

OVERCOMING RESISTANCE TO TECHNOLOGICAL CHANGES IN ROMANIAN ORGANIZATIONS

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ABSTRACT

Objectives/Purpose: *The survey underlies reasons why employees from Romanian organizations resist at implementation of new technological equipment in order to find different methods for overcoming resistance to change.*

Design/Methodology/Approach: *The research methodology contains a survey applied to 57 respondents from 43 Romanian companies that are dealing with technological change. The questionnaire is applied to top and middle management from functional departments from organization directly involved in technological change. The questionnaire information is quantitatively analyzed in SPSS, and qualitatively in MAXQDA and Mindjet MindManager 8.*

Results/Acknowledgements: *Better understanding of resistance to technological change in organization, from top and middle management involved, and possible solutions for overcoming this resistance, in order to achieve the final purpose of the change.*

Implications: *The resistance to technological change has impact on success of the change process in the organization. Identifying correctly the causes of the resistance may lead to proper solutions for overcoming resistance to change and to achieve the final purpose of the change.*

KEYWORDS: *Technological change, change reactions, resistance to change, financial crisis effects.*

Introduction

Resistance is a normal and natural reaction to any change process.

The ADKAR® Model¹ developed by Jeffrey M. Hiatt (from Prosci - an independent research company in the fields of change management, business process reengineering and call center management from USA) says : “*Research shows that problems with the people dimension of change is the most commonly cited reason for project failures. In a study with 248 companies, effective change management with employees was listed as one of the top-three overall success factors for the project. Helping managers be effective sponsors of change was considered the most critical success factor overall*”.

¹ *Jeff Hiatt's book ADKAR: a model for change in business, government and our community - a complete description of the model.*

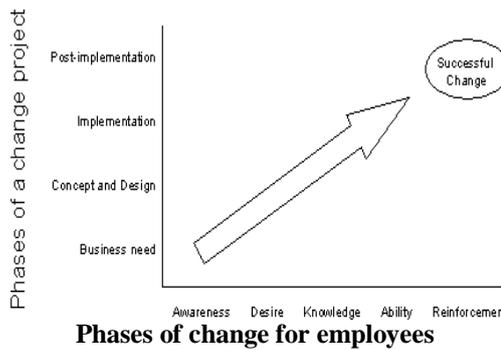


Figure 1 – Hiatt’s framework for change initiatives, to use the ADKAR model effectively

Effective management of the people dimension of change requires managing five key goals that form the basis of the ADKAR model:

- **Awareness** of the need to change;
- **Desire** to participate and support the change;
- **Knowledge** of how to change (and what the change looks like);
- **Ability** to implement the change on a day-to-day basis;
- **Reinforcement** to keep the change in place.

Methodology

The survey, based on a questionnaire was applied to 57 respondents from 43 small, middle and large companies from Romania (12,28% of respondents are from small firms, 45,61% from middle organizations, 42,11% from large organizations). The respondents have different position in their organizations (top managers – 21,05%, middle managers – 36,84% and supervisors – 42,11%).

As organization type, 64,91% of the companies have production activities, 26,32% have commerce activity and 8,77% services.

The structure of the analyzed sample can be observed in fig.2 (clusters by organization size with a panel by respondent position in organization, structured by organization type).

The *objectives of this survey* are:

1. Investigation of potential causes of resistance to change of key persons involved in technological changes in Romanian organizations;
2. Identification of other change reactions when technological change process is implemented in the questioned company;
3. Overview feasible ways to overcome negative effects of resistance to technological change.

These directions have been simultaneous analyzed under two aspects:

- At personal level, importance granted from the respondent when he/she is confronted with a technological change - a scale from 1 to 5 (1 = the least important, 5 = very important);
- At organizational level, importance observed by the respondent inside the company when a new equipment is implemented, a scale from 1 to 10 (1 = the least important, 10 = very important).

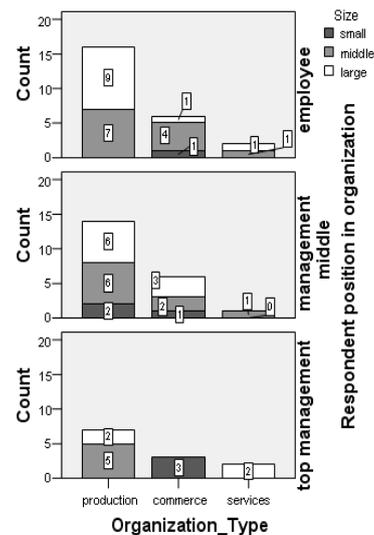


Figure 2 – Structure of the sample by organization size, respondent position and organization type

Note: the data were collected in May/June 2009, while the world financial crisis effects could be experienced in Romania. This might influence the answers of the

respondents about resistance to the technological change, reflecting the fears about the negative aspects of the crisis in their organization.

Analysis description

The questionnaires analysis show the respondents opinions, differentiated by respondent's age, sex, level and type of education, organization main activity and size, current position, department and professional experience. Also, we wanted to verify if these differences of opinions between different categories are relevant.

Fig.3 shows the potential *causes that might generate resistance to technological changes* in questioned organizations. At personal level, all these causes registered per general medium values between [3;4] on a scale of 1 to 5, meaning that all this causes are well identified and with a high importance at personal levels. The results are sustained also at organizational level, where, on a scale of 1 to 10, all the causes registered values between [6;8].

The most important causes turn out to be, both at personal and organizational level:

- *Leadership abilities of change agent* (see histograms from fig. 4 and 5) ;
- *Change agent relating skills* (histograms from fig. 6 and 7);
- *The employees don't know how the change will affect their job safety* (fig. 8 and 9);
- *Communication abilities of change agent;*
- *Organizational culture;*
- *The employees need guidance through change;*
- *Employees need guidance through change.*

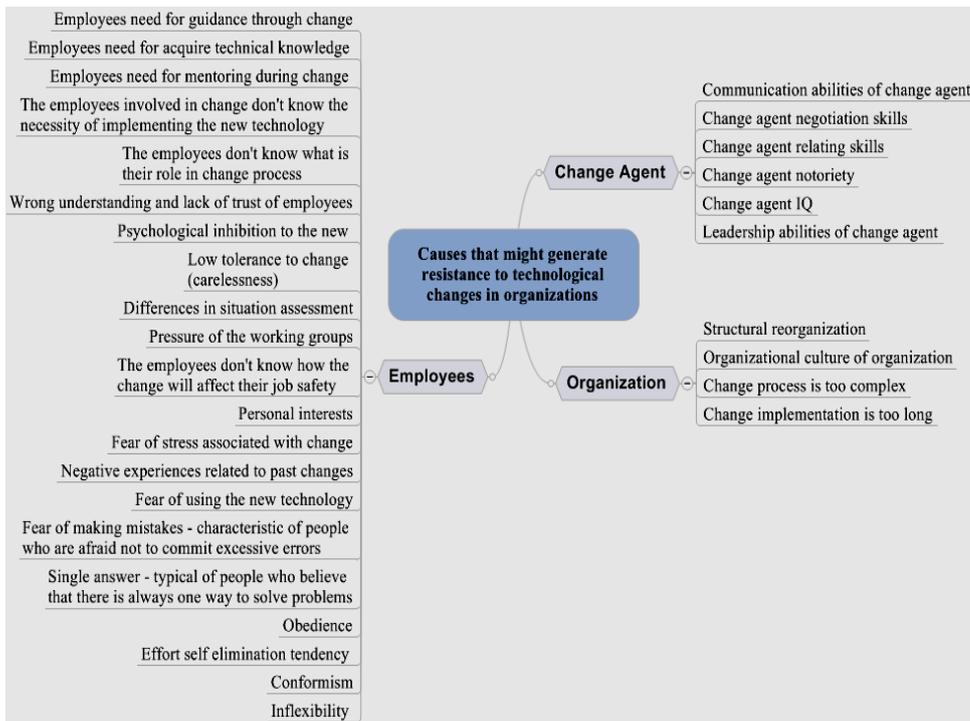


Figure 3 – Causes that might generate resistance to technological changes in organizations



Fig 4 – Leadership abilities of change agent (personal opinion)

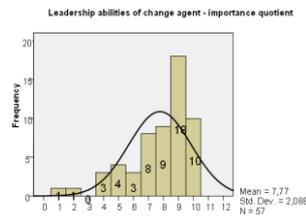


Fig 5 – Leadership abilities of change agent (organisational opinion)

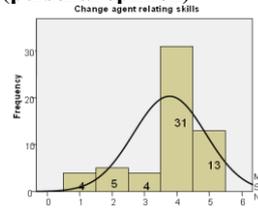


Fig 6 – Change agent relating skills (personal opinion)

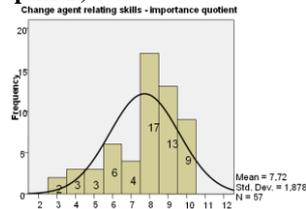


Fig 7 – Change agent relating skills (organisational opinion)

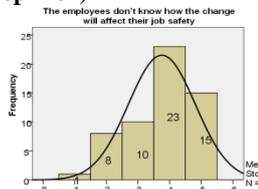


Fig 8 – The employees don't know how the change will affect their job safety (personal opinion)



Fig 9 – The employees don't know how the change will affect their job safety (organisational opinion)

Leadership abilities of the change agent are very important, especially in middle companies (mean 4.308 on a scale 1-5, with a significant difference (sig.0,005). The lowest level is registered in small business (mean 2.857), also with a significant difference.

At organizational level, respondents that have both economical and engineering background understand better the leadership concept and its role in implementing a change in organization, where economical engineers show an importance of 8,58 on a scale 1-10 (sig.0,49).

The qualitative analysis revealed that some of the correspondents consider as possible causes of resistance to technological change of different stakeholders of the new technological change process, especially during crisis times, as follows:

- in some small and middle companies, the most difficult and the most important phase is the argumentation of the investment necessity of change agent in front of the change sponsors/business owners, most of the time persons that don't understand the new technology or don't "feel" the need for development of high performance industrial systems;
- the difficult internal procedures for investment evaluation, especially the high level and short term rate of return on investments imposed by change sponsor;
- key persons delegated in change implementation are hastening when they are taking the decisions, without analysing all the required aspects of change process;
- employees' confidence in their capabilities that the old technology can fulfil all the new requirements, so the need of the new technology is no longer necessary, the only reason being that they already know the old technology and the new technology seem difficult to understand;
- the employees' fear of responsibility for their new actions generated by the new technology;
- the employees' fear of taking decisions by their own.

The possible *reactions to technological changes* analysed in this survey are synthetically presented in fig. 10.

The highest level of the mean values respondents' opinions about possible reactions to technological changes were registered, both at personal and organizational level to the following statements:

- *You believe in change and you look it like an opportunity* (see fig 11 and 12);
- *You comply with the change* (fig 13 and 14);

The lowest level was registered at:

- *You settled on the old structure, difficult to adapt to technology change* (fig 15 and 16);

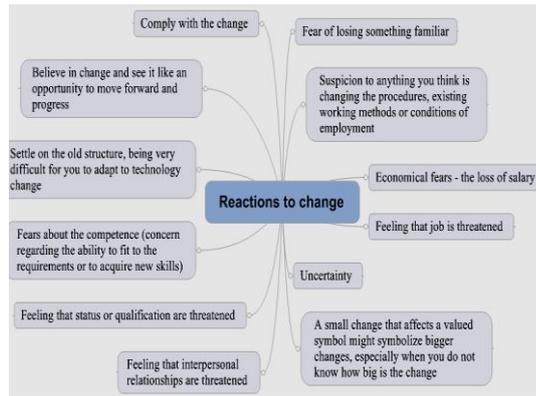


Figure 10 – Possible reactions to change

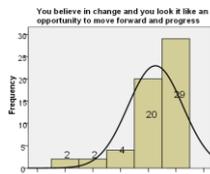


Fig 11 – You believe in change and you look it like an opportunity (personal opinion)

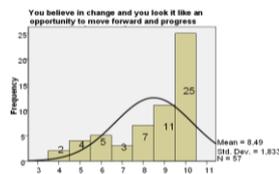


Fig 12 – You believe in change and you look it like an opportunity (organisational opinion)

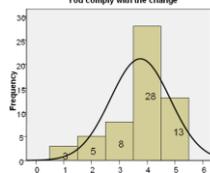


Fig 13 – You comply with the change (personal opinion)

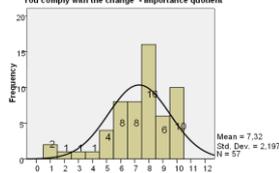


Fig 14 – You comply with the change (organisational opinion)

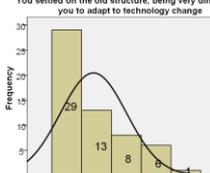


Fig 15 – You settled on the old structure, difficult to adapt to technology change (personal opinion)

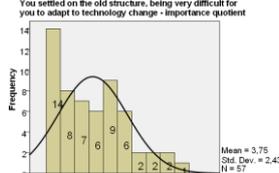


Fig 16 – You settled on the old structure, difficult to adapt to technology change (organisational opinion)

Respondents with postgraduate studies believe more in change (mean 8.071 on scale 1-10, sig.0.032). The curricula that they have studied make them have a clear view of the reality, the context in which the change process is taking place.

Young respondents comply with the change more than the other categories (sig. 0.014), they are more adaptive and accept new challenges with higher enthusiasm, and they believe in change and look at it like an opportunity.

Respondents from production companies consider that they are more flexible to the technological change than the other categories (mean 1.622 on the scale 1-5, sig. 0.039). This is considered a normal answer, especially because commerce and services companies are not

confronted directly by the technological change, this is not the driver of their activity, but an instrument that make their activity more easy.

The survey continues with analyse of the *ways for overcoming resistance to change*, structured in fig. 17.

The most important were considered to be, both at personal and organizational level:

- *Efficient communication between leader and team members* (see fig 18 and 19);
- *Participation and involvement of team members* (fig 20 and 21).

Coercion (fig 22 and 23) and *Manipulation* (fig 24 and 25) registered a lower level of mean value, both of personal and organizational level, which can lead us to the conclusion that the employees don't like the idea of being manipulated or persuaded to follow the change if they don't believe in it, but, looking at the mean absolute value, we see that are very closed with the medium of the intervals [1;5], respectively [1;10], the considered scales.



Figure 17 – Ways for decreasing resistance to change

Although, respondents that have postgraduate studies from large companies are more “opened” to manipulation (a mean of 6.357 on a scale 1-10, sig.0.009), they are more aware how people’s mind is a resource that they can use wisely to change the business in the right direction and to obtain the maximum results with a minimum effort. This hypothesis is verified with the responses of personal level (mean 3.143 on a scale 1-5, sig. 0.017).

Some of the respondents come with the suggestion that between proper ways to overcome resistance to change should be:

- job assurance, especially during crisis times;
- acknowledge of employees’ good results from previous projects, as a motivation for change agent and team members;
- directly co interesting in the projects;
- employees’ implication in projects in competition terms.

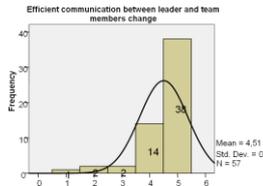


Fig 18 – Efficient communication between leader and team members change (personal opinion)

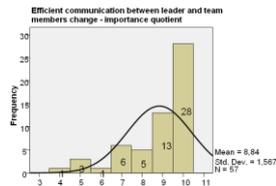


Fig 19 – Efficient communication between leader and team members change (organisational opinion)



Fig 20 – Participation and involvement of team members (personal opinion)

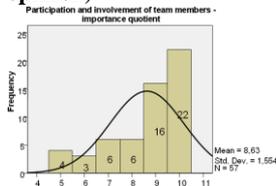


Fig 21 – Participation and involvement of team members (organisational opinion)

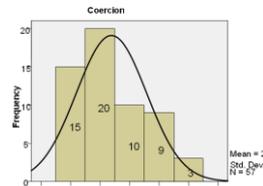


Fig 22 – Coercion (personal opinion)

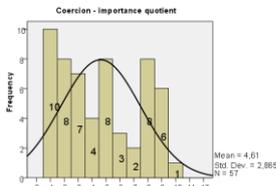


Fig23–Coercion (organisational opinion)

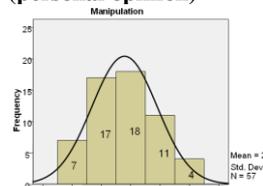


Fig 24 – Manipulation (personal opinion)

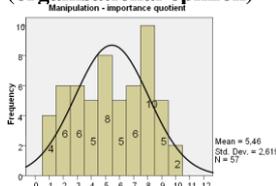


Fig25–Manipulation (organisational opinion)

In middle organization is registered a more efficient communication between leader and team members (mean 3.654 on scale 1-5, sig. 0.017). The team members/change agents know each other better than in large companies for example, in their daily activity they meet more than in the large companies – it's like a teambuilding at the job. This might be a reasonable explanation for these results.

Respondents with postgraduate studies are more resistant to coercion methods (mean 5.571, sig. 0,012), they like to use it, but they don't like to feel that someone tries to change their mind, no matter if it's a constructive method or not. The female respondents are more receptive at coercion side (mean 8.85, on the scale 1-10, sig. 0.013).

Conclusions

The collected data of personal level are in concordance with respondents opinions at organizations' level.

In order to overcome the negative effects of resistance to change in implementing new technological equipment in organization and to be successful in leading to improved performances and organizational effectiveness, it is required attention to factors which influence human behavior, as the results of the survey shows.

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