Communicating Change

The Influence of Aspects of Change Communication on the Attitudes of Employees Towards Change

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Management samenvatting

Reorganisaties zijn onontkoombaar, iedere organisatie heeft ermee te maken. Onderzoek toont aan dat organisaties moeite hebben met het succesvol implementeren van verandering. Daar zijn een aantal oorzaken voor te vinden en een daarvan is 'change communication'. Communicatie en implementatie zijn twee sterk verstrengelde processen. 'Change communication' is van vitaal belang voor het succesvol implementeren van reorganisaties.

In dit onderzoek zal worden onderzocht in hoeverre aspecten van 'change communication', de waargenomen kwaliteit van informatie, medium van communicatie en bron van communicatie, een invloed hebben op de houdingen van werknemers ten opzichte van een reorganisatie.

Dit werd onderzocht met behulp van een kwantitatieve survey studie, binnen een grote publieke organisatie. Data is verzameld middels online questionnaires.

Resultaten tonen aan dat er een redelijk sterk positief verband is tussen de aspecten van 'change communication' en houdingen van werknemers ten opzichte van een reorganisatie. Waarbij de waargenomen kwaliteit van informatie de grootste bijdrage levert aan het model.

Ook zijn er verschillen gevonden tussen de waargenomen invloed, die verscheidene bronnen en media van communicatie, hebben op de houdingen van werknemers ten opzichte van een reorganisatie.

Toekomstig onderzoek zou verder kunnen ingaan op de oorzaken van deze verschillen, bijvoorbeeld karakteristieken van managers. Om zo grote organisaties van inzicht te voorzien, met welke bron men het effectiefst kan communiceren over de reorganisatie. Of welk medium effectief is in het communiceren van verandering.

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1. Introduction and motivation

1.1   Social and scientific relevance

Scientific relevance

Change is a recurrent phenomenon within the public and private sector of organizations (Fernandez & Rainey, 2006; Kotter, 1995). Over the past decades change has increased its pace. Organizations currently face an expeditious changing environment, with the globalization of the market, the fleeting technological innovation, government policies and economical changes (Kotter, 1995; By, 2005). In order to stay proficient and competitive, organizations have to engage in a form of organizational change. Unfortunately, it seems that organizations do not implement change successfully. According to Beer & Nohria (2000) about 70% of all change initiatives fails. Bernard Burnes (2003) has a less pessimistic view on the success of change initiatives, recording a failure rate of between 40% and 50%.

The success rate of organizational change initiative is surprisingly low. Which raises the question why? What determines whether change fails or succeeds? Several studies have tried to unveil the factors that contribute to successful organizational change (Burke, 2008; Fernandez & Rainey, 2006; Kotter, 1995; Whelan-Berry, Gordon, & Hinings, 2003). Others have focused on certain aspects of organizational change, such as transformational leadership behavior (Bommer, Rich & Rubin, 2005; Higgs & Rowland, 2005), change communication (Barret, 2002; Harkness, 2000; Lewis, 2000(b); Lewis, 1999), attitudes of employees towards change (Allen, Jimmieson, Bordia & Irmer, 2007; Devos, 2007).

Several reasons are identified as a cause of the high failure rates of change initiatives, among those is communication during organizational change (Kotter, 1995;). Despite the low success rates of organizational change, organizations usually persevere their way of change in which the importance of change communication goes completely unacknowledged.

Change communication is a vital component for effective implementation of organizational change (Allen et al., 2007; Barret, 2002; Elving, 2005; Goodman & truss, 2004; Harkness, 2000; Kotter, 1995; Lewis, 1999; Lewis, 2000(a); Lewis 2000(b); Lewis, 2006; Richardson & Denton, 1996; Whelan-berry & Somerville, 2010). Kotter (1995), among others, identified communication as a major success factor in the process of organizational change. Organizations that do not communicate sufficiently during organizational change, are more prone to failure of change. Insufficient communication will lead to uncommitted employees, who fail to adapt to change. According to Strebel (1996), there is a communication gap between employees and leaders. This communication gap preserves the different views employees and leaders have on organizational change. Leaders fail to recognize their employees' view on the matter.

Fernandez & Rainey (2006) noticed that only a few studies that explicitly examined the public sector of organizations. There still appears to be a gap in literature on change management specifically, regarding the public administration perspective (Kuipers, Higgs, Kickert, Tummers, Grandia & Van der Voet, 2013). Moreover, little research has examined the boundary conditions that are likely to influence how communication, provided during organizational change, is appraised by employees (Allen, Jimmieson, Bordia & Irmer, 2007).

Therefore, to narrow the gap in literature on change management within the public sector, this study will create a conceptual framework of how change communication factors influence the attitude of employees towards change and test this framework in practice. The results of this research can provide more insight in change management within public organizations, specifically in the extent to which change communication has an influence on the attitudes of employees within public organizations towards organizational change. This study contributes to filling the gap in literature on change management within the public sector.

Social relevance

This study is an assignment of a large public organization[1]. Organization x went through organizational change program, the 'Bridge'[2]. Organization x has about 1.100 employees. The organization is divided into several sectors, which in their turn are subdivided in departments and teams. The new top management has set up new organizational goals. In line with those organizational goals top management decided on changing several aspects of the organization, structure, culture, processes, to mention some. Therefore a change program was created, the 'Bridge.

Change program the 'Bridge' communicated change to employees in a variety of ways, through employee session, project groups, sounding boards, blogs, message on the internal net.

It is interesting for organizations to know whether the communication used or they will use in the future is effective. An effective communication of change could enhance the effectivity and or the pace of the implementation of change. Furthermore, knowledge of what effective media and sources of change communication are, allows organizations to use their communication resources efficiently and save money. And last, knowing what determines the perceived quality of information can help improve the message of change that is communicated to the employees.

1.2   Research goal and research questions

As mentioned in the last section organizational change is a phenomenon no organization can avoid, change is inevitable. Organizations, public as well as private, have a hard time implementing organizational change. The success of implementing organizational changes is dependent on a variety of factors, one of those factors being change communication (Kotter, 1995) The way organizational change is communicated has an influence on the attitudes of employees towards the organizational change. With the effect to either have a more positive or a more negative judgment of the planned change. The definition of the problem is to provide insight in how aspects of change communication, perceived quality of information, medium and source influence the attitudes of employees towards organizational change within large public organizations.

Therefore, this study aims to contribute to existing knowledge and literature on change management by providing more insight in how aspects of change communication, perceived quality of information, medium of communication and source of communication influence the attitudes of employees towards organizational change. This study investigates the extent to which aspects of change communication have an influence on the attitudes of employees.

The main question this research is trying to answer is:

"To what extent do aspects of change communication have an influence on the attitudes of employees towards organizational change, within large public organizations?"

Figure 1 shows the relationship between aspects of change communication, perceived quality of information, medium of communication and source of communication, and attitudes of employees towards change.

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[1] For confidentiality reasons, the name of the large public organization will not be mentioned throughout the research.

[2] Also with an eye on confidentiality, it is chosen to give a different name to the organizational change program, that took place within organization x.
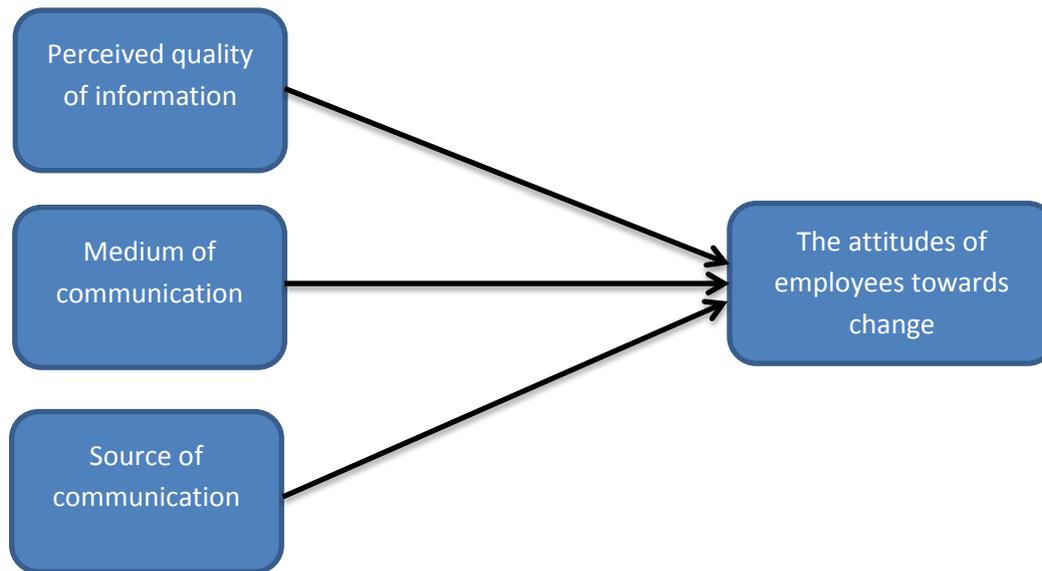
Figure 1 Research framework: the aspects of change communication and their relationship with attitude towards change

In order to answer the main research question properly, several sub-questions are set up.

Sub-question 1:   What is the relationship between perceived quality of information and the attitudes of employees towards change?

Sub-question 2:   What is the relationship between medium of change communication and attitude towards change and which media have a significant influence on the attitudes of employees towards change? Does participating in a reorganization generate a larger positive influence on attitude of employees towards change than not participating?

Sub-question 3:   What is the relationship between sources of change communication and attitude towards change? Which sources have a significant influence on the attitudes of employees towards change?

Sub-question 4:   What is the relationship between aspects of change communication and, after taking into account previous experiences with change and perceived importance?

1.3   Research approach

In this research, we adopt a quantitative, deductive study. Quantitative means the data collected in the research is numerical and opens up the possibilities of analysis by statistical tests (Babbie, 2010). Following on from a quantitative study, is the choice for a deductive approach. Deductive research is a study in which a conceptual and theoretical structure is developed and then tested by empirical observation (Hussey & Hussey, 1997, p. 11). There is a vast amount of literature on the effect of change communication on the attitudes of employees towards change. It was therefore decided to create a conceptual framework to test the relationship between change communication and the attitudes of employees towards change. The quantitative study takes place, in the form of a survey study. The population comprises all employees working in large public organizations.

Data was collected through online questionnaires mailed to employees, their team managers and department managers of four departments, with each department having four to eight teams.

Besides the online questionnaire, semi structured interviews were held with employees from several business units. Among the interviewed were four employees, all the project managers involved in the reorganization, the program manager of the reorganization, the unit manager of infrastructure and a department manager. The final number of interviews was 11. The interviews were used to get a better understanding of the reorganization, the methods used, structure of the reorganization, success and sticking points, as well as to detect confounding factors. This way the questionnaire is guaranteed to have a higher face validity, thereby improving the validity of the research. By collecting data from different sources throughout the organization for the analysis, statements or conclusions about the analysis will be more reliable.

1.4   Structure of the thesis

Chapter 1 gave a short introduction into the problem, explicitly stated the goal and the main research question of this study. Chapter 2 provides an extensive literature review of the concepts. Chapter 3 describes the methodology used in this study. Chapter 4 gives an operationalization of the concepts used in this study. Chapter 5 states answers to the sub-questions through analysis of the collected data. And this research will be concluded with a discussion and recommendations in chapter 6.

2. Theoretical framework

Chapter 1 described the research questions this research is trying to answer. In this chapter we discuss the theoretical framework for this study. Starting with a small section about the setting in which the relationship occurs. Followed by a section about attitude and how aspects of change influence attitude towards change. Continuing with defining change communication and describing its aspects.

2.1   Type of change

Before we start describing the aspects of change communication and its influence on attitude towards change, it is necessary to denote the type of change at which this relationship is examined.

Three types of changes are distinguished in literature, sub-system change (first-order), organization change (second-order), and sector change (third-order) (Bartunek & Moch, 1987). Sub-system changes occurs within a part of the organization, are usually incremental and mostly involve an adjustment of systems or structures. Organization changes is change over the entire organization, a transformation of the organization, a change in the core organizational paradigms. And lastly sector changes are sector wide changes which affects many organizations.

This research focuses on change communication during second order changes, a transformation of the organization.

2.2 Attitude towards change

What is attitude towards change and how can aspects of change communication influence attitudes of employees? This section discusses what attitude towards change is, followed by a section describing how attitude is formed.

2.2.1 Attitude towards change

Change is experienced by each individual in a unique way. For one it might be an opportunity to grow and is beneficial, while for others it is perceived as threatening, stressful and is disadvantageous. This variety of reactions and perceptions is mirrored in the different ways scholars conceptualize people's reactions concerning change (Oreg, Vakola & Armenakis, 2011). Some scholars use positive terms like readiness for change (Cinite, 2009), while others use negatively laden description of attitude, such as cynicism about organizational change (Bommer, 2005), yet others use a more general term, attitude towards change. In their studies of attitude, Bouckenooghe (2010) and Choi (2011) distinguish four key constructs of attitude, readiness for change, openness to change, commitment to change and cynicism about organizational change. However these construct only capture a specific part of the general attitude towards change. In this section we will determine the definition of attitude towards change.

Elizur and Guttman's (1976) define attitude as follows, 'Attitudes toward change is a multi-facetted concept comprised of a set of feelings about change, cognitions about change and intentions toward change. Each of these three facets reflects three different manifestations of people's evaluations of a change' (p. 612). In the definition we can identify a tridimensional concept of attitude towards change, which has three components, cognitive, affective, and intentional/behavioral components. The cognitive component is concerned with the evaluation of beliefs, for example about the advantages and disadvantages of change, the necessity of change, the usefulness of information about the change and the impact of change. The affective component

concerns the set of feelings about the change. And lastly, the intentional/behavioral reaction refers to past action taken or future actions to take for or against change (Elizur & Guttman, 1976). Bouckenooghe (2010), analyzed how the conceptualization of the four constructs of attitudinal change, readiness for change, commitment to change, openness to change, and cynicism about organizational change, overlap with the definition given by Elizur and Guttman.

In Lines' (2005) more recent conceptualization, attitude towards organizational change is viewed as an employee's overall positive or negative evaluative judgment of a change initiative implemented by his or her organization. This confirms the earlier given definition of attitudes towards change by Elizur and Guttman and puts an emphasis on the evaluative judgment being made about the organizational change.

In conclusion, attitudes towards change comprises three levels at which attitude is formed (Elizur & Guttman) and is eventually an overall positive or negative evaluative judgment (Lines, 2005). When you combine these two components, 'attitude towards change is the positive or negative evaluative judgment of change that takes place at three different levels, the cognitive, the affective and the intentional/behavioral level'.

2.2.2 Forming an attitude towards an organizational change

Section 2.2.1 discussed what attitude is and how attitude is composed. This sub-section will build on that by taking a deeper look in how attitude can be influenced by change communication. To provide a better understanding of how attitude is influenced by aspects of change communication, we break down part of the reasoned action model of Fishbein & Ajzen. This model is known for its capability to predict behavior. Even though we are not interested in predicting behavior, the model is of great use, since it also explains how attitudes are formed.

Reasoned action theory

According to Fishbein & Ajzen (1973; 1975; 1980), the best method to predict behavior of an individual is by determining his behavioral intentions. They do not look at the factors that might determine behavior, but look at which factors may cause intention of specific behavior. This model is named the theory of planned behavior and is an extension of Fishbein & Ajzen's (1975; 1980) theory of reasoned action (Ajzen, 1991; 2005; Ajzen & Madden, 1986). The theory of reasoned action is the foundation for the theory of planned behavior and assumes that people are rational beings who make use of available information in a systematic way. Secondly, the theory of reasoned behavior disagrees with the view that unconscious motives or overwhelming desires control human social behavior. To the contrary, it is argued that people consider the implications of their actions before engaging in certain behavior. Hence the term 'a theory of reasoned action'. Fishbein & Ajzen (1975; 1980) concluded that a person's behavioral intentions is a function of two determinants, attitude toward the behavior and the social norm. Ajzen (1991; 2005; Ajzen & Madden, 1986) completed the model of reasoned action by adding a third determinant of behavioral intentions, in his theory of planned behavior[3], which is called perceived behavioral control.

Ajzen and Fishbein use the concept attitude towards change in its broadest sense, to predict behavior. Their model measures all three levels on which attitude towards change is formed, the affective, cognitive and conative/intentional level. However, this study is not interested in predicting behavior, but in providing more insight in how attitude towards change is influenced by aspects of change communication. Therefore attitude towards change will be examined at two levels, the affective and cognitive level. Subsequently, only two determinants of the model of planned behavior, attitude towards a behavior and social norm, will be discussed. The model shows that communication can have an effect at two levels, the individual level and the group level.

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[3] See appendix C for the model of the theory of planned behavior illustrated in a figure.

Attitude towards an organizational change

The first determinant of behavioral intention is a personal factor, attitude toward the behavior. Hovland & Rosenberg (1960), used in Ajzen & Fishbein (1980), consider attitudes to be a concept divided into three elements, the affective reaction, cognitive reaction and conative reaction. The affective reaction describes the emotions and feelings. The cognitive reaction is the beliefs, thoughts and ideas. The conative reaction, also known as the behavioral reaction consists of the behavioral intentions and actual behavior. Ajzen & Fishbein (1977) describe attitude as an evaluation of these three elements. In a simple way it can be seen as a positive or negative evaluation of performing a specific behavior. For example, people may vary in their evaluations of buying a smartphone, some have a favorable attitude and others have an unfavorable attitude toward this behavior. According to the theory of reasoned behavior, attitudes are determined by two elements, beliefs that the behavior leads to certain outcomes and his evaluation of these outcomes. Beliefs that determine an individual's attitude towards specific behavior are called behavioral beliefs. For example a person may think that buying a smartphone allows him to have faster and easier contact with family and friends and faster access to information and evaluates these outcomes as positive, will probably have a positive attitude towards buying a smartphone. See figure 3 for a summary.
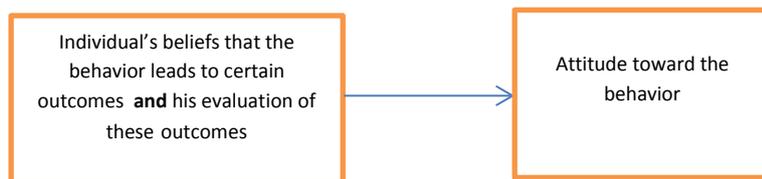
Figure 2 How attitude towards change is formed.

Social norm[4]

In contrast to the first factor, the second determinant of behavioral intentions is the social norm. This factor consists of two components, the individual's perception of social pressure to behave conform the social norm of the group and his motivation to comply with the referents. Using the example of buying a smartphone, we may think that most people that are important to us think we should buy a smartphone, or not buy one. In general people's intention to buy will be evaluated more positively when their beliefs are that their referents think they should. Yet their motivation to comply plays a significant role here. If they perceive a high social pressure, but don't have a high motivation to comply, they will most likely not comply. A summary is shown in figure 3.

Figure 3 How the social norm is formed.

Influence of external variables

The reasoned action model assumes that humans are rational beings, who make decisions based on a systematic deliberation of pro's and con's. A second assumption is the influence of external variables. According to Fishbein & Ajzen (1973; 1975; 1980) external variables have an

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[4] This research prefers the term perceived attitude of the environment over social norm. In chapter 5 the term perceived attitude of the environment is used instead of social norm.

influence on attitudes and norms. This influence is mediated through the beliefs, knowledge, ideas, perception and appreciation of certain outcomes. In other words, aspects of change communication can have an influence on attitude, through beliefs, knowledge, ideas, perceptions and appreciation of certain outcomes.

2.3   Aspects of change communication

There is a consensus among researchers about the importance of change communication. Various studies have shown change communication to be a vital tool to positively influence attitudes towards change for a successful implementation of change (Allen et al., 2007; Barret, 2002; Elving, 2005; Goodman & truss, 2004; Harkness, 2000; Kotter, 1995; Lewis, 1999; Lewis, 2000; Lewis 2000(2); Lewis, 2006; Richardson & Denton, 1996; Whelan-berry & Somerville, 2010). However, what is change communication and which aspects of change communication have an influence on attitude towards change? This section defines change communication and describes the three aspects of change communication.

2.3.1   Change communication

When searching literature for a definition of change communication one comes up empty handed. Researchers have many different and overlapping conceptualizations of change communication. Every study has its focus on certain aspects of communication, never giving an extensive definition of change communication. The conceptualization of change communication can be made as broad or narrow as one wants too.

According to the Oxford Dictionary communication is the imparting or exchanging of information by speaking, writing or using some other medium. The Oxford Dictionary definition of change is an act or process through which something becomes different. Derived from the definitions, change communication is the imparting or exchanging of information by speaking, writing or using some other medium, during the process through which something becomes different.

2.3.2   Aspects of change communication

Change communication can be divided into three aspects, that have an influence on attitude towards change: perceived quality of information, medium of communication and the source of communication.

Perceived quality of information

Communication is an important factor in the success of organizational change. Communication is about the provision of or exchange of information. Many studies have investigated how to construct messages to effectively communicate organizational change (Armenakis & Harris, Barret, Goodman & Truss). Among others, Barret (2002) examined which information about change should contain in order to effectively communicate change and provide high quality information to employees. The studies indicate that effective change communication consists of several items, clear message of company vision, strategic goals and what it means for them. These items are confirmed by the study of Cinite, Duxbury & Higgins (2009), who also added some items, benefits and necessity of the organizational change. Furthermore, the study showed, high scores on the above mentioned items to have a positive relationship with attitude towards change. Lewis' (2006) research concluded that employees make a connection between the perceived quality of information and the outcome of an organizational change. Moreover, the research also found a negative relationship between

perceived quality of information and resistance towards organizational change, a negative construct of attitude towards change. The higher the quality of information, the lower the resistance. According to Allen et al (2007) change communication is capable of influencing attitude towards change. The first of their two studies identified the dimensions at which information is evaluated as high or low quality. The second study provided quantitative data that indicates a positive relationship between the perceived quality of information and the attitudes of employees towards change.

Medium of communication

The second aspect of change communication is the medium of communication. To get a better understanding of the ways employees receive information about the change, it is useful to know what communication media are. Some studies use the term channels of communication. This research prefers the term medium of change communication, which will be used throughout the study. According to Rogers (1995) a communication channel is 'the means by which messages get from one individual to another'' (p. 18). Authors distinguish channels of communication in two ways, interpersonal and mediated channels and information providing and participation providing media. Interpersonal channels use a face-to-face communication. While mediated channels utilize a form of mass media or technology (Rogers, 1995). Fiddler & Johnson, (1984) propose the use of interpersonal channels to be most fitting in complex organizational changes. In contrast to mediated channels, which are more effective when used in small routine changes, acquiring general information.

Besides this distinction, channels can be categorized as programmatic or participatory (Russ, 2008). Programmatic media are one-way media, in which there is no possibility for input from employees. It is a top-down approach to information provision. Participatory media on the other hand, invite input and are used to gain insight in stakeholders to create a best fitting change plan.

Several studies have examined the influence of channels on attitude towards change, especially the influence participation has on attitude(Eby, Adams, Russel & Gaby, 2000; Fedor, Caldwell & Herold, 2006; Wanberg & Banas, 2000). The studies of Eby et al. (2000) and Fedor et al. (2006) show that employees attitude are positively influenced by participation in the change process. Moreover, Wanberg & Banas (2000) come to similar results in their examination of participation in the decision making process of change.

Source of communication

The content of information has an influence, the medium of communication has influence. What about the source of communication? Assuming it has an influence, can different sources have a difference in influence on attitude towards change? Communication always takes place between at least two persons. The source of communication can be a person or a group of persons. Lewis (200) mentions several possible sources: line supervisors, executive director, or informal by colleagues. It seems plausible to think that information received from an executive director has more influence on attitudes of employees than receiving information informally by colleagues.

The study of Allen et al. (2007) examined the role of trust on employees' appraisal of the communication they receive from different sources during change. Their findings report that sources of communication in combination with perceived quality of change communication, have a positive influence on attitudes of employees towards change.

3. Methodology

3.1. Type of research

According to Hussey & Hussey (1997) there are three types of research, explorative, descriptive and analytical research.

When looking at the goal of this research, providing insight in how aspects of change communication influence attitudes of employees towards organizational change within large public organizations. The most fitting research type is analytical research. Analytical research goes beyond describing characteristics, to analyzing why or how something is happening (Hussey & Hussey, 1997, p. 11).

This study seeks to analyze the relationship between change communication and attitudes of employees towards change, therefore a quantitative paradigm was chosen. In alignment with the quantitative paradigm, a deductive approach is incorporated. Deductive research implies a conceptual and theoretical framework that is tested by empirical observations (Hussey & Hussey, 1997). Deductive research is used especially when there is a great deal of research done in the research area, as is the case with the effect of change communication on attitudes of employees towards change.

3.2. Research strategy

Quantitative research has several methodological approaches to research. The method should be fitting to the setting in which the relationship between change communication and attitudes of employees towards change take place. Since it is not feasible to recreate an organizational change in a controlled laboratory setting. It is more convenient to examine the phenomenon in its natural setting, within public organizations. Another factor to take into account is the time it takes to execute an organizational change, especially within large public organizations. The duration of reorganizations can vary from half a year up to two years. Also accessibility to large public organization plays a role. For these reasons, an analytical survey study is conducted.

In a survey, a sample of subjects is drawn from the population and examined to make inferences about the population (Hussey & Hussey, 1997). It consists of two major types, a descriptive and an analytical survey. According to Hussey & Hussey (1997) a descriptive survey is used to identify and count the frequency of a specific population. Whereas an analytical survey intents to determine a relationship between different variables. Important for an analytical survey is a clear theoretical framework, to identify the independent, dependent and extraneous variables.

3.2.1. Case selection / sample size

This study is an assignment given by a large organization. The population being examined are employees. To be more precise, employees working in large organizations. Employees are also the units of analysis. Due to limited time and restrictions to the assignment, the research took place within only one sector of organization x (the organization is divided into several sectors). Making the population size equal to all the employees within that sector, 397 employees.

Hussey & Hussey (1997) state that a good sample meets three conditions, (1) a good sample must be chosen at random, (2) large enough to satisfy the needs of the investigation taking place and (3) unbiased. The sample is a representative sample in which all employees of the sector are chosen to participate. The size of the sample is large enough, 185 employees. A bias in the sample can occur, there is a possibility that employees that participate may have certain characteristics that non-participating employees do not have. To prevent and/or diminish the likelihood of a biased sample, it is tried to have as many employees as possible participate, to have a response rate of at least 40%.

Noteworthy is that the ratio man/woman within the population is very lopsided, only 3.5% of the employees are female. Also, there are two types of employees working within organization x, external employees and internal employees. Of the 397 employees, 23.7% are external employees, that is 94 employees.

3.2.2. Data collection methods

The primary data was collected through online questionnaires and mailed to employees of the unit infrastructure. As a methodological triangulation to the online questionnaire, semi structured interviews were done with employees from several business units. Alongside of the methodological triangulation, there was a data triangulation by studying different secondary data sources, such as news messages and information pages about the reorganization on intranet, company documents, presentations about the reorganization and blogs and communities on Connect People (a sort of Facebook, for employees only).

Quantitative data

The most important data, the quantitative data, was collected through online questionnaires. The questionnaires were not anonymous. The online questionnaire is structured and consists of 24 questions of which 5 were partly open-ended and the rest were closed questions. A link to the online questionnaires was sent in an email to all employees and team managers within the unit infrastructure, with an informative message about the study. Online questionnaires have the advantages to reach a large sample, in little time, with little costs. Moreover, the data processing is less time consuming. And can be done anonymously, lowering the threshold to answer the questionnaire.

However, this has its disadvantages, seeing that response rates of online questionnaires are low. A major issue is the *non-response bias*. Hussey & Hussey (1997) distinguish two main types, *questionnaire non-response bias* and *item non-response bias. Questionnaire non-response* occurs when questionnaires are not returned. *Item non-response bias* arise when all questions are not answered. In order to reduce questionnaire non-response, several methods were applied, the sector manager sent out an email in which he requested team managers to participate and stimulate the employees to participate in the research. Besides the request from the sector manager, non-responsive employees were sent a follow up reminder mail with a link to the online questionnaire and were personally asked to participate.

This led to a response rate of 46.6%, indicating 185 out of 397 employees completed the questionnaire. A high rate for an online questionnaire, which usually has a response rate of 17-25% (Deutkens, de Ruyter, Wetzels & Oosterveld). The non-response rate being 53.4%, 211 employees. Meaning 53.4% of the sample did not participate in the study or partially completed the questionnaire. Of those 211 employees, 43 partially completed the questionnaire, showing a 10.8% item non-response. And 168 employees did not participate at all, a questionnaire non-response of 42.6%.

Furthermore, the departments had a minimum response rate of 40%, with department A having a response rate of 51.5%, department B a response rate of 48.9%, a response rate of 40.4% for department C and a 54.0% response rate for department D.

In order to determine whether the sample is representative, for men and women, a Chi-square goodness-of-fit test has been used. Results show that there is no significant difference between the percentage men or women in the population and in the sample. Meaning the sample is a good reflection of the population, for men and women.

Moreover, a Chi-square goodness-of-fit test[5] was performed to determine the representativeness of the sample for the ratio of internal employees to external employees. Results

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[5] For details of the Chi-square goodness-of-fit test see Appendix B, Sample analysis of chapter 3.

show that the composition of internal employees and external employees in the population significantly differs from the composition of internal and external employees found in the sample. The Chi-square goodness-of-fit test indicates an over representing of internal employees and thereby an under representing of external employees. The difference in composition for internal and external employees between the population and the sample is small and is expected to have little to no impact on the results of this study.

Concluding, the sample is a representative reflection of the population for internal/external employees and men/ women. Not only did the questionnaire have a response rate of 46.6%, it also had a response rate of at least 40% per department.

Qualitative data

The qualitative data was collected through semi-structured interviews. Among the interviewed individuals are four employees, all the project managers involved in the reorganization, the program manager of the reorganization, the unit manager of infrastructure and several employees. The final number of interviews was 11 persons. The interviews were used to get a better understanding of the reorganization, the methods used, structure of the reorganization, success point and sticking points, as well as to detect confounding factors as to verify the extensiveness of the questionnaire. Also by collecting data from different sources throughout the organization for the analysis, statements or conclusions about the analysis will be more reliable.

In order to ensure that the questionnaire was clear, simple and short, it was tested by several employees. It is important that the questions measure what they intend to measure, that they are interpreted in one way only. Furthermore it is also important that the questionnaire is not time consuming, a short questionnaire takes up little time and has a lower threshold to be answered.

3.2.3. Data analysis

After the data was collected, it was analyzed. The data analysis was done in SPSS, a statistical computer program. In order to organize the information and improve its accessibility, the questions in the questionnaire were divided into categories. Among these categories are the variables attitude, perceived attitude of environment, perceived quality of information, medium of communication, source of communication and extraneous factors. Besides the categorizations, each question was pre-coded. So when the data was processed in SPSS, each question was easily assigned to a column. After the data was organized it was used to determine the attitude towards change and to see what the relationship between the change communication and the attitude towards change is. This was done by using statistical tests such as, *t*-tests, one way ANOVA tests, Pearson's correlation test and linear regression analyses.

4. Operationalization

Chapter 2 gave an extensive definition for change communication and described which aspects of change communication are determined by literature as having an influence on the attitudes of employees towards organizational change. Three aspects of change communication were identified, *perceived quality of information, medium of change communication* and *source of change communication*. This chapter will give an answer to the question, how attitude towards change and aspects of change communication can be measured in practice? In order to answer that question one needs to know what aspects of change communication are and how these factors can be measured within organization X.

4.1 Attitude towards change in practice

Attitude of employees towards change is operationalized as employees' judgment of the 'Bridge'. The index variable 'judgment of the 'Bridge' is measured in two steps, by six items. Step 1, is the measurement of the expected effect of the 'Bridge' on the main organizational goals of the public organization, an undisturbed, reliable and safe delivery of ICT services, an adequate delivery service to the customer and an effective and efficient execution of tasks. This is measured by 3 items, see table 1, left column. With each item having a 5 point answer scale, from 'very negative' (-2) through 'no effect' (0) to 'very positive' (2). Step 2, measures the importance of the organizational goals according to employees and also consists of three items, see of table 1, right column. Each item with a 4 answer scale, from 'strongly disagree' (-2) to 'strongly agree' (2) with no middle category. It was chosen to have no middle category, to prevent employees from sticking in the middle. A Cronbach's alpha reliability test of the 3 items showed a high internal consistency, Cr. α equal to 0.893 (N = 194).

The total judgment of the 'Bridge' is the mean score of the weighted attitudes towards the 'Bridge'. The only way an attitude is calculated, is when the respondent answered all items regarding judgment of the 'Bridge'. The possible score for the total attitude is on a scale of -6 to 6. The index variable 'Judgment of the 'Bridge' is computed by taking the mean of the sum of each (expected effect goal x) * (importance goal x).

Table 1 Indices for the variable judgment of the 'Bridge' categorized per sub variable.

Indices for the sub variable judgment of the 'Bridge'	Indices for the sub variable importance of organizational goals
The expected effects of the 'Bridge' on 'an undisturbed, reliable and secure delivery of ICT services'	Importance of 'an undisturbed, reliable and secure delivery of ICT services'
The expected effect of the 'Bridge' on 'an adequate delivery service to the customer'	Importance of 'an adequate delivery service to the customer'
The expected effect of the 'Bridge' on 'an effective and efficient execution of assignments'	Importance of 'an effective and efficient execution of assignments'

4.2 Aspects of change communication in practice

Perceived quality of information

The source and the medium of communication are as equally important as the quality of information. After all the content of communication is what explains what is going to happen.

The concept of perceived quality of information is the employees' evaluation of information received about organizational change taking place. It is composed of the 11 indices shown in table 2. These 11 items can be categorized into two categories, process related indices and content related indices. Process related indices give an indication of the usefulness, timeliness and accuracy of

information (Lewis, 2006). Content related indices, on the other hand, determine the extent to which information explains the outcomes the reorganization, reasons for the reorganization, vision of the reorganization, advantages of the reorganization, consequences of the reorganization for the teams and for the individual employee (Cinite, et al., 2009).

The information provided during the reorganization within organization X, was similar for each employee. However, the information does not have to be relevant for each employee. Each team is assigned with particular tasks and each team is impacted by the reorganization in a different way. So all of the provided information does not have to be equally relevant or explaining the consequences for each team. There is no variation in the information provided, only in the needs for specific information for the team.

The variable perceived quality of information is measured by 13 items. 11 items were closed questions, except for two. The two open questions were used as complementary to the 11 items and gave employees the opportunity to explain what information was missing and what made information useful or not. The other 11 items were closed questions with a 4 point answer scale of 'strongly disagree'(-2) to 'strongly agree' (2). This research chose not to use a middle category to prevent employees from only answering in the middle category. The total perceived quality of information also had a score from -2 to 2. The 3 process related items showed a high Cronbach's alpha, 0.798 (N = 199). Cronbach's alpha for the 8 content related items also showed a high internal consistency, Cr. α 0.889 (N = 199).

Perceived quality of information is expected to have a positive influence on the attitudes of employees towards change. The higher the perceived quality of information is, the more positive an attitude towards change will be.

Table 2 Indices of the perceived quality of information divided by process and content.

Indices of the perceived quality of information	
Process related	Timeliness of information
	Accuracy of information
	Usefulness of information
Content related	Extent to which information explains the envisioned outcomes of the organizational change
	Extent to which information explains the reasons for the organizational change
	Extent to which information explains the advantages of the organizational change
	Extent to which information explains the vision of the organizational change
	Extent to which information explains the consequences for teams
	Extent to which information explains the consequences for the work pressure on employees
	Extent to which information explains the consequences for the content of tasks of employees
	Extent to which information explains the consequences for the legal position of employees

Medium of change communication

Information is always communicated through a medium. A medium is the way through which information is distributed or exchanged between people. It comprises of anything from a presentation, to a poster, to word-of-mouth. The various media available for communication, can be divided into two categories, media that provides information or exchanges information. In other words, the medium can be a one way or a two way flow of information. In the latter is the possibility for the employee to participate in the reorganization by giving input to the management.

During the reorganization that has taken place within organization X, several media were used to provide information about the organizational change. These are, employee sessions, CIE-net, blogs, Connect People (comparable to an internal Facebook within the organization), posters, mail and word-of-mouth. Also present were ways to participate, sounding boards, project teams, blogs, communities on Connect People, culture sessions, workshop days and the codicil.

Since all of the mentioned media were accessible for all employees, working within the investigated unit, one could say there is no variety in this factor. However the media used to communicate change, were not mandatory for the employees to utilize. Therefore each employees might have used a different combination of media. So to a certain extent there could be variety in this factor among employees. However, this variety could be explained by third variables, namely perceived importance, past experiences with reorganizations or ability to be involved

Medium of change communication is measured by 29 items. Of those 29, 7 items measured the utilization of information providing media, another 7 items the perceived influence of information providing media on attitudes towards the 'Bridge'. 8 items measured the utilization of participation providing media and 7 items perceived influence of participation providing media. Table 3 shows the indices for information providing media. The indices for participation providing media are shown in table 4.

Each of the two sub variables, information providing media and participation providing media, are measured in two steps. Step 1 indicated the utilization of a medium. The scores were given through a checkbox, check means a use and no check means the medium was not used. The online questionnaire was structured in such a way, that it was only possible for respondents to report the perceived influence of a medium if they used the medium. The second step measured the perceived influence a medium had on attitude towards change. Answers were given on a 5 point answer scale, running from 'very negative' (-2) through 'no effect' (0) to 'very positive' (2). The total perceived influence was calculated per sub variable, by taking the sum of the mean perceived influence per source. The scores for perceived influence of the sub variables, are -2 to 2. A Cronbach's alpha reliability test for 7 items of perceived influence of information providing media on attitude towards change showed a high internal consistency, Cr. α is equal to 0.954 (N = 5). The high Cronbach's alpha could be an indication that the items measured practically the same thing. On the other hand, the low N could be an explanation as to why the internal consistency is so high. A bigger N will probably cause Cr. Alpha to be moderate.

Expectations are that employees who participate are more likely to have a more positive attitude than those who only receive information. Moreover, interpersonal channels is also expected to have a bigger positive influence on attitude towards change than mediated channels. Seen the complexity of the organizational change.

Table 3 Indices for the sub variable information providing media.

Indices for the utilization of information providing media[6]	Indices for the perceived influence of information providing media on attitudes towards change[7]
Use of employee sessions	Perceived influence of employee sessions
Use of CIE-net (messages)	Perceived influence of CIE-net (messages)
Use of blogs	Perceived influence of blogs
Use of Connect People	Perceived influence of Connect People (communities)
Use of posters	Perceived influence of posters
Use of mail	Perceived influence of mail
Use of word-of-mouth	Perceived influence of word-of-mouth

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[6] Step 1 of the measurement of sub variable information providing media.

[7] Step 2 of the measurement of sub variable information providing media.

Table 4 Indices for the sub variable participation providing media.

Indices for the utilization of participation providing media[8]	Indices for the perceived influence of participation providing media[9]
Use of sounding boards	Perceived influence of sounding boards
Use of project teams	Perceived influence of project teams
Use of blogs	Perceived influence of blogs
Use of Communities on Connect People	Perceived influence of communities on Connect People
Use of culture sessions	Perceived influence of culture sessions
Use of workshops	Perceived influence of workshops
Use of the codicil	Perceived influence of the codicil
Use of nun of the participation providing media	

Source of change communication

When information about change is provided, it is distributed by a source. A source is a person or a group of persons. According to Allen et al. (2007) the source from whom the employees receive information from, can have an influence on their attitudes towards change. These sources can vary from a colleagues to the top management.

Five sources are distinguished through whom information about the organizational change was provided, colleagues, the team manager, the department manager, the unit manager and the director. Every mentioned source was accessible by all employees, working within the investigated unit. Each team has a different team manager except for two pairs of teams, who have the same team manager. Furthermore there are 19 teams in total, divided over four departments with each a department manager. Since the research only took place in one unit, there was only one unit manager and one executive director. Furthermore, not every employees may have received information from all available sources, only from those which were accessed.

Similar to the sub variables information providing media and participation providing media, the variable source is measured in two steps, by 10 items. The items are shown in table 5. The first step is composed of 5 items and measures the use of each source. The scores were given through a checkbox, check means a use and no check means the source was not used. Each of the 5 items concerned one of the above mentioned sources. Step two, is the measurement of the perceived influence each source has. It is only possible to indicate the perceived influence of for example the 'team managers' if the employee checked the box for team manager, meaning they made use of the source team manager. The 5 items for perceived influence of sources had a 5 point answer scale, running from 'very negative' (-2) through 'no effect' (0) to 'very positive' (2). The total perceived influence of the source is calculated by taking the mean of the perceived influence per source. Because it is a mean, the scores for perceived influence of source are between -2 and 2. A Cronbach's alpha reliability test showed an high internal consistency for the 5 items, Cr. α equal to 0.969 (N = 15). On a note, the N is very low. The consistency will probably be lower with a higher N, nonetheless would most likely still be moderate.

The sources, team manager, department manager, unit manager, executive director and colleagues are expected to have an influence on the attitudes of employees towards the 'Bridge'[10]. Expectations are that colleagues, team managers, department managers, unit manager and the executive director will have a positive effect.

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[8] Step 1 of the measurement of sub variable participation providing media.

[9] Step 2 of the measurement of sub variable participation providing media.

[10] The 'Bridge' is the name of the organizational change that took place in organization x.

Table 5 Indices for the variable source of communication.

Indices for the utilization of sources[11]	Indices for the perceived influence of sources[12]
Use of colleagues as a source	Perceived influence of colleagues
Use of the team manager (M3)	Perceived influence of the team manager (M3)
Use of the department manager (M2)	Perceived influence of the department manager (M2)
Use of the sector manager (M1)	Perceived influence of the sector manager (M1)
Use of the executive director	Perceived influence of the executive director

4.3 Control variables in practice

To provide insight in the relationship between aspects of change communication and attitude towards change, it is also important to know whether the relationship is not explained by a third variable. To assure internal validity, this study takes to possible confounders into account, perceived importance and previous experience with changes.

Perceived importance is the degree to which employees expect the organizational change to have an impact on their work, tasks, rights as an employee and composure of the team. It is taken into account that perceived importance could be a confounding variable for the influence of medium of communication or source of communication. It is possible that employees used more sources or media to receive information or to provide input, only in accordance to the expected impact the 'Bridge' may have on their work, tasks, rights as an employee and composure of the team. For example an employee who expects a big impact from the organizational change, will probably access more sources and/or media to receive more information about the organizational change.

4 items were used to measure perceived importance. Each item being a closed question with a 4 point answer scale, from 'strongly disagree' (-2) to 'strongly agree' (2) with no middle category. Similar to the other variables, it was chosen to force employees to agree or disagree in order to prevent a large middle category. The items are shown in table 6 below.

The total variable perceived importance is computed by taking the sum of the mean scores per item. Giving a possible score on a scale of -2 to 2. A Cronbach's alpha reliability test showed a high internal consistency for the 4 items of perceived importance, Cr. A equal to 0.856 (N = 215).

Table 6 Indices for the control variable perceived importance

Indices for the perceived importance
Expected effect of the 'Bridge' on work pressure of
Expected effect of the 'Bridge' on content of tasks of employees
Expected effect of the 'Bridge' on the legal position of employees
Expected effect of the 'Bridge' on the composition of teams

Previous experiences with change is the previous history of change for employees, the number of organizational changes they have been through and the nature of those experiences. Previous experiences with changes could also be a confounding variable. Earlier research indicate previous experiences with change to have a significant relationship attitude towards change (Devos et al, 2007). Now it is important to know if the relationship between aspects of change communication and attitude towards change, stays the same. Or does the relationship become less significant or does it even disappear when previous experiences is taken into account. Meaning it is

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[11] Step 1 of the measurement of the variable source.

[12] Step 2 of the measurement of the variable source.

not aspects of change communication that have an influence on attitude towards change, but it is previous experience with change that causes the change in attitude towards change.

Measurement of previous experience with change took place through 2 items. Both items are closed questions. With the first item measuring the number of organizational changes experienced. Answers were given on a 3 point answer scale, with 'non' (0), 'yes, once' (1) and 'yes, more than once' (2). The second item measured the nature of the experience. This was done on a 5 point answer scale, from 'very negative' (-2) through 'no effect' (0) to 'very positive' (2). If an employee had no previous experience with change

The total variable previous experiences of change were calculated by the mean of (number of changes experienced) * (nature of the experience). Scores for previous experiences with change are on a scale of -4 to 4. The four items showed a high internal consistency, Cr. α = 0.856 (N=215).

Table 7 Indices for the control variable previous experiences with change

Indices for previous experiences with change
Number of organizational changes experienced
The nature of those experiences

So far we have operationalized the concepts perceived quality of information, medium of change communication, source of change communication, attitude towards change, perceived importance and previous experiences with change. We also determined how aspects of change communication can have an influence on attitude towards change. Figure 2 shows a conceptual framework for the relationship between aspects of change communication and attitude towards change.

5. Results

5.1 Judgment of the 'Bridge'

Employees' judgment of the 'Bridge' consists of several attitudinal components, described in chapter 2. Which are the expected effects of the 'Bridge' on 'an undisturbed, reliable and secure delivery of ICT services', the expected impact on 'an adequate delivery service to the customer' and on 'an effective and efficient execution of assignments' and the importance of these goals.
Table 8 shows the effect employees expect the 'Bridge' will have on the actualization of the three corporate goals. The last column indicates the importance of the goals.
Table 9 describes the mean of the partial attitudes and gives us more insight in what the attitude of employees is towards the organizational change.
Figure 4 shows the expectations of employees of the impact of the 'Bridge' on each goal of organization x.

Figure 4 Employees expectations of the impact of the 'Bridge' on goals of organization x (in %, with N = 194).
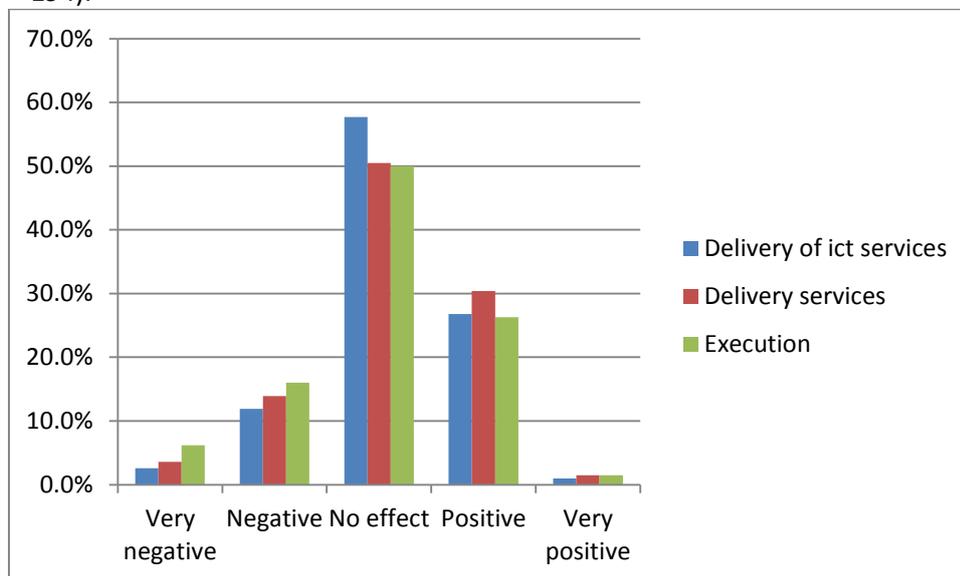
Table 8 Expectations of employees of the effects of the 'Bridge' on the goals of organization x and the importance given to each goal (in %, with N = 194).

	Expected effects					Importance goals
Effects of the 'Bridge' on:	Very negative	Negative	No effect	Positive	Very positive	(very) important
Delivery of ICT services	2.6	11.9	57.7	26.8	1.0	99.0
Delivery services to customers	3.6	13.9	50.5	30.5	1.5	97.5
Execution	6.2	16.0	50.0	26.2	1.5	99.0

Delivery of ICT services

Only 42.3% of the respondents expects the reorganization to have either a positive or a negative effect on the *delivery of ICT services*. 27.8% of the employees think that the reorganization will improve aspects of delivery of ICT services, such as an undisturbed delivery, reliability and security. As just 14.5% expect a decrease in an undisturbed, reliable and secure delivery of ICT services, this is the smallest group expecting a negative change as an outcome of the reorganization. Furthermore, more than half of the respondents foresee no impact of the reorganization on the delivery of ICT services at all. They do not expect a change, as a consequence of the reorganization, in the way ICT services are delivered. This is the largest percentage of respondents who expect no change at all; 57.7% foresees no change.

The clear majority of the employees see the delivery of ICT services as (very) important; 99.0% of the respondents thinks an undisturbed, reliable and secure delivery of ICT services as (very) important for business. Because of the large group of respondents who see an undisturbed, reliable and secure delivery of ICT services as (very) important, this component should have a big impact on attitude. However, the 57.7% who see no impact of the reorganization on the ICT delivery services, will eventually decrease the big impact this component could have.

Delivery services to customers

A similar trend is seen with *the delivery services to customers*, about half the respondents have the impression that the reorganization will have an impact on the delivery services. Of those respondents, 32.0% expects the reorganization to have a positive impact on the adequacy of the delivery services to customers. That is the largest group of respondents expecting a positive impact of the reorganization. Just 17.5% foresees a decrease in adequacy of the delivery services to customers, as a consequence of the reorganization. The other half of the respondents thinks there will be no effect of the reorganization on the delivery of services. Again a very large group that expects no change in the adequacy of ICT services to customers as a consequence of the reorganization; 50.5% of the respondents foresees no change.

In the last column of table 1 can be read that 97.5% of the respondents sees high adequacy of delivery services as a (very) important goal. It can be said that the evident majority of the employees value an adequate delivery service to the customer.

Same as above, we see a large group of respondents who expect no change as a consequence of the reorganization. Seen the high value of adequate ICT services to customers, this component can have a big impact on the attitude towards change.

Execution

The effects of the reorganization on the execution are according to 27.7% of the respondents going to be positive. As can be seen, the difference of the percentage of respondents that expects a positive impact of the reorganization, between the three goals is small. Again almost half the respondents see no effect as a consequence of the reorganization. Unlike the groups who expect positive impact, the amount of respondents expecting a negative impact does vary a bit per goal. In this case the number of employees foreseeing a negative impact of the reorganization is 22.2%. About quart of the respondents expect the reorganization to improve the effectivity and efficiency of execution. Little more than a fifth thinks the effectivity and efficiency of the execution will decrease as a consequence of the reorganization. Moreover, 50.0% expects no difference in the effectivity and efficiency of execution as a consequence of the reorganization. Similar to the other goals, there seems to be a large group of respondents who expect the reorganization to have no impact at all. This group will have a strong effect on the attitude towards change.

Also respondents perceive the goal an effective and efficient execution to be essential to business; 99.0% of the respondents perceive this goal as (very) important. Given the perceived importance of this goal, it will have a big impact on attitudes towards organizational change.

Table 9 Average scores of partial attitudes.

Aspects of the 'Bridge'	Mean	Standard deviation	N
Delivery of ICT services	0.29	2.08	194
Delivery services	0.27	1.97	194
Execution	0.00	2.26	194

(on a scale of -6 to 6)

Table 10 gives a summary of what has been observed earlier in this section. The results shown are the means of the partial attitudes. For each employee his or her score was calculated by multiplying the expected impact by the importance. Averages were then taken. These means show us that the most impact on judgment of the 'Bridge' comes from the delivery services and the delivery of ICT services. Execution plays no role in the effecting the judgment of the 'Bridge'. From table 10 it can be derived that there is a slightly positive judgment of the 'Bridge'. Although it is not much, table 10 indicates that employees have a slightly more positive judgment about the effects of the 'Bridge' on the operational management of large public organization x. Moreover, the measurements show a large group that expects no effect of de 'Bridge' at all.

Table 10 Employees overall judgment of the 'Bridge' (in %, with N = 194).

Very negative			No effect			Very positive
3.1	7.7	10.3	44.3	24.7	8.8	1.1

To conclude, little more than one third of the employees, 34.6% has a positive judgment of the 'Bridge'. 44.3% expect no effect and 21.1% has a negative judgment of the 'Bridge'.

5.2 Aspects of change communication

Change communication is composed of several aspects, the aspect that are examined in this research are the perceived quality of information, the source and the medium of communication. In order to get a better understanding of the relationship between change communication and judgment of the 'Bridge', each of the three aspect of change communication and its relationship with judgment of the 'Bridge' is examined by performing a Pearson's correlation and *t*-tests. First, we will take a look at the aspect perceived quality of information and its relationship with attitudes towards the 'Bridge'. Second, is the medium of communication and last the source of communication.

5.2.1   *Perceived quality of information*

As described in chapter 2, perceived quality of information is one of the aspects of change communication that can have an effect on the attitudes of employees towards change. The perceived quality of information describes to which extent the information received about the 'Bridge' was in time, useful, accurate and explained necessity, advantages and consequences for the employees. The perceived timeliness, usefulness, accuracy and the perceived degree to which the necessity, advantages and consequences of the 'Bridge' is explained could play a role in the process of forming an attitude towards organizational change.

Table 11 Description of the perceived quality of information (in %, with N = 189).

Very bad		Good nor bad		Very good
11.6	37.0	0.5	49.1	1.6

Table 11 shows a distribution of how employees perceived the quality of the received information during organizational change. The distribution is approximately normal, although it is slightly skewed to the left, but still within the margin of -1 to 1 (skewness = -0.253). About half the employees perceived the quality of information as (very) good, the other half as (very) bad. Remarkable is the low middle group that judges the quality of information as good nor bad, just 1 person. 50.7% of the employees evaluate the received information overall as (very) good. This means that information was useful, accurate and feel the information has given a good explanations as to what the necessity, advantages and consequences of the 'Bridge' are. With 49.1% perceiving the information as good, the largest percentage of all categories. 48.6% found the information to be (very) bad, with 11.6% finding the information very bad. A large group, compared to the 1.6% who saw the quality of information received during the 'Bridge' as very good.

Table 12 shows the scores of the communication of the 'Bridge' on each item of the variable perceived quality of information. The overall perceived quality of information of the 'Bridge' has a score of -0.077. The quality of information distributed about the 'Bridge' was perceived to be close to neutral. Meaning the quality of information is bad. Furthermore, information about the 'Bridge scored the highest on items like timeliness and accuracy. The timeliness of the information was considered to be good, but not always accurate. A slightly positive score was given to the extent to which information explains the envisioned outcomes and the vision of the organizational change, both were perceived to be explained. Employees indicated the information to be close to neutral in terms of usefulness, extent to which information explains the reasons for and the advantages of the organizational change. The lowest scores of perceived quality of information were given for the items, extent to which information explains the consequences for teams, the work pressure on employees, the content of tasks of employees and the consequences for the legal position of employees. Employees perceived the mentioned items as poorly explained.

Table 12 Scores of the items for the variable perceived quality of information and the average score for perceived quality of information.

Items for the variable perceived quality of information	N	Mean	SD
Timeliness of information	201	0,597	0,884
Accuracy of information	199	0,392	0,978
Usefulness of information	199	0,075	1,087
Extent to which information explains the envisioned outcomes of the organizational change	191	0,209	1,050
Extent to which information explains the reasons for the organizational change	191	0,011	1,156
Extent to which information explains the advantages of the organizational change	191	0,079	1,090
Extent to which information explains the vision of the organizational change	192	0,255	1,040
Extent to which information explains the consequences for teams	192	-0,641	1,154
Extent to which information explains the consequences for the work pressure on employees	192	-0,688	1,091
Extent to which information explains the consequences for the content of tasks of employees	191	-0,586	1,157
Extent to which information explains the consequences for the legal position of employees	192	-0,448	1,197
Perceived quality of information	189	-0,077	0,753

(On a scale of -2 to 2)

The correlation between perceived quality of information and judgment of the 'Bridge' was examined with a Pearson's correlation. Informal examination of the data with frequency tables and scatterplots showed a linear form. A moderate linear correlation was found between the variables, r = 0.406, that was highly significant, $p < 0.01$ (one tailed). A positive linear relationship has been found between perceived quality of information and attitude towards change. Meaning, the higher the perceived quality of information, the more positive the employees judgment of the 'Bridge' will be.

Conclusions

Regarding sub-question 1: 'What is the relationship between perceived quality of information and the attitudes of employees towards change?'. Results show a significant positive relationship between the perceived quality of information and judgment of the 'Bridge'. These findings are in accordance with the literature, described in chapter 2.

5.2.2   *Medium of communication*

Another aspect of change communication is the medium of communication. As described in chapter 4, it is chosen to examine this variable through two sub-variables, information providing media and participation providing media. Examination takes place in three steps per sub variable. Step 1 is a Pearson's correlation to determine if there is a relationship between the number of media and judgment of the 'Bridge'. Secondly, we examine the relationship between perceived influence of media of communication and judgment of the 'Bridge' with a Pearson's correlation. Lastly, we take a deeper look at which media of communication have a significant influence on employees' judgment of the 'Bridge'.

Information providing media

Influence of the number of information providing media used
Table 13 Number of employees the number of information providing media used (in %, with N = 237).

no medium	1 medium	2 media	3 media	more than 3 media
6.8	16.5	25.8	25.8	21.3

Table 6 shows the percentage of employees that used no, 1, 2, 3, 4 or more information providing media.

Up to three quarters of the employees received information via 2 or more media, about 25.8% used 2 media, another 25.8% used 3 media and the remaining 21.3% used at least four media. The groups who used 2 and 3 media are the largest groups with 61 employees each. About 16.5% used only 1 medium and 6.8% says to have used no medium at all. This is also the smallest group, with only 16 employees. Meaning about 75.0% received information about the 'Bridge' through a variety of media, while only 6.8% used no medium at all.

Examination of the relationship between the number of information providing media used and judgment of the 'Bridge', was analyzed by using a Pearson's correlation. Informal examination of frequencies and a scatterplot showed little to no linear form. Results show no linear relationship between the variables, r = 0.02 with p = 0.382 (one tailed), that is not significant.

Perceived influence of information providing media

   A Pearson's correlation was used to examine the relationship between the perceived influence of information providing media and judgment of the 'Bridge'. Informal examination of the data with frequency tables and a scatterplot showed a linear form. Results indicated a moderate linear correlation between the variables, $r = 0.420$, that was highly significant, $p < 0.01$ (one tailed). Furthermore the relationship found between perceived influence of information providing media and judgment of the 'Bridge' is positive. Meaning the more positive the perceived influence of information providing media is, the more positive employees judgment of the 'Bridge' will be.

Perceived influence per information providing medium

   Employees also indicated, what the perceived influence per information providing medium was on their attitudes towards the 'Bridge'.[13] To determine which information providing media had a significant influence on judgment of the 'Bridge', a one sample *t*-test was used. From an informal analysis of the medium of change communication using histograms and Q-Q plots, no serious threats to the assumption of normality were found. There were some media, blogs and communities on connect people, that showed a skewness of -1.150 and -1.050, which is close to acceptable margins. The one sample *t*-test revealed that for the medium employee sessions, Cie-net messages and mail, the mean influence on attitude was significantly higher than zero. For employees sessions a *t* (180)=2.589 and $p \leq 0.01$ (one tailed). With an effect size $d^{14} = 0.19$ that is considered small. For Cie-net messages *t* (150) = 3.648 and $p \leq 0.01$ (one tailed). With an effect size $d = 0.30$ that can be considered small to medium. For mail *t* (68) = 3.355 and $p \leq 0.01$ (one tailed). With an effect size $d = 0.40$ that can be considered small to medium. See table 5 for the mean, standard deviation, *t*-values and *p*-values for each information providing medium.

Table 14 Descriptive statistics of the one sample *t*-test for the influence per medium of change communication (in descending order by N).

Information providing media	N	Mean	Standard deviation	*t*	Df	*p*-value (one tailed)
Employee sessions	181	0.144	0.746	2.589	180	≤ 0.01
CIE net messages	151	0.152	0.513	3.648	150	≤ 0.01
Word-of-mouth	103	-0.068	0.661	-1.044	102	0.150
Mail	69	0.203	0.502	3.355	68	≤ 0.01
Communities on CP	37	0.108	0.737	0.892	36	0.189
Posters	24	-0.042	0.690	-0.296	23	0.385
Blogs	23	0.044	0.825	0.253	22	0.402

Participation providing media

Influence of the number of participation providing media
Table 15 Description of the utilization of participation providing media (in %, with N = 192).

Did not participate	Participated
83.3	16.7

   Table 8 shows almost nine tenth of the employees did not participate in participation providing media, only 16.7% of 192 employees participated, 32 employees. Therefore was chosen to examine participation providing media, dichotomously.

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[13] For a description of the construction of the index variable perceived influence of information providing media, see chapter 4.2 p. 18 & 19.

[14] *d*, the effect size is the difference between two means and is calculated by $|t| \sqrt{(N_1 + N_2)/(N_1 N_2)}$.

The correlation between the number of participation providing media used and judgment of the 'Bridge' was examined with a Pearson's correlation. Informal examination of the data with frequency tables and scatterplots showed little to no linear form. A linear correlation close to zero was found between the variables, $r = -0.046$ with $p < 0.01$ (one tailed), that was not significant. Meaning there is no correlation between the number of participation providing media used and employees' judgment of the 'Bridge'. The negative score for r is strange, studies indicate there is a positive relationship between participating and attitude towards change (Eby et al., 2000; Fedor et al., 2006). An explanation could be the trust employees have in the management. When the amount of trust in management is high, employees probably do not participate. The employees who have a low amount of trust in management, are more likely to participate. Trust can be associated with judgment about the 'Bridge'. This could also be an explanation for the lopsided distribution of the number of participation providing media used.

Perceived influence of participation providing media

Because of the low N, 32, the results might not be reliable or representative. Nonetheless it is chosen to examine the relationship, in order to give an indication of what the relationship might look like. The relationship between perceived influence of participation providing media and judgment of the 'Bridge' was examined by using a Pearson's correlation test. Informal investigation of frequencies and a scatterplot showed a linear form. A significant linear correlation was found between the variables, $r = 0.356$, $p = 0.023$ (one tailed). The relationship between perceived influence of participation providing media and judgment of the 'Bridge' is positive. Implying that when the more positive the perceived influence of participation providing media is, the more positive employees attitude towards change will be.

Conclusions

Sub-question 2 asks, 'What is the relationship between medium of change communication and attitude towards change and which media have a significant influence on the attitudes of employees towards change?'. Pearson's correlation tests show a significant relationship between both types of media of communication and judgment of the 'Bridge'.[15] The relationship for information providing media is the strongest.

Moreover, the one sample *t*-test indicates three information providing media to have a significant influence on attitude towards change, CIE-net messages, mail and employees sessions. With CIE-net messages being the most influential of the three, followed by mail and employee sessions. The number of employees using participation providing media was too low to perform a one sample *t*-test, these were left out of account.

Regarding the sub-question 3, 'Does participating have a more positive influence on attitude towards change than not participating?'. Results of the Pearson's correlation were surprising, showing a slightly negative relationship between the perceived influence of participation providing media and judgment of the 'Bridge', that is not significant. The strange results could be caused by the amount of trust employees have in their management.

Furthermore, the number of media used, seems to have no effect on attitude towards change, for both types of media.

5.2.3   Source of communication

The last aspect of change communication is the source of communication. Five sources of communication were distinguished in chapter 4, colleague's, team manager, m2 manager, m1

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[15] The Pearson's correlation test between Information providing media and attitude towards change had a $r = 0.420$, $p < 0.01$ and N = 212. The Pearson's correlation test between participation providing media and attitude towards change had a $r = 0.356$, $p = 0.023$ and N = 32

manager and executive director. As shown in the model[16] of chapter 1, the source from whom an employee receives information can have an influence on the attitudes of employees towards change. In other words, receiving information from certain sources might have a positive influence on an employee in the evaluation of the 'Bridge'.

Examination took place similar to the variable medium of change communication, in three steps. Step 1 being a Pearson's correlation. Followed by a one sample t-test to distinguish which source have the most influence and last a look at the possible influence of the use of sources.

Influence of number of sources of change communication used
Table 16 Description of the number of sources used (in %, with N = 211).

1 source	2 sources	3 sources	more than 3 sources
21.3	36.1	23.2	19.4

Table 11 shows the number of sources employees received information from. One fifth received information from one source only, 21.3% of the employees. While more than three quart of the employees received information from at least 2 sources, with 19.4% of employees received information from more than three sources, being the lowest number. And 23.2% of the employees received information from 3 sources. While most employees received information from 2 sources, 36.0% of employees.

To determine whether there is a relationship between the number of sources used and judgment of the 'Bridge', a Pearson's correlation test was used. Informal examination of the data with frequency tables and scatterplots showed little to no linear form. Results show no linear relationship between the variables, $r = -0.006$ with $p = 0.468$ (one tailed), that is not significant. The Pearson's correlation test indicates there is no significant relationship between the number of sources used and judgment of the 'Bridge'.

Perceived influence of source of change communication
Examination of the relationship between perceived influence of source of change communication and judgment of the 'Bridge', was analyzed by using a Pearson's correlation. Informal examination of frequencies and a scatterplot showed a linear form. Results show a moderate, but highly significant linear relationship between the variables, $r = 0.392$ with $p < 0.01$ (one tailed). The relationship between perceived influence of source of change communication and judgment of the 'Bridge' is positive. So the more positive an employee perceives the influence of a source of change communication, the more positive his attitude towards change will be.

Perceived influence per source of change communication
Which source has a significant influence on judgment of the 'Bridge' and which source has the most influence? To determine whether the mean perceived influence of attitude per source showed a significant increase or decrease of attitude towards change from zero, a one sample t-test was used. The descriptive statistics are shown in table 10.

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[16] See fig. 1, section 1.2

Table 17 Descriptive statistics of the one sample *t*-test for perceived influence of sources on attitude towards change (in descending order by N).

	N	Mean	Standard devation	*t*	Df	*p*-value (one tailed)
Perceived invloed m3	166	0.283	0.601	6.065	165	≤ 0.01
Perceived invloed m0	128	0.203	0.714	3.219	127	≤ 0.01
Perceived invloed collega's	98	0.051	0.544	0.928	97	0.178
Perceived invloed m1	59	0.136	0.730	1.427	58	0.08
Perceived invloed m2	57	0.158	0.621	1.92	56	0.03

An informal analysis of the perceived influence of sources through histograms and Q-Q plots showed no serious threats to the assumption of normality. The one sample *t*-test revealed three sources to have a significant influence on the attitudes of employees towards the 'Bridge', the team manager (m3), the department manager (m2) and the executive director (m0). The team manager has a mean perceived influence of 0.283, the highest significant perceived influence of all sources, with $t(166) = 6.06$ and $p ≤ 0.01$. The lowest perceived influence is by the department manager, which has a mean of 0.16, with $t(56) = 1.92$ and $p = 0.03$. And last, the execute director's perceived influence on the judgment of the 'Bridge' has a mean of 0.19, $t(129) = 2.97$ and $p ≤ 0.01$. The positive means indicate there is a positive relationship between the three sources and the attitude of employees towards change. Meaning, information received from the team manager, department manager or executive director has a significant positive influence on the attitudes of employees towards the 'Bridge'. The effect size of the influence of team managers, $d = 0.61$, is large. For the department manager the $d = 0.26$, which is between small and medium. The effect size for the influence of the executive director is also small to medium, $d = 0.29$. Furthermore, the average perceived influence of each source is low, considering the scale of -2 to 2. The low means are probably caused by the high number of respondents answering in the middle category, positive nor negative. For all three sources that had a significant influence, at least half of the respondents indicated the source had a positive nor negative influence.

Conclusions

Concluding, this section gave an answer to sub-question 4, 'What is the relationship between sources of change communication and attitude towards change and which source have a significant influence on the attitudes of employees towards change?'. Perceived influence of the source of change communication has a significant positive relationship with attitude towards change. The more positive the perceived influence of a source of change communication is, the more positive the employees attitude towards change will be. Three sources were identified as having a significant influence on the attitudes of employees towards change, the team manager, executive director and the department manager. With the team manager having the most influence. The number of sources used, had no impact on attitude towards change.

5.3 Control variables

Chapter 2 discussed the model of the relationship between aspects of change communication and attitude of employees towards reorganizations. Thereby also taking into account several control variables. This research takes into account three control variables, (1) perceived attitude of environment, (2) previous experience with change and (3) perceived importance. Of which two, perceived importance and previous experiences with change are antecedent control variables. Meaning, they are variables that might have an influence on the independent and the dependent variable (Babbie, 2010). The remaining control variable, perceived attitude of

environment is an intervening control variables. A variables that could partially explain the relationship between two variables. Do these control variables partially or wholly explain the relationship between aspects of change communication and attitudes towards reorganizations? Is the question this section tries to answer.

5.3.1 Perceived attitude of the environment[17]

As the model of chapter x showed, aspects of change communication have an effect on attitude in two ways, at the individual level and at the group level. How do others feel about the 'Bridge'? How do employees think their environment feels about the effects of the reorganization? And to what extent are employees influenced by the opinions of others in their attitude? This section focuses on the analysis of the group level, the perceived attitude of the environment.

Table 18 Perceived expectations of each group in employees' environment, of the 'Bridge' on the goals of organization x and the weight given to each group in the employees environment (in%).

Perceived attitude of:	Very negative		No effect		Very positive	Weight[18]
Colleagues within the team	2.4	21.7	55.5	25.8	0.8	1.28
Colleagues outside the team	2.3	20.5	52.3	24.2	0.8	0.94
Team manager	1.4	4.9	30.3	55.6	7.8	1.20
Secretariat	0.0	8.8	61.3	28.8	1.3	0.43

Table 18 shows the attitudes of colleagues, team manager and the secretariat, perceived by employees. With the right column indicating the importance of attitudes of other employees in forming their own attitude. The higher the weight given to a group, the stronger the attitude comes back in the perceived attitudes of the environment.

Remarkable in table 18 are the high percentages in the category 'no effect', for all but one 'third party' at least half was perceived to be 'neutral'. With the only exception being the team manager, who is considered to have a neutral attitude about the effects of the 'Bridge', 33.3%. The team manager is also perceived by more than half the employees as having a positive attitude about the effects of the 'Bridge', by 55.6% of the employees. And perceived by the smallest group as negative towards the 'Bridge'.

The perceived attitudes of colleagues in and outside of the team are similar. About quart of the employees indicated their colleagues expect the 'Bridge' to have a positive effect on the goals of the organizations. The other quart of the employees perceived their colleagues to have a negative attitude about the effects of the 'Bridge'.

No surprising observations were found in the weights given to the groups. The parties in the direct environment of the employees show to be of most importance, colleagues within the team (1.28) and the team manager (1.20). Whereas colleagues outside of the team were also considered to have an influence on their attitudes (0.94). The secretariat has by far the lowest importance (0.43), which is logical considered the fact that most employees do not have a lot of contact with the secretariat.

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[17] Also known as social norm.

[18] The weight of given to each group is measured by the question 23 of the questionnaire, see appendix A. Which has a 4 point answer scale, running from 'Geen invloed' (0), 'Weinig invloed' (1), 'Veel invloed' (2), 'Zeer veel invloed' (3). The average score of the given weight was taken per group.

Table 19 Descriptive statistics of the weighted perceived attitudes of groups in employees' environment (in descending order by N).

Perceived attitudes of:	N	Mean	Standard deviation
Colleagues within the team	158	-0.01	0.62
Team manager	142	0.55	0.64
Colleagues outside the team	132	0.01	0.58
Secretariat	80	0.19	0.49

(on a scale of -6 to 6)

Table 19 above shows the mean weighted perceived attitude of the 'third parties' and the number of employees to have perceived the attitude of these groups. Deduced from the table, the team manager seems to have the most impact. Which does not come as a surprise since the team manager, along with colleagues within the team were given the highest weights by employees (see table 18). However, the effects do not seem to be as big as expected. The same is observed with the groups colleagues within and outside the team. Respondents indicated to opinion of colleagues inside and outside the team to be of importance. Why are those attitudes not having the big impact their given weights suggest? This is caused by two reasons, the big middle category 'no effect and the spread of the perceived attitudes. As shown in table 13 at least 50% of employees per group, except the team manager, is perceived to be neutral towards the 'Bridge'. The large neutral group causes a big dip in the mean perceived judgment of the 'Bridge'.

On the other hand, the perceived attitudes if the groups colleagues in- and outside the teams are equally spread throughout, from around -4 to 4.5. With as consequence that minus and plus even each other out, also causing the low mean perceived attitude.

Furthermore these two reasons also explain why team manager has a higher mean perceived attitude than colleagues in- and outside the teams. This group has a lower number of employees being considered to be neutral and has a unequal spread of perceived attitudes towards the 'Bridge', varying from -1.5 and 4, with more than 60% of the employees being perceived as positive opposed to the 6% being perceived as negative.

The score for the secretariat comes as no surprise seen the low weight this group was given and the large number of employees being perceived as neutral.

The perceived attitudes of all groups combined with the weight given by employees to each group, could indicate the overall pressure one feels to conform to the group from their environment. The results are shown in the table below.

Table 20 The perceived expectations of the employees' total environment, of the 'Bridge' on the goals of organization x (in %, with N = 177).

Very negative		No effect		Very positive
0.0	18.9	38.5	42.6	0.0

Table 20 shows no perceived expectations of the impact of the 'Bridge' to be either very positive or very negative. Almost two fifth perceived their environment to have no effect. the most employees were regarded as having positive expectation about the impact of the 'Bridge', 42.6%. With 18.9% of the environment being indicated to have expectations of the 'Bridge' to have a negative impact on the goals of organization x.

A Pearson's correlations was used to examine the relationship between perceived attitude of the environment and judgment of the 'Bridge'. An informal examination of frequencies and a scatterplot showed a clear linear form. A moderately strong relationship was found between

perceived attitude of the environment and judgment of the 'Bridge', that was highly significant, r = 0.530 with p < 0.01 (one tailed). Furthermore, the relationship between the variables is positive. The results are as expected, they show a strong correlation with attitude towards change.

A comparison of the mean perceived attitude of environment (0.19) and attitude towards change (0.19) show no perceived pressure from the environment.

5.3.2 Previous experiences with change

As mentioned in chapter 5, previous experience with change is one of the two control variables for the relationship between aspects of change communication and attitudes of employees towards organizational change. Expected is that previous experiences have an influence on both variables, aspects of change communication and attitude towards change

Table 21 Previous experiences of employees with reorganizations (in %, with N = 218).

Very negative		No effect		Very positive
1,8%	28,0%	58,7%	10,1%	1,4%

First thing that stands out is the big middle group, of whom the previous experiences with reorganization is positive nor negative, 58.7% of the employees. This is in accordance with earlier found results of the attitude towards change. Also, the mean of previous experiences is negative, -0.36. Which is confirmed by table 16, 29.8% indicates that previous experiences with reorganizations were (very) negative and 11.5% of employees indicated their experiences to be (very) positive.

Are previous experiences correlated to attitude towards change? A Pearson's correlation test was used to examine whether there is a correlation between previous experiences and attitude towards change. An informal examination of the data with histograms and scatterplots showed one outlier. Further examination of the influence of this outlier through scatterplots with a best fitting line, showed a change of 0.05 in the slope of the best fitting line. Indicating the outlier is no influential point. Moreover, a linear correlation was found between previous experiences and attitude towards change, that was highly significant, r = 0.279 and p < 0.01 (one tailed).

5.3.3 Perceived importance

The second control variable that could be responsible for a difference in attitude towards change is perceived importance. Perceived importance is the degree to which the employee perceives the reorganization to have consequences for him or her. It is expected that perceived importance has an influence on attitude as well as of the use of media and sources. In other words it is expected to be an antecedent control variable.

Table 22 Perceived importance of employees (in %, N = 135).

not important	important	very important
38.0	44.3	17.7

Table 17 shows almost two fifth of the employees perceived the reorganization to have no consequences for their work, 38% of the employees. The other four fifth indicated to have perceived the reorganization to have consequences for their work. About 44.3% is expects small consequences and 17.7% expects the consequences for their work to be big. The majority of employees perceive

the reorganization would change their work. Does this also have an influence on their attitudes towards the 'Bridge'? To discover any correlations between perceived importance and judgment of the 'Bridge', a Pearson's correlations test was used. Informal analysis of histograms and scatterplots showed no clear linearity. However a best fit line in the scatterplot showed there could be linearity. Results indicate a weak linear correlation between the variables, $r = 0.124$, that was significant and $p = 0.04$ (one tailed).

5.4 Model aspects of change communication

Chapter 4 discussed the possibility of confounding variables and identified two control variables to take into account, previous experience with change and perceived importance. Section 5.3 determined both control variables to have significant influence on attitude towards change. This section will unveil whether the relationship between aspects of change communication and attitude towards change is or is not explained by confounding variables. By using two multivariate regression analysis, for two different models. One model composed of the three aspects of change communication. The second model takes into account the two control variables, previous experiences with change and perceived importance. On a note, it was chosen to omit the sub-variable participation providing media form the two models due to the low N (32). Inclusion of the sub-variable could have caused a distortion in the results. To see whether the results of model I were consistent among the departments, a multivariate regression was done for each department. Furthermore, to examine whether the variables, number of sources of communication used, number of media of communication used and the perceived quality of information have an influence on judgment of the 'Bridge', a multivariate linear regression analysis was used.

Model I

A multivariate regression analysis was conducted to assess the simultaneous effects of the three aspects of change communication, perceived quality of information, medium of communication and source of communication on the attitude of employees towards the 'Bridge'. Informal analysis of the data using histograms and scatterplots showed no serious threats to the assumption of linearity and distributional assumptions of residuals of the dependent variable.

Simple correlation values of all pairs of variable in the analysis are shown in table 18, together with their significance values. Table 18 also includes the mean and standard deviation of each variable. The equation that predicts attitude towards change from the three independent variables was found to be Atc = 0.077 + 0.649 PQoI + 0.629 Source + 0.698 Medium

The value of R^2 was 0.249 (adjusted R^2 = 0.237), a value that was highly significant, $F (3, 185) = 20.324$, $MS_{residual} = 2.877$, $p < 0.01$. the standard error of the estimate was 1.696. Although each independent variable alone correlated significantly with the dependent variable, perceived quality of information showed the strongest impact and has the highest significance. Semi-partial r values and values of beta for all independent variables are shown in table 19 together with the results of the significance tests.

Table 23 Variables in the multiple regression analysis. The top panel shows r values for variables in the analysis. The bottom panel shows descriptive statistics for the variables.

	Judgment of the 'Bridge'	Perceived quality of information	Perceived influence of source of communication	Perceived influence of information providing media
Perceived quality of information	0.406**			
Perceived influence of source of communication	0.389**	0.378**		
Perceived influence of information providing media	0.418**	0.47**	0.638**	
Mean	0.177	-0.080	0.168	0.067
Standard deviation	1.941	0.754	0.532	0.528

** $p < 0.01$

Table 24 Semi-partial *r* values and beta values together with their significance tests for independent variables in the multiple regression analysis (in descending order by Beta).

	Semi-partial *r*	Beta	*t* (188)	*p*-value
Perceived quality of information	0.221	0.649	3.455	0.001
Perceived influence of information providing media	0.139	0.629	2.17	0.016
Perceived influence of source of communication	0.132	0.698	2.065	0.020

Model II

This model takes into account the two control variables, previous experiences with change and perceived importance. In this multiple regression analysis, the effects of perceived quality of information, perceived influence of source of communication, perceived influence of information providing media, previous experiences with change and perceived importance on the attitude of employees towards the 'Bridge'. Informal analysis of the data through histograms and scatterplots showed no serious threats to underlying assumptions of linearity and distribution of residuals of the dependent variable.

Table 20 shows all correlation values of all pairs of variables in the analysis, together with their significance values. Also included in the table are the mean and standard deviation of each variable.

The R^2 = 0.264 (adjusted R^2 = 0.244), a value that was also highly significant, F (5, 183) = 13.053, $MS_{residual}$ = 2.850, $p < 0.01$. The standard error of the estimate was 1.688. The significance of the three aspects of change communication appears to be a little less than in model one, but still at the same significance level. Similar to model I, perceived quality of information remains the biggest contributor to the model and has the highest significance. Furthermore, of the two control variables only previous experience with change is significant. Both variables were the small contributors to the model, with perceived importance being extremely small, contributing approximately nothing to the model.

Semi-partial *r* values and values of beta for all independent variables are shown in table 21 together with the results of the significance tests.

Table 25 Variables in the multiple regression analysis for model II. The top panel shows r values for variables in the analysis. The bottom panel shows descriptive statistics for the variables.

	Judgment of the 'Bridge'	Perceived quality of information	Perceived influence of source of communication	Perceived influence of information providing media	Previous experiences with change	Perceived importance
Perceived quality of information	0.406**					
Perceived influence of source of communication	0.389**	0.378**				
Perceived influence of information providing media	0.418**	0.470**	0.638**			
Previous experiences with change	0.279**	0.278**	0.272**	0.243**		
Perceived importance	0.117	0.189*	0.153*	0.167*	0.152*	
Mean	0.177	-0.080	0.168	0.067	-0.399	0.584
Standard deviation	1.941	0.754	0.532	0.528	1.294	0.580

*$p < 0.05$ and ** $p < 0.01$

Table 26 Semipartial *r* values and beta values together with their significance tests for independent variables in the multiple regression analysis, model II (in descending order by Beta).

	Semipartial r	Beta	t (188)	p-value
Perceived quality of information	0.194	0,583	3.057	0.002
Perceived influence of information providing media	0.134	0,547	2.113	0.018
Perceived influence of source of communication	0.114	0,678	1.787	0.036
Previous experiences with change	0.122	0,195	1.92	0.028
Perceived importance	0.001	0,003	0.015	0.494

Multivariate regression analysis per department

Further analysis of the outcomes of model I was done per department, by comparing the standardized coefficients and the R^2 of the multivariate regression analysis. The results are shown in the table below. Similar to the outcomes of model I, perceived quality is in all departments, except department I, one of the biggest contributors to the model. Furthermore, the results show that perceived quality of information is the only variable to have a significant relationship with judgment of the 'Bridge' in two of the multivariate regression analysis, for department III and IV.

Table 27 standardized coefficient for the change communication factors per department compared to the results from model I.

	Standardized coefficients (Beta) (N = 188)	Department I (N= 70)	Department II (N= 46)	Department III (N= 46)	Department IV (N= 26)
Perceived quality of information	0,252**	0,114	0,216	0,320*	0,588*
Perceived influence of sources of communication	0,172*	0,171	0,111	0,244	0,180
Perceived influence of information providing media	0,190*	0,176	0,240	0,107	-0,046
R^2	0,249	0,145	0,222	0,248	0,444

Model III[19]

To assess whether there is a simultaneous effect of the variables, number of sources of change communication used, number of information providing media used, number of participation providing media used and the perceived quality of information on employees' Judgment of the 'Bridge', a multivariate regression analysis was used. Results show that the number of sources used the number of information providing media and participation providing media used contribute little to nothing to the model. Confirming the Pearson's correlation tests between each variable and judgment of the 'Bridge'.

Conclusion

Multiple regression analysis show the relationship between aspects of change communication and attitude to be significant. Model I also indicates a 24.9% explanation of the variance of judgment of the 'Bridge'. The control variables were proven to have little impact on the relationship between aspects of change communication and judgment of the 'Bridge'. Model II took into account the two control variables, previous experience with change and perceived importance. The relationship between perceived quality of information, perceived influence of source of communication and perceived influence of information providing media remained significant. Similar to model I perceived quality of information is the biggest contributor to the model and has the highest significance. Of the two control variables, previous experience with change showed to be significant. However it was also one of the smallest contributor to the model, along with perceived importance. Adding the control variables to the model caused a small increase in R^2 from 0.249 to 0.264.

Outcomes of model I were confirmed in most of the multivariate regression analysis done for each department. Indicating perceived quality of information as a major contributor to the model.

The variables, number of sources used, number of information providing media used, number of participation providing media used, showed to have no relationship with judgment of the 'Bridge'.

The models provide us with an answer to sub-question 5, 'What is the relationship between aspects of change communication stand, after taking into account previous experiences and perceived importance?'. The relationship between aspects of change communication and judgment of the 'Bridge' remains the same.

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[19] For a detailed description of the multivariate regression analysis see appendix B: supporting graphs, plots and analysis used in chapter 5.

6. Discussion

In chapter 6, we conclude the research with a section about the conclusions drawn from the results in chapter 5. Followed by a section about the limitations of this research and a section with suggestions for future research.

6.1 Conclusions

This research tried to provide more insight in how aspects of change communication have a positive influence on attitude towards change. The main research question this study tried to answer is "To what extent do aspects of change communication have a positive influence on the attitudes of employees towards organizational change, within large public organizations?".

This study determined aspects of change communication, perceived quality, medium of change communication and source of change communication have a moderately strong positive influence on attitude towards change, $R = 0.499$, that was highly significant, $p < 0.01$. The linear regression model of aspects of change communication and attitude towards change has a R^2 value of 0.249. As a consequence, the variance in attitude towards change is explained by aspects of change communication for 25% of the cases.

This study contributes to the literature on change communication in several ways. First it confirms that each aspect of change, perceived quality of information, medium of change communication and source of change communication apart, has a positive relationship with attitude towards change. The results also show that all three aspects of change communication together, have a positive relationship with attitude towards change. In relation to source of communication and medium of communication, perceived quality of information manifested itself as the biggest contributor to attitude towards change.

This relationship shows no change when adding two possible control variables, previous experience with change and perceived importance. In other words the relationship between the three aspects of change and attitude towards change remained strong and significant.

This study also adds to previous research by determining whether sources and information providing media, that were indicated to be used frequently during organizational change, have a significant influence on the attitudes of employees towards change. Lewis' (2000) determined employee sessions and word-of-mouth as most frequently used during organizational change. Results show formal meetings, like employee sessions have a significant influence on attitude towards change. Word-of mouth, however did not have a significant influence.

Moreover, employees indicate information received from the team and department managers have an influence on their attitudes towards change. Statistical tests showed this influence to be significant. Besides the team and department manager, results point out information received from the executive director also has a significant influence on the attitudes of employees towards change.

Another contribution to the literature on change communication is the distinction in perceived influence of the different sources and media of change communication. Not all sources have a significant perceived influence and each source has a different extent to which they influence attitudes of employees towards change. Notable, are the differences in perceived influence of information received from each type of manager. Results show that information received from the bottom layer (team manager) and the top layer of management (executive director) have the biggest perceived influence on attitudes of employees towards change. Followed by the middle two layers of management (the department manager and the unit manager[20]). Which could be an indication of a gap between the floor management and top management.

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[20] Information received from the unit manager did not have a significant influence. Furthermore the average perceived influence was the lowest of all sources.

Similar to the sources, each medium has a different perceived impact on attitude towards change. Also interesting was that information received through media, that is already often used within organization x, such as CIE-net and mail, have a significant perceived influence on attitude of employees towards change. Besides CIE net and mail, Employee sessions are shown to have an influence on attitude towards change.

Furthermore, this research contributes to the literature by providing an explanation, from the literature, of how aspects of change communication influence attitude towards change. attitude towards change is influenced through the beliefs of outcomes and evaluation of those outcomes.

6.2 Limitations

This study has several limitations which have to be noted. First, the method used to obtain data has its limitations. This study used a survey study design, in which data was gathered through a self-reporting method. Even though self-reported data are seen as reliable. The self-reported data might give an incomplete view of the effect of change communication on attitude towards change and might be prone to social desirability. The more sensitive the topic of the questionnaire, the higher the chance of social desirable answers. Informal conversations with employees indicated a disagreement on whether the topic of the questionnaire was sensitive. Some employees perceived the topic as sensitive and others perceived the topic as not sensitive. In combination with the fact that the questionnaire was not anonymous, it could be possible that the employees who perceived the topic of the questionnaire as sensitive, were more prone to answer 'neutral' to most questions. They might have been afraid that answering negative, might have job-related consequences. This would explain the large group that is 'neutral'. Most answers are expected to be reliable, with a small number being socially desirable.

Corresponding with the first limitation, it is possible that the self-reported data might be inaccurate. The organizational change had occurred in the past and had a duration of a year. This study started about half a month after the organizational change. Questionnaires were sent out two months after the organizational change had taken place. Asking respondents about past experiences can bring up recall problems. The questionnaire was about one specific change, the 'Bridge'. Given that some questions were about sentiments and beliefs employees had at the beginning of the organizational change, others about items used during the organizational change, it could be possible that recall problems have occurred and some of the data could be inaccurate. This limitation is expected to have a moderate influence.

A third limitation stems from having made only one measurement in time. The reorganization had a duration of a year. Due to limited time it was not possible to perform to measurements in time. The conclusions only show the results for one moment in time.

A fourth limitation concerns the non-response. The non-response bias can influence the external validity of this research. Data was collected through online questionnaires sent to the respondents in an email. The response rates for questionnaires in common are very low, about 17-25% on average. This raises doubts about the external validity of the conclusions drawn from a small sample. It could be that the sample drawn contains more employees with a negative judgment of the 'Bridge' than employees with a positive attitude, hence distorting the results. Even though this study had a response rate of 46.7% it is still possible that there is a misrepresentation in respondents among the organization. It is expected to have an influence, however to a lesser extent.

The way the questions of the questionnaire were posed can have an influence on the collected data and thereby on the results. This study used closed questions. There is a chances that a source and/or medium was missing in the questionnaire. The sources and media were determined at forehand and there was no possibility for respondents to denote missing sources or media. The respondent could only choose from the options given in the question.

6.3 Future research

Given the limitations and the findings of this study, there are several suggestions for future research. Firstly, this study is limited by having only one measurement in time and possible recall problems. A longitudinal study, would allow for more meaningful conclusions about the relationship between aspects of change communication and attitude towards change. Specifically, one in which several measurements are done in time. Preferably at the beginning of the organizational change, halfway the organizational change and when the organizational change is finished. This way one could see the effect of change communication during the organizational change and see what the effect is after impacts of the organizational change become visible. In addition future research could include analysis of the sub-variable participation providing media.

Furthermore, a qualitative pilot study to determine which media of change communication are used and which sources are used during organizational change, would be useful to give an indication of the missing sources and media of change communication. In addition, results of this study suggest that commonly used media within the organization, for example mail or an internal net, have a significant perceived influence on the attitudes of employees towards change. Future research could examine which media are most effective for communicating organizational change within large organizations. In order to provide large organizations with an indication of the most effective media for change communication.

Given the possible influence of external employees on the outcomes of this study, it is proposed to perform a similar study in which external employees are omitted from the research. In order to determine whether the relationship between aspects of change communication and attitude towards change was impacted by the inclusion of external employees.

This study showed that there is a difference in perceived influence of each type of manager, one has more perceived influence than the other. What causes this difference in perceived influence, perhaps it could be the characteristics of managers that determine how influential a manager can be. A focus on this aspect could provide more insight in which type of manager is most suiting to give information about organizational change to employees. Future research could also show if these results are consist among other large organizations.

6.4 Recommendations

Derived from the findings of this study are several recommendations specific for organization x and for large public organizations in general. Starting with the perceived quality of information, the information about the 'Bridge' received a close to neutral score from employees. To increase the quality of information about organizational change it is recommended to give information timely. Make sure the information is accurate. Give a simple and clear explanation of what the envisioned outcomes of the organizational change, the reasons for the organizational change, the advantages of the organizational change, the vision of the organizational change, the consequences for teams, the consequences for the work pressure on employees, the consequences for the content of tasks of employees, the consequences for the legal position of employees are.

Results also indicate that providing information about organizational change through commonly used media in the organization have a positive influence on attitudes of employees towards change. In the specific case of organization x, CIE net messages and mail have a significant influence on the judgment of the 'Bridge'. Furthermore, it is recommended to also provide information about organizational change through employee sessions.

Thirdly, information received through team managers, department managers and the executive director has an influence on attitude towards change. It is therefore recommended to distribute information about organizational change through team managers, department managers and the executive director.

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Appendix A: Questionnaire

Enquête communicatie de Bridge
Welkom bij de enquête Change communication

In de enquête zal de term "unit" of "sector" een aantal keer voorkomen, hiermee wordt bedoeld de unit/sector Infrastructuur
Er zijn 26 vragen in deze enquête

1.   Sinds wanneer bent u werkzaam bij deze sector?
Kies a.u.b. een van de volgende mogelijkheden:
○ 2014
○ 2013
○ 2012
○ 2011
○ 2010
○ 2009
○ 2008
○ 2007
○ 2006
○ 2005
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○ 2002
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○ 1957
○ 1956
○ 1955

2. Heeft u binnen deze sector of in eerdere werkkring, al eens eerder een reorganisatie meegemaakt?

Kies a.u.b. een van de volgende mogelijkheden:

○ Nee
○ Ja, een maal
○ Ja, meer dan een maal

3. Wilt u ook aangeven in hoeverre uw ervaring met deze reorganisatie(s) overwegend positief of negatief waren?

Kies a.u.b. een van de volgende mogelijkheden:

○ Zeer negatief
○ Negatief
○ Positief noch negatief
○ Positief
○ Zeer positief

4. Wat was 18-06-2013, bij het begin van transitie de Bridge uw verwachting van de mogelijke effecten van transitie de Bridge op. . .

Kies het toepasselijk antwoord voor elk onderdeel:

	Zeer groot	Groot	Klein	Weinig of geen
Uw werkbelasting	○	○	○	○
De inhoud van uw werk	○	○	○	○
Uw rechtspositie	○	○	○	○
De samenstelling van uw team	○	○	○	○

5. *Tijdens transitie de Bridge is op allerlei verschillende manieren informatie verstrekt aan medewerkers.* **Welke van de onderstaande mogelijkheden om informatie te krijgen heeft u daadwerkelijk gebruikt?**

Selecteer alle mogelijkheden:

☐ Medewerkerssessies
☐ CIE-net (nieuwsberichten)
☐ Blogs
☐ Connect People (communities)
☐ Posters
☐ Mail
☐ In de wandelgangen gehoord

6. **Wilt u ook aangeven of de via dat kanaal gegeven informatie uw houding tegenover transitie de Bridge positief of negatief heeft beïnvloed?** [21]

Kies het toepasselijk antwoord voor elk onderdeel:

	Zeer negatief	Negatief	Positief noch negatief	Positief	Zeer positief
Medewerkerssessies	○	○	○	○	○
CIE-net (nieuwsberichten)	○	○	○	○	○
Blogs	○	○	○	○	○
Connect People (communities)	○	○	○	○	○
Posters	○	○	○	○	○
Mail	○	○	○	○	○
In de wandelgangen gehoord	○	○	○	○	○

7. **Binnen het programma de Bridge zijn er een aantal momenten geweest waarop u, als werknemer uw mening heeft kunnen geven over de Bridge. Wilt u aangeven van welke van de onderstaande mogelijkheden u gebruik heeft gemaakt?**

Selecteer alle mogelijkheden:

☐ Klankboardgroep
☐ Projectteams
☐ Blogs
☐ Communities op Connect People
☐ Cultuursessies
☐ Workshopdagen
☐ Codicil
☐ Geen van allen

---

[21] Deze vraag kon alleen worden beantwoord voor de items die geselecteerd zijn in vraag v005.

8. Wilt u aangeven in hoeverre de genoemde participatie methoden uw houding ten opzichte van transitie de Bridge positief of negatief hebben beïnvloed?[22]

Kies het toepasselijk antwoord voor elk onderdeel:

	Zeer negatief	Negatief	Positief noch negatief	Positief	Zeer positief	NIET VAN TOEPASSING (alleen aanvinken mits u voor de optie 'geen van allen' heeft gekozen)
Klankboardgroep	○	○	○	○	○	○
Projectteams	○	○	○	○	○	○
Blogs	○	○	○	○	○	○
Communities op Connect People	○	○	○	○	○	○
Cultuursessies	○	○	○	○	○	○
Workshopdagen	○	○	○	○	○	○
Codicil	○	○	○	○	○	○
Geen van allen	○	○	○	○	○	○

9. Via welke personen heeft u informatie over transitie de Bridge ontvangen?

Selecteer alle mogelijkheden:
- ☐ Collega's
- ☐ Lead
- ☐ Teammanager
- ☐ M2 manager
- ☐ M1 manager
- ☐ Directeur

10. Wilt u aangeven in welke mate de informatie die u ontving via onderstaande personen, uw houding tegenover transitie de Bridge positief of negatief heeft beïnvloed?[23]

Kies het toepasselijk antwoord voor elk onderdeel:

	Zeer negatief	Negatief	Positief noch negatief	Positief	Zeer positief
Collega's	○	○	○	○	○
Lead	○	○	○	○	○
Teammanager	○	○	○	○	○
M2 manager	○	○	○	○	○
M1 manager	○	○	○	○	○
Directeur	○	○	○	○	○

---

[22] Deze vraag kon alleen worden beantwoord voor de items die geselecteerd zijn in vraag v007.

[23] Deze vraag kon alleen worden beantwoord voor de items die geselecteerd zijn in vraag v009.

11. Hieronder volgen een aantal stellingen. Geef aan in hoeverre u het eens of oneens bent met elk van deze stellingen.

Kies het toepasselijk antwoord voor elk onderdeel:

	Helemaal mee oneens	Oneens	Eens	Helemaal mee eens
De binnen deze sector over de transitie verstrekte informatie was tijdig.	○	○	○	○
De over de transitie verstrekte informatie was accuraat.	○	○	○	○
De binnen deze sector over de transitie verstrekte informatie was nuttig.	○	○	○	○

12. Wilt u in maximaal 5 zinnen ook aangeven wat de informatie over transitie de Bridge nuttig of onbruikbaar maakte?

Vul uw antwoord hier in:

13. Geef ook aan of u het eens bent met de onderstaande stellingen. In de verstrekte informatie over transitie de Bridge. . .

Kies het toepasselijk antwoord voor elk onderdeel:

	Helemaal mee oneens	Oneens	Eens	Helemaal mee eens
Zijn de met de reorganisatie beoogde uitkomsten duidelijk uitgelegd.	○	○	○	○
Is de noodzaak van de reorganisatie duidelijk uitgelegd.	○	○	○	○
Zijn de voordelen van transitie de Bridge duidelijk uitgelegd.	○	○	○	○
Is de visie van de reorganisatie duidelijk uitgelegd?	○	○	○	○
Is duidelijk aangegeven wat de gevolgen voor uw team zijn.	○	○	○	○
Is duidelijk aangegeven wat de gevolgen voor uw werkbelasting zijn.	○	○	○	○
Is duidelijk heeft aangegeven wat de gevolgen voor de inhoud van uw werk zijn.	○	○	○	○
Is duidelijk heeft aangegeven wat de gevolgen voor uw rechtspositie zijn.	○	○	○	○

14. Kunt u in maximaal 5 zinnen aangeven welke informatie er volgens u tot nu toe ontbrak?

Vul uw antwoord hier in:

Hoe beoordeelt u de hoeveelheid informatie die is verstrekt over transitie de Bridge? Er was. .
. informatie

15. Hoe beoordeelt u de hoeveelheid informatie die is verstrekt over transitie de Bridge? Er was. .

.

Kies a.u.b. een van de volgende mogelijkheden:

- ◯ Veel te veel informatie
- ◯ Iets te veel informatie
- ◯ Neutraal
- ◯ Iets te weinig informatie
- ◯ Veel te weinig informatie

16. *Wat zijn de te verwachten effecten van transitie de Bridge op het beoogde functioneren van deze sector? Wilt u aangeven wat u vindt dat het te verwachten effect van transitie de Bridge is op. . .*

Kies het toepasselijk antwoord voor elk onderdeel:

	Zeer negatief	Negatief	Positief noch negatief	Positief	Zeer positief
Een ongestoorde, betrouwbare en veilige levering van ICT diensten?	◯	◯	◯	◯	◯
Een adequate dienstverlening aan de klant?	◯	◯	◯	◯	◯
Een effectieve en efficiënte uitvoering van de opdrachten?	◯	◯	◯	◯	◯

17. In hoeverre bent u het oneens of eens met de onderstaande stellingen? Voor deze sector is het verzorgen van. . .

Kies het toepasselijk antwoord voor elk onderdeel:

	Helemaal mee oneens	Oneens	Eens	Helemaal mee eens
Een ongestoorde, betrouwbare en veilige levering van ICT diensten belangrijk.	◯	◯	◯	◯
Een adequate dienstverlening aan de klant belangrijk.	◯	◯	◯	◯
Een effectieve en efficiënte uitvoering van de opdrachten is belangrijk.	◯	◯	◯	◯

18. Wilt u aangeven welke van de doelstellingen, u het belangrijkst vindt, het opeen na belangrijkst vindt en het minst belangrijk vindt? Dit kunt u doen door de doelstellingen te slepen en op volgorde te zetten, waarbij de bovenste het belangrijkst is en de onderste het minst belangrijk.

Geef een nummer voor elke optie volgens uw voorkeur van 1 tot 3

Een ongestoorde, betrouwbare en veilige levering van ICT diensten belangrijk.
Een adequate dienstverlening aan de klant belangrijk.
Een effectieve en efficiënte uitvoering van de opdrachten is belangrijk.

19. *Wilt u aangeven wat volgens u de opvattingen zijn van de <u>onderstaande groepen van personen</u> omtrent de te verwachten effecten van transitie de Bridge op de belangrijkste doelstellingen van de reorganisatie. . .*

Als het gaat om een ongestoorde, betrouwbare en veilige levering van ICT diensten dan waren de verwachtingen over het effect van de reorganisatie <u>in de ogen van</u>. . . *
Kies het toepasselijk antwoord voor elk onderdeel:

	Zeer negatief	Negatief	Positief noch negatief	Positief	Zeer positief	Weet ik niet
Het merendeel van de collega werknemers binnen het team	○	○	○	○	○	○
Het merendeel van de collega werknemers binnen de afdeling buiten het team	○	○	○	○	○	○
De teammanager	○	○	○	○	○	○
De lead	○	○	○	○	○	○
Het merendeel van het secretariaat	○	○	○	○	○	○

20. De te verwachten effecten van transitie de Bridge op een adequate dienstverlening aan de klant zijn <u>in de ogen van</u>. . .
Kies het toepasselijk antwoord voor elk onderdeel:

	Zeer negatief	Negatief	Positief noch negatief	Positief	Zeer positief	Weet ik niet
Het merendeel van de collega werknemers binnen het team	○	○	○	○	○	○
Het merendeel van de collega werknemers binnen de afdeling buiten	○	○	○	○	○	○

	Zeer negatief	Negatief	Positief noch negatief	Positief	Zeer positief	Weet ik niet
het team						
De teammanager	○	○	○	○	○	○
De lead	○	○	○	○	○	○
Het merendeel van het secretariaat	○	○	○	○	○	○

21. De te verwachten effecten van transitie de Bridge op een effectieve en efficiënte verwerking van opdrachten zijn <u>in de ogen van</u>. . .

Kies het toepasselijk antwoord voor elk onderdeel:

	Zeer negatief	Negatief	Positief noch negatief	Positief	Zeer positief	Weet ik niet
Het merendeel van de collega werknemers binnen het team	○	○	○	○	○	○
Het merendeel van de collega werknemers binnen de afdeling buiten het team	○	○	○	○	○	○
De teammanager	○	○	○	○	○	○
De lead	○	○	○	○	○	○
Het merendeel van het secretariaat	○	○	○	○	○	○

22. Wilt u aangeven in hoeverre u in uw standpuntbepaling over de zaken, die deze sector aangaan, <u>rekening houdt met</u> de opvattingen van de onderstaande personen? In mijn standpunten houd ik doorgaans [zeer veel, veel, enigszins, niet (of nauwelijks] rekening met de opvattingen van. . .

Kies het toepasselijk antwoord voor elk onderdeel:

	Zeer veel	Veel	Enigszins	Niet of nauwelijks
Collega werknemers binnen het team	○	○	○	○
Collega werknemers binnen de afdeling buiten het team	○	○	○	○
De teammanagers	○	○	○	○
De lead	○	○	○	○
Het secretariaat	○	○	○	○

23. *Wilt u bij deze vraag aangeven welke van de onderstaande (groepen van) personen, in welke mate invloed hebben uitgeoefend op de inhoud van transitie de Bridge?*

Bij bepaling van de inhoud van transitie de Bridge hebben. . .
Kies het toepasselijk antwoord voor elk onderdeel:

	Geen invloed	Weinig invloed	Veel invloed	Zeer veel invloed
Collega werknemers binnen het team	○	○	○	○
Collega werknemers binnen de afdeling buiten het team	○	○	○	○
De teammanagers	○	○	○	○
De lead	○	○	○	○
Secretariaat	○	○	○	○

24. **De feitelijke besluitvorming over bijvoorbeeld de inhoud van een reorganisatie kan gebaseerd zijn op formele regels en procedures. Ook ongeschreven regels en gegroeide verhoudingen kunnen evenwel een rol spelen.**
Wilt u op basis van de volgende items aangeven hoe in de praktijk de bestuurlijke verhoudingen binnen uw unit liggen bij het bepalen van de inhoud van reorganisaties. U kunt dit doen door aan te geven of volgens u de stelling van toepassing is op de situatie binnen uw unit.

Binnen de unit Infrastructuur is het gebruikelijk dat . . .
Kies het toepasselijk antwoord voor elk onderdeel:

	Juist	Onjuist	Weet ik niet
De werknemers worden betrokken bij het vaststellen van de inhoud van reorganisaties.	○	○	○
Het hoger management, M0, M1 en M2 de inhoud van de reorganisatie vaststellen.	○	○	○
De inhoud van de reorganisatie tamelijk vaag en abstract wordt gehouden.	○	○	○

25. **Wilt u aangeven in hoeverre u het oneens of eens bent met de onderstaande stellingen? ***
Kies het toepasselijk antwoord voor elk onderdeel:

	Helemaal mee oneens	Oneens	Eens	Helemaal mee eens
Er werd bij de vormgeving van de reorganisatie naar mijn indruk onvoldoende rekening gehouden met opvattingen van medewerkers zoals ik	○	○	○	○
Gezien de werkdruk had ik geen tijd om deel te nemen aan bijeenkomsten over de Bridge	○	○	○	○
Medewerkers zoals ik werden onvoldoende geïnformeerd om te kunnen participeren	○	○	○	○

	Helemaal mee oneens	Oneens	Eens	Helemaal mee eens
aan de Bridge				
Het topmanagement heeft de neiging onvoldoende te luisteren naar opvattingen over de reorganisatie van medewerkers zoals ik.	○	○	○	○
Als medewerkers zijn wij, zonder inbreng van het management, prima in staat om een reorganisatie op te zetten en uit te voeren.	○	○	○	○

26. Stelt u het op prijs om t.z.t. de resultaten van het onderzoek te ontvangen?
Kies a.u.b. een van de volgende mogelijkheden:
   ○ Ja
   ○ Nee

Hartelijk dank voor uw deelname aan mijn onderzoek! Een prettige dag nog!

Verstuur uw enquête
Bedankt voor uw deelname aan deze enquête.

Appendix B: Supporting analysis, plots and graphs

Sample analysis of chapter 3

Intern/extern

	Observed N	Expected N	Residual
,00	197	173,3	23,7
1,00	31	54,7	-23,7
Total	228		

Test Statistics

	Intern.extern
Chi-Square	13,529[a]
df	1
Asymp. Sig.	,000

a. 0 cells (0,0%) have expected frequencies less than 5. The minimum expected cell frequency is 54,7.

Sex

	Observed N	Expected N	Residual
,00	216	218,9	-2,9
1,00	12	9,1	2,9
Total	228		

χ^2 (1, N = 228) = 0.947, p = .330

Test Statistics

	Geslacht
Chi-Square	,947[a]
df	1
Asymp. Sig.	,330

a. 0 cells (0,0%) have expected frequencies less than 5. The minimum expected cell frequency is 9,1.

Cronbach's alpha's for the index variables of chapter 4

Cronbach's alpha for the items of index variable 'judgment of the Bridge'.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,893	,896	3

Case Processing Summary

		N	%
Cases	Valid	194	85,1
	Excluded[a]	34	14,9
	Total	228	100,0

a. Listwise deletion based on all variables in the procedure.

Cronbach's alpha for the items of index variable 'perceived quality of information'.
Only process items
Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,798	,805	3

Case Processing Summary

		N	%
Cases	Valid	199	87,3
	Excluded[a]	29	12,7
	Total	228	100,0

a. Listwise deletion based on all variables in the procedure.

Only content items

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,889	,889	8

Case Processing Summary

		N	%
Cases	Valid	199	87,3
	Excluded[a]	29	12,7
	Total	228	100,0

a. Listwise deletion based on all variables in the procedure.

All items included

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,898	,898	11

Case Processing Summary

		N	%
Cases	Valid	189	82,9
	Excluded[a]	39	17,1
	Total	228	100,0

a. Listwise deletion based on all variables in the procedure.

A Cronbach's alpha for all 11 items showed a very high internal consistency, 0.989 (N = 189). The high Cronbach's alpha could be an indication that the items measured practically the same thing.

Cronbach's alpha for the items of the index variable 'perceived influence of information providing media'.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,956	,974	7

Case Processing Summary

		N	%
Cases	Valid	5	2,2
	Excluded[a]	223	97,8
	Total	228	100,0

a. Listwise deletion based on all variables in the procedure.

Cronbach's alpha for the items of index variable 'perceived influence of sources of change communication'.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,969	,969	5

Case Processing Summary

		N	%
Cases	Valid	15	6,6
	Excluded[a]	213	93,4
	Total	228	100,0

a. Listwise deletion based on all variables in the procedure.

Cronbach's alpha for the items of control variable 'perceived importance'.

Case Processing Summary

	N	%

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,856	,860	4

Cases	Valid	215	94,3
	Excluded[a]	13	5,7
	Total	228	100,0

a. Listwise deletion based on all variables in the procedure.

Supporting graphs, plots and analysis used in chapter 5

Perceived quality of information

Scatterplots of the variables perceived quality of information and judgment of the 'Bridge'.
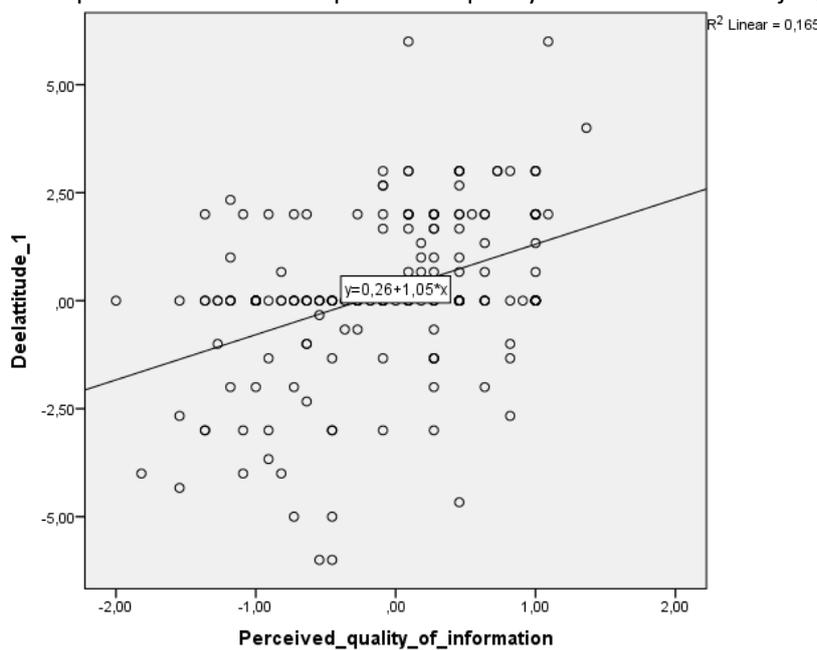
Medium of change communication

Description of the one-way ANOVA test, plots and graphs of the utilization of information providing media of communication.

Furthermore, 228 employees used one or more media to receive information about the 'Bridge'. Means and standard deviations of the dependent variable, judgment of the 'Bridge', are shown in table 7. Differences among the mean judgment of the 'Bridge' were assessed by a one-way ANOVA. A Levene test of homogeneity of variance conducted prior to the ANOVA indicated no significant violation of the assumption, homogeneity of variance ($p = 0.43$). The ANOVA showed no significant differences between the means, $F_{(3, 190)} = 0.584$, $p = 0.626$, $\eta^2 = 0.009$. Thus, the number of media used had no significant correlation with attitude towards change.

Table 28 Descriptive statistics of the one way ANOVA test for differences in the mean judgment of the 'Bridge' by the number of media used.

Number of media used	N	Mean	Standard deviation
1 medium	33	-0.08	1.73
2 media	55	0.24	1.86
3 media	59	0.41	1.92
more than 3 media	47	0.04	2.12

(on a scale of -6 to 6)

Boxplot of the judgment of the 'Bridge' by the use of information providing media
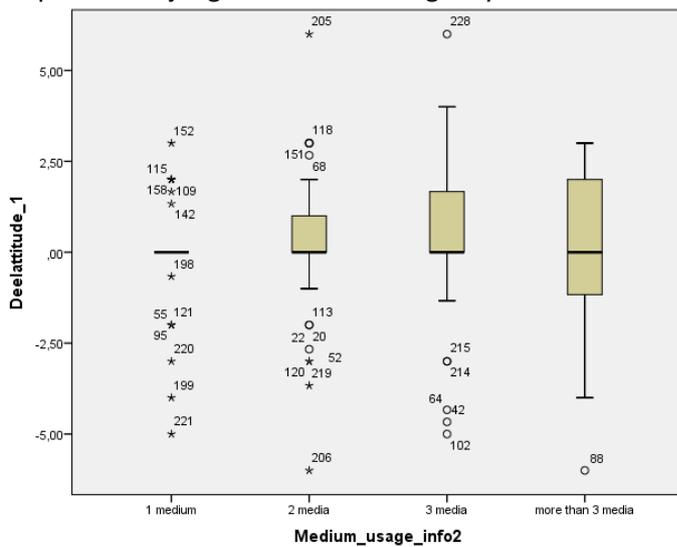
Means plot of the mean judgment of the 'Bridge' by the use of information providing media
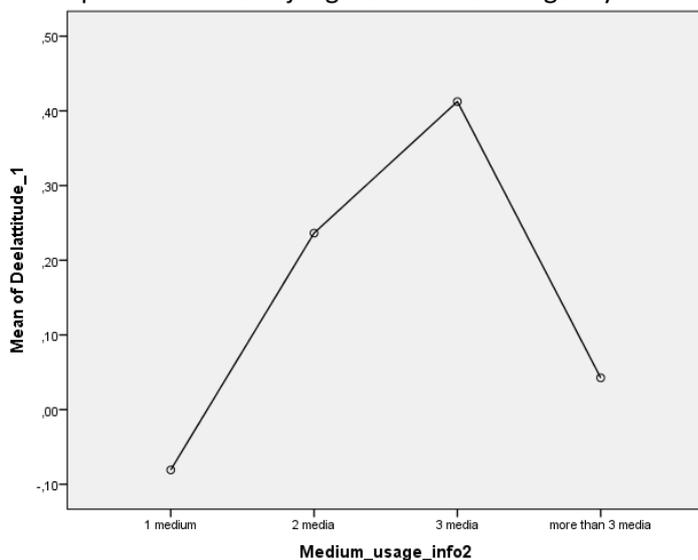
Mean Judgment of the 'Bridge' per number of information providing media used.

Medium_usage_info2	Mean	N	Std. Deviation	Median
1,00 1 medium	-,0808	33	1,73011	,0000
2,00 2 media	,2364	55	1,86109	,0000
3,00 3 media	,4124	59	1,91819	,0000
4,00 more than 3 media	,0426	47	2,12031	,0000
Total	,1890	194	1,91735	,0000

Scatterplot of the judgment of the 'Bridge' by the use of information providing media
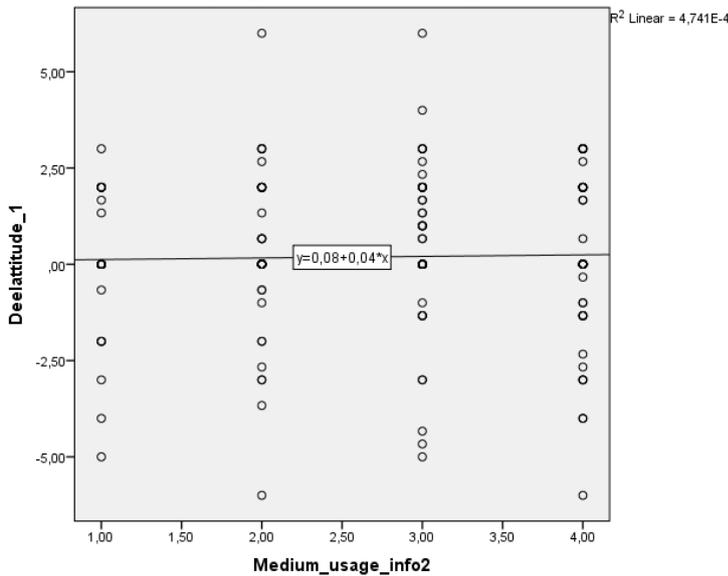
Perceived influence of information providing media

Scatterplot of information perceived influence of providing media and Judgment of the'Bridge'.
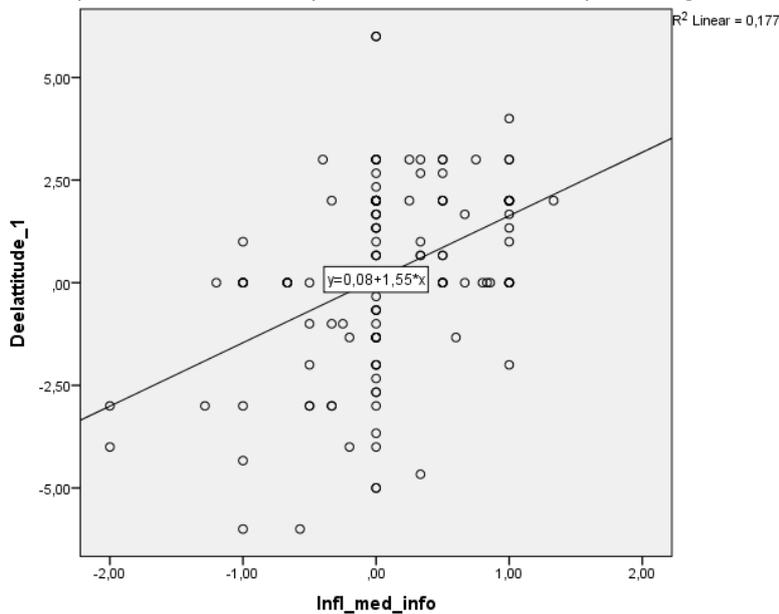
Description of the two-sample *t*-test, plots and graphs of the utilization of participation providing media of communication.

To determine whether participating in a reorganization has a more positive influence on attitude towards change than not participating, a two sample *t*-test was used. In which the mean Judgment of the 'Bridge' of the sample, non-participants and participants, were examined.

Examination of the samples, by using a Q-Q plots and a levene test, showed that the distribution of the variable participation is skewed. However, it is not a serious threat for the conclusions, because the variances are equal and the size of the samples are larger than 15. The *t*-test indicated that the means did not significantly differ, t (190) = 0.635 and p = 0.263 (one tailed). Which is surprising, since we would expect employees, who participated, to have a significant more positive Judgment of the 'Bridge' than those who did not participate. In fact, results indicate the opposite, those employees who did not participate have a higher, positive perceived influence than those who have participated. An explanation could be the trust employees have in the management. When the trust is high, employees probably do not participate. The employees who have a low trust in management, are more likely to participate. Trust can be associated with judgment about the 'Bridge'. This could also be an explanation for the lopsided distribution of the number of participation providing media used. Descriptive statistics are shown in table 9.

Table 29 Descriptive statistics of the two sample *t*-test Judgment of the 'Bridge', by utilization of participation providing media.

|	N	Mean	Standard deviation
Did not participate	160	0.227	1.842
Participated	32	-0.010	2.329

Boxplot
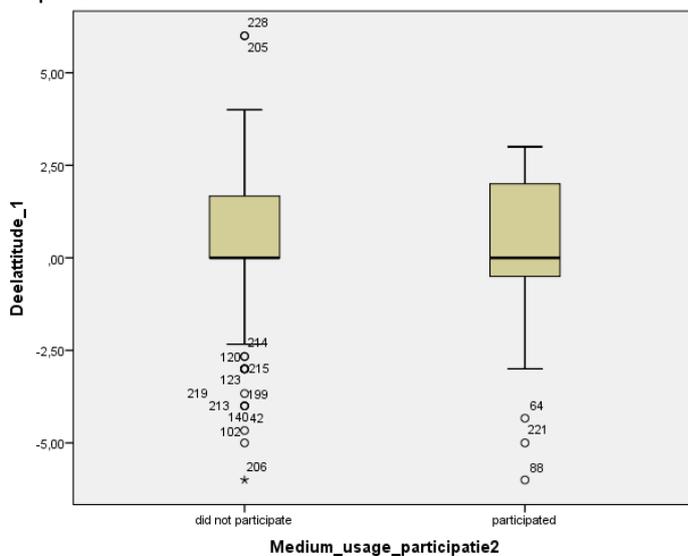
Means
Mean Judgment of the 'Bridge' per number of participation providing media

| Medium_usage_participatie2	Mean	N	Std. Deviation	Median
,00 did not participate	,2271	160	1,84227	,0000
1,00 participated	-,0104	32	2,32870	,0000
Total	,1875	192	1,92701	,0000

Scatterplot
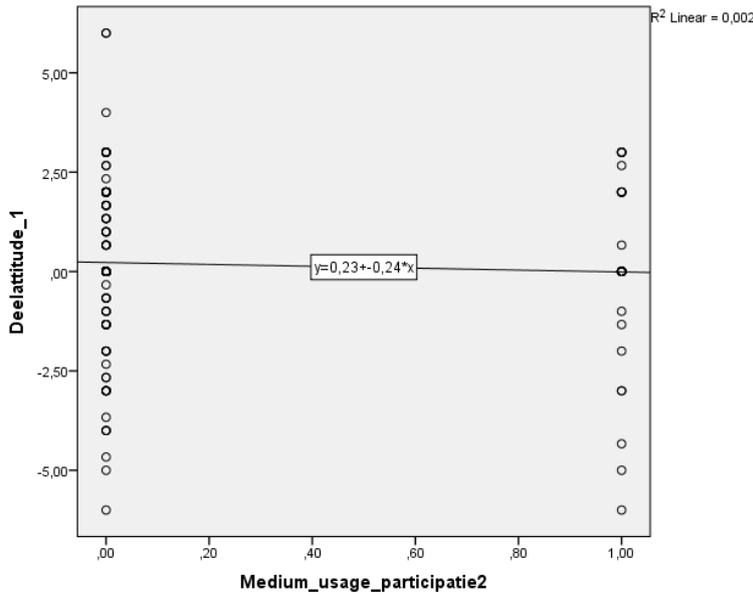
The negative relationship between the use of participation providing media and Judgment of the 'Bridge' was a strange finding, since theory states a positive relationship between the two variables (Eby et al., 2000; Fedor et al., 2006). Further analysis was done by the scatterplot below. A scatterplot of the Judgment of the 'Bridge' by perceived quality of information, with a filter for those who used participation providing media and those who did not use participation providing media was used. Results indicate a positive correlation between participation and the Judgment of the 'Bridge'.
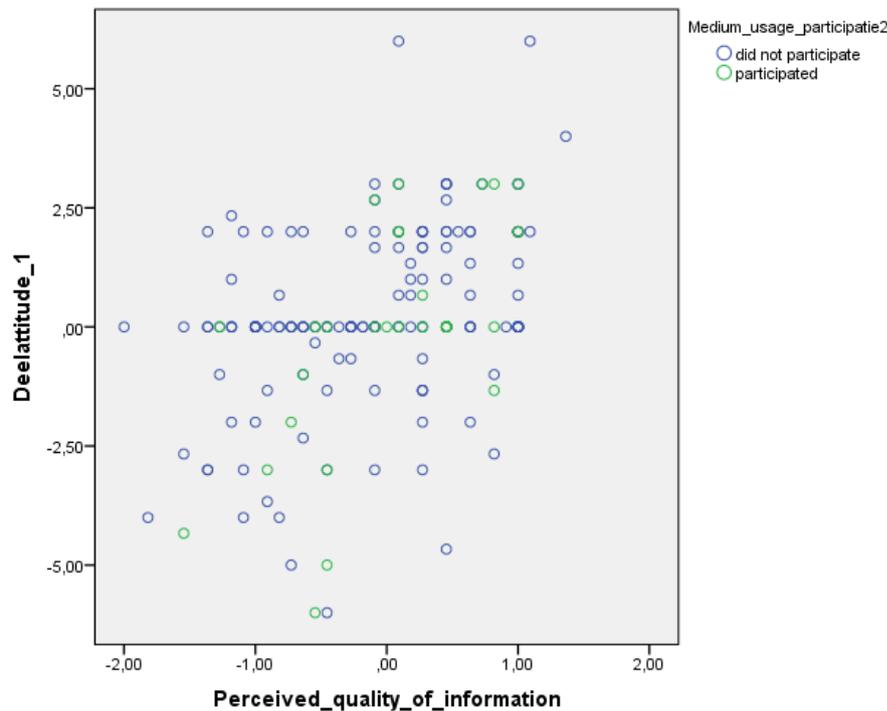
Scatterplot of perceived influence of participation providing media and Judgment of the'Bridge'
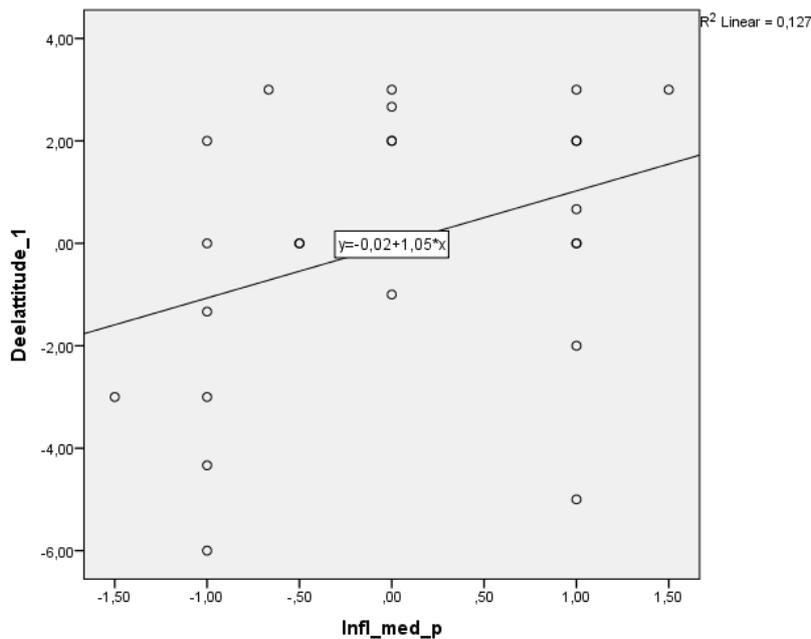
Source of change communication

Detailed description of the one-way ANOVA test, plots and graphs of utilization of source and Judgment of the 'Bridge'.

To determine whether there were significant differences in mean attitude per used sources, a one-way ANOVA was used. A levene test of homogeneity of variance was significantly violated ($p < 0,05$). Boxplots showed group one, use of 1 source, to have almost no distribution and a lot of outliers, while the other groups showed similar variance to one another. The outcomes of the one-way ANOVA were not significant, $F_{(3,190)} = 1.00$ and $p = 0.375$. No significant correlation was found between the number of sources of whom employees received information and their Judgment of the 'Bridge'. This is also confirmed by a simple scatterplot, which showed no correlation (for the boxplots see appendix B). Table 12 shows the descriptive statistics for the one way ANOVA test.

Table 30 descriptive statistics of the one way ANOVA test for differences in the mean Judgment of the 'Bridge' by the number of sources of communication used.

Number of sources used:	N	Mean	Standard deviation
1 source	40	-0.008	1.315
2 sources	71	0.512	1.962
3 sources	49	-0.034	1.772
more than 3 sources	39	0.145	2.434

Boxplots of the judgment of the 'Bridge' by the use of sources of change communication
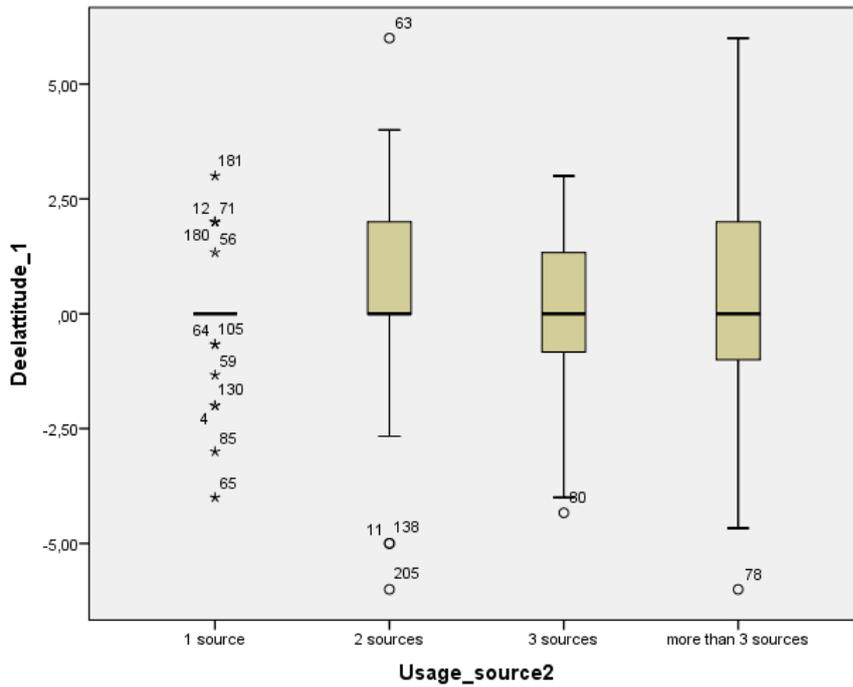
Means plot of the judgment of the 'Bridge' by the use of sources of change communication
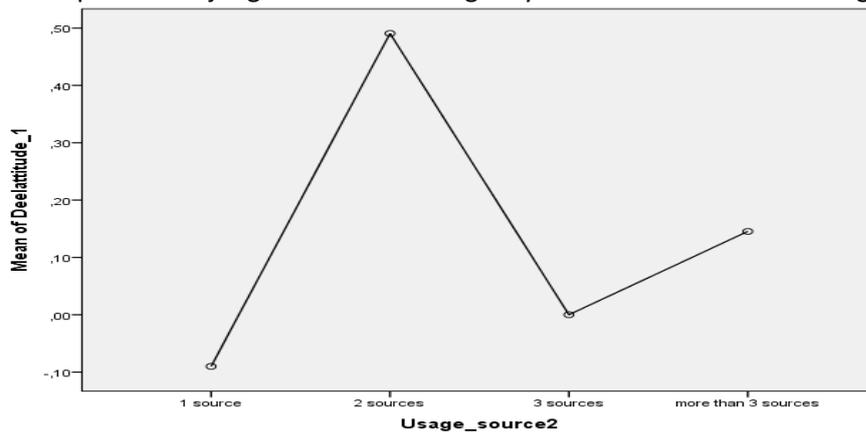

Report

Mean Judgment of the 'Bridge' per number of sources of change communication used

| Usage_source2	Mean	N	Std. Deviation	Median
1,00 1 source	-,0901	37	1,27087	,0000
2,00 2 sources	,4905	70	1,96812	,0000
3,00 3 sources	,0000	48	1,77452	,0000
4,00 more than 3 sources	,1453	39	2,43368	,0000
Total	,1890	194	1,91735	,0000

Scatterplot of the judgment of the 'Bridge' by the use of sources of change communication
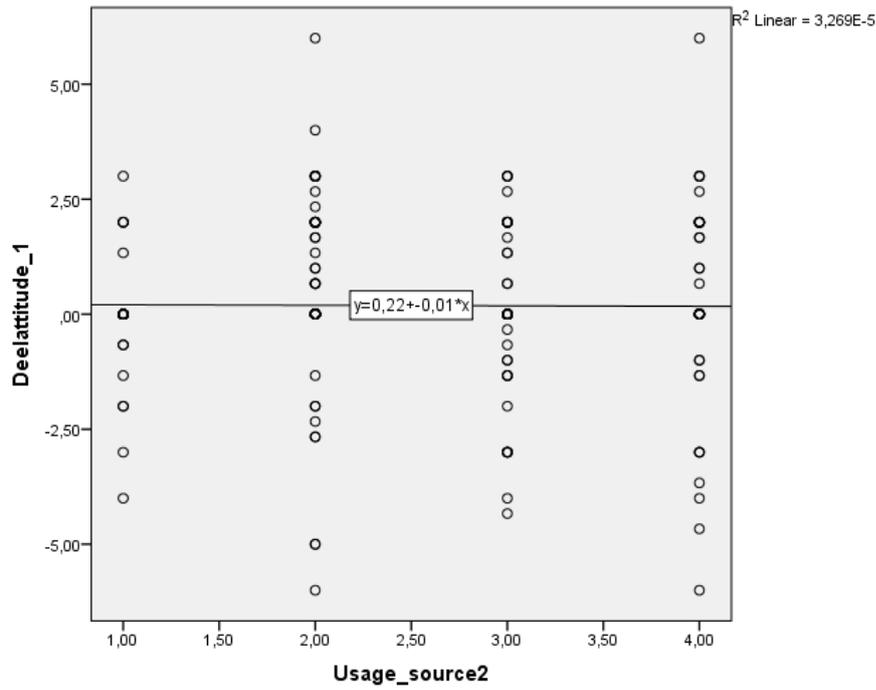
Perceived influence of sources of change communication
One sample t-tests q-q plots for the perceived influence of sources of change communication.

Normal Q-Q Plot of perceived invloed collega's

Normal Q-Q Plot of perceived invloed m3

Normal Q-Q Plot of perceived invloed m2

Normal Q-Q Plot of perceived invloed m1

### Normal Q-Q Plot of perceived invloed m0
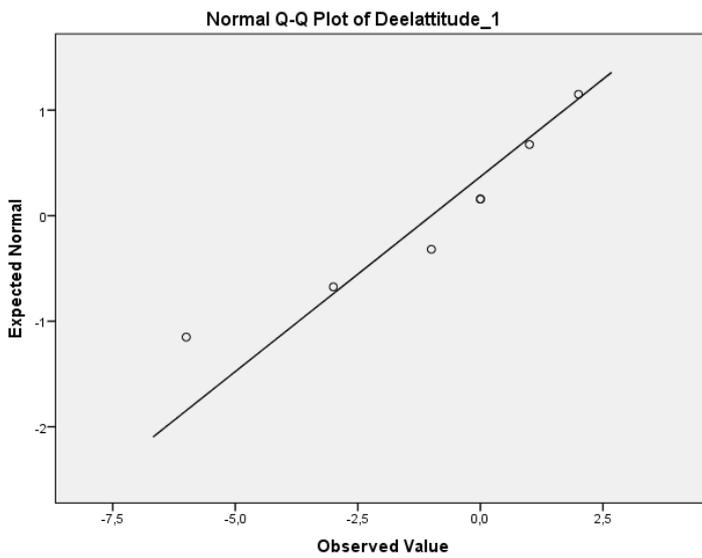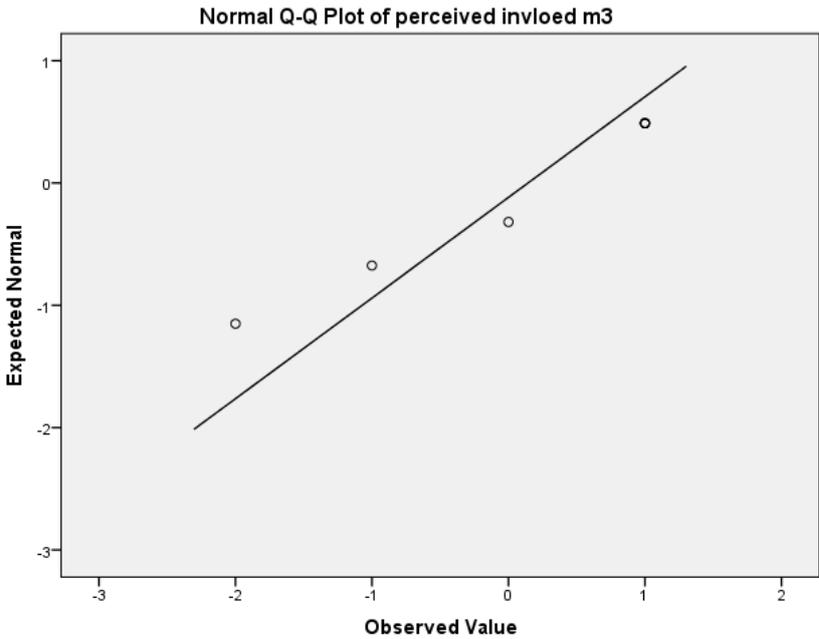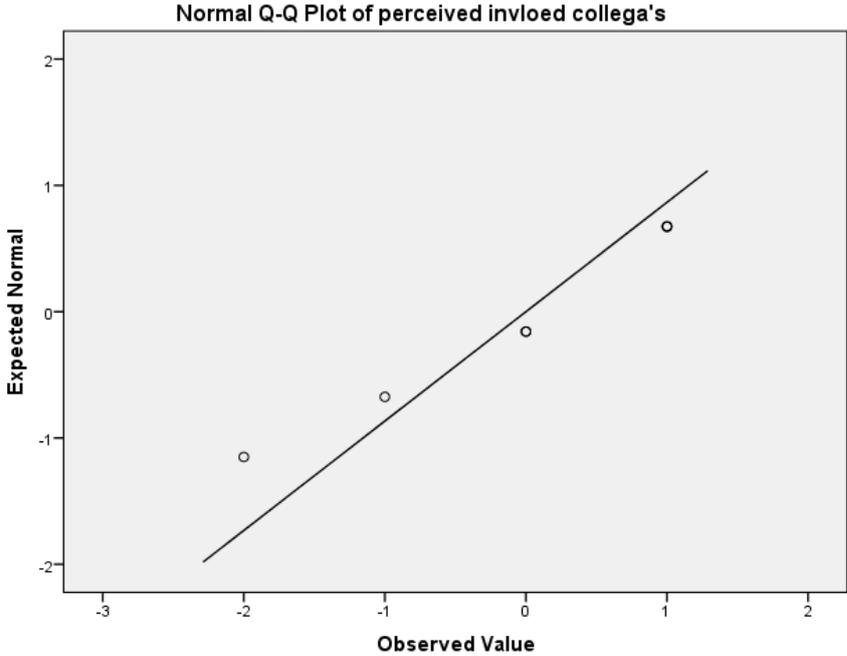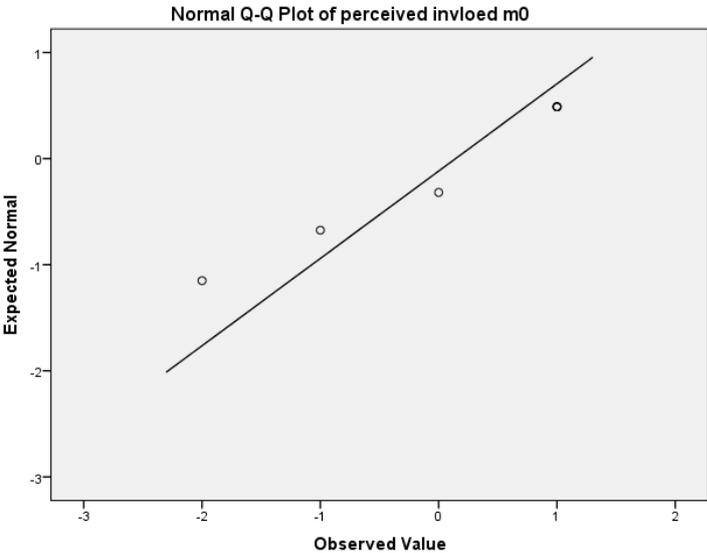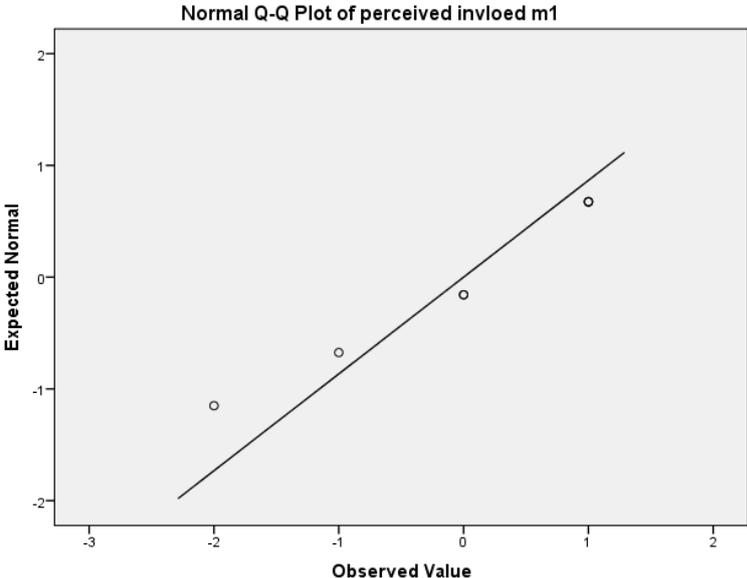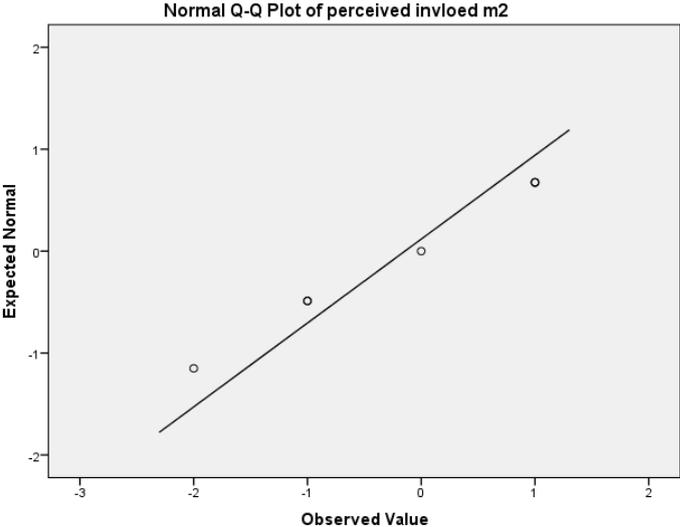
Previous experiences with change

Scatterplot for informal analysis for the Pearson's correlation test between previous experience with change and Judgment of the 'Bridge'.
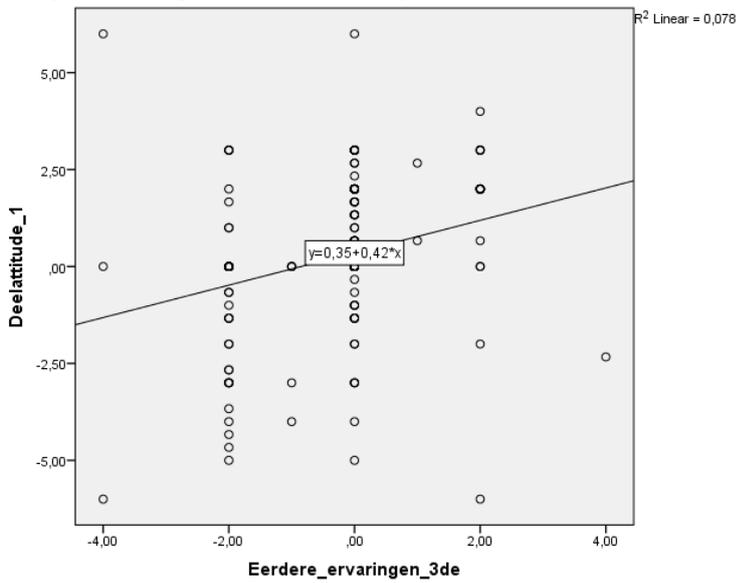
Scatterplot for previous experiences with change and Judgment of the 'Bridge', to check if case 187 is an influential point.

Scatterplot without case 187
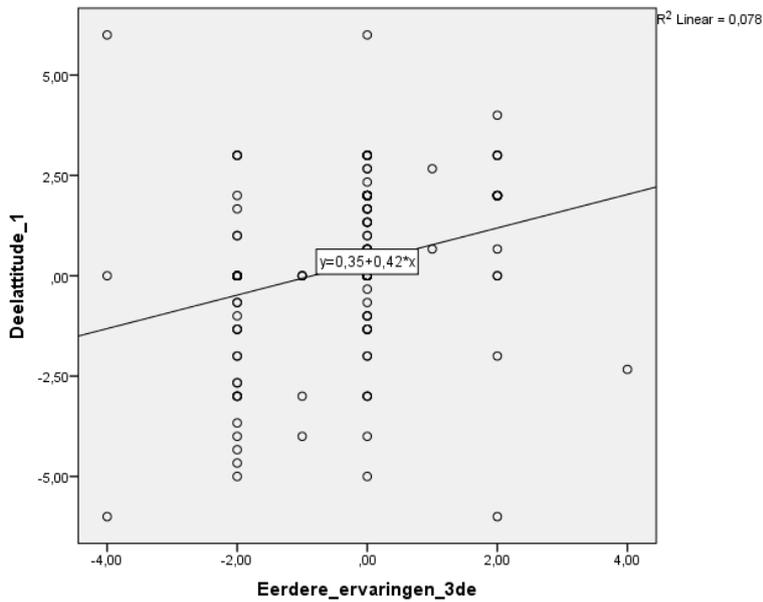
Scatterplot with case 187
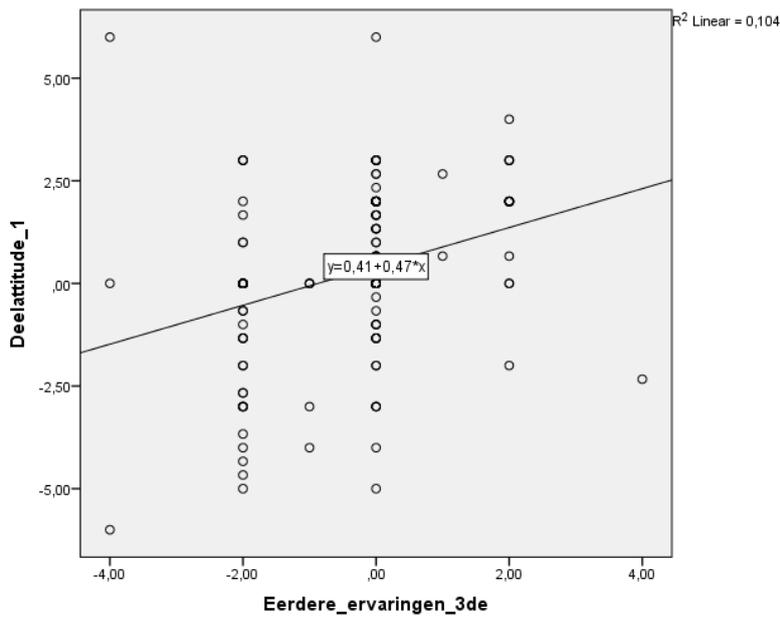
Perceived importance

Scatterplot for informal analysis for the Pearson's correlation test between perceived importance and Judgment of the 'Bridge'.
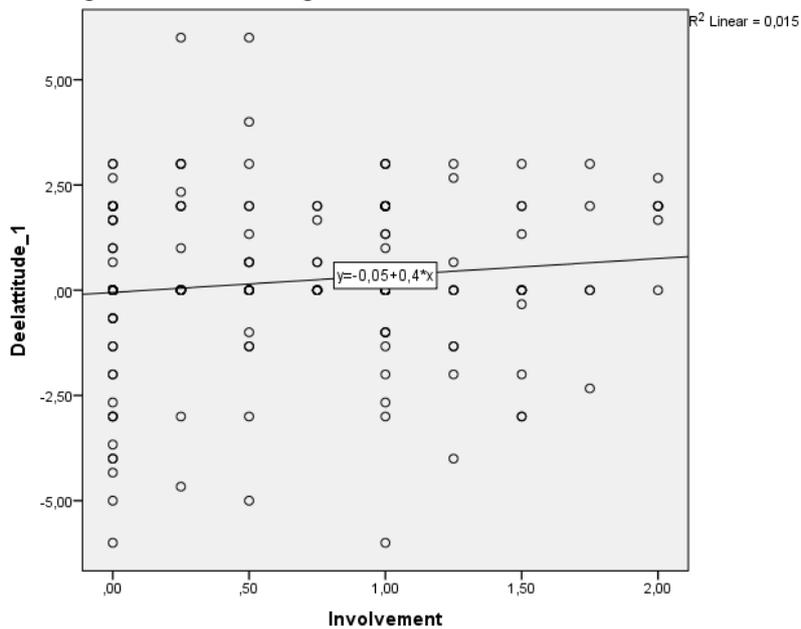
Perceived attitude of environment
Scatterplot for informal analysis for the Pearson's correlation test between perceived attitude of environment and Judgment of the 'Bridge'.
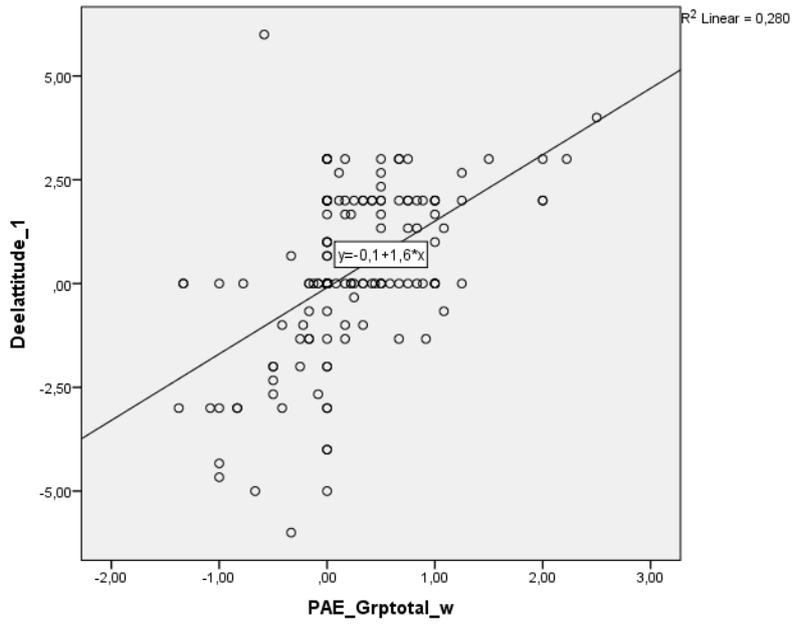
Multivariate regression analysis

Model I
Scatterplot of perceived quality of information and judgment of the 'Bridge'.
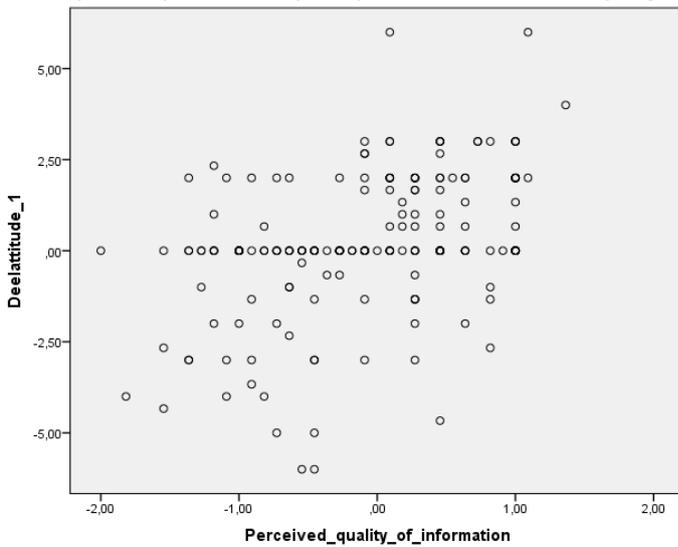
Scatterplot of perceived influence of sources of change communication and judgment of the 'Bridge'.
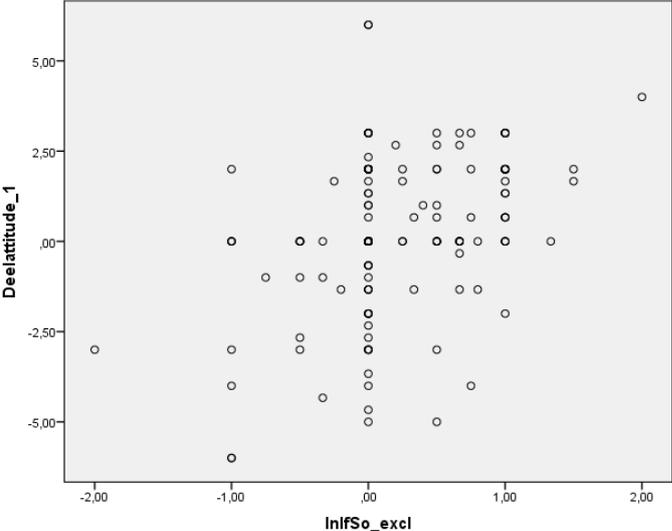
Scatterplot of the perceived influence of information providing media and judgment of the 'Bridge'.
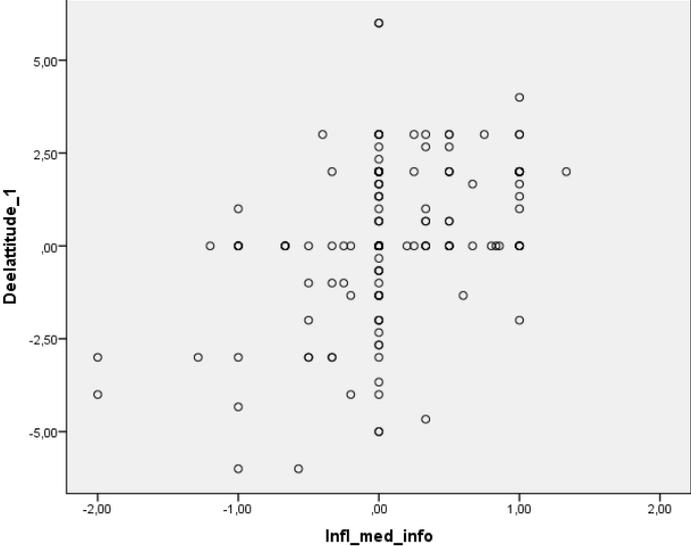
Histogram of the regression standardized residual model I.
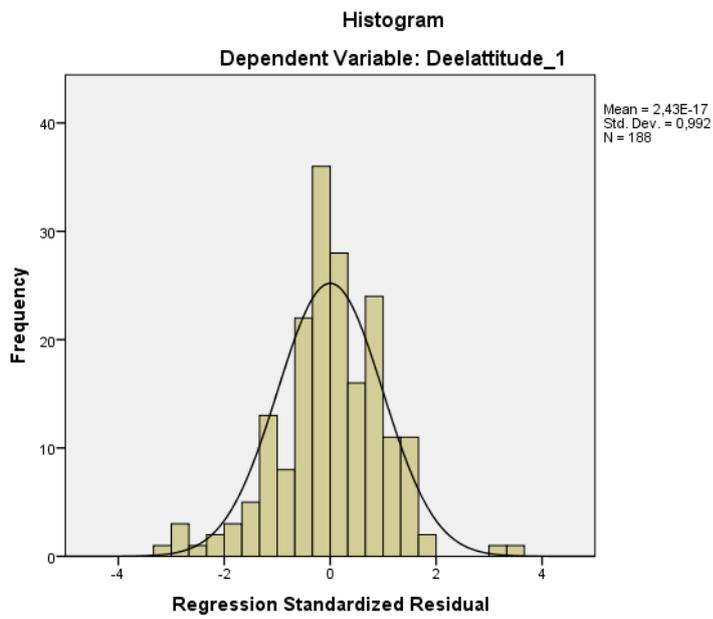
Histogram
Dependent Variable: Deelattitude_1

Mean = 2,43E-17
Std. Dev. = 0,992
N = 188

Plots of the regression standardized residuals for model I

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Deelattitude_1
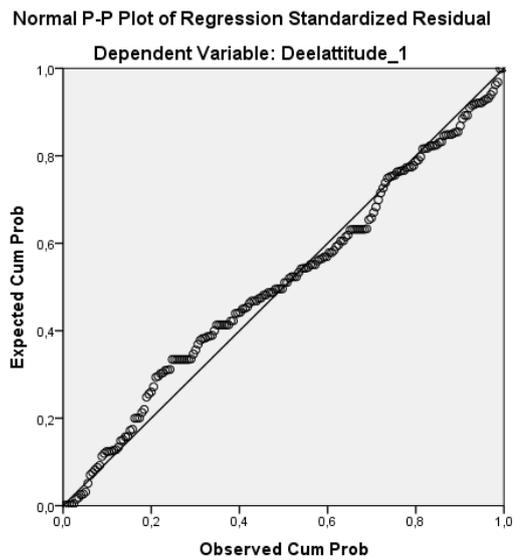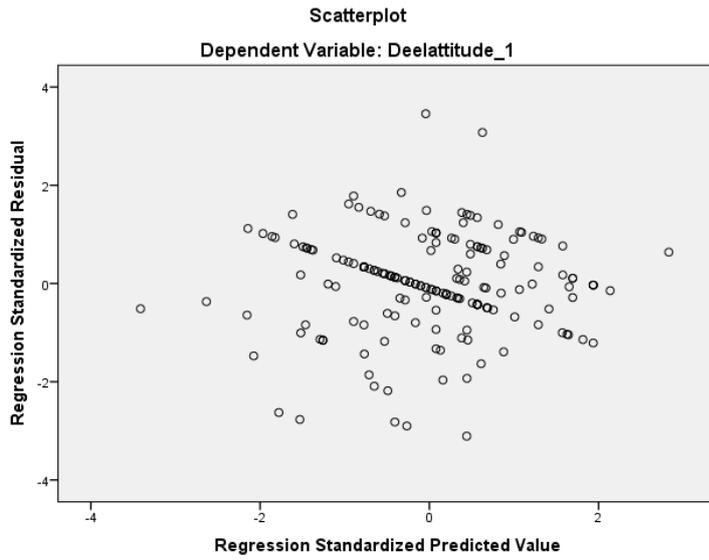
Multivariate regression analysis model II
Scatterplot of previous experiences and judgment of the 'Bridge'.
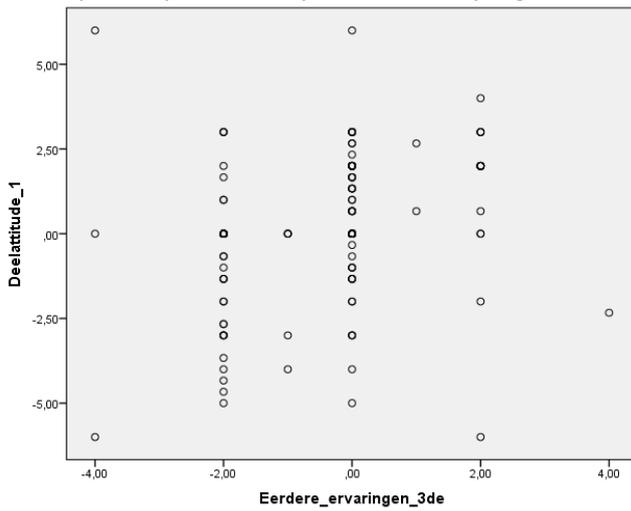
Scatterplot of perceived importance and judgment of the 'Bridge'.
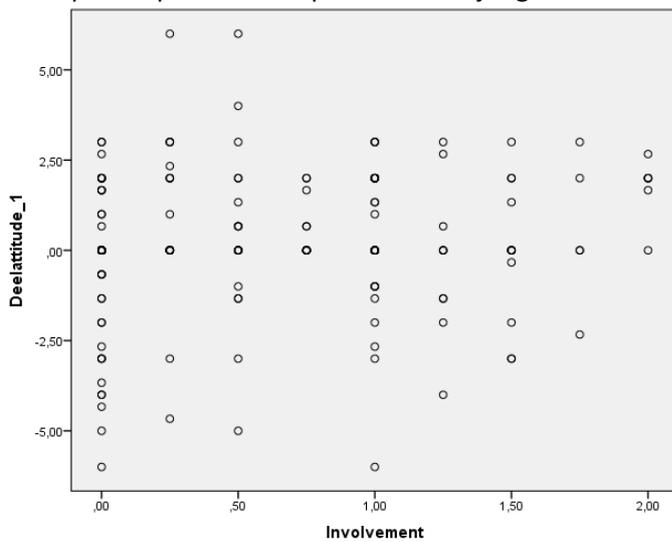
Histogram of the regression standardized residual of model II

Plots of the regression standardized residuals for model II
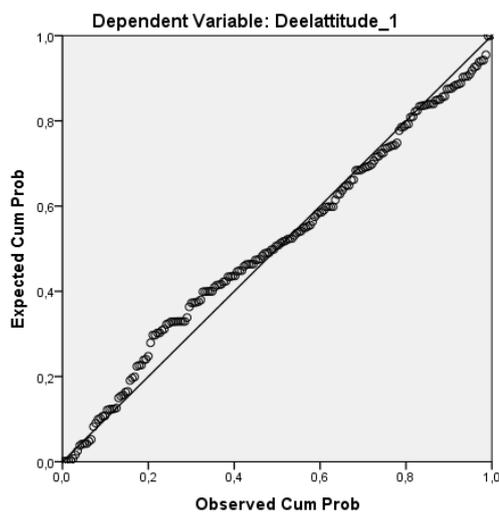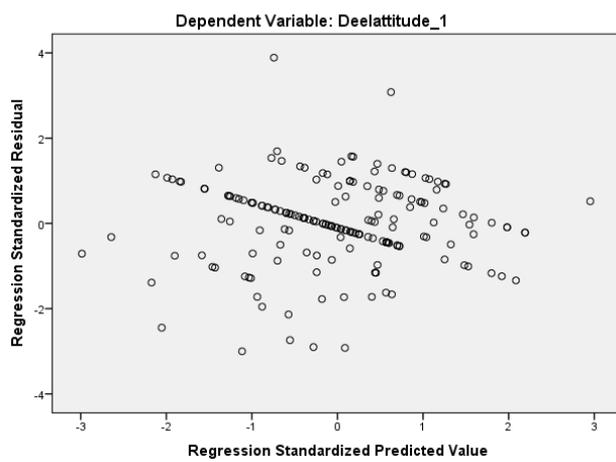
Multivariate regression analysis: the number of sources and media of change communication used

To assess whether there is a simultaneous effect of the variables, number of sources of change communication used, number of information providing media used, number of participation providing media used and the perceived quality of information on employees' Judgment of the 'Bridge', a multivariate regression analysis was used. Informal analysis of the data using histograms and scatterplots showed no serious threats to distributional assumptions of residuals of the dependent variable. Scatterplots between the dependent variables and all independent variables, except perceived quality of information, showed little to no linearity.

Table 20 shows all correlation values of all pairs of variables in the analysis, together with their significance values. Also included in the table are the mean and standard deviation of each variable.

The R^2 = 0.419 (adjusted R^2 = 0.176), a value that was also highly significant, $F_{(4, 181)}$ = 9.645, $MS_{residual}$ = 3.208, $p < 0.01$. The standard error of the estimate was 1.791. Only one variable has a relationship with Judgment of the 'Bridge' that is significant, perceived quality of information. Perceived quality of information also showed to be the biggest contributor to the model. Moreover, it can be concluded that the variables, number of sources of change communication used, number of information providing media used and number of participation providing media used, contribute little to nothing to this model. Semi-partial r values and values of beta for all independent variables are shown in table 21 together with the results of the significance tests.

Table 31 Variables in the multiple regression analysis. The top panel shows r values for variables in the analysis. The bottom panel shows descriptive statistics for the variables.

	Judgment of the 'Bridge'	Number of sources of change communication used	Number of information providing media used	Number of participation providing media used	Perceived quality of information
Number of sources of change communication used	-0,009				
Number of information providing media used	0,018	0,55*			
Number of participation providing media used	-0,058	0,134*	0,151*		
Perceived quality of information	0,406**	0,121	0,107	0,081	
Mean	0,176	2,468	2,624	0,167	-0,084
Standard deviation	1,951	1,025	1,023	0,374	0,757

Table 32 Semi-partial r values and beta values together with their significance tests for independent variables in the multiple regression analysis (in descending order by Beta).

	Semi-partial r	Beta	t (186)	p-value
Perceived quality of information	0,414	1,079	6,133	0
Number of information providing media used	0,015	0,034	0,222	0,825
Number of participation providing media used	-0,085	-0,451	-1,261	0,209
Number of sources of change communication used	-0,048	-0,11	-0,712	0,477

For scatterplots see section medium of change communication and source of change communication of appendix B, analysis of the use of medium of change communication and sources of change communication.

Histogram and plots of the regression standardized residuals for the use of sources and media of change communication
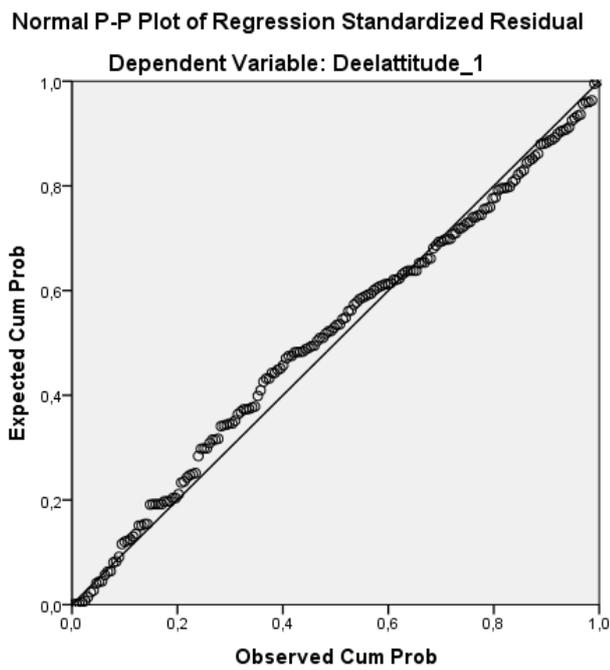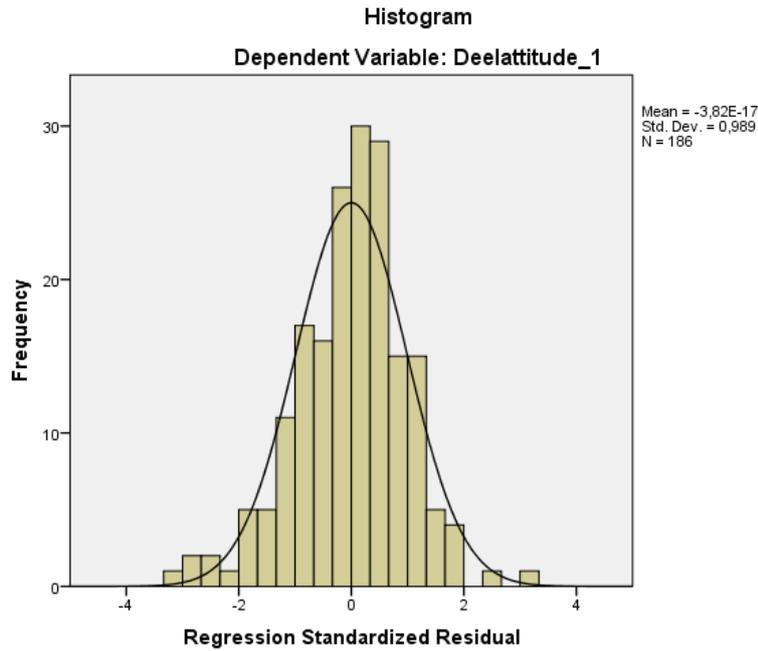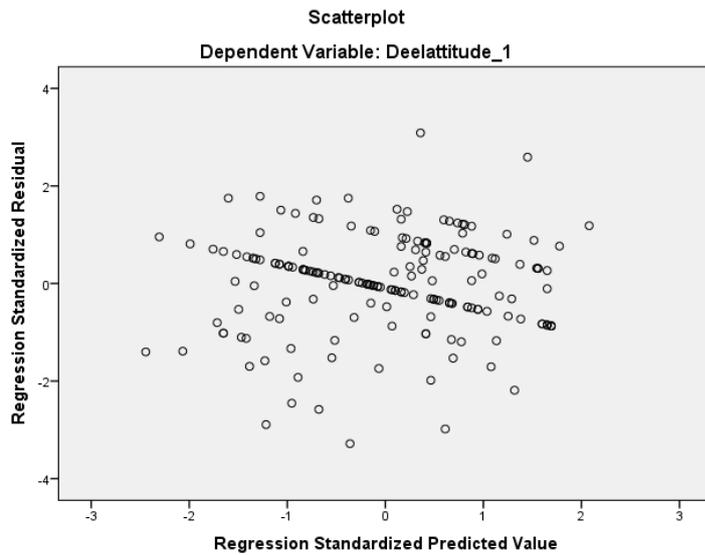
Frequency tables of each participation providing media

v007_sv001 Klankboardgroepen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Niet geselecteerd	206	90,4	91,2	91,2
	1 Ja	20	8,8	8,8	100,0
	Total	226	99,1	100,0	
Missing	System	2	,9		
Total		228	100,0		

v007_sv002 Project teams

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Niet geselecteerd	215	94,3	95,1	95,1
	1 Ja	11	4,8	4,9	100,0
	Total	226	99,1	100,0	
Missing	System	2	,9		
Total		228	100,0		

v007_sv003 Blogs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Niet geselecteerd	225	98,7	99,6	99,6
	1 Ja	1	,4	,4	100,0
	Total	226	99,1	100,0	
Missing	System	2	,9		
Total		228	100,0		

v007_sv004 Communities op Connect People

		Frequency	Percent	Valid Percent	Cumulative Percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Niet geselecteerd	219	96,1	96,9	96,9
	1 Ja	7	3,1	3,1	100,0
	Total	226	99,1	100,0	
Missing	System	2	,9		
Total		228	100,0		

v007_sv005 Cultuursessies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Niet geselecteerd	220	96,5	97,3	97,3
	1 Ja	6	2,6	2,7	100,0
	Total	226	99,1	100,0	
Missing	System	2	,9		
Total		228	100,0		

v007_sv006 Workshopdagen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Niet geselecteerd	219	96,1	96,9	96,9
	1 Ja	7	3,1	3,1	100,0
	Total	226	99,1	100,0	
Missing	System	2	,9		
Total		228	100,0		

v007_sv007 Codicil

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Niet geselecteerd	226	99,1	100,0	100,0
Missing	System	2	,9		
Total		228	100,0		

Department & Team

Description of the employees' judgment of the 'Bridge', per team and department.

Department	Mean judgment of the 'Bridge'	Teams	Mean judgment of the 'Bridge'
A	0,19	A1	0,33
		A2	0,2
		A3	0,69
		A4	-0,22
		A5	-0,29
		A6	0,33
		A7	0,05
		A8	-0,15
B	-0,14	B1	-1,06
		B2	1,25
		B3	-1,56
		B4	0,6
		B5	0,55
C	0,98	E1	1
		E2	0,45
		E3	1,49
		E4	0,85
D	-0,62	TS1	-0,21
		TS2	0,33
		TS3	-3,6

Appendix C: Model of planned behavior

Theory of planned behavior (Azjen, 1991).

| Individual's beliefs that the behavior leads to certain outcomes **and** his evaluation of these outcomes |

| Attitude toward the behavior |

| Individual's beliefs that it is able to perform a particular behavior |

| Perceived behavioral control |

| Behavioral intentions |

| behavior |

| Individual's beliefs that specific people or groups think he should or should not perform the behavior **and** his motivation to comply with the specific referents |

| Social norm |