analyses.

The new model distribution was proposed to provide the opportunity for professional specialization and establishing specialized expertise in the various areas. The centralization was mentioned as appropriate with regards to an optimal automated process from sampling to sample filing (reducing manual transfers and waiting time). In effect contributing to acceptable and predictable response times with regards to blood samples. By collecting, automating and centralizing most of the analyses from the primary health service, it would enhance the capacity at the hospitals that no longer performed those analyses. The plan was thus to use this capacity for other quality and service-enhancing measures. Hence, strengthening the service initiatives towards polyclinic patients as well as the primary health service. At the same time, an emphasis would be placed at maintaining a good physical working environment, including training, service and maintenance services.

The division director decided on a step-by-step development of the laboratory services through an integrated model that would form the basis for further organizational development and procurement. The project was mentioned to start with the replacement of equipment. Hence, a centralization and automation of tests from the primary health service would be initiated over a 2-3-year period.

Challenges that emerged from the project

With regards to a workshop at the hospital in 2019, it was mentioned that the project was divided into two parts. Part 1. was completed and consisted of laboratory instruments/machines. Part 2. was the part that the hospital was facing (2019) and involved the organizational change/logistics. Nevertheless, the project was planned to be finished in May 2021.

Some challenges that emerged at the workshop based on the new model were related to competition, laboratory employees (e.g. emotions) and primary health care needs. In the light of this, the research has been aimed at understanding factors that contributes or hinders innovation adoption and thus efficient operation of the hospital's laboratory service (sending, analyzing and delivering blood samples to the primary health service). The laboratory service consists of the hospital divisions (subcontractor), primary health service (customer) and private laboratories (competitors). However, the main emphasis is placed

on how the innovation impact the hospital divisions (laboratory) employees' and thus their experience with the present laboratory service. Therefore, mapping the needs on behalf of the hospital division's employees was performed through in-depth interviews.

From the challenges that emerged, it is essential to understand what is really behind the respondents' answers. The focus has thus been related to emotions, and how trust as a condition for innovation can affect the speed (e.g. pace of innovation adoption) of innovation. The role of trust between individuals for innovation, and what type of trust in this context contributes or hinders innovation adoption, has therefore be relevant. Consequently, by addressing barriers (e.g. defensive routines) to innovation on behalf of the hospital division employees, one can perhaps create an environment for innovation and change.

The actors

Below is a description of the various actors relevant to the project. However, this case is limited to the interviews on behalf of the division's employees.

The hospital and the hospital division (public operator / subcontractor / innovation holder / project owner)

The hospital consists of specialist health services. The hospital is organized with different divisions focusing on various health care areas. This case is thus based on one of these divisions (consisting of four laboratories placed in four different geographical locations) and their ongoing project.

"Quality assurance"

This company has a mission to improve the quality of the medical laboratory activities conducted. Therefore, it contributes to the other actors' trust in that blood samples are analyzed and handled the right way before, during and after analysis.

Primary health service (Customer / partner)

The primary health service consists of the medical offices in the region that (to a greater or minor extent) uses the hospital's laboratory services (e.g. transmission, analysis and delivery of blood tests).

The competitor (private actor / subcontractor).

The case considers one of the hospitals central competitors. This competitor was mentioned in the interviews with the hospital division employees.

An important difference between the hospital and their competitor is the fact that the hospital has two missions; taking care of patients at the polyclinic as well as handling the laboratory service towards the primary health service. However, their competitor only handles laboratory services. Hence, there is a difference in resource utilization and prioritization between these actors.

Methods

For this paper, a qualitative investigation involving a case study and semi-structured interviews has been performed to understand how organizational innovational change impact employee defensive routines and trust creation towards management.

The concept of trust has been argued to be *stretched* having a high level of abstraction and covering a broad dimension of meaning (Singh and Sirdeshmukh 2000). Hence, changing the focus from *what is trust* to *which trust and when* has thus been argued to solve the confusion (Singh and Sirdeshmukh 2000). Appropriate definitions of trust are argued to be highly context dependent (Goudge and Gilson 2005). Hence, qualitative or experimental methods are common (e.g. semi-structured interviews, focus groups, or ethnographic approaches). These methods facilitate elaboration and a more detailed understanding of e.g. relationship experiences (Ozawa and Sripad 2013).

By gaining insights on the experiences and needs of laboratory employees with the innovation at a specific point in time, important cues could be addressed to understand how trust may impact innovation adoption in this context. Moreover, the study facilitates insights which can make way for a more generalized quantitative study involving a larger healthcare network.

There was no relationship between researcher and participant prior to the interviews that could impact the study. A description of the research design and methods are explained as follows.

Research design and method

To explore how trust may impact innovation speed, it has been essential to gain an in-depth understanding of the complexity of the laboratory service situation. Developing a contextual basis to describe and interpret emotions and their impact on innovation adoption has thus been important. In this sense, a case study approach has been used to develop a picture of the laboratory employees' experiences with the innovation in their everyday setting (Yin 2009). The case study approach is divided into three types: Intrinsic (learning about a unique phenomenon), instrumental (gain a broader understanding of a phenomenon from a specific case) and collective (studying several cases at once) case studies (Stake 1995). This study follows the description of an instrumental case study, as it involves gaining understanding of the context and impact of a realistic innovation implementation project on behalf of hospital employees. Moreover, as case study research emphasis on *how* and *why* questions, it is suitable for descriptive or exploratory studies (Myers 2009; Ponelis 2015). The study therefore seeks to address *how* employees have been affected by the innovation, *what* cues/mechanisms are contributing or hindering innovation speed and trust, as well as interpretations of possible reasons to *why* the mechanisms are important in this context. In this way, it acquires an interpretivist understanding of the meaning of employee experiences (Glaser and Strauss 1968; Ponelis 2015) within an organizational context.

Explorative and interpretive case studies usually develop descriptive frameworks and emphasis on the *number of cases, data collection techniques, unit of analysis, role of prior theory* and *analysis methods* (Eisenhardt 1989; Ponelis 2015). To be able to assess the complexity of the laboratory situation, one case study has been chosen (Yin 2009). In terms of *data collection techniques*, interviews are stated as the primary source of data for case studies (Yin 2009). The data collection was divided into two phases that linked the contextual setting with employee experiences. Phase 1. involved acquiring knowledge about the hospital project (context and organizational structure), and to understand what factors was perceived as important for the innovation implementation. Hence, it involved work-shop participation and meetings, as well as project documents (e.g. project reports). Phase 2. Involved 1-hour face-to-face interviews at the various laboratories which sought to gain in-depth insight into employees needs and perceptions, building on insights from phase 1. In relation to *the unit of analysis*, the in-depth interviews were performed with five key employees (women) from four different laboratories subject to the hospital division and the geographical area of study. The employees were chosen based on the division management's suggestions (e.g. chosen from convenience and relevance to the study aim). However, the choice to have five participants was based on the complexity of the study, time considerations, and the value of gaining in-depth knowledge of employees' experiences. As the interviews were recorded and transcribed in detail, ethical considerations involved communicating the promise of confidentiality and information (e.g. reason) about the interview as well as requesting informed consent from each respondent. Moreover, the interview transcription was sent by e-mail to which the respondents were free to depart from.

To be able to find various trust creating mechanisms, the interviews were based on a semi-structured interview guide, created to facilitate a conversation surrounding the laboratory service network and relations. The Actors-Resources-Activities model (ARA model) (Håkansson and Snehota 1995) with its emphasis on assessing the strength of actor bonds, resource ties and activity links in organizational networks, was thus chosen as a starting point and inspiration to develop interview questions. The questions provided an overview of the laboratory context as well as the important relationships, resources and activities within them. Questions related to important quality/value elements as well as missing work-related factors. Moreover, trust was stressed as an important component of actor bonds and an essential factor for enabling or hindering actor behavior in relation to each other (e.g. interaction) (Håkansson and Snehota 1995). As the ARA model made it possible to understand the *bigger laboratory picture*, it was possible to narrow down the focus on understanding trust as a concept for innovation adoption within manager-employee relationships. To facilitate a basis for comparison between stated trust mechanisms on behalf of employees as well as trust mechanisms interpreted from the interview conversations, employees were asked one question directly related to what they thought as important trust generating factors.

Phenomena within qualitative research are usually created from the meaning participants place on them (Daher, Carré et al. 2017). In terms of *data analysis and interpretation,* there are various systematic procedures researchers may use. For example, an inductive approach starts with an area of study and allow theory to emerge from the data (Strauss and Corbin 1990; Thomas 2016). It involves summarizing

raw data, creating relationships between research goals and raw data findings and developing a theory or model about the visible structures or experiences present in the data (Thomas 2006). A deductive approach test if the data is consistent with earlier assumptions or theories identified or constructed. Moreover, many studies use both inductive and deductive approaches (Thomas 2016), in this way, case studies support theory building (Yin 2009) as well as theory testing (Eisenhardt 1989). This study has taken inspiration from a combination of both approaches when analyzing the data, starting with an inductive approach involving a research question and the topic “trust”. The starting point was thus to understand what constitute trust (trust mechanisms) on behalf of hospital employees in a specific organizational context (e.g. describing a picture of the phenomenon of trust being studied). Hence, *the role of prior theory* was subject to the analysis and interpretation (e.g. trust and defensive routines cues) part of the process as it was chosen after the interviews. An exploratory approach could in this way provide a descriptive framework (Rowley 2002) as the intepretation part of the study started with only an assumption of various trust cues. Further, a deductive approach was conducted for the purpose of the discussion, and to be able to create implications. In this way, relevant literature was selected based on the inductive findings.

To develop a deep understanding of the specific case “seeking the phenomenological essences” (Bazeley 2007), the inductive findings were based on an inductive coding process (Chandra and Shang 2019). As such, the *analysis* of the interviews was performed in NVivo. Codes (in this case various mechanisms assumed as important for trust generation) were developed based on Word frequency query and Text search query. Emphasizing on the words most frequently mentioned from the interviews and the words surrounding context (figure 2). Moreover, “coding is usually a mixture of data [summation] and data complication … breaking the data apart in analytically relevant ways in order to lead toward further questions about the data” (Coffey and Atkinson 1996). As coding is stated as a cyclical act (Saldaña 2016), providing an enhanced understanding of the data thus required an iterative process of recoding, as well as a dividing of the first code cycles into less and more refined codes. Moreover, to interpret the meaning of the codes to understand what mechanisms could impact trust generation, it was relevant to understand “what was going on” (Bazeley 2007). How the respondent perceived the situation, what was happening, what they were trying to achieve and how they were trying to achieve it (Emerson, Fretz et al. 1995; Saldaña 2016) was thus relevant questions in terms of acquiring direction in terms making the codes. The inductive coding process (Chandra and Shang 2019) thus made it possible to highlight important features of the data which facilitated the creation of various categories. These categories, when linked/compared with each other, simplified an understanding of patterns and connections within the data, which facilitated the development of the study’s themes and concepts (Bazeley 2007).

Validity

The analysis method the researcher uses to understand the respondents experienced reality has important implications for what results are communicated (Law 2004). Regarding qualitative research, Kirk and Miller (1986) argue that validity is about "whether the researcher sees what he or she thinks he or she sees" in this way facilitating evidence within the data for interpretation. Hence, transparency and

rigor are important elements (Tuval-Mashiach 2017) and may be acquired from explicitly reporting how one accomplished what was achieved (Crawford, Leybourne et al. 2000). Providing a *detailed description* of the interview and analysis process has thus been essential. Furthermore, NVivo has been stated to add rigor to the analysis process (e.g. providing rapid and accurate searches, ruling out human error). Hence, validity regarding the results has been subject to the following (Elaine 2002):

- The possibility of finding all instances of a specific usage (from large data sets).
- Combining manual and automatic processes for a thorough interrogation.
- The ability for rapid coding enhances confidence with data interpretation.
- NVivo makes an overview of what is going on easier, facilitating a seamless starting point for data analysis and interpretation. As researchers may interpret data differently, this enhances trustworthiness, rigor and quality of the study.

The analysis process in NVivo has provided structure and confidence in the mechanisms developed. For this purpose, by performing three queries in NVivo (emphasizing different questions) (figure 2), it appeared that most of the factors under the question that was directly related trust also emerged from the other words from the Word frequency query and Text search query. For this reason, it contributed to confidence and meaning regarding the trust mechanisms developed. Moreover, by using quotes from the interviews, the findings are grounded in the evidence.

According to Walsham (1993) validity of case estimation build upon “the plausibility and cogency of the logical reasoning used in describing the results from the cases, and in drawing conclusions from them”. As the findings from this study derives from a single case study, it is context specific and provides in-depth insight, the possibilities of generalizing the results are therefore limited.

The two following results and discussion section seek to highlight important findings (variables) and their importance for the innovation speed process (see figure 3) in the light of the theoretical framework (see figure 1).

Results And Discussion

To provide a contextual background that facilitates understanding for employee defensive reasoning and behavior (reactions) within the hospital case and the innovative environment (and how trust may address this), the innovation implementation and employee involvement situation will be discussed. The first part of the discussion explains the project environment. Hence, it involves insights made from given project reports and documents, as well as notes made from participating in a project workshop at the hospital in the fall of 2019. The second part of the discussion involves analysis of the in-depth interviews that followed.

Background- framing the problem

To increase automation and collaboration internally and with the primary health service, the hospital division invested in new automated laboratory instruments in each of their laboratories. The organizational innovation in this case thus relates to employee experience with the implementation of the new way of performing laboratory analysis. The innovation is twofold and emphasizes a new way of working (automation/instruments/centralization) as well as innovation adoption of the new work situation.

The innovation implementation project resulted in a shift in laboratory equipment and work processes at the hospital laboratories. Employees at the hospital laboratories that was not part of the centralization, thus performed other and fewer analyses. Hence, the new implementation situation had an impact on work routines and workload.

Various milestones were created for different purposes throughout the project. Relevant for this paper, is the milestones involving implementation of new analytical equipment, which responsibility was transferred to another project. A main emphasis thus revolves around employees' experiences with the implementation situation.

Positive implementation factors for the purpose of the laboratory employees related to dialogue meetings and the creation of project groups for the different laboratories to complete the project. Hence, one employee from each project group would act as a messenger between division management and the employees. In this matter, employees would be able to provide input regarding the project. From the hospital decision note (2017) (involving laboratory employee feedback), the choice of a new work model (instruments) was based on estimated consequences for service, quality, staff and finances. However, consequences for employees related to more time to perform various routines. The step-by-step (2-3-year period) development of the laboratory service was stated to start with equipment replacement, followed by a centralization and automation of tests. However, the step-by-step introduction in addition to factors related to the board decision process had postponed the goal of having equipment in operation by 2017.

The first project milestone involved innovation implementation tasks related to acquisition of laboratory instruments and organizational development. However, from the project report, the organizational development part seems to have started with patient and primary health service needs, the skills needed to meet these needs as well as appropriate work allocation and organization in the new workflow.

At the workshop it was mentioned that the first part of the project involved implementing the instruments at the hospital laboratories. The second part of the project involving the organizational change (transportation and logistics of the samples) had just started with an estimated finish in spring 2021. From this insight, an assumption is made that the decision to implement the new instruments took place before considering employee's needs. The instrument implementation was stated to ensure efficient and safe routine operation of all new equipment with good plans for training. Supplier training services on behalf of employees was thus stated to be included in the instrument procurement. However, it is unsure whether the training of employees had taken place before, during or after the instrument implementation. As some employees stated a lack of instrument competence, that learning of the new instruments had

been slow (see table 2), and that some employees within the interviews had been busy the last years with training, it seems that the instrument training had not been optimal (not done before the implementation). In the light of this, the concept of *involvement* became relevant. As measures were performed to inform and include employees in the implementation (meetings, project groups, consequence measures), the possibility to participate seems to have involved giving inputs regarding an already decided implementation plan.

Several issues on behalf of the employees appeared at the workshop. For the purpose of this paper, three clusters were relevant: *Personnel, employee emotions* and *management*. From the employee's utterances at the workshop, there seemed to be tension due to unresolved issues, uncertainties and negative emotions regarding the new work situation. Input on behalf of the employees is stated in table 2.

As a focus is placed on the employee experiences in this paper, some input points stressed by managers and employees on behalf of one of the clusters *management* have been gathered (see table 1). Gathering points on behalf of both management and employees seek to form a comprehensive picture of the hospital situation. In this sense, including insights on behalf of management seeks to provide perspective regarding the implications made. Moreover, the points served as an important starting point for the employee interviews that followed.

Table 1

Issues communicated at the workshop on behalf of the cluster "management"

Facilitating factors for employee response	
Capacity pressure (time/economy/instruments)	**Management** Part one of the project has not gone well. To little capacity as all equipment was changed at once. Part two of the project is related to the success of part one: *"We should have been up and running the production in the spring of 2019, we are behind! How can we boost this timewise?"* New automated instruments have not performed well. Part two is about collecting and transporting the blood samples (reducing transportation times.) Management is pressured economically. Economically focused. Little time and capacity to be a leader (a lot of administrative work due to e.g. sick employees.) Managers feel like organizers. Managers have many different tasks: Adjusting what has been tough for the employees (project part one), consider customer needs, enhance service (response times) and gather the laboratory to one community. Tiresome process for management with lacking resources and various project related challenges (too many projects are connected to each other.)
Opportunities Change for the better (strengthen bonds/relations)	Achieving closeness (bonds) to employees (hindered due to a lack of time.) Get rid of negative emotions (help employees.) Revitalize enthusiasm (towards entering a new project.) Being a visionary (stated as important.) The hospital need help to address the workflow in each laboratory (transferring labor, job safety and shifts need to match.)

The facilitating factors from table 1 indicates that management (like employees) were facing pressure regarding the innovation situation. As the project had taken longer time than anticipated, the situation seemed overwhelming. Moreover, the lack of resources (e.g. time) had placed pressure on managers to prioritize task which involved optimal operation of the new instruments and upholding service promises towards the primary health service (e.g. performing a *rematch* of the project part one). In effect, the challenges from the first part of the project seem to have created more operational work in part two of the project. The problems in part one may thus be one reason for why management was lacking capacity to develop the relations with employees. Moreover, lack of coherence between laboratories (see figure 3) and gathering the laboratories to one community (see table 1) was mentioned. Consequently, the complex organizational structure and installing various analysis instruments at different locations at once, could have made dialogue and facilitating optimal learning of the new instruments more difficult.

Innovation adoption was argued to be socially deterministic, involving managerial action, human resources and skills (Webb and Pettigrew 1999). Moreover, not considering ideas from individuals of lower rungs may be a barrier to innovation (Yang and Konrad 2011). As innovation in this sense was in relation to innovation creativity, not being open to employees' needs may awaken innovation resistance from negative emotions. However, employees had strong opinions of the organization striving towards becoming a visionary (also stated in table 2). As this was mentioned to relate to "striving to be the best in the world, not just small changes", it may indicate a wish and motivation towards putting in the work of becoming a leading actor (if the right resources are in place). As negative emotions regarding the continuation of the project was stressed on behalf of employees, resources may relate to a larger extent of being able to participate and being heard with regards to the project (e.g. more dialogue and transparency). Moreover, stressing managers economic focus, may mean a wish for closer relations (e.g. consensus with other actors within the organization) and being *seen* to a larger extent by management. Nevertheless, effects from part one of the project seem to have impacted part two negatively, changing work roles and workload on behalf of managers and employees alike.

The managers seem to be aware of the various frustrations and wanted to empower employees towards project continuation (willingness to change). However, the pressured situation seems to be a barrier for this purpose.

Next, insights on behalf of the cluster's *personnel* and *employee emotions* will be discussed (see table 2).

Table 2

Issues communicated at the workshop on behalf of the clusters "personnel and employee emotions"

Employee response		
Capacity	**Personnel**	**Employee emotions**
pressure (time/instruments/new routines)	Employees do not have time to think about anything else but the new routines, employees are sick and do not have time to do the job they are intended to do. Employees are burned out from working overtime and there is a bitterness from the previous project part 1. Learning the new instruments have been slow (no use of Virtual Reality (VR) or Augmented Reality (AR) technology.) As the new solution make it possible to free resources, there is still a need to hire more expensive competence. A strong professional pride may be present. Employees need to adapt routines to their own workday. There are too many tasks for each employee. Employees have a locked mindset (e.g. what is in it for me?) One must consider the whole.	Employees are tired and unable to take risks in relation to continuation of the project (part two.) The project loyalty is weakened. Instruments do not work as expected. When instruments (automation line) do not work, this impact employees professional pride/honor negatively. Feeling superfluous for lack of competence in relation to operating the new instruments (which are not working optimally) (e.g. wounded professional pride.) Need to create motivation. *"We must believe in the solutions that provide better service to hospitalized patients".* Resistance to changes/negative emotions. Negative emotions are difficult to get rid of (stated to be inherited between employees). E.g. rumors between employees of them not being allowed to perform certain tasks: *"We are not allowed to do ...".* (The managers want to know how to get out of this in a stronger manner.)
Opportunities	Striving to be the best in the world, not just small changes. Being a visionary is missing. Get employees to see the opportunities in the project regarding safety delegates and employee representatives. *"Is this enough? Where are the opportunities?"* Willingness to change. How to make employees think differently?	Feelings of organizational measures being handled too late. Too much work pressure. This project (part two) is an opportunity to operate differently.
Hidden input	Distillation of input; not everything seems to show (information on behalf of employees). Input from project meetings was *filtered* and in-dept arguments got lost.	

Employee emotions from table 2 indicate a lack of motivation and burnout from negative experiences and aftermath of the first part of the project (the term *burnout* was mentioned within the interviews). As the first part involved issues regarding learning and operating the instruments and the new routines that followed, it seems to have awakened negative emotions on behalf of the laboratory employees, which continued into part two of the project. This included bitterness (from part one), reluctance to change, enhanced self-centeredness (e.g. “what’s in it for me?”) as well as feeling superfluous in relation to poorly operating instruments and the lack of instrument competence (impacting professional pride and organizational loyalty).

As involvement and participation should be done from the start by those who decide on a new solution to facilitate commitment and acceptance (Romme 2003), it seems that this has not been done in a timely manner. The decision to implement the new equipment and centralize some of the analysis to one location before considering employees (who directly work with the solution) needs from the start, might thus hinder innovation speed. This is because not feeling included or being able to participate with the decision from the start, may create a sense of reluctance towards the new solution. Negative rumors shared between employees may thus be the result of a disconnect (lack of dialogue) between management and employees which may keep the reluctance to change alive.

The sense of dignity, community and meaning (Weisbord 1987) was argued to be affected in this matter (impacting commitment and solution acceptance). The findings seem to complement this literature. In terms of dignity, the fact that employees felt superfluous by not having enough instrument competence (slow learning progress due to work overload) and having a reduced sense of professional pride in relation to the instruments not working as expected (not trusting the instruments), it may reduce innovation speed. The same is relevant from having a locked mindset (e.g. “what is in it for me?”), as it may reduce employees’ ability to feel a sense of community and meaning with the innovation. Similarly, some input on behalf of employees from previous meetings were stated as “filtered” such that some project related arguments got lost. In effect, the organizational change phase (part two of the project) did not seem to firstly include employee’s needs. Hence, the sense of only being partly considered in the solution together with the feeling of input being “filtered”, may in this case be one reason for the negative response towards participating in the second part of the project. Filtering employee feedback may thus be a barrier to innovation adoption as it excludes important information (e.g. needs/suggestions) on behalf of the employees, slowing down innovation progress. Barriers to innovation speed may in this sense be the result of (1.) a combination of managers not having the capacity (due to a “rematch” of the project part one) to consider employee’s needs, and (2.) employees not feeling heard. Hence, the stressful experiences from the projects part one, results in managers having to address various negative consequences in the project’s part two. This postponement, together with a lack of employee participation due to prioritizing operational tasks (employees not feeling heard) may provide negative consequences for the pace of innovation speed. As it is unclear what has been filtered, not feeling heard may contribute to negative emotions and a lacking sense of meaning towards an efficient continuation of the project (innovation speed). Not feeling heard and feeling overlooked is therefore understood as contributing

factors for negative responses (e.g. defensiveness) towards the continuation of the project (e.g. innovation speed).

Management clearly state a wish to empower their employees. For this reason, this paper looks at how trust may rebuild and turn defensive responses towards a willingness to continue the project (e.g. positive responses) in relation to the innovation situation. In this sense, the insights from the first part of the paper (e.g. workshop and various project documents) have given relevant knowledge on issues which frame the laboratory service context (see table 1). Moreover, the issues are understood as contextual factors which might facilitate defensive responses and thus behavior towards the innovation.

To gain a deeper understanding of employee's experiences with the new laboratory service situation, in-depth interviews were performed with key laboratory employees at each of the four laboratories. The next section involves these conversations and the assumingly defensive behaviors that derived from the told experiences (interviews). The three words most frequently mentioned from all the interviews were *time, answer* and *important*. Additionally, the words *important* and *time* appeared in two of the other analyses. Therefore, an extra emphasis is placed on these words and its meaning. By performing these analyses, it was possible to focus the interview content to answer the research question and create trust mechanisms. The results from NVivo are presented in figure 2.

The trust mechanisms are understood to be essential factors that impact employee trust generation towards management and the innovation (see figure 3). Moreover, as part of the various trust mechanisms, an assumption of facilitating factors for defensive behavior is created and is understood to impact trust in this context. The discussion is based on the trust mechanisms, as well as facilitating factors that is understood to place barriers for trust generation (e.g. contribute to defensive behavior) (see figure 3). As defensive behavior is believed to reduce innovation speed in this paper, the insights provide a basis for how trust may impact innovation speed from defensiveness. To answer how trust may impact innovation speed, the next sections will address defensive routines and trust from the in-depth interviews.

Defensive routines

Defensive routines are argued to involve reasoning (e.g. thoughts and cognitive rules) and action strategies which seek as protection to avoid embarrassment, pain or threats (Argyris 1991; Argyris 2002). For the purpose of this paper, an emphasis is placed on defensive routines (defensive strategies and reasoning) from what is told within the interviews. However, as defensive reasoning involves mental processes, only an assumption could be made of employees defensive reasoning. What is described as facilitating factors for defensive routines is thus understood as the responses from the interviews (involving emotion) which may impact defensive reasoning and strategies, consequently impacting trust generation and innovation speed negatively.

Bachmann and Zaheer (2008) mention self-interest seeking behavior resulting from detachment from routines. However, self-centered reasoning may in this case result from the combination of not feeling

heard/overlooked by management (disconnect/lack of dialogue between managers and employees), as well as upholding professional pride. This, due to a lack of competence and/or the sense of being superfluous regarding operating instruments, which have resulted in a lack of loyalty towards the continuation of the project (see figure 3).

Emotional tension may rise in organizations where a compensation for new activities are not provided (Whyte 1949). In this sense, activity coordination was stressed as important in times of business growth. For this purpose, as employees were feeling burned out due to the changes in routines, it seems that there is a need to compensate activities to regain emotional balance. As negative rumors were present and stressed to be *inherited* between employees (see table 2), the sense of *not being allowed* to do certain activities might have contributed to transferring tension between employees and units (Whyte 1949), collectively “slowing down” (e.g. hindering) innovation speed.

From the in-depth interviews, negative responses portraying tension regarding the new situation resulted in one noticeable (key) defensive strategy: *Taking responsibility*. Moreover, this strategy contained various subcategories of defensive routines (e.g. defensive strategies and reasoning). As the interview results are categorized into what is assumed as mechanisms impacting trust creation, an explanation of the defensive routines will be performed for each trust mechanism (availability, predictability, proximity and one question of trust) (see figure 3). In this matter, taking responsibility firstly involved self-interest seeking behavior (Bachmann and Zaheer 2008), and separated activity/group attention (Bohm and Nichol 1996; Fulmer and Keys 1998). The lack of dialogue with management thus seem to impact employees´ *attention towards something/someone else* (e.g. the primary health service), *professional pride* and *seeking meaning*. Moreover, the sense of feeling responsible facilitated *self-criticism* (Tetlock, Skitka et al. 1989, Schillemans and Smulders 2015). The four subcategories of defensive routines subject to *responsibility* will be discussed and addressed with relevant trust literature as follows.

Focusing attention as a result of responsibility

As no additional resources had been added regarding the organizational change, the employees who had extra tasks did not have time to do this, nor inform the primary health service regarding routine errors. Employees were therefore afraid that bad habits would be formed.

" I have worked overtime to be able to order items and have them available, so it's a very unbearable situation. There are limits to how much you can handle. And then we have always said how important it is that we act on these things (...) that we have an updated laboratory handbook, that we hold courses, get to travel and inform and that we are active in relation to these things.”

Some employees did not feel heard or prioritized. The answer indicates that employees may have felt discouraged and pressured to reach analysis goals, as management had waited to handle the challenges they were facing. At the same time, new knowledge needed to be acquired on behalf of handling the new instruments and routines.

Employees who were not directly involved with the new instruments did not feel prioritized. Hence, employees might have felt frustration and a lack of control (uncertainty) from not feeling supported in relation to the new situation. Moreover, it may be the sense of not being able to be sufficiently *available* towards the primary health service. Therefore, it had raised concern (emotional tension) towards management and the innovation (disconnect/detachment from management). Consequently, resulting in self-interest-seeking reasoning in terms of enhanced responsibility (defensive strategy) towards the primary health service. Employees were thus directing focus away from the innovation efforts (e.g. redirecting attention and loyalty) from self-interest and disconnect with management, and the innovation.

Professional pride and seeking meaning as a precondition for responsibility

The innovation situation led some employees to be afraid of not being able to use their education and what they were trained for. In this way, employees seemed to perform self-protection regarding work titles by demonstrating clear boundaries of what their job really was all about.

"We are [profession] to analyze blood tests, which is why we have chosen this profession. It's something about maintaining an interesting position for everyone so we don't lose staff or get in trouble with the recruitment."

Employees felt a great deal of uncertainty about an unclear situation where some of the premises for the change and cooperation was not known. In this sense, *redirecting* loyalty towards the primary health service seemed to be a defensive strategy by taking control of the situation from *responsibility*. Hence, with a lack of managerial support and task direction, employees were protecting professional pride (and the sense of feeling superfluous) from creating work related meaning. Redirecting attention in this way may thus be a result of tension from not feeling heard by management. Therefore, taking responsibility seem to be the result of seeking meaning (professional pride) and gaining control of the unclear situation. Hence, in this case, self-interest-seeking behavior may be described as self-interest-seeking reasoning. This is because it involves thought processes which seem to somewhat justify and manage the overwhelming situation by creating meaning. This type of reasoning may guide (come before) responsible behavior (defensive strategies) (see figure 3). Consequently, as defensive routines are described to hinder learning in organizations (Argyris and Schön 1974; Argyris and Schön 1996), it may hinder innovation speed by redirecting attention (e.g. loyalty) from self-interest-seeking reasoning.

Being a member of “Quality assurance” was stated to provide assurance (e.g. predictability) in that routines would be performed in the right manner. However, uncertainty towards own performance and not being in the position to make decisions seemed to impact employees’ sense of pride in being portrayed as a skilled employee. As a result, the employees became more aware of their own strengths and weaknesses. Hence, they attempted to communicate their strengths by identifying factors that distinguished them from their competitors, namely *proximity* to the hospital and the patient. One employee pointed out a personal and passionate cause over the last 15 years for maintaining test samples (especially when it was cold outside) during transportation. Employees therefore took responsibility and were loyal towards their customers by defending their position from justifying

strengths. Justifying weaknesses from strengths in the context of responsibly may therefore be a type of defensive reasoning. Adhering to and taking responsibility for personal causes, despite a lack of compliance, may thus provide evidence for employees' need to make sense of the situation, mean something, and be seen. In this way, the fact that employees participated in regular meetings without feeling heard (e.g. from the sense of information being filtered) may indicate a sense of voicelessness (involuntary silence). Innovation speed and thus organizational capability may in this case be reduced from voicelessness and a lack of participation.

Self-criticism as a result of responsibility

As a result of the innovation and the new routines, the hospital division's laboratories had a strong wish for change, in relation to being given more time to provide better laboratory service towards meeting primary health service's needs (wished this was perceived as an important task). In this case, some employees were self-critical (blaming themselves) for feeling *responsible* for the lack of presence. One employee took the blame (self-criticism) for not listening properly and not understanding the primary health service needs.

"…and then there is the doctor's office visits that are far too rare. That is because I do not allocate my time properly."

The employees knew that the hospital had enough resources. However, the fact that they did not feel prioritized (without understanding why) may have provided frustration due to the sense of being treated differently (e.g. unfairly).

"I want us to change to be able to provide more services, but some issues are placed at a level that we have no control over. Then there is no use."

Nevertheless, the current regional solutions were considered to be an impediment for being present.

Being accountable was stressed as both positive and negative for learning (Schillemans and Smulders 2015). However, as the employees in this case did not seem to be accountable for the lack of dialogue with the primary health service, they might have felt responsible due to the pressured situation. In this way, it may be possible that employees were taking responsibility due to not knowing managers' expectations as well as the uncertainty towards own performance (lack of dialogue/disconnect towards management). Not knowing the preconditions for change, uncertain environments and tension may frame anticipations of management and/or the innovation which limit positive expectations (e.g. Clegg, Unsworth et al. 2002) with regards to the innovation (e.g. needs not being met). As not knowing might make it harder to create expectations of what might happen in the future, it seems that this uncertainty had impacted actors to enhance defensive routines. The responsible strategy may act as a defensive mechanism to protect (e.g. a sense of risk reduction from believing that the experienced behavior would continue into the next part of the project) and gain control regarding the unclear situation. Hence, a

defensive strategy from anticipations may be *self-inflicted responsibility* in relation to *neutral anticipations* from uncertainty and disconnect towards the innovation/management. In this sense, justifying weaknesses from strengths in the context of responsibly might be a form of defensive bolstering. Nevertheless, as responsibility (defensive strategy) is positive towards tasks related to the primary health service, it does not contribute to innovation speed (e.g. redirecting attention).

The next section will discuss how variations of trust may impact innovation speed, by reducing defensive routines.

Increasing innovation speed from trust

For the purpose of trust, this concept was stated to vary depending on degree and setting. Understanding *what type of trust* is present is therefore relevant. To overcome defensive routines and facilitating change, acquiring an awareness of the mechanisms driving trust and tension on behalf of the employees has been important to know how innovation speed may be increased.

In this case, trust seeks to increase innovation speed (adoption). As redirecting attention and loyalty (an outcome of taking self-inflicted responsibility) is understood to be a defensive strategy that reduces innovation speed, finding the right trust mechanism that reduces emotional tension, the sense of disconnect, enhances work-related meaning and focuses attention on the innovation is important. What is described as trust mechanisms (see figure 3) are from the interviews and analysis understood to be important factors that impact employees' experiences and thus emotions (e.g. tension) towards the laboratory service. For this reason, as trust initiatives (e.g. trust mechanisms) is understood to impact emotions and defensive routines and thus the ability to trust, there exist a connection between the three variables *trust, emotion* and *defensive routines* (see figure 3). However, it is important to keep in mind the complex multi-location laboratory structure (e.g. lack of coherence) and the challenges with the instruments, which in this case seems to have placed barriers for the management and employee dialogue and connection.

How the various trust and tension creating mechanisms may impact trust, and reverse defensive routines in this context, will be explained next.

Trust was stated to be associated with expectations of being heard, of positive responses or from receiving innovation benefits (Clegg, Unsworth et al. 2002). Furthermore, it was stressed to link to the probability of beneficial actions (Gambetta 1988). Not being able to be sufficiently available towards the primary health service, not feeling heard, prioritized or been given enough resources (compensate activities) to perform all the needed tasks, are therefore understood as tension creating mechanisms. These have thus enhanced uncertainty towards the innovation and the way management have handled the situation. Redirecting attention and loyalty away from the innovation might in this sense be impacted from employees being able to foresee negative consequences of management decisions. As employees might feel they are in a better position (proximity to the primary health service/competence) to know what is best for their customers, not being considered may place a barrier to trust generation.

As the tension had been physically experienced by the employees over time (e.g. burnout), discouragement had been formed from not feeling heard (e.g. experienced negative responses from management). The combination of having communicated needs, and the sense of important issues being filtered and addressed at a later point, may thus have framed future expectations towards management in a way that had limited the belief that the innovation was beneficial (disconnect) (benefits are less likely to happen). This belief may thus have contributed to employees finding their own ways by taking responsibility (defensive strategy/action) from self-interest e.g. professional pride (defensive reasoning). This, to reduce tension in terms of directing attention towards what is perceived as important (proximity to the primary health service), and which provide benefits (in this case work related meaning e.g. professional pride/feeling superfluous/competent/personal causes and situational control). Attention and loyalty, which are perceived as conditions for trust generation, are in this way directed towards the primary health service, by making sure they were doing things the right way (responsibility as a defensive strategy for self-protection) (Probst and Büchel 1997). For this reason, innovation speed may be enhanced from trust by communicating innovation benefits towards employees from the start (e.g. Romme 2003) of the innovation implementation. This is because enhanced clarity/performance certainty, innovation understanding and training as well as feeling heard, may limit employees need to cope, hold on to what is familiar/manageable (e.g. previous routines) and having to justify and compensate for their experienced and assumed weaknesses. However, innovation speed is only assumed to be enhanced if mixed messages (Argyris 1986) are avoided in this case. This is because tension was created by not having experienced the told benefits (e.g. being given more time for favored tasks) during the project part one. As being given more time was one of the original ideas with the innovation (communicated in meetings), challenges and the uncertainty with part one of the project had made this benefit difficult to comply. Consequently, addressing this issue at a later point in time had triggered defensive responses regarding the innovation situation. Time therefore seems to be an important dimension in this case in terms of tension creation, and a factor which may impact when a message becomes *mixed* and when defensive reasoning starts. Knowing this boundary is meaningful for message consistency/predictability, which is understood as significant for trust and innovation speed in this case.

Creating a space for employee participation where employees feel heard is understood as essential to reduce negative rumors and self-interest-seeking reasoning and tension. In this way, trust generation is understood to start when tension creating mechanisms are reversed (taking action) by management (see figure 3). The amount of tension creating mechanisms addressed might thus state something about the level of trust generated between management and employees, impacting the probability for innovation adoption. As defensive reasoning is connected to defensive strategies/action, reversing tension creating mechanisms may impact selfless reasoning to trust (e.g. over-ruling defensive self-interest-seeking reasoning) due to positive expectations of management facilitating innovation benefits. Hence, defensive reasoning may be looked upon as part of the process to trust management and the innovation. In this way, trust may be perceived as an outcome of employees selfless reasoning, due to the act of reducing emotional tension (tension creation mechanisms), disconnect, and defensive reasoning towards management and the innovation. In this way, the defensive strategy of responsibility may, from trust, be

redirected back towards the innovation (alter the sense of *proximity* towards the innovation), consequently increasing innovation speed.

By feeling heard, supported and gaining the needed resources to be available, it may enhance employees' beliefs of being supported in the future (e.g. delayed reciprocity) (McEvily, Perrone et al. 2003). Moreover, expectations of support, clarity and meaning with the new situation may provide a sense of acceptability and uncertainty tolerance (McEvily, Perrone et al. 2003). As *predictability* was understood to be important for the employees, employees may be guided to trust by expectations of being heard/supported (reasoning to trust). Consequently, trust might enhance the tolerance for the laboratory situation being uncertain, directing attention and loyalty (e.g. acceptance) towards the innovation. *Speeding up* might in this sense involve reduced tension and enhanced sense of connection (dialogue) with management, limiting defensive routines. Moreover, self-criticism is assumed to link to uncertainty towards own and others performance, and a lack of control (e.g. feeling powerless and frustrated) due to a lack of resources given to perform optimally regarding the innovation. As the employees wished the tasks towards the primary health service was looked upon as important (being given resources), expectations of being supported in this matter seemed to be limited. Being self-critical could therefore be the result of taking responsibility from uncertainty tolerance being low. As being accountable enhanced self-criticism (Tetlock, Skitka et al. 1989, Schillemans and Smulders 2015), the fact that employees took responsibility (self-inflicted responsibility) on such a high level when they were not expected too, show the value of communicating expectations and needs for innovation speed (facilitating positive attitudes e.g. selfless reasoning) towards management intentions with the innovation. Managerial action thus frames expectations and willingness to adopt the innovation.

It is important to keep in mind that finding the right balance for trust depend on various factors (e.g. change in organizational structure, management availability and needs). In this case, the laboratory structure (organizing style) as well as the pressured situation for management (see table 1) seems to have created distance between managers and employees. Moreover, the fact that the hospital was mentioned to be governed by others (e.g. government level) and various agreements, play an important part in relation to managers ability to perform acts of trust. As the tension creating mechanisms are assumed as essential for trust generation in this case, they might vary in importance and change between employees at different points in time. Moreover, as reducing tension creating mechanisms may make the situation more bearable for the employees, it does not mean that the goal of innovation adoption is reached.

The paper findings indicate that innovation implementation decisions have been made without sufficiently consultation and regard of the employees' knowledge and experience.

A more traditional approach to management and change seems in this way to have impacted employees negatively. Consequently, the organization style in this case seems not to be consistent with the traditional Norwegian Work Life Model. Furthermore, we argue that trust is an important factor to enhance innovation speed. However, as trust creation is highly complicated, it is hard to break it down

and analyze it. As a result, trust in this case may be understood as a consequence of positive emotions employees may develop based on *organizational characteristics* (e.g. management decisions, atmosphere, communication/dialogue and participation/involvement). From this view, trust is understood as *reflexive*, modified from a reactive response to the experienced organization style.

Practical implications for innovation speed

Enhancing technology (medical instruments and equipment) is essential to increase blood analysis efficiency and in this way meet patient needs in better ways. For urgent and critical hospital situations (e.g. the COVID-19 situation), we argue that speed is an important element for innovation implementation success. Moreover, as urgent situations often involve making fast decisions, technical knowledge, achieving common objectives and professional responsibility, place a special emphasis on the importance of the ability to trust management.

Successful innovation implementation in organizations requires managers that take action towards enhancing the connection with their employees. As this case have shown, negative rumors, self-interest seeking reasoning and tension are factors which might reduce innovation speed. Creating a social environment by facilitating a space for employee participation where employees feel heard and supported (e.g. empowered), is therefore essential. This involves providing positive responses to employee's needs (tension creating mechanisms), which may impact innovation understanding and frame employees' positive expectations of the innovation being beneficial.

Reducing the sense of loss and focusing attention on the innovation can be done by providing meaning and protecting employees' professional pride. Therefore, managers should provide enough information for the reasons and consequences for innovation implementation (information regarding resources, competence, being able to use education). Being available for the employees as well as facilitating the needed resources for employees to feel available (e.g. proximity) towards the primary health service, may thus produce positive emotions and a sense of predictability. This might impact future expectations of being supported (from positive reasoning to trust), consequently limiting employees from performing defensive routines.

As trustful actions by management is assumed to link to positive expectations from selfless reasoning, facilitating resources (compensating activities, avoiding postponing problems and taking action) may limit employees' sense of uncertainty and lack of control (towards own competence, the context and customer needs). This might reduce self-inflicted responsibility and self-criticism, shifting the focus towards the innovation. In the light of this, facilitating transparency and dialogue of expectations and needs towards communicative tasks

involving the primary health service, might reduce the disconnect between managers and employees. In effect, reducing the sense of having to manage tasks and take responsibility alone (self-inflicted responsibility) may impact positive expectations of managers decision-making abilities.

Limitations And Further Research

We are aware that there are other views that may provide different perspectives to the study.

For the purpose of innovation adoption, this could involve alternative approaches to Scientific management e.g. Employee driven innovation or Workplace innovation. Moreover, as speed could be a function of a sense of urgency (e.g. COVID-19) (Kotter 2008), the concept of trust subject to the importance of speed for urgency, and having a shared vision, could be a topic for further research in relation to different organizations facing rapid change. In this sense, a focus could be placed on corporate transformation (facilitated by a shared vision of the intended outcomes of the transformation). Moreover, issues of autonomy, participation and forms of participatory action research could be explored to take the case forward. Equally important, the ability to trust might change depending on context (e.g. organizational structure or availability of management). In this sense, one might investigate the relevance of time as a dimension for tension creation and defensive routines in this context.

As the study describes a context specific description of trust in one specific situation, the implications made to generate trust may vary in other settings. Generalizing trust and tension creating mechanisms for innovation speed within the health sector thus means that more studies on this issue is needed. In the light of this, we acknowledge that the ability to trust is complex and based on various factors. As we recognize a connection between level of trust and defensive routines, this connection needs further research. For example, degree of defensive reasoning and routines, and the ability to trust may in addition to management and organization style, vary depending on deeper human characteristics (e.g. psychology, sociology, anthropology) placed outside of the boundary of this paper. Thereupon, by going deeper into each individual employee need, one might reveal new mechanisms, which could be employee specific, to increase innovation speed (individual level). In this case, it could be possible to provide enhanced insight regarding the mechanisms driving defensive reasoning (e.g. professional pride) on behalf of each individual. This could facilitate learning in relation to motivation measures for selfless reasoning facilitating a linking of individual and organizational levels for innovation speed. Similarly, as we observe a connection between *emotion, defensive routines* and *trust* (see figure 3), a better understanding of the appropriate levels (e.g. amount/balance of variables subject to the three factors) that must be present for innovation adoption to occur (turning point) in this context is needed.

In relation to emotional tension e.g. *stress* and *burnout*, we acknowledge some of the complexities of using these terms to the context of hospitals, as there exist different understandings of the terms among disciplines. Additionally, three months is not considered enough time to fully understand the complexities of the overall situation. Hence, we highlight the importance of stress and burnout as terms having various connotations among disciplines. Therefore, to seek a more accurate explanation of what stress and burnout means in this case, the facilitating factors for defensive routines/tension creating mechanisms (see figure 3) are a description of what social and environmental factors (that over time) might have contributed to employees' response. Additionally, the amounts of tension creating mechanisms might impact the level of trust generated between management and employees. However, as only an

assumption could be made of the link between level of trust and probability for innovation adoption, investigating this connection in relation to defensive routines could be valuable.

As interviews were performed on behalf of employees, creating a context including management have involved workshop notes and reports. Information, reports or measures taken place beyond this point in time have thus not been included in the study. As the project report do not state anything more than organizational development being postponed to another project, only an assumption could be made on this part being addressed in the projects part two from information at the workshop.

Moreover, since this paper has taken the employee perspective in a complex organizational structure, further research could involve defensive routines on behalf of management. This might provide in-depth insight of the "why" of defensive routines developed in this case. Moreover, it would give more input on relational and dynamic connections regarding defensive routines and how they might vary and change between organizational levels. Furthermore, the concept of self-interest-seeking behavior (e.g. professional pride and control) and thus meaning creation from tension may connect to the concept of "sensemaking" e.g. (Weick, Sutcliffe et al. 2005) and could be a form of "negative sensemaking" which may link to trust generation. This connection is worth investigating.

Policy implications

Being able to take part in a politically and regionally governed public innovation system (e.g. regional hospital structure) has made it possible to yield important insights for decision makers and future policy decisions within the context of innovation and structural change (e.g. innovation centralization). The study results have contributed to lifting the discussion with regards to the regional innovation system by providing a glimpse into the effects of a structural hospital change associated with a lack of employee involvement. We therefore argue for the importance for policy makers to consider employee (e.g. innovation users) voice and participation (starting from the initial stages of the decision-making process) to avoid the development of defensive reasoning and routines as it may slow down the innovation adoption process. Understanding what cues breed a higher level of commitment and trust towards management and the innovation may in this way boost innovation progress. The findings lay forward political guidelines to important incentive systems politicians and hospital division managers can initiate to enhance the pace of innovation adoption in a structural change context. In this way, the study has facilitated a framework with significant factors the authorities may use for innovation understanding. Moreover, understanding the importance of addressing the darker side of innovation is significant for patients and the society (e.g. urgent situations and crisis). Accordingly, it may simplify the process of earning financial support for research, innovation and sustainable growth (e.g. The Norwegian Research Council or Innovation Norway).

Conclusion

To help organizations with innovation implementation success, a focus has been placed on important mechanisms driving trust creation for innovation speed towards innovation adoption in the context of the

Norwegian Work Life Model. By investigating hospital employees' experiences with implementing new laboratory instruments for blood test analysis, tension creating mechanisms understood as barriers to innovation speed could be addressed.

The study shows that employee emotional tension within a context of organizational innovation and complex organizational structures, facilitates disconnection and defensive routines towards management and the innovation. This involves self-interest seeking reasoning (e.g. professional pride) and defensive acts of self-inflicted responsibility, which may redirect employee's attention away from the innovation efforts and towards what is perceived as meaningful. Consequently, the study provides a new and contextual understanding of defensive reasoning and behavior for trust and innovation speed. To enhance innovation speed from trust, the study discusses relevant types of trust mechanisms applicable for this case, emphasizing on the importance of managers role in creating a space for employee voice and meaning. Timing, availability, communicating expectations, participation and addressing various emotional tension creating mechanisms, are in this sense understood as essential elements which may impact positive reasoning to trust. Having a human-centered focus throughout the innovation implementation process, is thus understood as equally important to enhance trust and the pace of innovation adoption, as the innovation itself.

Abbreviations

ARA model: Actors-Resources-Activities model;

NVivo: Qualitative data analysis software;

VR: Virtual Reality;

AR: Augmented Reality;

COVID-19: Coronavirus Disease 2019

Declarations

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The author declares that there are no competing interests.

Funding

The Norwegian University of Science and Technology (NTNU) and the Department of Mechanical and Industrial Engineering.

Authors' contributions

This case study has been performed by CMM.

Acknowledgements

I would like to thank my supervisor's Professor Halvor Holtskog and Professor Geir Ringen for helpful theoretical guidance and support throughout the writing process. I would also like to thank Professor

Richard Ennals for providing excellent language help and inspirational input.

Authors' information

This study is part of my Ph.D. project on behalf of The Norwegian University of Science and Technology and the Department of Mechanical and Industrial Engineering. The data collection has been performed through a three-month Ph.D. placement at a hospital. On behalf of the hospital and my own research, my work consisted of performing interviews and preparing a report in which I gave an account of employees' experiences with an ongoing innovation implementation to facilitate innovation success. The data in this article builds on the interviews that were conducted. All employees were informed of the purpose of the study (on behalf of the hospital and my own Ph.D.) and confidentiality prior to the interviews. Considering this, there have been no conflicts of interest to disclose.

References

Argyris, C. (1985). Strategy, change and defensive routines. Boston, Pitman.

Argyris, C. (1986). "Reinforcing organizational defensive routines: An unintended human resources activity." Human Resource Management **25**(4): 541-555. doi: https://doi.org/10.1002/hrm.3930250405

Argyris, C. (1991). "Teaching smart people how to learn." Harvard Business Review **69**(3): 99-109.

Argyris, C. (2002). "Teaching Smart People How to Learn." Reflections: The SoL Journal **4**(2): 4-15. doi: https://doi.org/10.1162/152417302762251291

Argyris, C. (2004). Features of Scholarly Inquiry that Inhibit Double-Loop Learning and Implementable Validity, Oxford University Press.

doi: https://doi.org/10.1093/acprof:oso/9780199268078.003.0005

Argyris, C., R. Putnam and D. M. Smith (1985). Action science. San Francisco, Jossey-Bass.

Argyris, C. and D. A. Schön (1974). Theory in practice : increasing professional effectiveness. San Francisco, Jossey-Bass.

Argyris, C. and D. A. Schön (1996). Organizational Learning II: Theory, Method, and Practice, Addison-Wesley Publishing Company.

Bachmann, R. and A. Zaheer (2008). Trust in Interorganizational Relations**:** 533-554.

doi: https://doi.org/10.1093/oxfordhb/9780199282944.003.0020

Bazeley, P. (2007). Qualitative data analysis with NVivo. Los Angeles, Sage.

Bohm, D. and L. Nichol (1996). On Dialogue, Routledge.

Bradach, J. and R. G. Eccles (1989). "Price, Authority, and Trust – from ideal types to plural forms." Annu. Rev. Sociol. **15**: 97-118

doi: https://doi.org/10.1146/annurev.so.15.080189.000525

Chae, S. W. (2016). "Perceived Proximity and Trust Network on Creative Performance in Virtual Collaboration Environment." Procedia Computer Science **91**: 807-812.

doi: https://doi.org/10.1016/j.procs.2016.07.084

Chandra, Y. and L. Shang (2019). Inductive Coding. Qualitative Research Using R: A Systematic Approach. Singapore, Springer Singapore**:** 91-106.

doi: https://doi.org/10.1007/978-981-13-3170-1_8

Chua, R. Y. J., M. W. Morris and S. Mor (2012). "Collaborating across cultures: Cultural metacognition and affect-based trust in creative collaboration." Organizational Behavior and Human Decision Processes **118**(2): 116-131. doi: https://doi.org/10.1016/j.obhdp.2012.03.009

Clegg, C., K. Unsworth, O. Epitropaki and G. Parker (2002). "Implicating trust in the innovation process ." Journal of Occupational and Organizational Psychology **75**(4): 409-422.

doi: https://doi.org/10.1348/096317902321119574

Coffey, A. and P. Atkinson (1996). Making sense of qualitative data : complementary research strategies. Thousand Oaks, Calif, Sage.

Crawford, H. K., M. L. Leybourne and A. Arnott (2000). "How we ensured rigour from a multi-site, multi-discipline, multi-researcher study." Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 1(1), Art. 12. doi: http://dx.doi.org/10.17169/fqs-1.1.1122

Daher, M., D. Carré, A. Jaramillo, H. Olivares and A. Tomicic (2017). "Experience and Meaning in Qualitative Research: A Conceptual Review and a Methodological Device Proposal." Forum Qualitative Sozialforschung / Forum: Qualitative Social Research **18**(3), Art. 9. doi: http://dx.doi.org/10.17169/fqs-18.3.2696

Damanpour, F. and M. Schneider (2006). "Phases of the Adoption of Innovation in Organizations: Effects of Environment, Organization and Top Managers." British Journal of Management **17**. doi: https://doi.org/10.1111/j.1467-8551.2006.00498.x

Donald, R. F. (1959). "Banana Time: Job Satisfaction and Informal Interaction, Human Organization." 18 **4**: 158-168. doi:https://doi.org/10.17730/humo.18.4.07j88hr1p407460

Dyne, L. V., S. Ang and I. C. Botero (2003). "Conceptualizing Employee Silence and Employee Voice as Multidimensional Constructs." Journal of Management Studies **40**(6): 1359-1392. doi: https://doi.org/10.1111/1467-6486.00384

Eisenhardt, K. M. (1989). "Building Theories from Case Study Research." The Academy of Management review **14**(4): 532-550. doi: https://doi.org/10.5465/amr.1989.4308385

Elaine, W. (2002). "Dealing with Data: Using NVivo in the Qualitative Data Analysis Process. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 3(2), Art. 26. doi: http://dx.doi.org/10.17169/fqs-3.2.865

Emerson, R. M., R. I. Fretz and L. L. Shaw (1995). Writing ethnographic fieldnotes. Chicago, University of Chicago Press. doi: https://doi.org/10.7208/chicago/9780226206851.001.0001

Fulmer, R. and J. Keys (1998). "A conversation with Chris Argyris: The father of organizational learning." Organizational Dynamics **27**(2): 21-32. doi: https://doi.org/10.1016/S0090-2616(98)90021-3

Gambetta, D. (1988). "Fragments of an economic theory of the mafia." Arch. Europ. Sociol. **29**(1): 127-145. doi: https://doi.org/10.1017/S0003975600005610

Glaser, B. G. and A. L. Strauss (1968). The discovery of grounded theory : strategies for qualitative research. London, Weidenfeld and Nicolson. doi: https://doi.org/10.1097/00006199-196807000-00014

Goudge, J. and L. Gilson (2005). "How can trust be investigated? Drawing lessons from past experience." Social Science & Medicine **61**(7): 1439-1451. doi: https://doi.org/10.1016/j.socscimed.2004.11.071

Hornstein, H. A. (1986). Managerial courage: Revitalizing your company without sacrificing your job. New York, Wiley.

Håkansson, H. and I. Snehota (1995). Developing relationships in business networks. London, Routledge.

Ingvaldsen, J. A., M. Rolfsen and H. D. Finsrud (2012). "Lean organisering i norsk arbeidsliv: slutten på medvirkning?". Magma - Journal of Economics and Management. **15**(4): 42-50.

Kessler, E. and A. Chakrabarti (1996). "Innovation speed: A conceptual model of context, antecedents, and outcomes." Acad. Manage. Rev. **21**(4): 1143-1191. doi: https://doi.org/10.5465/amr.1996.9704071866

Kirk, J. and M. L. Miller (1986). Reliability and Validity in Qualitative Research. Newbury Park, California, SAGE Publications, Inc. doi: https://doi.org/10.4135/9781412985659

Kotter, J. P. (2008). A sense of urgency. Boston, Mass, Harvard Business Press.

Law, J. (2004). After Method: Mess in Social Science Research, Routledge.

doi: https://doi.org/10.4324/9780203481141

Lerner, J. S. and P. E. Tetlock (1999). "Accounting for the effects of accountability." Psychological Bulletin **125**(2): 255-275. doi: https://doi.org/10.1037/0033-2909.125.2.255

Levin, M. (2012). Demokrati i arbeidslivet : den norske samarbeidsmodellen som konkurransefortrinn. Magma - Journal of Economics and Management. **15**(4): 20-23.

Lynn, G. and A. Seth (2008). "Overcoming Organizational Inertia: A Tripartite Model for Achieving Strategic Organizational Change." The journal of applied business and economics **8**(1): 82.

Madhok, A. (2006). "Revisiting multinational firms' tolerance for joint ventures: a trust-based approach." Journal of International Business studies **37**(1): 30-43. doi: https://doi.org/10.1057/palgrave.jibs.8400161

McAllister, D. (1995). "Affect- and Cognition-Based Trust Formations for Interpersonal Cooperation in Organizations." Academy of Management Journal **38**(1): 24-59. doi: https://doi.org/10.2307/256727

McEvily, B., V. Perrone and A. Zaheer (2003). "Trust as an Organizing Principle." Organization Science **14**(1): 91-103. doi :https://doi.org/10.1287/orsc.14.1.91.12814

Murmann, P. A. (1994). "Expected Development Time Reductions in the German Mechanical Engineering Industry." Journal of Product Innovation Management **11**(3): 236-252. doi: https://doi.org/10.1111/1540-5885.1130236

Myers, M. D. (2009). Qualitative Research in Business & Management, SAGE Publications.

Ozawa, S. and P. Sripad (2013). "How do you measure trust in the health system? A systematic review of the literature." Social Science & Medicine 91: 10-14. doi: https://doi.org/10.1016/j.socscimed.2013.05.005

Ponelis, S. (2015). "Using Interpretive Qualitative Case Studies for Exploratory Research in Doctoral Studies: A Case of Information Systems Research in Small and Medium Enterprises." International Journal of Doctoral Studies 10: 535-550.

doi: https://doi.org/10.28945/2339

Probst, G. J. B. and B. S. T. Büchel (1997). Organizational learning : the competitive advantage of the future. London, Prentice Hall.

Riley, T., E. Cudney and S. Long (2013). "A Comparative Analysis of Defensive Routines in Engineering Managers Versus Non-Engineering Managers." Engineering Management Journal: Leadership 25(4): 44-51. doi: https://doi.org/10.1080/10429247.2013.11431994

Romme, A. G. L. (2003). "Making a Difference: Organization as Design." Organization Science 14(5): 558-573. doi: https://doi.org/10.1287/orsc.14.5.558.16769

Rousseau, D. M., S. B. Sitkin, R. S. Burt and C. Camerer (1998). "Not So Different After All: A Cross-Discipline View Of Trust." Academy of Management Review 23(3): 393-404. doi: https://doi.org/10.5465/amr.1998.926617

Rowley, J. (2002). "Using case studies in research." Management research news 25(1): 16-27. doi: https://doi.org/10.1108/01409170210782990

Sabel, C. F. (1993). "Studied Trust: Building New Forms of Cooperation in a Volatile Economy." Human Relations 46(9): 1133-1170. doi: https://doi.org/10.1177/001872679304600907

Saldaña, J. (2016). The coding manual for qualitative researchers. London, Sage.

Sapprasert, K. and T. H. Clausen (2012). "Organizational innovation and its effects." Industrial and Corporate Change. 21(5): 1283-1305. doi:https://doi.org/10.1093/icc/dts023

Schillemans, T. and R. Smulders (2015). "Learning From Accountability?! Whether, What, and When." Public Performance & Management Review 39(1): 248-271. doi: https://doi.org/10.1080/15309576.2016.1071175

Singh, J. and D. Sirdeshmukh (2000). "Agency and trust mechanisms in consumer satisfaction and loyalty judgments." Official Publication of the Academy of Marketing Science 28(1): 150-167. doi: https://doi.org/10.1177/0092070300281014

Stachowicz-Stanusch, A., W. Amann and G. Mangia (2017). Corporate social irresponsibility: individual behaviors and organizational practices.

Stake, R. E. (1995). The art of case study research. Thousand Oaks, Calif, Sage.

Strauss, A. L. and J. M. Corbin (1990). Basics of qualitative research : grounded theory procedures and techniques. Newbury Park, Calif, Sage.

Tetlock, P., L. Skitka and R. Boettger (1989). "Social and Cognitive Strategies for Coping With Accountability: Conformity, Complexity, and Bolstering." Journal of personality and social psychology 57 : 632-640. doi: https://doi.org/10.1037/0022-3514.57.4.632

Thomas, D. R. (2016). "A General Inductive Approach for Analyzing Qualitative Evaluation Data." American Journal of Evaluation 27(2): 237-246. doi: 10.1177/1098214005283748

Tuval-Mashiach, R. (2017). "Raising the curtain: The importance of transparency in qualitative research." Qualitative psychology (Washington, D.C.) 4(2): 126-138. doi: https://doi.org/10.1037/qup0000062

Van de Ven, A. R. (1986). Central Problems in the Management of Innovation. Management science, 32(5), pp.590–607. doi: https://doi.org/10.1287/mnsc.32.5.590

Vennix, J. A. M., H. A. Akkermans and E. A. J. A. Rouwette (1996). "Group Model-Building To Facilitate Organizational Change: An Exploratory Study." System Dynamics Review 12: 39-58. doi: https://doi.org/10.1002/(SICI)1099-1727(199621)12:1<39::AID-SDR94>3.0.CO;2-K

Walsham, G. (1993). Interpreting Information Systems in Organizations Chichester, UK, Wiley.

Webb, D. and A. Pettigrew (1999). "The temporal development of strategy: Patterns in the U.K. insurance industry." Organization Science 10(5): 601-621. doi: https://doi.org/10.1287/orsc.10.5.601

Weick, K., K. Sutcliffe and D. Obstfeld (2005). "Organizing and the Process of Sensemaking." Organization Science 16(4): 409-421. doi: https://doi.org/10.1287/orsc.1050.0133

Weisbord, M. R. (1987). Productive workplaces : organizing and managing for dignity, meaning, and community. San Francisco, Jossey-Bass.

Whyte, W. F. (1949). "The Social Structure of the Restaurant." American Journal of Sociology 54(4): 302-310. doi: https://doi.org/10.1086/220366

Yang, Y. and A. Konrad (2011). "Diversity and organizational innovation: The role of employee involvement." J. Organ. Behav. 32(8): 1062-1083. Doi: https://doi.org/10.1002/job.724

Yin, R. K. (2009). Case study research : design and methods. Thousand Oaks, Calif, Sage.

Figures

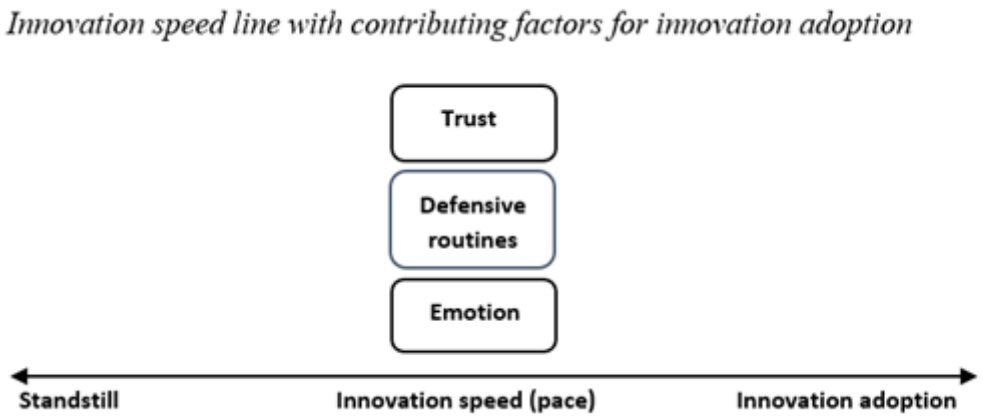


Figure 1

Innovation speed line with contributing factors for innovation adoption

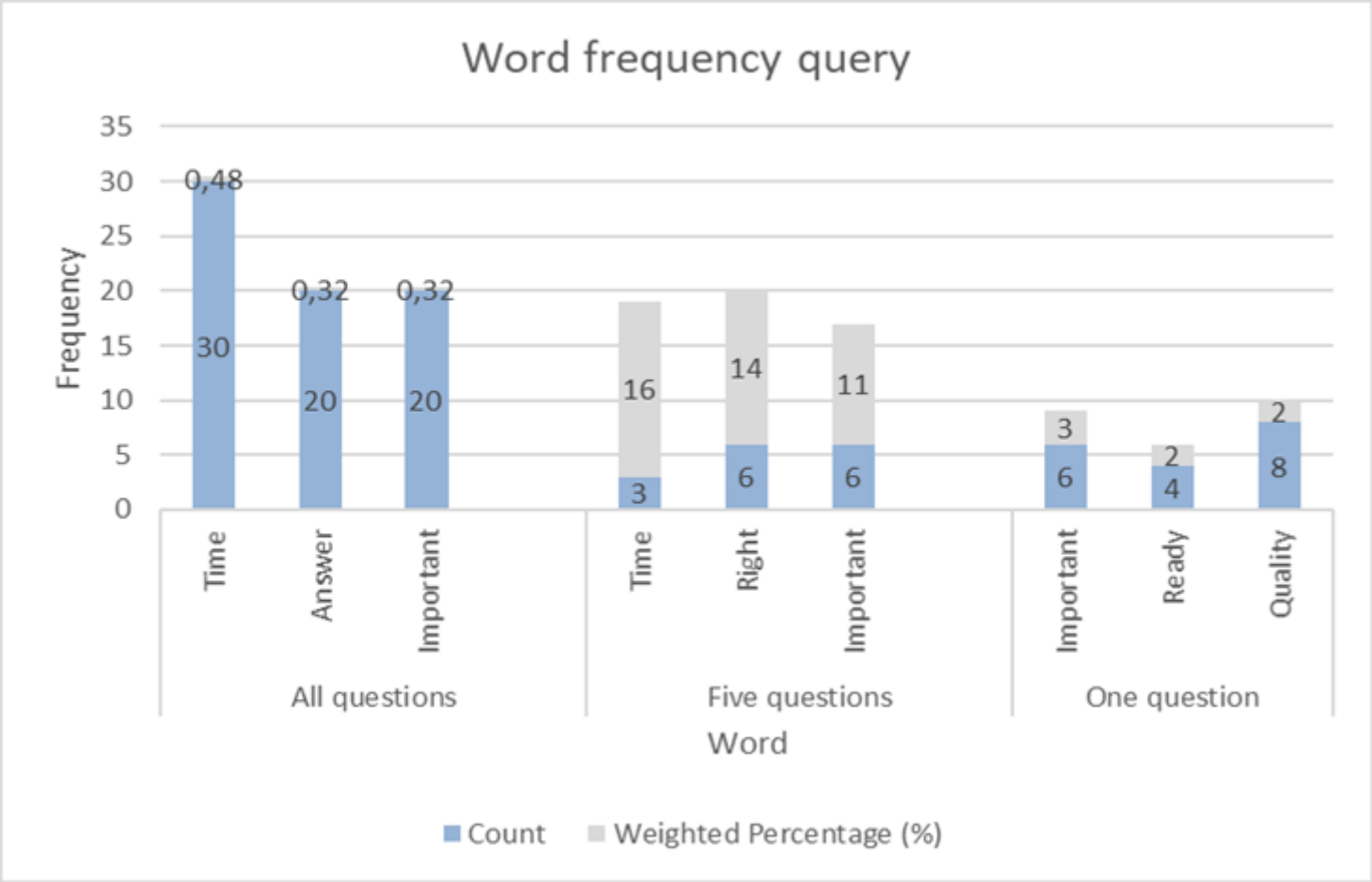


Figure 2

Word Frequency query in NVivo

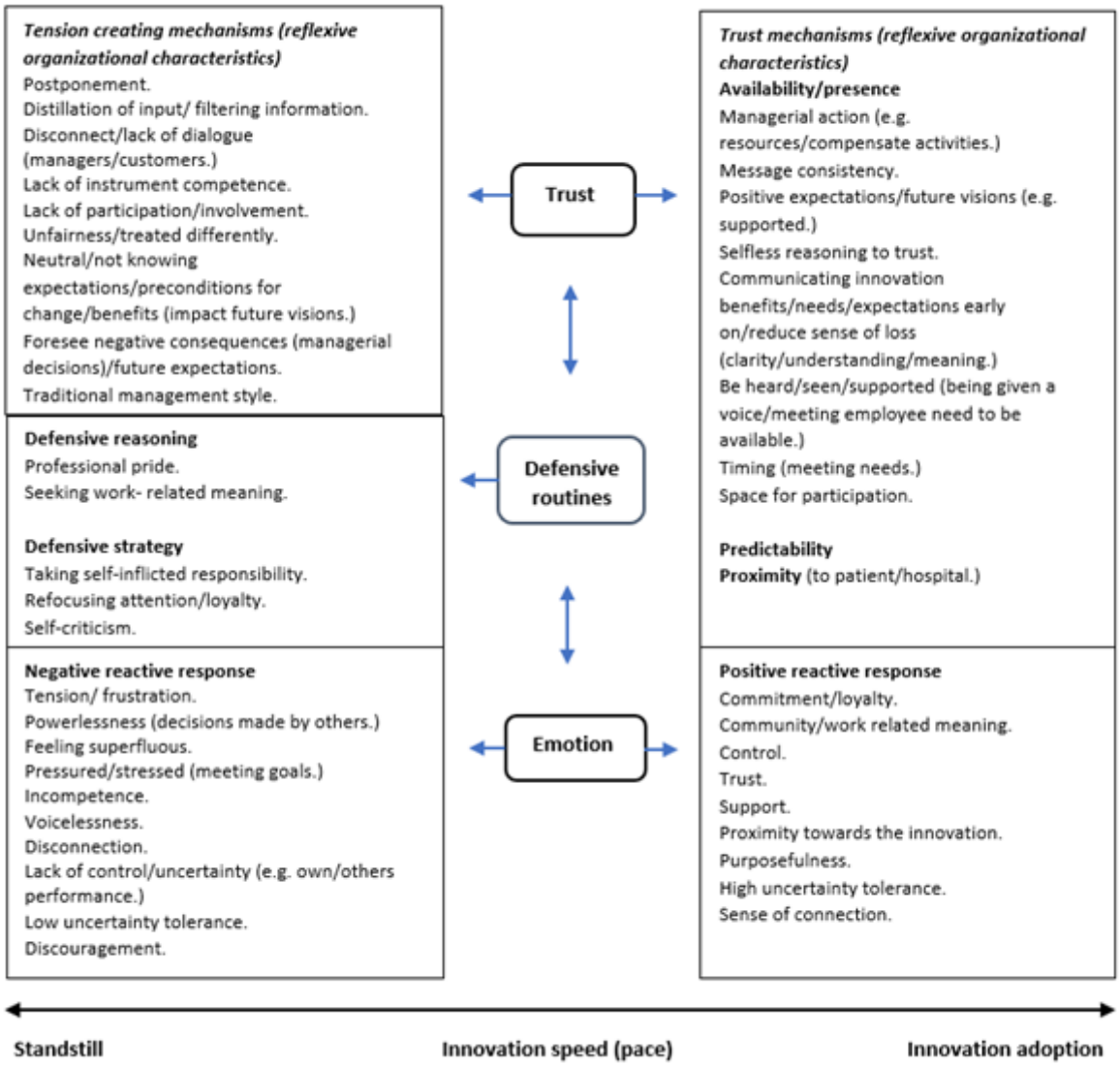


Figure 3

Innovation speed line with contributing factors and variables for innovation adoption