Joanna Kijewska[*]
Poznan University of Technology, Poland
Witold Nowak
Adam Mickiewicz University, Poland

Employee Attitudes Towards Organizational Change in Relation to Enterprise Competitiveness. Remarks on the Role of Information Quality

Abstract: *The aim of the paper is to reconstruct the category of "information quality" and to attempt answering the question: how are employee's attitudes towards organisational change related to the quality of information concerning that process in the context of enterprises' competitiveness? The secondary data analysis method – covering theoretical literature and numerous empirical studies results – is applied to attain the above-mentioned research aims. The results of conducted analysis are presented in the following order. Firstly, the category of 'information quality' is conceptualised, the factors which influence the information quality are identified and the authors' scheme for analysing the information quali-*

ty is proposed. Secondly, the view on employees' attitudes towards organisational change is presented. Thirdly, the conditions of the information transmission in the organisational change process are analysed. Further, conceptual remarks on the influence of information quality on attitudes towards organisational change are presented on the background of previous research results. Since the idea of incorporating the concept of information quality in the theoretical considerations and empirical models in the area of research on attitudes towards organisational change seems to be promising, the authors propose the directions of further research in the final part of the paper.

Introduction

Employee's attitudes towards organisational change seem to condition the functioning of contemporary formal organisations to a high degree. According to numerous publications in management, the ability to gain support and acceptance for change initiatives conditions success, while the lack of this skill leads to failures of change projects. As formal organisations are meso-level units of social organisation, the employee's attitudes towards change in their workplace interests academics representing various social sciences, including management studies, organisation theory, sociology and psychology. The changeable, unstable and unpredictable nature of the contemporary social reality means constantly changing surrounding for organisations and their employees, which more and more often results in inner organizational changes. Following John W. Patten, the former Business Week Magazine publisher, who claimed that the road to success is always under construction (Crouch, 1999), nowadays the organisational change is a continuous process. The scale, timing and the organisation departments which are involved in the process depend on the established goals in the real time. Representatives of various disciplines seem to agree that the communication processes influences numerous organisational phenomena, but the way the influence occurs needs more precise description and explanation. It seems that the category of 'information quality' may be particularly useful for attaining these aims, what will be more profoundly reasoned in the further parts of this paper.

Methodology of the Research

The aim of this paper is, on one hand, to reconstruct the category of information quality and, on the other hand, to seek an answer for the questions: how the employee's attitudes towards organisational change are related to

the quality of information concerning that process and how these attitudes influence the enterprises' competitiveness? To answer the above-mentioned research questions, the secondary data analysis method is applied. The choice of desk research method is related to the exploratory character of the presented analysis. In order to reconstruct the category of information the theoretical literature in the field of the communications, theory and the qualitology is analysed. The qualitology is an interdisciplinary branch of science addressed to the all issues of quality (Kolman, 2009, p. 31). Nevertheless, as Mantura noticed (Mantura, 2012, p. 9), it is difficult to state that qualitology as the science of quality has specific methodological foundations and a certain position among the other scientific disciplines. The undertaken studies aim to apply the basics of the qualitology to study and reconstruct the category of information quality. The further examination incorporates the analysis of the communication process – one of the most important interpersonal and social relations issue. The communication process, where the information is exchanged between entities (Mantura, 2012, p. 24), is analysed on the basis of the telecommunication systems theory. Last but not least, within the framework of desk research, empirical studies results are analysed. The conducted analysis is aimed at presenting the state of contemporary studies on organisational change in the mentioned aspect and outlining directions of future research. As a result, conducted secondary data analysis enables to draw some directions of further conceptual and empirical research in the field under consideration.

Reasons for investigating organisational change in the context of enterprises' competitiveness

Most contemporary organisations have to respond the accelerating changes in their environment. Impulses requiring response from formal organisations may come from market, technological development, legislative processes or social dynamics. Particularly, the pace of innovation and technological change constantly accelerates, which results in numerous challenges to be met by various organisational entities. Even though the impact of particular phenomena in the external environment varies depending on the characteristics of an organisation, unsteadiness of surrounding seems to be a universal feature of such contemporary social systems. As a result nowadays organisations need to adapt to new operating conditions to a larger extent than in the previous decades. Adaptation to external conditions often requires organisational changes – generally defined as all significant modifications of some parts of the organisation. The attention paid to the issue

of organisational change in the management literature illustrates its importance in the functioning of, above all, contemporary enterprises, but also other types of formal organisations. Certain keywords appearing particularly often in the publications in this discipline in the last several years – flexibility, agility, the self-renewing ability, innovation imperative and continuous change – may illustrate the above-mentioned trend. According to numerous management theorists, contemporary organisations have to embody those characteristics in order to become and stay competitive. The essential challenges for modern organisations are said to result from balancing on the border of order and chaos, which is associated with categories of imperative of change and creative destruction (Sankowska, 2011, pp. 10-11).

The course of organisational change process is strongly dependent on the attitudes of people taking part in it – their positive attitudes condition the success of an organisational change, while negative attitudes may lead to its failure. Therefore, some researchers state that the organisational change effort is dependent of the ability of the particular organisation (or rather its representatives implementing the process) to change the individual behaviour of individual employees (Robertson *et al*., 1993, pp. 619-634). If, as stated before, contemporary organisations (particularly enterprises) have to act flexibly and agilely to become and stay competitive, then their competitiveness is closely related to their employees attitudes towards change initiatives (attitudes treated as factors determining to some extent their behaviour). Therefore, attempts to identify different characteristics of employees' attitudes relevant for organisational change process course and consequently for the competitive functioning are being made. Such factors – characteristics of employees attitudes facilitating competitiveness, may be: trust (Morgan & Zeffane, 2003), job satisfaction (Saari & Judge, 2004) and organisational commitment (Baker & Schaufeli, 2008). As will be proven further, the information quality seems to be a variable influencing various dimensions of employees attitudes towards organisational change.

Concept of 'information quality'

Considering information from an organisational perspective it must be treated as any other resource or asset (Haag & Cummings, 2013, p. 8). Numerous authors have analysed the notion of information according to the own science background, thus the literature comprehends richly varied approaches. The approaches based on the C.E. Shannon's information theory assume that the information is the primitive, elementary notion. The definition itself is not given but the amount and role of information is ana-

lysed. The other approaches defined the notion of information on the basis of the conceptions and goals of the specific science area. There are also approaches which interpret and describe the notion of information by analysing the features, characteristics and functions of information (Materska & 2007, pp. 23-24). Haag and Cummings define the notion of information as the data that have a particular meaning within a specific context (Haag, Cummings, 2013, p. 6). The appropriative synthesis of the information leads to the business intelligence, knowledge and then to the wisdom (Cempel, 2005, p. 43). The assumption emphasized by E. Kowalczyk indicating the correlation between the information and the receiver's individual capabilities and awareness. The information is defined as the content factor which becomes the information only if it is extracted by the individual for achieving the established goals effectively. It is stated that there is no information without the appropriate receiver (Kowalczyk, 1981, p. 25). Taking the above approach into consideration, the observer extracts the information about the object's features in the certain conditions of the observation. Inspired by the that approach, it is essential to define the high quality information in the system which is composed of the object-observer-conditions (the object-observer-condition system) and point to the transmission of the information among the organisation members (the observers) in the organisational change process. The three system components listed above (the object, the observer, the conditions), which influence the quality of information, are defined in the following paragraphs.

The object

According to the W. Mantura's concept of qualitology (Mantura, 2010, p. 29), the observer (the human being) during the cognitive processing verifies the fact of the existence of the objects in the reality. The object is the component of the reality isolated by the observer through the structuralizing and decomposition processes. The object is the set of features and, following W. Mantura, that features define the object quality. The features, when applying the analogy to mathematics, are the variables of the object. The object is the set:
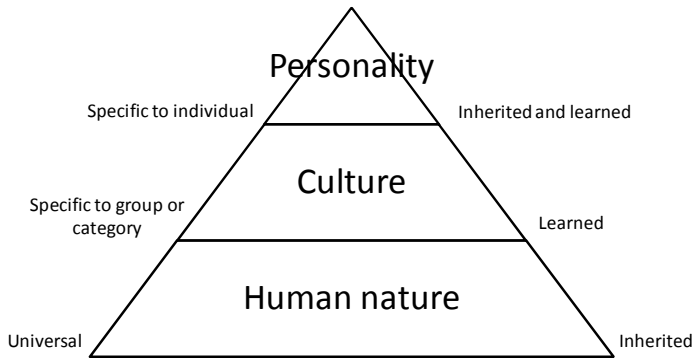
$$O = \{f_1, f_2, f_3, \dots\} \ or \ O = \{f_1, f_2, \dots, f_n\} \ or \ O = \emptyset \qquad (1)$$

where: O – the object, f1,f2, f3, ..., fn – object's features

The object (O) is an infinite set of features in terms of material object when the full recognition is impossible. When there is the increase of the observer's knowledge and by the cognitive processing the more object's features become recognized. The object (O) is a finite set of features in terms of the abstract object or when some simplification is assumed. The object (O) is an empty set of features when we know nothing about the object and that situation is usually the starting point to the observation and research (Mantura, 2010, p. 47). That approach to the objects, as the set of the features, brings us to the next component of the system, which is the observer who extracts the information about the object's features.

The observer

The observer extracts the information about the object. Following M. Rozkwitalska, there are three levels of mental programming. Those three levels of mental programming are considered as the factors which influence the observer's capability to extract the information about the object's features. The first level is the human nature representing the traits of all human being. The second level is the culture which provides a human being with solutions to how to adapt to the environment and is coherent for the specific group of people. The third level is the personality of the human being which is specific to the individual (Rozkwitalska, 2012, p. 12). When analysing the impact of those levels on the human being's (the observer's) capabilities of the observation, the following assumptions are stated: the first two levels of mental programming influence the observer perception (how the observer perceives the reality) and the third level has an impact on the observer's abilities to extract the information about the object (how deeply the observer is able to understand the reality and be aware of the object features in the environment). The three levels of mental programming are presented in the Figure 1.

Figure 1. Three Levels of Mental Programming

Personality

Specific to individual   Inherited and learned

Culture

Specific to group or
category   Learned

Human nature

Universal   Inherited

Source: G. Hofstede, Culture's Consequences ..., p. 40, in (Rozkwitalska, 2012, p. 14).

The observer as an individual determines the efficiency of the observation of the object's features. The observation takes place in the certain environment in which the observer analyses and extracts the information about the object's features. So that, the environment conditions impact on the information quality also need to be analysed.

The conditions

The environment conditions influence the amount of information about the object's features possible to extract by the observer (Kowalczyk, 1981, p. 31). The above assumption arise several questions: do the appropriate environment conditions increase the observers capabilities; what is the characteristic of the appropriate, ideal conditions and is it a universal term or one specific for a particular observer? Basing on the Maslow's hierarchy of needs, the individual's potential arises at the level in which the need for personal growth is satisfied. After that there is the cognitive need, which determines the abilities to analyse and understand the environment. The needs are hierarchical, and when the lower needs are not satisfied there is no growth to the higher level. Furthermore, the needs arise one after another (Cempel, 2005, p.12). The environment satisfies the observer's needs as follows: the physiological needs, safeness needs, the needs of belonging and love, the esteem needs, and finally the need for personal growth, self-actualization, the esthetical and the higher spiritual needs. It is essential to consider in which environment the observer caters its needs, analyses and understands the environment and achieves the high observation efficiency.

The above-mentioned concept of the object-observer-condition system leads to the definition of the high quality information. The high quality information is the maximum amount of information about the object features, which is possible to extract by the observer in the environment conditions and in the real-time. As the object-observer-condition are variable components of the system, there are three possible situations to consider:

1. The maximum amount of information about the object features possible to extract by the ideal observer in the ideal conditions where the observer is able to single out and register all information about the object's features.

2. The maximum amount of information about the object features possible to extract by the real observer in the ideal conditions where the observer fully exploits own capabilities, is motivated, and achieves the highest efficiency.

3. The maximum amount of information about the object features possible to extract by the real observer in the real condition, in the real-time where the observer exploits the capabilities, is motivated and achieves the efficiency according to their own capabilities in the real time and real environment conditions.

Figure 2 illustrates three situations and points out the reason of the information drop in terms of the observer's capabilities and the environment conditions.

The correlation between the information maximum, in the analysed three situations is[1]:

$$
\begin{aligned}
I_{\max(S1)} &= \text{f1, f2, f3}, \ldots, \text{f20} \\
I_{\max(S2)} &= \text{f2, f3, f4, f7, f8, f9, f12, f13, f14} \\
I_{\max(S3)} &= \text{f3, f4, f8, f9} \\
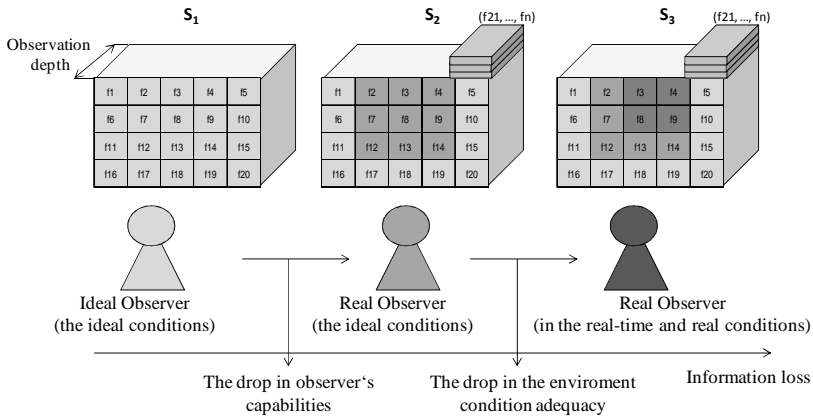I_{\max(S1)} &\geq I_{\max(S2)} \geq I_{\max(S3)}
\end{aligned} \tag{2}
$$

Thus, the quality of information increases when:

$$
\frac{I_{\max(S2)}}{I_{\max(S1)}} \to 1 \tag{3}
$$

$$
\frac{I_{\max(S3)}}{I_{\max(S2)}} \to 1 \tag{4}
$$

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[1] The own study inspired by Kowalczyk (Kowalczyk, 1981) approach and C.Cempel (Cempel, 2005, p. 43-48) remarks to the notion information.

Figure 2. The information about the object's features in the object-observer-condition system

where:

S1, S2, S3 – the three situation depending on the variable system's components

f1, f2, f3, ..., f20 – all object's features

f2, f3, f4, f7, f8, f9, f12, f13, f14 – object's features possible to extract by the real observer in the ideal conditions

f3, f4, f8, f9 – object's features possible to extract by the real observer in the real conditions and in the real-time

f21,..., fn – the additional features (besides the real object's features) added by the observer to the object

Source: own study inspired by E. Kowalczyk approach to the notion of information (Kowalczyk, 1981).

The notation (3) indicates the observer's impact on the information quality. The notion (4) indicates the conditions' impact on the information quality. The inclusive, the observer and conditions impact on the information quality is measured by the comparison the $I_{max(S3)}$ (the maximum amount of information about the object features extracted by the real observer in the real-time) with the $I_{max(S1)}$ (the maximum amount of information about the object possible to extract by the ideal observer). The ideal observer is the observer who is able to extract all amount of information about the object's features, so the $I_{max(S1)}$ equates the object information capacity. If the ideal observer extracts all information about the object's features, the entropy of the object equals zero, thus the object's features are fully recognized (Kowalczyk, 1981, p. 28). An ideal observer is a theoretically possible observer and in reality the value of the $I_{max(S1)}$ is given according to the up-to-date knowledge base and technology or by the assump-

tion of some simplification. After that process, when the information capacity of the object is defined, there is the possibility to compare the real maximum amount of information about the object's features extracted by the real observer in the real conditions with the object information capacity (with the assumed maximum amount of the information about the object's features possible to extract by the ideal observer), represented by the relation:

$$\frac{I_{\max(S3)}}{I_{\max(S1)}} \to 1 \tag{5}$$

In the example given at the Figure 2, the relation (5) is equal to 0,2 – only 20% of the all amount of information about the object's features was extracted by the real observer in the real condition, in real-time. The relation (3) is equal to 0,45 – which means that the real observer capabilities allow extracting the 45% of the all amount of information about the object features with the assumption that the ideal conditions are provided. The relation (4) is equal to 0,44 – which means that the conditions quality in the time of the observation facilitate the observer to extract 44% of the all amount of information about the object's features which are possible to extract by that real observer in the ideal conditions. Thus, there is the 55% amount of information loss because of the observer capabilities and the 25% amount of information loss caused by the environment conditions in the real-time of the observation.

Relying on the assumptions set out above to provide a high quality of information, defined as the maximum amount of information about the object's features, there is the need to select and analyse the objects features, consider the observer's capabilities and provide the appropriate, ideal environment conditions.

Attitudes towards organisational change

The concept of attitude has attracted attention of numerous researchers and theorists in social sciences. Although various definitions explicating its meaning have been devised, in line with the aim of this paper their synthetic essence rather than the full review will be presented. A definition that is surely worth mentioning because of its influence states that an "attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p. 1). In

the process of conceptualisation, basing on the classical tripartite theory, it can be stated that generally attitude consists of three essential components:

- Cognitive component (a set of beliefs related to the object of attitude)
- Affective component (emotional reactions caused by the object of attitude)
- Behavioural component (certain predispositions to act toward the object or overt actions to the attitude object).

However, the above-mentioned assumption has been under intense discussion and contemporary theorists and researchers are more willing to treat an attitude as an entity separate from the classes of affect, behaviour, and cognition. Then an attitude does not consist of these elements, but is instead a general evaluative summary of the information derived from these bases (Fabrigar *et al.*, 2005, p. 82). The character of relations between mentioned bases and between them and attitude as their synthetic expression is under discussion and further research, but at this point of conceptual considerations it is negligible. However, despite the on-going scientific discussion some fundamental assumptions for the purposes of this article can be made at this point.
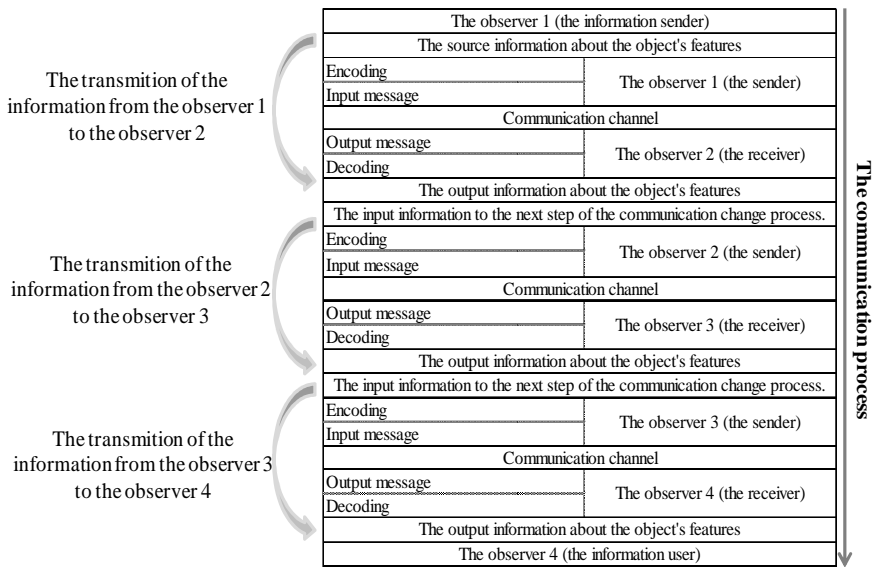
Firstly, attitude is a particular disposition to respond in a favourable or unfavourable manner to an object, person, institution, organisation or event. Secondly, attitude is a hypothetical construct and because of its inaccessibility to direct observation it has to be inferred from measurable events or attributes. Thirdly, those events or attributes (or generally responses) may represent background of cognitive, affective or behavioural nature and occur in verbal or nonverbal manner. And last but not least, attitudes 'can change rapidly as events unfold and new information about a person or issue becomes available' (Ajzen, 2005, pp. 3-6). In that context, organisational change as an object of an attitude seems particularly interesting research topic because of its rising prevalence and dynamic course.

The transmission of the information in the organization change process

Following A. Hamrol, a process is a correlative and interactive set of activities, which transform the input into the output (Hamrol, 2007, p. 538). The source information about the object of change is the input to the organisational change process. The input information is generated by the observer and transformed throughout the communication channel to the other observer or the group of the observers.

The main problem here is to detect whether the original source of information has been changed and if it has, how it may be recovered and corrected (inspired by Roman, 1992). If assumed that the object in the situation S1 in the Figure 2 is the input information, the object in the situation S3 is the output information. When the relation (5) is applied, the quality of information is measured in the organisational change process, as the consistency among the sent source information about the organisational change and the received information about the organisational change. When the information is received by the observer as the output of the communication in the organisational change process, there is the need to examine if that information is correct. What is essential, the observers not only extract the information about the object's features but also add the features to the object, according to their own individual attitudes (see Picture 1, the levels of mental programming). Thus the object S2 and S3 in the Figure 3 have the additional features (f21, ..., fn), and that also needs to be taken into consideration when the information quality is analysed. Thus the source information about the object's features (the input to the communication process) when transformed by the communication channel, through encoding and decoding activities result in the output information. The output information is verified according to the similarity to the source information about the object features, which depends on the amount of the information extracted from the source information and the amount of information added by the observers during the communication process. The transmission of the information about the object's features is presented in the Figure 3. On the other hand, it may be desired to instruct the sender to send the same information in the several different communication channels. The receiver would then decide that the original source information is the one that appears a majority of the time at the output channel (inspired by Roman, 1992).

Figure 3. The transmission of information about the object's features in the communication process

The observer 1 (the information sender)	
The source information about the object's features	
Encoding	The observer 1 (the sender)
Input message	
Communication channel	
Output message	The observer 2 (the receiver)
Decoding	
The output information about the object's features	

The transmition of the information from the observer 1 to the observer 2

The input information to the next step of the communication change process.

Encoding	The observer 2 (the sender)
Input message	
Communication channel	
Output message	The observer 3 (the receiver)
Decoding	
The output information about the object's features	

The transmition of the information from the observer 2 to the observer 3

The input information to the next step of the communication change process.

Encoding	The observer 3 (the sender)
Input message	
Communication channel	
Output message	The observer 4 (the receiver)
Decoding	
The output information about the object's features	
The observer 4 (the information user)	

The transmition of the information from the observer 3 to the observer 4

The communication process

Source: own study inspired by Haykin (1998).

Conceptual remarks on the influence of information quality on attitudes towards organisational change against previous research

The available literature on the relations between information quality and formal organisations employees' attitudes towards organisational change is very limited. More often attention is paid to communication process in general, that rather rarely is analysed in terms of its quality (e.g. Wyer & Albarracin, 2005, p. 297). That is why answering the research question put in the beginning of this paper turns out to be impossible basing on the contemporary state of art. Therefore, the following paragraphs concern some of the proposed aspects of information quality-employees attitudes research. Obviously, the information quality cannot be considered without the context of the general communication process. According to Wim Elving's hypothesis (or rather directive) on change communication, one of its main purposes should be to inform the members of organisation about the change and way it is expected to influence their organisational functioning. Elving among his remarks on the whole communication process underlines a fundamental distinction on communication as a mean to provide information

and organisational communication as a mean to create a community spirit (as illustrated on the Figure 4). (Elving, 2005, pp. 130-131) Even though these two dimensions of organisational communication are interdependent, at this point the attention will be put to analyse the informative function, which seems to be the necessary condition for attaining the communitarian aim.

The informative function of communication may be described as having an effect on readiness for change – one of the dimensions of employees attitudes towards organisational change frequently investigated in the mainstream organisational research. The specific characteristics concerning the organisational change that may be particularly interesting in operationalizing above-mentioned aspects of information quality (the object properties, the observer capabilities and the observation conditions) may be inter alia: the information of change timing, its intelligibility, lack of errors (Elving, 2005, pp. 131-132).

Figure 4. The transmission of information about the object's features in the communication process
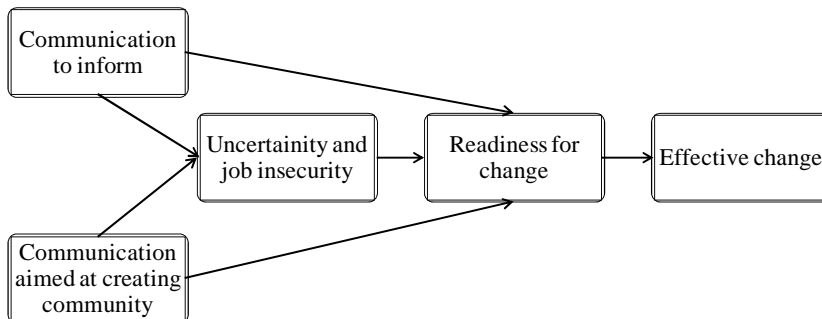
Source: Elving (2005, pp.129-138).

On the level of conceptualising and, further, operationalizing the information quality it may be particularly desirable to go beyond the declaratory employees' opinions or evaluations of the selected dimensions of information quality. One of the potential indirect indicators of information quality might be the informal communication processes. As uncertainty during organisational change process can result in rumours and other forms of informal communication, 'the extent to which informal communication occurs during the change effort could be an indicator of the amount of uncertainty and on the (lack of) quality of the information given about the organisational change' (Elving, 2005, p. 134).

While considering the relation between information, its quality and attitudes towards organizational change it is crucial to refer to the category of 'knowledge'. Knowledge as a concept referring to 'the amount of attitude-relevant information that a respondent lists about the attitude object' (Fabrigar *et al.*, 2005, p. 115) is helpful in understanding how the three bases of attitude are interrelated when we think about the information quality influence. If the above-mentioned operational definition is accepted, than it may include beliefs (constituting the cognitive base of attitudes), emotional reactions (affective base) and prior behaviours (behavioural base). As beliefs, emotions and behaviours are interrelated, the influence of the information on organisational change quality received and processed by employees may be multidimensional. However, it has to be noticed that some research have proven a diversity of the strength of particular attitude basis influence and profile of behaviour. This way, attitudes strongly related to affective basis best predict consumatory behaviours – performed for gaining an intrinsic reward, while attitudes established on cognition best predict instrumental behaviours – performed to reach goals external to the behaviour (Fabrigar *et al.*, 2005, p. 109).

Furthermore, it has to be stressed that contemporary social psychologists do not perceive the relation between attitudes and behaviours as simple and direct. One of the positions on the matter of attitude-behaviour consistency stresses that attitude is considered as one of many factors determining behaviour. On one hand, it results in reaffirmation of the importance of attitudes, but on the other hand, it leads to 'the anticipation that attitudes will often be distinct from behaviour.' (Ajzen & Fishbein, 1977, p. 888). Therefore, even though the relation between attitudes and behaviour is under question (see e.g. Ajzen & Fishbein, 1977), it seems justified to state that attitude is one of the factors determining behaviour. Probably it is not the main determinant, but definitely should not be neglected in the search for human behaviour explanation.

As the link between attitude and behaviour is intensely discussed, the factors determining that relation may constitute a particularly relevant area of research. Such a variable may be knowledge that is directly linked to the quality of information on the object of attitude. Knowledge is said to be a potential factor affecting the activation of an attitude. Another mediating effect of knowledge on the relation between attitude and behaviour is said to be linked to a wealth of information about attitude object. Here the influence of information quality may be particularly visible, as the wealth of information is rather conceptualised in terms of complexity of knowledge rather than its amount: 'the more complex the knowledge base, the more

likely it is that the attitude will be based on information directly relevant to a given behavior' (Fabrigar *et al.*, 2005, pp. 102-112).

Last, but not least, the influence of information quality on attitudes towards organisational change may be mediated by numerous other variables. Such a factor may be, for example, a so-called 'need for cognition' – the tendency to engage in and enjoy effortful thought that may be operationalized as an approval of individual preference of complex to simple problems. As research has proven, high need for cognition tends to favour forming 'attitudes on the basis of an effortful analysis of the quality of the relevant information in a persuasive message, whereas people low in NC tend to be more reliant on simple peripheral cues in the persuasion context' (Brinol & Petty, 2005, pp. 581-582).

Conclusions

The idea of incorporating the concept of information quality in the theoretical considerations and empirical models in the area of research on attitudes towards organisational change seems to be promising. Information quality may be particularly beneficial as an aspect of studies on communication processes during organisational change. In that context, it may be treated as a particularly relevant variable of description and explication of phenomena observable during organisational change process. Knowledge gathered in further research on the relations between information quality and employees' attitudes towards organisational change may bring a significant potential of application in managerial practice.

At that point it seems crucial to point the directions of further considerations and research. Therefore, several research questions for further analysis are proposed at that point:

1. How do the individual and social factors influence the observer's – employee's capability to extract the information about the organisational change and to translate the received information?
2. To what extent do the environment conditions influence the observer's – employee's capabilities to extract the information about organisational change?
3. What determines the high quality of information in the communication process during organisational change?
4. How to measure the contamination of information process during the organisational change and its influence on employees' attitudes towards change initiatives?

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