

If there's a will, there's a way

Determinants of willingness to change at the UMCG

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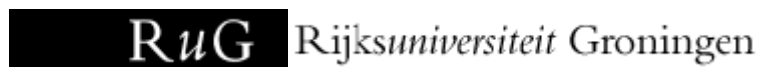
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Abstract

The main topic of this thesis is willingness to change. The research question that has to be answered is *which factors determine the willingness to change concerning registering incidents of employees of the radiology department at the UMCG?* In order to answer this question the relation of the subject attitude, subjective norm, behavioral control, and work satisfaction with willingness to change is investigated. Studying the affects of these factors gives new insights in how to influence the behavior of employees concerning change. This research took place from September 2009 until February 2010 at the radiology department of the University Medical Centre Groningen. The change implies that patient safety initiatives (PSI) have to be implemented for improving the quality of the radiology department. This means that the employee have to register incidents to gain a clearer view of the performance of the department. Therefore the management of radiology first wants to gain insight if there is willingness to change among the employees to cooperate with this change and which factors determine this. The most important findings from this research are that invoked emotions by the change, the added value of the change and emotional involvement with the change partly determine the willingness to change of the employees of radiology. Work satisfaction did not influenced willingness to change directly, although the influence of change on work satisfaction did influence the willingness to change.

Keywords

Willingness to change, attitude, subjective norm, behavioral control, work satisfaction.

Preface & acknowledgements

From September 2009 until February 2010 I spend three days a week at the radiology department of the University Medical Centre Groningen (UMCG). I investigated the willingness to change of the employees of radiology concerning the implementation of patient safety indicators. Without the contribution of the employees to my questionnaires it would not have been possible to accomplish this research. Therefore I want to thank them in the first place.

Furthermore I want to thank my mentor from the Wenckebach Institute at the UMCG Jan Pols for his opening visions and mediating role between me, the assigner and the supervisor. I want to thank my supervisor from the UMCG Roelf Kleve for guiding me through this enormous hospital. Three years ago, he was manager at the radiology department and he helped me a lot with his knowledge about this organization. I also want to thank the principal of team two of radiology Fons Bongaerts. He initiated my research and was always enthusiastic about my ideas and supported them within the organization. From the University of Groningen I want to thank my supervisor Cees Reezigt for his professional scientific support and constructive supervision. Besides him I thank the second supervisor Janita Vos for reviewing my thesis. Last but not least I want to thank my family and friends for their patience and support during this process.

Kind regards,

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1. Introduction

Patient safety is a controversial subject nowadays. Hospitals receive a lot of criticism in the news due to serious mistakes with disastrous consequences. Also the University Medical Centre of Groningen is involved with the continuous improvement of patient safety. The radiology department, where this research takes place is an important link in the care process of this hospital. When a physician requests a radio diagnostic research he or she has to receive a correct answer at any time. Unfortunately, this is not the case. Therefore, several controls in the working process are built in to prevent incidents. To test the functioning of these controls, they have to be monitored by means of process safety indicators (PSI). PSI's give insight in the safety of the work process and show the risks and effectiveness of these controls. Implementing the PSI's means that incidents have to be registered, something that does not happen nowadays. The problem is that professionals in healthcare resist potential threats of their autonomy. The PSI-system affects their autonomy because it makes them accountable for their own incidents. Because of this problem, the management of radiology at the UMCG wants to take an important fact into account: they want to know if there is willingness to change amongst the employees concerning this change and they want to know the determining factors where they have to pay attention to with the implementation of the change.

Before a change is implemented, the organization has to determine and stimulate the willingness of its employees first (Armenakis et al., 1993 and Eby et al., 2000). According to Burnes (2005), independent on what form of change, there has to be willingness to change amongst those concerned to accept new arrangements. The important issue is to win the critical mass of individuals or groups whose active commitment is necessary to provide the energy for change to occur. Caldwell (2005), and Cozijnsen and Vrakking (2003) support Burnes' (2005) opinion by stating that with organizational change, the most important intention is willingness to change. They say that employees need to want and must be able to change.

Willingness to change is an employee's positive behavioral intention towards a change in work and administrative processes, structure, culture or working method resulting in an effort from the organization member's side to support or enhance the change process (Metselaar, 1997, Metselaar and Cozijnsen, 2002). In short willingness to change is the positive intention concerning the implementation of organizational change (Piderit, 2000).

It is important to gain insight in the factors that influence the willingness to change. These are the so called knobs that can be turned to respond to the workforce. Within the change management literature there are three main areas where influencing factors of willingness to change can be identified, namely the attitude or so called 'want change', the subjective norm or 'need change' and the behavioral control or 'can change'. Besides these three factors the subject work satisfaction is expected to play an important role in influencing willingness to change. During orienting conversations on the department of radiology it became clear that there were complaints and dissatisfaction amongst the employees. Therefore this subject is added as an extra variable.

In the area of change management, the subject willingness to change suits this management problem the best. What will be investigated is which factors determine the willingness to change of the employees at the radiology department of the UMCG. Therefore the research question is:

Which factors determine the willingness to change concerning registering incidents of employees of the radiology department at the UMCG?

Sub questions

What is the influence of attitude on willingness to change?

What is the influence of the subjective norm on willingness to change?

What is the influence of behavioral control on willingness to change?

What is the influence of work satisfaction on willingness to change?

Readers guide

The following chapter substantiates the above described sub questions with theory. Several relations with willingness to change are described. In order to answer the research question nine hypotheses are formalized in chapter two. A conceptual model shows the relations that will be tested. The third chapter describes how the necessary data are collected and how the data are analyzed. In chapter four the results are presented and the conclusions derived from that shall be described in chapter five. In chapter six a discussion follows with recommendations for further research.

2. Willingness to change

This chapter provides an explanation of the concept willingness to change and related factors according to the literature. The first paragraph expounds the subject with different definitions and concludes with the merge of Metselaars' (1997) and Azjens' (1991) model about the intention to behavior where three main influencing variables are defined. The relation between these variables and willingness to change is investigated and this sets the stage for the following three paragraphs of the chapter. Subsequently the relation between willingness to change and work satisfaction is explained. The chapter ends with a conceptual model that provides an overview of the stated hypotheses from the preceding paragraphs.

2.1 Willingness to change

2.1.1 Existence

The origin of willingness to change lies in resistance to change. Willingness to change is a continuum that reaches from a positive side, where there is willingness to change, to a negative side, where there is resistance to change (Herscovitch and Meyer, 2002). According to Merron (1993, in Metselaar and Cozijnsen, 2002) resistance to change is a concept that must be forgotten because it only feeds the resistance to change. Besides that, Metselaar and Cozijnsen (2002) believe that resistance has a negative tone and therefore want to take a different view on resistance. Metselaar (1997) introduced a positive model of resistance that refers to the future and the people behind change and he called it willingness to change. Willingness to change stands for encouraging one's own initiative and expressing ones' own wishes and desires. It tells something about the intention of people to act differently and makes it possible to say something about the behavior of people. Willingness to change is a process where the expected outcomes of the change, the change climate, and the ability of employees to change play a role.

2.1.2 Definitions

In the perspective of change implementations, willingness to change refers to the degree where employees are psychological and behavioral prepared to change the company policy in a way that the change can be implemented (Furst and Cable, 2008, Weiner et al., 2009, Worley and Feyerherm, 2003). According to Armenakis et al., (1993) and Eby et al., (2000), the willingness to change of employees is reflected in their beliefs, visions and ideas about the urgency of change and the degree where they find the organization capable in implementing the change successful. Wissema, Messer

and Wijers (1986) define willingness to change as the perceivable willingness of people to cooperate with adjustments that result from the requirements that the dynamic of the environment of an organization demands.

From a behavioral science point of view, Ajzen (1991) says that 'willingness to change refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of a certain behavior'. From a change management perspective Metselaar (1997) defines willingness to change as 'a positive behavioral intention towards the implementation of modifications in an organization's structure, or work and administrative processes, resulting in efforts from the organization member's side to support or enhance the change process'. In this research, the definition of willingness to change by Metselaar (1997) will be adopted for its completeness.

2.1.3 Integrated model of planned behavior and willingness to change

According to Metselaar (1997), behavioral intentions encapsulate expressions of willingness to change. Therefore, he translated Ajzen's (1991) dependent variable intention to behavior into willingness to change. Metselaar and Cozijnsen (2002) use the model of planned behavior by Ajzen (1991) to explain which factors underlie the concept.

Ajzen (1991) distinguishes three factors that determine the intention to behavior; the expectations of someone concerning the consequences of behavior, the influence of others, and the capability one experiences to meet the desired behavior. In his model, Ajzen (1991) translates these three factors in the attitude concerning a certain behavior, the subjective norm and the control someone experiences over the behavior. From a change management point of view Metselaar and Cozijnsen (2002) interpret attitude as want to change, the subjective norm as need to change, and control as can change. Piderit (2000) summarizes this and sees willingness to change as an attitude formed by the necessity of the change and the capacity of the organization to implement it successful.

In the willingness to change context concerning attitude Metselaar and Cozijnsen (2002) speak about the expected consequences for someone's work, for the organization as a whole, and the evoked emotions by the change. In the willingness to change context the subjective norm stands for the influence of others and will be expressed by the attitude of others concerning the change. The behavioral control within willingness to change stands for the capabilities one experiences and consists of the knowledge about change and the experience with past changes. Next to that, the resources like time and manpower play a role in meeting the desired behavior in willingness to change. Within the three areas of want, need and can change will be searched for relations with willingness to change in the following paragraphs.

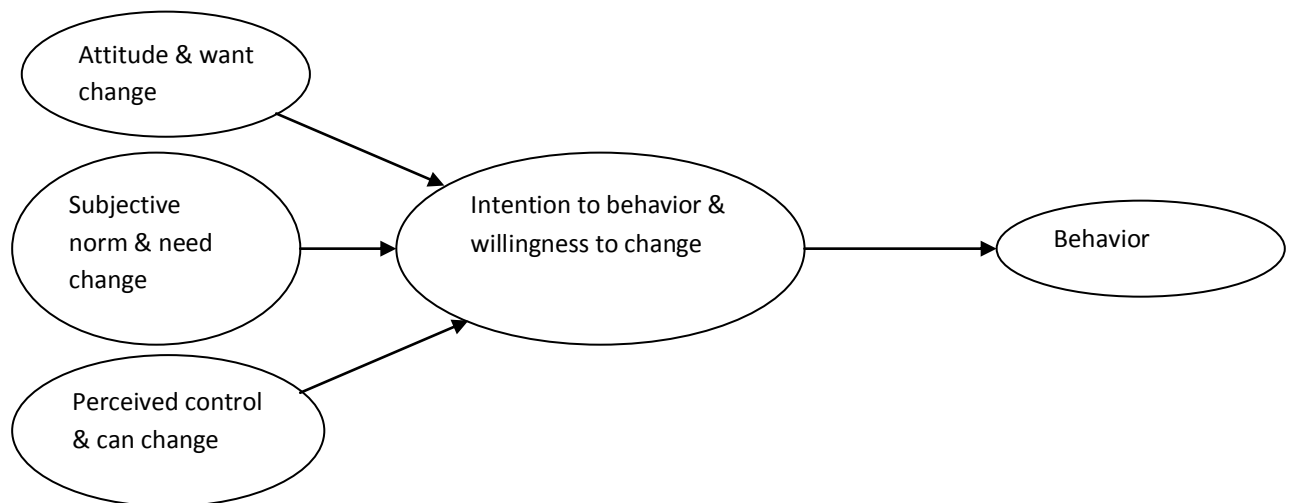


Fig. 2.1 Diagnosis model by Metselaar based on Ajzens' theory of planned behaviour (Metselaar and Cozijnsen, 2002).

2.2 Attitude & want change

Employees' attitude towards organizational change is a key component to whether an organizations' change efforts are either successful or fail. Attitude towards organizational change is defined as an employees' overall positive or negative evaluative judgment of a change initiative implemented by his or her organization (Lines, 2005). When employees possess a strong, positive attitude towards a change in the organization, they are likely to behave in focused, persistent, and effortful ways that support and facilitate the change initiative being implemented. However, when employees possess a strong, negative attitude toward organizational change, they are more likely to resist, oppose, scorn, thwart, and attempt to sabotage the change initiatives (Lines, 2005). According to De Wit (2008) attitude towards organizational change predicts most of the variance within one's willingness to change.

2.2.1 Consequences of the change

Metselaar and Cozijnsen (2005) mention the consequences of the change as a determinant of willingness to change. Garvin and Roberto (2005) say that change brings about uncertainties for employees. They mention that employees need to feel that their sacrifices have not been in vain and that their accomplishments have been recognized and rewarded. Devos et al., (2007) mention the scale of the consequences of the change as playing a role in willingness to change. They assume that when a change has major consequences for employees and is experienced as being threatening, this will lead to less willingness to change. As the change process advances and the employees gain more trust in the change and the consequences for the individual, the willingness to change increases

(Weber and Weber, 2001). Armenakis et al., (2007) use the term valence to describe the attractiveness of the change based on the perceived consequences of the change for a person. They say that a high degree of valence will lead to a high degree of acceptance of the change. According to Metselaar (1997), a manager can have positive or negative feelings about the consequences of the change for the development of his or her career. For example, an economic consequence as job loss is a crucial factor in willingness to change. Rafferty and Simons (2005) say that willingness to change will increase when people see the advantages of a change for the organization. This is in line with the assumption of Metselaar and Cozijnsen (2002) that the expected positive consequences of the change for the work and for the organization will lead to more willingness to change.

Another consequence of the change is the threat of an employees' autonomy. Autonomy refers to the control employees have over their job. Kanter (1985) specifies the term autonomy and speaks about the autonomy of time use. Time can be seen as an employee's owned resource that will give someone a feeling of control over situations. When the autonomy over one's work-related time use is taken away, it can be described as a shift in power; the employee's power of time use is taken away by a change. This, in turn can increase resistance towards the change by employees (Fineman & Sturdy, 1999; Doorewaard & Benschop, 2003). Kotter & Schlesinger (2008) substantiate this by mention that, 'a key reason why people resist change is that they think they will lose something of value'. Eventually, three hypotheses can be formalized.

Hypothesis 1.1, 1.2 & 1.3

A higher expectation of positive consequences of the change for the employees' work leads to more willingness to change.

A higher expectation of positive consequences of the change for the organization leads to more willingness to change.

A higher need of autonomy leads to less willingness to change.

2.2.2 Emotional reactions on change

According to Elias (2009), implementing a change initiative without considering the psychological process is a failure. Implementing a change process without doing this can result in employees experiencing stress and cynicism. According to Metselaar and Cozijnsen (2002), emotion has the greatest influence on willingness to change. Emotion stands for the emotions brought about by the change with the employee. Emotion can be defined as a change in industriousness as reaction on emergencies or interruptions. Emotions serve interest satisfaction by protecting the relevance of events and in accordance with this modulate the behavior or instigate it (Frijda, 1993). Metselaar and Cozijnsen (2002) confirm this by assuming that positive emotional reactions on a change increase willingness to change. Emotional reactions imply if the change is considered as being a challenge or is experienced as being positive.

Next to emotional reactions Metselaar and Cozijnsen (2002) mention emotional involvement. They say that someone who is emotionally involved with a change has a greater binding with the change than someone who is not involved. This tells something about the importance of the place a change takes in the work of an employee. The assumption they take is that a higher degree of emotional involvement will lead to a higher degree of willingness to change. Therefore employees have to understand why change is necessary and they have to be emotionally committed to make change happen (Horn). As a conclusion, the following two hypotheses can be stated:

Hypothesis 1.4 & 1.5

A higher degree of evoked positive emotions on the change leads to more willingness to change.

A higher degree of emotional involvement leads to more willingness to change.

2.3 Subjective norm & need change

According to Metselaar and Cozijnsen (2002), the attitude of direct colleagues and direct supervisors influences the feelings someone has about needing to change. When supervisors and colleagues are convinced of the necessity of a change implementation, the pressure on employees to participate will increase. The subjective norm can be interpreted as the group pressure someone feels to change. Armenakis et al., (2007) support this by saying that change agents within the organization who support and encourage the change and give good examples generate group pressure and lead to increased willingness to change. Thereby the effort of the management to clear the goals of the change is very important to create a positive attitude concerning the change with employees (Alblas and Wijsman, 2005 and Weber and Weber, 2001). Besides group pressure, needing change also implies the urgency to change. Metselaar and Cozijnsen (2002) assume that when people think that change is necessary, people will be more willing to go through a change. Cunningham et al., (2002) substantiate this by saying that a visible need for change is an important motivator for willingness to change. Armenakis et al., (2007) also mention the importance of employees seeing the necessity or urgency of the proposed change. They translate this into the phenomenon discrepancy. The willingness to change will be low beforehand when there is no congruence about the necessity of the change. Discrepancy can be increased by providing clear information about the reasons why change is necessary. Concluding the subsequent hypothesis can be stated:

Hypothesis 2

A higher expected positive attitude of supervisors and colleagues concerning the change leads to more willingness to change.

2.4 Behavioral control & can change

In the context of behavioral control, Metselaar and Cozijnsen (2002) speak about the knowledge, experience and skills to cope with the change. They assume that someone who has the specific knowledge, experience and required skills for implementation of the change will have a higher degree of efficacy, which has a positive influence on the willingness to change of a person. According to Armenakis et al., (2007) efficacy is an important factor in determining willingness to change. Efficacy implies the thoughts someone has about his or her own capacities to implement a change. They say that when someone is convinced about his or her own capacities to implement a change, he or she will be earlier willing to change compared to a person that thinks that he or she does not has the capacities to cope with the change. According to Armenakis et al., (1993) and Eby et al., (2000) willingness to change will be higher when the employee thinks that the organization is more capable for going through a change. Rafferty and Simons (2005) add that with small changes logistic - and system support and the degree of sufficient provided resources are important predictors of willingness to change. Cunningham et al., (2002) also mention that the feeling that people can contribute successful to the change is an important motivator for willingness to change. After the preceding paragraph, the following hypotheses can be formulated:

Hypothesis 3

A higher expected positive efficacy concerning the change leads to more willingness to change.

2.5 Work satisfaction and willingness to change

First must be mentioned that the concept work satisfaction and job satisfaction are used interchangeable. They can be defined as the overall degree to which an individual likes his or her job (Price and Mueller, 1981).

Job satisfaction can be considered as a global feeling about various aspects or facets of a job (Spector, 1997). Job satisfaction represents the product of an 'interaction between employees and their work environment by gauging the congruence between what employees want from their job and what they feel they receive' (Wright & Kim, 2004: 19). It is often associated with a pleasurable or positive emotional reaction or feelings (Schmidt, 2007; Locke, 1976) and individual subjective assessment (Pichler & Wallace, 2008).

A growing body of literature supports the positive relationship of job satisfaction to employees' attitude to organizational change (Coopey and Hartley, 1991; Cordery et al., 1993; Gardner et al., 1987, Guest, 1987). Different authors say that positive factors that are related to willingness to change are trust in colleagues, flexible policy and procedures (Eby et al., 2000), management support, open communication (Hamelin-Brabant et al., 2007 and Weber and Weber, 2001) and active participation (Armenakis et al., 1993, Vakola et al., 2003). Rafferty and Simons (2005) support this by adding that the flexibility in policy and procedures, the perceived support of superiors and colleagues of the organization, the degree that employees believe they are appreciated and that the organization takes care for their well-being are important motivators for large changes. Contrary, in relation to job satisfaction Cordery et al. (1993) reported that low levels of extrinsic satisfaction were associated with unfavorable attitudes to change. Torenvlied and Velner (1998) conclude that the aspect work satisfaction and perceived legitimacy of change are negative related to resistance to change. From here, the following hypothesis can be stated:

Hypothesis 4:

A higher degree of work satisfaction among employees leads to more willingness to change.

On the other hand, the positive relation between dissatisfaction and willingness to change is also imaginable. Sensitize organizations to pressures for change can help generate sufficient dissatisfaction to produce change. Schein (1996) argues that employees must perceive that current ways of doing things are no longer working, in order to lead to dissatisfaction or frustration. Revealed discrepancies between current and desired states can help generate sufficient dissatisfaction to produce change. With a form of dissatisfaction, a sense of urgency to change exists and the unfreezing phase of Lewin's (1951) planned change process can be started. A sense of urgency also creates the phenomenon discrepancy, which makes the employees see a gap between the present and the desired state, which can be fulfilled by a change. Announced credible positive expectations from the change are also helpful to generate sufficient dissatisfaction to produce change (Lawler, 2000). The conclusion is that the concept that all forms of change start with some type of dissatisfaction or frustration must be stimulated to create readiness to change (Jonk, 2009). From here, a hypothesis can be stated that is contrary to hypothesis four:

Hypothesis 5:

A higher degree of work dissatisfaction among employees leads to more willingness to change.

Wruck (2002) adds an extra dimension to the relation between job satisfaction and change. She states that 'satisfaction and dissatisfaction of one's job, including the benefits of changes that make a job easier or safer like; public recognition, the value of interaction and relationship with peers, raises, promotions, bonuses, profit-sharing plans and equity ownership programs, helps to improve the motivation and productivity of employees and help overcome organizational inertia and opposition to change'. From this additional information, the sixth hypothesis can be formulated. The difference with hypothesis four and five is that this hypothesis concerns satisfaction because of a change instead of work satisfaction in general.

Hypothesis 6:

The more the change improves satisfaction, the higher the willingness to change of the employees.

2.6 Conceptual model

At the end of this chapter, a conceptual model is developed including the independent variables covered by the subject attitude, subjective norm, behavioral control and work satisfaction and their relation with the dependent variable willingness to change. The following chapter explains how this model is made operational.

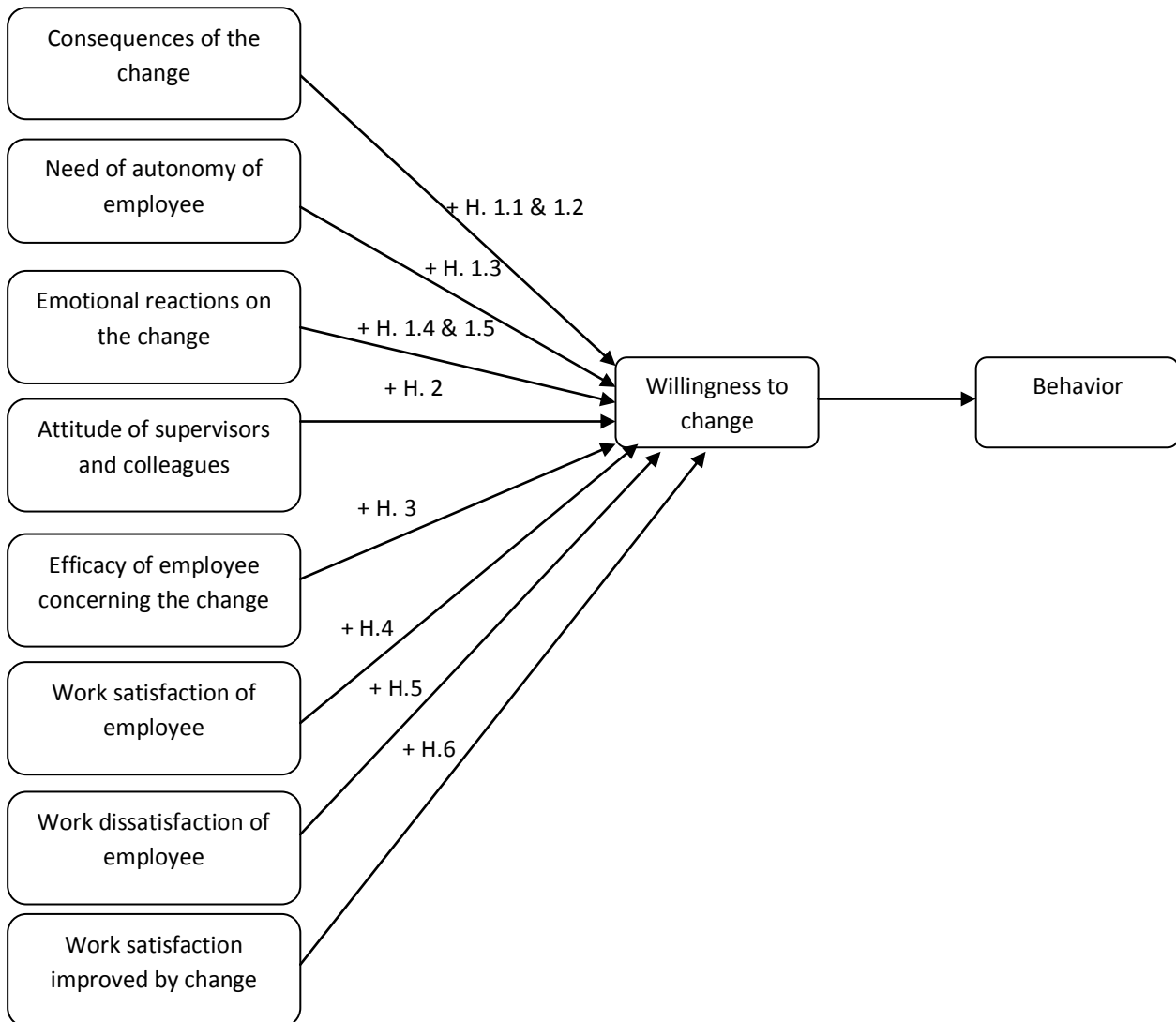


Fig. 2.2 Conceptual model: determinants of willingness to change

3. Research method

40 Questionnaires were taken personally with 40 employees of the radiology department at the UMCG. The group of employees consisted of administrators, laboratory workers and radiologists, people that will be all affected by the change. Beforehand they were all informed about the content of the questionnaire and the change. All 40 employees participated in the research, which means a 100% response.

3.1 Data collection

The questionnaire consists of 64 questions in Dutch and can be found in appendix number 1.

The first part consists of three open questions about the barriers, the advantages and the reasons for cooperating with the change. The second part question 4 until 7, were general questions like gender, age, and function in the team.

The third part of the questionnaire consists of propositions of items and has a Likert scale with five answer opportunities. The answer categories are; completely disagree, disagree, neutral, agree, and completely agree. These scales produce ordinal data.

Propositions of item 7 until 32 say something about different motivational forces for the change. These propositions were derived from the Diagnostic Inventory for the Assessment of Willingness to change Among Managers in Organizations (DINAMO) model of Metselaar and Cozijnsen (2002). They developed this instrument to measure willingness to change by managers which is also applicable for teams. The variable leading the change process is not used in the questionnaire because this subject did not suit the research because there was no information available yet about leading the change.

The propositions are separated in the subjects consequences for work (7-10: hypothesis 1.1), evoked emotions (11-14: hypothesis 1.4), added value of the change (15-18: hypothesis 1.2), emotional involvement (19-21: hypothesis 1.5), attitude of others (22-24: hypothesis 2), experience with change (25-26), time and manpower (27), complexity of the change (28-29), and timing of the change (30-31). Propositions of item 25 until 31 are meant to assess hypothesis 3.

Propositions of item 32 until 36 assess the dependent variable willingness to change. They measure if employees are willing to convince others about the use of the change, if they are willing to put effort in it, if they are willing to overcome resistance against it and if they are willing to free time for the change.

Propositions of item 38 until 61 are used to test the work satisfaction. The instrument used is called the work satisfaction index (Van der Ploeg and Scholte, 2003). Propositions of the items 38, 40, 41, 44, 45, 47, 49 until 52, 56, 57, and 60 testing work satisfaction and are meant to assess hypothesis four. Propositions of the items 39, 42, 43, 46, 48, 53 until 55, 58, and 59 testing work dissatisfaction and are meant to assess hypothesis five.

There are also two questions included about the relation between change and work satisfaction. With these propositions will be investigated if willingness to change is determined by the positive effect of the change on work satisfaction. These are proposition 36 and 37 and assess hypothesis six.

Propositions of item 61 until 65 say something about the need of autonomy within team two. The instrument that is used is the individual need of autonomy scale of Langfred (2005) and is separated in the need of work schedule-, work method-, and work criteria autonomy and is based on the article written by Breugh (1999). Hypothesis 1.3 will be tested by items 61 until 65.

3.2 Data analysis

The data were analyzed using the statistical program SPSS. First the population is described by general data like age, gender and profession. To test the reliability of the questionnaire a factor analysis and a Cronbach's alpha were executed. Because of the reliability analysis the constructs were adjusted and propositions of items that declined the homogeneity were left out of the research. The scores of the population on the different constructs were described by means of a frequency analysis.

The fourth step in data analysis was to carry out a correlation analysis to identify relations between different variables. Because of the ordinal origin of the data, the Spearman rho test for correlation research was used. Subsequently a regression analysis was executed to determine the directions of the correlations.

The answers from the open questions are analysed by means of fragmenting and labelling the information. The qualitative analysis method from Baarda, De Goede and Teunissen (1997) is used for this. The qualitative data are used for triangulation to ascribe the stated hypotheses with.

4. Results

4.1 Description of population

40 Respondents were surveyed and the questionnaires took approximately 30 minutes per person. In table 4.1 the general characteristics of the respondents are shown.

Gender	Men: 27,5%	Women: 72,5%			
Profession	Laboratory: 70%	Radiologists: 17,5%	Administrators: 12,5%		
Age	21-29: 37,5%	30-39: 25%	43-48: 20%	51-58: 12,5%	61-63: 5%

Table 4.1 Population description

The questioned population gives a proper view of the distribution of the department of radiology. In total the department consists of approximately 200 employees. 15% of the employees are radiologist, 10% is administrator and 50% is laboratory worker. The striking fact about these data is that almost 75% of the population is woman. This is related to the fact that 70% of the respondents are laboratory workers and most of the laboratory workers are women. There can be mentioned further that the respondents are relatively young with an average age of 37. This can be declared by the fact that within the last few years a lot of young laboratory workers are employed.

In the next paragraph will be continued with a reliability test to see which items of the questionnaire increase or decrease the reliability of the research.

4.2 Reliability analysis

First a factor analysis of each construct of the standardized questionnaire is executed to find out if the items measure the same construct variable or if the relation between items can be explained by another underlying variable. The Eigen value is the limiting value from SPSS that indicates if a construct can be divided into different components of items or so called factors. The Eigen value of a factor or component must be higher than one; otherwise an extra factor declares less variance than it adds by itself.

4.2.1 Factor analysis

From the factor analysis appeared that the construct consequences of the change for work consisted of two components. The first component consisted of item 9 and 10 and the second one of item 7 and 8. This separation can be declared by the fact that item 7 and 8 say something about the work in general, while item 9 and 10 say something about the employees' personal work situation.

From the construct added value of the change appeared that item 16 and 18 belong together and item 15 and 17. This suggests that this construct can be divided into a factor about the external organization and a factor about the internal organization.

The constructs evoked emotions by the change, work satisfaction and work dissatisfaction could also be divided into different components. Although from the reliability analysis by means of the Cronbach's alpha (α) appeared that the reliability from the original constructs was higher compared to the reliability from the new constructs. Therefore these components will no further be explained in detail. From the other constructs none or no more than one component could be derived. The degree of reliability of these constructs will be assessed by the Cronbach's alpha which tests on reliability by leaving out only one item of the scale.

4.2.2 Cronbach's alpha

After the factor analysis the reliability and usability of the identified components will be assessed by the Cronbach's alpha. To see if the reliability increases by splitting up the constructs, the Cronbach's alpha of the separate components will be compared with the Cronbach's alpha of the original constructs. If these alphas are higher than the original ones, the construct will be split up and new components will be used. The limiting value of the Cronbach's alpha used is $\alpha = 0,7$.

For the construct consequences for work counts that the Cronbach's alpha of the first component is higher ($\alpha = 0,47$) than the Cronbach's alpha of the original construct ($\alpha = -,03$). The Cronbach's alpha

of the second component is also negative and therefore not usable. The research will proceed with the first component.

The construct evoked emotions reaches the best Cronbach's alpha with leaving out item 12 ($\alpha = 0,57$) compared to the Cronbach's alpha of the total construct ($\alpha = 0,42$).

The components within the construct added value for the organization scored Cronbach's alphas from $\alpha = 0,71$ and $\alpha = 0,20$. Therefore the second component with item 15 and 17 are left out of the research. The Cronbach's alpha for the total construct was $\alpha = 0,40$.

The Cronbach's alpha of the total construct of work satisfaction is $\alpha = 0,72$. None of the components that were identified reached this alpha (Component 1: $\alpha = 0,69$, component 2: $\alpha = 0,71$, component 3: $\alpha = 0,69$, component 4: $\alpha = 0,17$). After the Cronbach's alpha test appeared that by leaving out item 57 the alpha increased to $\alpha = 0,73$.

The construct work dissatisfaction also remains intact. The Cronbach's alpha of the total construct is $\alpha = 0,50$. Only item 42 will be left out of the research because this will increase the alpha to $\alpha = 0,54$. The components that were found scored alpha's from $\alpha = 0,68$, $0,54$, $0,56$ and $0,50$. The reason why the first component is not used is because this factor could not be explained in one variable. The choice to adopt component 3 and leaving the other items out of the research was not a reasonable option.

After the reliability analysis, only the constructs attitude of others, experience with change and work satisfaction appeared to be reliable or so called homogenous above a limiting value of $0,7$. A possible reason for this is that the original designers of the scales used a larger popularity to validate the variables. Metselaar (1997) for example, who developed the DINAMO model, used a sample of 380 respondents.

In the next paragraph a frequency analysis shows the scores on the adjusted constructs with the corresponding means, medians, modes and standard deviations. The Cronbach's alphas can be found in the correlation matrix in paragraph 4.4.

4.3 Frequency analysis

Variable	Item	Mean	Median	Mode	Minimum	Maximum
1. Consequences for work	9, 10	2,34	2	2	1	4
2. Evoked emotions	11, 13, 14	3,74	3,83	4	2	5
3. Added value for organization	16, 18	3,23	3	3	2	5
4. Emotional involvement	19 – 21	3,59	3,67	4	3	5
5. Attitude others	23 & 24	3,71	4	4	2	5
6. Experience with change	25, 26	2,75	3	3	2	5
7. Time for the change	27	3,38	4	4	1	5
8. Complexity of the change	28, 29	3,64	4	4	2	4
9. Timing of the change	30, 31	3,69	4	4	2	5
10. Willingness to change	32 – 35	3,78	4	4	3	5
11. Satisfaction and change	36	3,15	3	4	2	4
12. Dissatisfaction and change	37	2,05	2	2	1	4
13. Work satisfaction	38, 40, 41, 44, 45, 47, 49 - 52, 56, 60	3,53	3,67	4	3	4
14. Work dissatisfaction	39, 43, 46, 48, 53 – 55, 58, 59	2,58	2,56	2,56	1,67	3,78
15. Autonomy work method	61, 62	3,51	3,50	4	2	5
16. Autonomy work schedule	63, 64	3,41	3,50	4	2	5

Table 4.2 Frequency analysis

From the frequency analysis can be derived that evoked emotions by the change, the added value of the change, emotional involvement with the change, attitude of others concerning the change, time and manpower available for the change, complexity of the change, timing of the change, work satisfaction, the need of autonomy and the dependent variable willingness to change most often gained the highest scores. This means that they have a modus of 'agree'. According to Metselaar and Cozijnsen (2002) can be assumed that the team members are willing to make time and energy available for the implementation of the change.

Consequences of the change and the influence of the change on work dissatisfaction gained the lowest scores with a modus of 'disagree'. There can be mentioned in general that the respondents reacted relatively positive on the propositions. This can be ascribed to the fact that the change aims to improve patient care which has the highest priority amongst the employees. Only the consequences of the change for the work and the experience with change did not gain high scores. This can be ascribed by the fact that employees did not perceive the change as a large change. About the experience with change must be mentioned that a lot of employees did not experience a change within radiology yet due to a lack of working years. Although almost all the employees that experienced change within this organization were not positive about it.

After the frequency analysis the constructs are tested on their reliability to make testing of causal relations between the items possible in a responsible manner. Therefore the correlation matrix is shown with adjusted scales with new means.

4.4 Correlation matrix

	It.	α	Mean	SD	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	2	0,47	2,34	0,73	,22	,54**	,15	,01	,02	,00	,16	-,28*	,19	,21	,22	,17	,09	,09	-,25	
2	3	0,57	3,74	0,52		,22	,30*	-,07	,01	-,04	,05	-,04	,38**	,34*	-,16	,26	-,04	-,00	,05	
3	2	0,71	3,23	0,72			,01	-,06	-,06	,17	,07	-,25	,44**	,35*	-,01	-,01	,16	-,25	-,23	
4	3	0,37	3,59	0,47				,07	,05	,12	,16	,06	,30*	,34*	,02	,01	,13	,12	,05	
5	2	0,73	3,71	0,58					-,18	-,07	-,08	,26	,24	,09	-,32*	-,01	-,05	,01	,10	
6	2	0,72	2,75	0,78						,25	-,21	-,10	-,15	-,14	-,04	,28*	-,00	,02	-,30*	
7	1		3,38	0,98							,45**	,35*	,26	,22	-,40**	,55**	-,26	-,16	-,13	
8	2	0,19	3,64	0,59								,32*	,09	,19	-,06	,11	-,11	,01	-,02	
9	2	0,24	3,69	0,50									,25	,04	-,41**	,15	-,32*	,19	,15	
10	4	0,48	3,78	0,41										,33*	-,29*	,15	,07	,18	,18	
11	1		3,15	0,80											-,04	,05	-,02	-,17	-,04	
12	1		2,05	0,55												-,39**	,19	-,11	-,19	
13	12	0,73	3,53	0,42													-,39**	,03	,01	
14	9	0,59	2,58	0,42														,15	,11	
15	2	0,35	3,51	0,72																,39**
16	2	0,56	3,41	0,78																

Table 4.3 ** Correlation is significant at the 0,01 level, 1 tailed. * Correlation is significant at the 0,05 level, 1 tailed. It= number of items in scale, SD= standard deviation, α = Cronbach's alpha

4.4.1 Correlation

With the new constructs a correlation analysis is performed. The test used for this analysis is the Spearman rho correlation test. This test investigates if a high score on one variable correlates with a high score on another variable. The Spearman's rho correlation coefficient is an appropriate tool to analyse ordinal data.

The correlation between willingness to change and the added value of the change is the strongest relation found with the dependent variable ($r_s = 0,44$: $p < 0,01$, 1 tailed). There also appears to be a strong positive correlation between willingness to change and evoked emotions by the change ($r_s = 0,38$: $p < 0,01$, 1 tailed). Next to that a significant relation between willingness to change and emotional involvement is found ($r_s = 0,30$: $p < 0,05$, 1 tailed). The relation between the influence from change on work satisfaction and willingness to change appears to correlate in two ways. The influence from change on work satisfaction and the influence from change on dissatisfaction are both related to willingness to change ($r_s = 0,33$: $p < 0,05$, 1 tailed and $r_s = -0,29$: $p < 0,05$, 1 tailed).

4.4.2 Other significant relations

A striking finding that is the fact that next to willingness to change the evoked emotions, added value of the change and emotional involvement also correlate with the improvement of satisfaction by the change. Although the relations are less strong ($r_s = 0,34, 0,35, 0,34$: $p < 0,05$) can be said that respondents who score high on these three independent variables and the dependent variable willingness to change score also high on the proposition that the change improves their work satisfaction. From here can be assumed that the people who reacted positively on the change, the people who were involved with it and saw the added value for the organization therefore think that this change improves their work satisfaction.

There exist also a relation between time for the change and complexity of the change ($r_s = 0,45$: $p < 0,01$, 1 tailed). A high score on time for the change relates to a high score on the complexity of the change. This can be declared by the fact that the construct time measures the availability of time of the employee for the change and one item within complexity measures the ability to implement the change with the current resources. Time is negatively related to the construct work dissatisfaction and change ($r_s = -0,40$: $p < 0,01$, 1 tailed). The higher the score on time, the lower the score on the implications of the change for work dissatisfaction. The positive relation between time and work satisfaction is even stronger ($r_s = 0,55$: $p < 0,01$, 1 tailed). It seems that employees who are more satisfied with their work perceive to have more time for change.

A logic relation after the findings above is the negative relation between the timing of the change and the implications of the change on work dissatisfaction ($r_s = -0,41$: $p < 0,01$, 1 tailed). The same relation also exists between timing and work dissatisfaction ($r_s = -0,32$: $p < 0,05$, 1 tailed) in a less strong degree. The item timing and time for the change both say something about the capacity available for the change and both lower the dissatisfaction caused by the change.

Another finding shows that the consequences of the change correlate with the added value of the change for the organization ($r_s = 0,54$: $p < 0,01$, 1 tailed). The respondents who were positive about the consequences of the change for their work were also positive about the added value of the change for the organization.

There also seems to be a strong relation between the implications of the change for work dissatisfaction and work satisfaction ($r_s = -0,39$: $p < 0,01$, 1 tailed). Table 4.3 also shows the negative relation between work satisfaction and work dissatisfaction ($r_s = -0,39$: $p < 0,01$, 1 tailed). Within the construct need of autonomy a positive relation between the construct of need of work method autonomy and need of work schedule autonomy exists ($r_s = 0,39$: $p < 0,01$, 1 tailed). These relations are logically explainable.

To see if the hypotheses of the significant correlations can be adopted will be continued with a regression analysis.

4.5 Regression analysis

Variable	B	Std. Error	Beta/R/ correlation	R square	t	Sig.
Evoked emotions	,41	,11	,51	,26	3,67	,00
Added value	,29	,08	,50	,25	3,52	,00
Emotional involvement	,37	,13	,42	,18	2,86	,01
Change & work satisfaction	,15	,08	,30	,09	1,90	,06
Change & work dissatisfaction	-,28	-,11	-,37	,14	-2,47	,01

Table 4.4 Regression analysis (dependent variable: willingness to change)

To determine the direction of the causalities with the dependent variable willingness to change a regression analysis is performed. There appears to be a clear linear positive causal relation of influence of evoked emotions by the change on the willingness to change. The higher the evoked emotions, the higher the willingness to change will be, and the other way around: the lower the evoked emotions, the lower the willingness to change. The strength of the regression is 0,51 ($p < 0,01$). From the variance of the willingness to change 26% can be declared by the evoked emotions caused by the change. The same linear positive causal relation counts for the influence of the variables; added value, emotional involvement, change and work satisfaction on willingness to change. The relation between willingness to change and change and work dissatisfaction correlates negatively. This means that the higher the score on change and work dissatisfaction, the lower the willingness to change. The variance of willingness to change can be declared by the variable change and work dissatisfaction for 14%. Because of these findings hypothesis 1.2, 1.4 and 1.5 and 6 will be adopted;

A higher expectation of positive consequences of the change for the organization leads to more willingness to change.

A higher degree of positive emotional reactions on the change leads to more willingness to change.

A higher degree of emotional involvement leads to more willingness to change.

The more the change improves job satisfaction, the higher the willingness to change of the employees.

4.6 Triangulation by means of qualitative results

After splitting the interview text into several relevant text fragments, the answers from the open questions were divided by key tags into three main subjects. These subjects are the expected barriers for the change, the expected advantages of the change and the reasons why someone would cooperate with the change. Under the key tags several dimensions like lack of time, quality improvement and support from staff are split out. From the dimensions various loadings can be derived like occupation of personnel, reduction of incidents and deserving attention. Ranging the data is done in a causal manner, which means that the loadings explain the consequences of the dimension. An overview of the answers to the open questions can be found in appendix 3.

To ascribe hypothesis 1.2 about the influence of the added value of the change for the organization on willingness to change, the answers on question about the advantages of the change brought quality improvement, safety improvement and improved professionalism of the organization to the fore. Next to that efficiency improvement was mentioned as a reason to cooperate with the change, but this concerns the internal organization.

Hypothesis 1.4 about the evoked emotions and willingness to change is supported by the answers on the question why the employee wanted to cooperate or not. All the respondents had a positive attitude towards the change and wanted to cooperate. They think that the change improves the quality of the work with a reduction of incidents and safety improvement as consequence. The learning element of the change is also perceived very positive.

Elements of the variable emotional involvement to support hypothesis 1.5 were mentioned in the barriers man expected the change would encounter. If the employees do not feel involved with the change, the willingness to change will decrease because of the lack of time, lack of priority, insufficient communication about the change and the persuasion of personnel about the change will become very difficult.

Hypothesis six is ascribed by the dissatisfaction about the current situation. Employees know that a lot of mistakes are made in the current situation and find that people have to be aware of that and be responsible for their own actions. Because of the change feedback will be provided which is something a lot of employees say they are in need of.

5. Conclusion

This research can only be successful if the research question will be answered. The question was:

Which factors determine the willingness to change concerning registering incidents of employees of the radiology department at the UMCG?

This research question is answered by means of nine hypotheses. The results chapter proves that four hypotheses can be adopted, namely 1.2, 1.4, 1.5 and 6. The variable evoked emotional reactions, the added value of the change, emotional involvement and the influence of change on work satisfaction partly determine the willingness to change of employees of the radiology department at the UMCG. By means of these outcomes can be concluded that people who are positive about the change, see the added value for the organization, who are emotional involved are willing to change. Next to that can be said that people who think that the change improves their work satisfaction are willing to change either. Hypotheses 1.1, 1.3, 2, 3, 4 and 5 are not adopted. Therefore the consequences for work, attitude of others, efficacy, need of autonomy, work satisfaction and work dissatisfaction do not seem to play a role in determining willingness to change.

5.1 Implications

Based on these findings can be concluded that the management of radiology has to take the emotions of the employees into account if they want to create willingness to change for implementing the change. This means that they have to emphasize the positive sides of this change like quality improvement, safety improvement and the learning aspect.

Next to that, it is important that they stress the necessity of the change in order to create a feeling of emotional involvement with the employees. This assumption is ascribed by the fact that employees mentioned the priority of the change as a possible barrier for a successful implementation. The extra work the change causes is not welcome due to a lack of time and employees doubt the utility of the change because they think it will loose priority in a short time. The employees mentioned also that the change must be supported by the staff because it deserves attention from them. The experience is that often this is not the case.

To overcome barriers like for example the persuasion of personnel it is important to communicate the added value of the change for the organization in a clear manner because this leads to more willingness to change. Employees also mention communication about the change as a very important factor in the change process. They had negative experiences with the clarity of instructions and feedback about the progress of the change, but find this very important.

By means of hypothesis six can be concluded that employees who think that the change will improve their work satisfaction are more willing to change. This means that they are not satisfied with the current situation because they observe their situation as being ready for improvement. About the outcome of hypothesis six can be said that the management has to take the satisfaction of the employees into account with implementing this change to increase the willingness to change. This conclusion is especially ascribed by the answers on the open questions. Employees mentioned different needs that can be fulfilled because of this change and the assumption is that this will increase their satisfaction. The most common needs were; being able to address their colleagues more easily on responsibilities, learning from incidents and they would appreciate receiving more feedback on their work which leads to more openness on their department. The management should focus on creating a work situation that fulfills these needs.

6. Discussion

6.1 Explanation of rejected hypotheses

In total nine hypotheses were formulated and only four are adopted. A possible reason for the rejection of hypothesis 1.1 about the consequences for work is that the change was perceived as only an extra task and not as a major change in work. Hypothesis 1.3 showed that there is no relation between the need of autonomy and willingness to change. The employees were all relatively satisfied with the degree of autonomy within their jobs and found the rules and restrictions are necessary. Radiologists already have a certain autonomy brought along by their job, therefore they could be satisfied with the degree of autonomy they already have. Hypothesis 2 could have been rejected because a lot of employees found the propositions about the attitude of their colleagues difficult to answer. They expected that the supervisor would support the change, but found it difficult to think for their colleagues. Hypothesis 3 about the efficacy of the employee to change is not confirmed partly because a number of employees did not experience a change on organizational level within radiology yet due to the lack of working years in the organization. Therefore a number of respondents answered neutral on the propositions about earlier organizational changes. The propositions about time for the change did not support hypothesis 3 possibly because many employees agreed to have enough time available for the change on the condition that there would be specially scheduled time for the change. Why there is no significant relation between the complexity of the change and willingness to change cannot be explained. It was also expected that the timing of the change and willingness to change would correlate because most of the respondents commented that the earlier the change would be implemented the better it would be.

The direct relation between work satisfaction and willingness to change did not appear significant, although the relation between the improved satisfaction by the change and willingness to change was significant. Therefore can be said that a high degree of work satisfaction does not lead to more willingness to change, but knowing that an organizational change improves the current work satisfaction does lead to more willingness to change. The same counts for the relation between work dissatisfaction and willingness to change. The fact that the employees see work satisfaction apart from the change or the variation of professions within the population could be possible reasons for the rejection of hypothesis four and five.

6.2 Limitations

Initially the willingness to change among only radiologists would be investigated instead a population of different employees of the radiology department. It was expected that the willingness to change would be the lowest among the physicians because of the controversial subject professional autonomy. Due to the low number of radiologists available, it was not possible to execute a valid and reliable research. Besides that, it would be very interesting to gain insight in the differences between professionals, laboratory workers and administrators in willingness to change. Then the management of radiology would know which subjects to focus on for creating willingness to change for the implementation of the change. Unfortunately, the three different groups were not large enough to make a good comparison. Another limitation was that the homogeneity of several variables appeared to be insufficient with a research population of forty respondents. Because the questions of the questionnaire were already validated, the homogeneity was accepted and the variables are used to test the hypotheses.

6.3 Interesting findings for further research

Additional information is provided by extra correlations between independent variables. Different relations are found, although two striking findings are interesting for further research. First, the time an employee has for the change is positively related to work satisfaction. Next to that a significant negative relation between the influence of change on work dissatisfaction and the time available for change exists. It is not surprising that the timing of the change shows the same relations with decreased dissatisfaction. In the literature no relations are found between time for change or timing of change and work satisfaction or work dissatisfaction. According to these results can be assumed that someone who is satisfied with his or her job perceives to have more time available for change. Next to that the assumption can be made that when a respondent thinks that a change will decrease its work dissatisfaction, he or she is more willing to make time available for the change.

Because first the relation between willingness to change and the improvement of work satisfaction by the change is investigated in general, it would also be interesting to go into detail and look after relations between willingness to change and improved detailed factors of work satisfaction by organizational change like for example payment. Pfeffer and Lawler (1980) found that extrinsic rewards stimulate satisfaction and performance of employees. Also Cummings and Worley (2005) argue that extrinsic rewards can enhance performance and satisfaction. It would be interesting to investigate if willingness to change would also increase when the change increases or generates extrinsic rewards.

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Appendix 1 Questionnaire

Dear sir / madam,

On the initiative of medical team leader Fons Bongaerts I am investigating the willingness to protect the safety and quality of all processes between request and outcome within team two.

This is possible by monitoring the effects of control moments that are build in the work process by means of safety indicators. For all clarity: the department has not decided anything yet, but wants to know on forehand if there is willingness for this change.

The meant safety indicators should give you answers on questions like;

1. Leads each request with certainty to an answer (reaction / report)?
2. How well do our measures work to signal and correct left-right and identity substitutions on time?
3. In what degree are the clinical information and the quality of the images sufficient for answering a request?
4. How well do we signal and recognize abnormalities?
5. How early and clear are the reports?

For monitoring safety indicators it is necessary to register them.

In the context of my graduation research for the education of change management (business administration) I measure the willingness for registration. Next to that I investigate if the subjects work satisfaction and autonomy influence the willingness to change.

Your answers shall be handled in trust and I will take care that they are not traceable in my report after processing.

Thank you very much in advance for your cooperation.

Open questions

1. Which barriers can encounter the implementation of this change according to you?
2. Which advantages entails this change according to you?
3. Why should you or should you not cooperate with this change?

General questions

- 4. Gender:
- 5. Age:
- 6. Function:

1= Totally disagree	2= Disagree	3= Neutral	4= Agree	5= Totally agree
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Motivational forces

Consequences for work

- 7. I am convinced that by means of the change the quality of the work improves.
- 8. By means of the change the work pressure decreases.
- 9. After the change I take more responsibility for my work.
- 10. The change creates new career chances for me.

Emotions

- 11. I experience the change as challenge.
- 12. I experience the change as familiar.
- 13. I experience the change as refreshing.
- 14. I experience the change as positive.

Added value of the change

- 15. The added value of the change is clear to me.
- 16. The change leads to an improved market position of the organization.
- 17. The change leads to an increased effectiveness of the organization.
- 18. The change produces advantages towards the competition.

Emotional involvement with the change

- 19. The change takes an important role in my work.
- 20. I feel involved with the change.
- 21. The change stands close to my work.

Attitude of others

- 22. I support the change.
- 23. My colleagues support the change.
- 24. My team leader supports the change.

Experience with change

- 25. I had good experiences in the past with changes within the organization.
- 26. I was actively involved with the implementation of preceding changes.

Time and manpower

- 27. I have sufficient time and space in my agenda to spend time on the change.

Complexity of the change

- 28. The change can be implemented with the current sources and man power.
- 29. The results of the change can be mapped easily.

Timing of the change

- 30. The change comes on a good moment.
- 31. I can meet the demands of the change.

Willingness to change

32. I am willing to convince colleagues of the use of the change.
33. I am willing to put effort within the context of the change.
34. I am willing to overcome resistance against the change.
35. I am willing to free time for the implementation of the change.

Work satisfaction

36. The change increases my work satisfaction.
37. Because of the change I gain less satisfaction out of my work.
38. I feel appreciated in this work by my department staff.
39. I am allowed to organize way too little by my self.
40. The mutual relationships are good in our team.
41. My work offers enough space to use my knowledge and skills.
42. I earn too less given the work that I do.
43. I get too less guidance here.
44. I have a lot of freedom in this work.
45. The other team members inspire me.
46. I look forward to a job with more future opportunities regularly.
47. The department staff informs us good about new organizational developments.
48. I am allowed to decide too less by my self in the guidance of my patients.
49. The colleagues of my team are capable persons.
50. I love the work that I do very much.
51. I have enough voice in the policy of my institution.
52. I feel appreciated by my colleagues in this work.
53. I earn too less here compared with colleagues elsewhere.
54. The many rules and procedures making the work here unnecessary complicated.
55. Our team sticks together like loose sand.
56. The work here is a challenge for me.
57. The secondary terms of employment (vacations, allowances and such) are very fine.
58. The team staff blocks my effort regularly to perform my work as good as possible.
59. I withhold very often to prevent conflicts with colleagues.
60. I stand this work for another number of years.

Autonomy

Need of work method autonomy

61. I want to decide by myself how I approach my work.
62. I want to be able to choose how I approach my work within the team.

Need of work schedule autonomy

63. I want to decide by myself when I carry out certain activities in my team.
64. I want to have some control over the order of my activities in the team.

Appendix 2 Questionnaire Dutch

Geachte heer / mevrouw,

Op initiatief van de medisch teamleider Fons Bongaerts doe ik binnen team 2 onderzoek naar het draagvlak voor het bewaken van de veiligheid en kwaliteit van alle processen tussen aanvraag en uitslag. Dit zou kunnen door de effecten van in het werkproces ingebouwde controlemomenten te monitoren met zogenaamde veiligheidsindicatoren. Voor alle duidelijkheid: de afdeling heeft hiertoe nog niet besloten maar wil op voorhand weten of deze verandering op draagvlak kan rekenen.

De bedoelde veiligheidsindicatoren zouden u antwoord moeten kunnen geven op vragen als:

1. leidt elke aanvraag met zekerheid tot een antwoord (reactie/verslag)
2. hoe goed werken onze maatregelen om links-rechts en identiteitsverwisselingen tijdig te signaleren en corrigeren
3. In welke mate zijn de klinische informatie en de kwaliteit van de beelden toereikend voor het beantwoorden van de vraagstelling
4. hoe goed signaleren en herkennen we afwijkingen
5. hoe tijdig en eenduidig zijn de verslagen

Voor het monitoren van veiligheidsindicatoren is het nodig deze te registreren.

In het kader van mijn afstudeeronderzoek voor de opleiding verandermanagement (bedrijfskunde) meet ik de veranderbereidheid tot registratie. Daarnaast onderzoek ik of de onderwerpen arbeidstevredenheid en autonomie invloed hebben op de veranderbereidheid.

Uw antwoorden zal ik vertrouwelijk behandelen en ervoor zorg dragen dat ze na verwerking - in mijn verslag - niet meer tot u te herleiden zijn.

Alvast hartelijk dank voor uw medewerking.

Open vragen

1. Welke barrières kunnen er volgens u optreden bij de invoering van deze verandering?
2. Welke voordelen brengt de verandering met zich mee volgens u?
3. Waarom zou u wel of niet meewerken aan de verandering?

Algemene vragen

4. Geslacht:
5. Leeftijd:
6. Functie:

1= Helemaal oneens	2= Oneens	3= Neutraal	4= Eens	5= Helemaal eens
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Motivatie krachten

Gevolgen voor het werk

7. Ik ben ervan overtuigd dat door de verandering de kwaliteit van het werk toeneemt.
8. Door de verandering neemt de werkdruk af.
9. Na de verandering draag ik meer verantwoordelijkheid voor mijn werk.
10. De verandering creëert nieuwe loopbaankansen voor mij.

Emoties

11. Ik ervaar de verandering als uitdaging.
12. Ik ervaar de verandering als vertrouwd.
13. Ik ervaar de verandering als verfrissend.
14. Ik ervaar de verandering als iets positiefs.

Meerwaarde van de verandering

15. De meerwaarde van de verandering is duidelijk voor mij.
16. De verandering leidt tot een verbetering van de marktpositie van de organisatie.
17. De verandering leidt tot een vergroting van de effectiviteit van de organisatie.
18. De verandering levert voordelen op ten opzichte van de concurrentie.

Emotionele betrokkenheid bij de verandering

19. De verandering neemt een belangrijke plaats in mijn werk in.
20. Ik voel mij betrokken bij de verandering.
21. De verandering staat dicht bij mijn werk.

Houding van anderen

22. Ik sta achter de verandering.
23. Mijn collega's staan achter de verandering.
24. Mijn teamleider staat achter de verandering.

Ervaring met verandering

25. Ik heb in het verleden goede ervaringen opgedaan met veranderingen binnen de organisatie.
26. Ik ben actief betrokken geweest bij invoering van voorgaande veranderingen.

Tijd en mankracht

27. Ik heb voldoende ruimte in mijn agenda om tijd aan de verandering te besteden.

Complexiteit van de verandering

28. De verandering kan met de huidige middelen en mankracht worden ingevoerd.
29. De resultaten van de verandering kunnen gemakkelijk in kaart worden gebracht.

Timing van de verandering

30. De verandering komt op een goed moment.
31. Ik kan voldoen aan de eisen die de verandering aan mij stelt.

Veranderbereidheid

32. Ik ben bereid collega's te overtuigen van het nut van de verandering.
33. Ik ben bereid mij in te zetten in het kader van de verandering.
34. Ik ben bereid om weerstand tegen de verandering te overwinnen.
35. Ik ben bereid om tijd vrij te maken voor de invoering van de verandering.

Arbeidstevredenheid

36. De verandering verhoogt mijn werktevredenheid.
37. Door de verandering haal ik minder voldoening uit mijn werk.
38. Ik voel me in dit werk gewaardeerd door mijn afdelingsleiding.
39. Ik mag hier veel te weinig zelf regelen.
40. In ons team zijn de onderlinge verhoudingen goed.
41. Mijn werk biedt genoeg ruimte om mijn kennis en vaardigheden te gebruiken.
42. Ik verdien hier te weinig gelet op het werk dat ik doe.
43. Ik krijg hier te weinig begeleiding.
44. Er wordt mij in het werk een grote mate van vrijheid gelaten.
45. De andere leden van mijn team inspireren mij.
46. Ik kijk geregeld uit naar een baan met meer toekomstmogelijkheden.
47. De afdelingsleiding informeert ons goed over nieuwe organisatorische ontwikkelingen.
48. Ik mag in de begeleiding van mijn patiënten te weinig zelf beslissen.
49. De collega's van mijn team zijn competente personen.
50. Ik houd erg van het werk dat ik doe.
51. Ik heb genoeg inspraak in het beleid van mijn instelling.
52. Ik voel me in dit werk gewaardeerd door mijn collega's.
53. Vergeleken met collega's elders verdien ik hier te weinig.
54. De vele regels en procedures maken het werk hier onnodig ingewikkeld.
55. Ons team hangt als los zand aan elkaar.
56. Het werk hier is voor mij een uitdaging.
57. De secundaire arbeidsvoorwaarden (vakanties, toelagen e.d.) zijn hier dik in orde.
58. De teamleiding blokkeert geregeld mijn inzet om mijn werk zo goed mogelijk te doen.
59. Ik houd me vaak in om conflicten met collega's te voorkomen.
60. Ik houd dit werk nog wel een aantal jaren vol.

Autonomie

Behoeftte aan werkmethode autonomie

61. Ik wil zelfstandig kunnen besluiten hoe ik mijn werk aanpak.
62. Ik wil in staat zijn om te kiezen hoe ik mijn werk aanpak in het team.

Behoeftte aan werkrooster autonomie

63. Ik wil zelf kunnen beslissen wanneer ik bepaalde activiteiten uitvoer in mijn team.
64. Ik wil enige controle hebben over de volgorde van mijn activiteiten in het team.

Appendix 3 Qualitative results

Key tag	Expected barriers	Expected advantages	Reasons to cooperate
Dimension Fragments - Loading	<u>Lack of time</u> 5.1, 7.1, 8.1, 12.1, 13.1, 15.1, 16.1, 19.1, 29.1, 40.1 - Occupation of personnel 3.1, 4.1, 5.1, 8.1, 12.1, 13.1, 21.1, 27.1, 29.1, 32.1 - Forgetfulness 1.1, 9.1, 11.1, 20.1, 25.1, 26.1, 27.1, 35.1	<u>Quality improvement</u> 4.2, 24.2, 26.2, 29.2, 30.2, 32.2, 33.2, 34.2, 36.2, 38.2, 40.2 - Reduction of incidents 1.2, 3.2, 5.2, 7.2, 8.2, 16.2, 18.2, 19.2, 23.2, 25.2, 37.2, 39.2 - Safety improvement 17.2, 21.2, 22.2, 35.2	<u>Support from staff</u> 12.3, 14.3, 16.3, 26.3 - Deserves attention 23.3, 29.3 - Image of change 1.3, 25.3, 32.3
	<u>Lack of priority</u> 12.1, 32.1, 35.1 - Extra work 3.1, 4.1, 5.1, 8.1, 12.1, 13.1, 18.1, 21.1, 27.1, 29.1, 32.1 - Doubt Necessity 3.1, 5.1, 7.1, 10.1, 11.1, 34.1	<u>Awareness</u> 9.2, 10.2, 13.2, 15.2, 20.2, 26.2, 30.2, 31.2, 38.2, 39.2 - Responsibility for own results 1.2, 36.2 - Addressing colleagues 2.2, 11.2, 24.2, 27.2, 33.2, 37.2	<u>Sense of urgency</u> 6.3, 15.3, 19.3, 35.3
	<u>Persuasion of personnel</u> 21.1, 32.1 - Breaking through routine 4.1, 6.1, 11.1, 40.1 - Time consuming system 2.1, 8.1, 31.1, 35.1	<u>Knowledge / Learning</u> 17.2, 20.2, 22.2, 24.2, 28.2, 36.2 - Improve insight 4.2, 6.2, 10.2, 12.2, 26.2, 27.2 - Improve professionalism 14.2, 19.2	<u>Efficiency</u> 2.3, 3.3, 5.3, 11.3, 21.3, 39.3
	<u>Insufficient communication</u> 2.1, 11.1, 19.1, 21.1, 35.1 - Clarity of instruction 1.1, 16.1, 17.1, 19.1, 27.1, 33.1, 40.1 - Lack of feedback 4.1, 11.1, 33.1, 36.1, 37.1		<u>Feedback</u> 7.3, 8.3 - Openness 1.3, 10.3, 22.3, 27.3, 28.3
	<u>Traceability</u> 21.1, 23.1, 24.1, 28.1, 32.1 - Threat 30.1, 36.1, 37.1, 38.1		<u>Feasibility</u> 17.3, 27.3, 36.3

Qualitative results (5.1 Means the first fragment from the fifth interview)

The number of fragments per dimension or loading equals the number of respondents who mentioned the subject in their answers per key tag. A key tag equals the subject of an open question which can be found in appendix 1 and 2. The subjects of the loadings are caused by the dimensions.

