Abstract. The paper wants to investigate if there is a direct relation between organizational culture and resistance to technological change in Romanian organizations in order to find different methods for overcoming resistance to change.

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.

Results refer to a better understanding of organizational culture and resistance to technological change in organization, in order to overcome the resistance and reach the final purpose of the change process.

Organizational culture has important implications in organizations confronted with technological changes. Resistance to change, an implicit effect that might occur in every change, can be overcome by a better understanding of the causes that generate it.

Key words: resistance to change, change management, organizational culture.

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1. Introduction

In the literature the definitions of organizational culture are very well represented, although almost all of the most widely accepted ones are similar and cover many of the same aspects.

Gareth Morgan (http://www.organizationalculture101.com/) has described organizational culture as “the set of the set of beliefs, values, and norms, together with symbols like dramatized events and personalities, which represents the unique character of an organization, and provides the context for action in it and by it”. Beliefs and values are words that will pop up frequently in other definitions, as well. Norms might be described as traditions, structure of authority, or routines.

Edgar Schein, another of the most famous and most respected theorists dealing with organizational culture says that the definition of organizational culture has to be general, or else you start to eliminate factors that actually are part of corporate culture.

Schein's definition of organizational culture is: “A pattern of shared basic assumptions that the group learned as it solved its problems that has worked well enough to be considered valid and is passed on to new members as the correct way to perceive, think, and feel in relation to those problems”. Although the words are different, the two definitions are nearly the same in terms of content.

Russell Consulting (http://www.russellconsultinginc.com/) considers that every organization has four major components: physical (the visible aspects of the organization), infrastructure (the systems and processes for directing and managing work), behavioural (the daily actions and reactions of employees), and cultural (the underlying assumptions, values, beliefs and norms that shape daily behaviour). While implementing change at the “higher” levels is possible, as the following graphic suggests, the durability of the change is short-lived without change at the underlying cultural level.

The research from the present paper is part of a larger investigation that analyze the potential causes of resistance to change of key persons involved in a new technological equipment implementation in Romanian companies, identification of change reactions and overview feasible ways to overcome negative effects of resistance to new equipment implementation.

The purpose of the present paper is to investigate in which way organizational culture might influence the resistance to technological change in Romanian organizations.
2. Methodology

The survey is based on a questionnaire, applied to 57 respondents from 43 companies from Romania: small (12.28%), middle (45.61%) and large organizations (42.11%). 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 analyzed sample is well-balanced too, if we consider respondents’ tipology (educational level, educational background, sex, age, profesional experience, respondent position in organization). The structure of the analyzed sample can be observed in Fig.2 (clusters by respondent education type with a panel by respondent sex, structured by education level).

The objectives of this survey are:

1. Investigation if organizational culture is a potential cause of resistance to change in organizations;
2. Search for significant differences between some analyzed categories on organizational culture that generates resistance in organization;
3. Overview feasible ways to overcome resistance to change generated by organizational culture.

Fig. 1 – Russell Consulting’s Model of organisation components.
Fig. 2 – Structure of the sample by level of education, education type and sex of the respondent.

The survey has been simultaneous analyzed under two aspects:

− At personal level, importance granted from the respondent when he/she is confronted with a new equipment implementation - on 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, on a scale from 1 to 10 (1 = the least important, 10 = very important).

Note: the data were collected in May and June 2009, while the world financial crisis effects started to be experienced in Romania.

3. Results and Discussions

Hypothesis: Organizational culture is a potential cause of resistance to change in organizations.

Analyzing the perception of the respondents what are the potential causes for resistance to change in organizations, the answers were obvious, both at personal and organizational level:

− at personal level, I registered a mean value of 3.67 (on a scale from 1 to 5), meaning that the respondents have a strong opinion about this potential cause of the resistance (Fig. 3);
− this result is sustained by the opinion at organizational level, where I registered a mean value of 7.33 (on a scale 1-10).
If we want to investigate deeper to really find where exactly the organizational culture come to generate resistance to change, we observe on OneWay ANOVA analysis that there are significant differences between different categories (sig indicates the significance level of the F-test, small significance values (< 0.05) indicate group differences).
Table 1
OneWay ANOVA Analysis of “Organizational Culture of Organization”

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational culture of organization - importance by educational level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>29.982</td>
<td>1</td>
<td>29.982</td>
<td>5.142</td>
<td>0.027</td>
</tr>
<tr>
<td>Within Groups</td>
<td>320.685</td>
<td>55</td>
<td>5.831</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>350.667</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>350.667</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Respondents with postgraduate studies understand better the role of the organizational culture in implementation of a change in their company (with a mean of 8.071), comparing with the opinion of university graduates (mean 6.621), as Fig. 5 shows (sig. 0.27). That means that postgraduate studies curricula offers knowledge on ‘organizational culture’ and its important role in organization day-by-day activity, including in change processes.

Fig. 5 – Organizational culture importance in organization by education level.
There is also significant difference when we compare groups by respondent position in organization. We notice that employees register a much lower mean value than the middle and top management, meaning that they are not fully aware of the importance of organizational culture and the impact that this component has on the change process. This is the area that must be insisted on in the change process and it is the role of the change agent to manage the resistance that can be generated.

**Table 2**

*Pearson's correlation of “Organizational culture of organization”*

<table>
<thead>
<tr>
<th>Correlation of “Organizational culture of organization” with:</th>
<th>Pearson correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education type</td>
<td>−0.264</td>
<td>0.047</td>
<td>57</td>
</tr>
<tr>
<td>Change implementation is too long</td>
<td>0.323</td>
<td>0.014</td>
<td>57</td>
</tr>
<tr>
<td>Communication abilities of change agent</td>
<td>0.470</td>
<td>0.000</td>
<td>57</td>
</tr>
<tr>
<td>Structural reorganization</td>
<td>0.559</td>
<td>0.000</td>
<td>57</td>
</tr>
<tr>
<td>Leadership abilities of change agent</td>
<td>0.351</td>
<td>0.007</td>
<td>57</td>
</tr>
<tr>
<td>Employees need for guidance through change</td>
<td>0.458</td>
<td>0.000</td>
<td>57</td>
</tr>
<tr>
<td>Employees need for acquire technical knowledge</td>
<td>0.345</td>
<td>0.009</td>
<td>57</td>
</tr>
<tr>
<td>Employees need for mentoring during change</td>
<td>0.353</td>
<td>0.007</td>
<td>57</td>
</tr>
<tr>
<td>Change agent negotiation skills</td>
<td>0.289</td>
<td>0.029</td>
<td>57</td>
</tr>
<tr>
<td>Change agent relating skills</td>
<td>0.397</td>
<td>0.002</td>
<td>57</td>
</tr>
<tr>
<td>Change agent notoriety</td>
<td>0.299</td>
<td>0.024</td>
<td>57</td>
</tr>
<tr>
<td>Personal interests</td>
<td>0.270</td>
<td>0.042</td>
<td>57</td>
</tr>
<tr>
<td>Training programs on team work</td>
<td>0.334</td>
<td>0.011</td>
<td>57</td>
</tr>
<tr>
<td>Training programs on efficient communication</td>
<td>0.402</td>
<td>0.002</td>
<td>57</td>
</tr>
<tr>
<td>Facilitation and support</td>
<td>0.294</td>
<td>0.027</td>
<td>57</td>
</tr>
</tbody>
</table>
Pearson's correlations from Table 1 reflect the degree of linear relationship between variable “Organizational culture of organization” and variables that describe factors that might have influence on it. All presented correlations reveal strong positive relationship, meaning that every of each presented variable influence directly proportional the organizational culture of organization.

4. Conclusions

The answers from personal level are according with the answers registered at organizational level (with small exceptions), meaning that the respondent have a pretty objective view on what is happening in their organization.

Persons with postgraduate studies have more knowledge on organizational culture, which make them more open-minded regarding the change process in their organization. Also, top and middle management understand better the importance of organizational culture in the success of change implementation in organization. The important job of change agent is to manage with great skill the constructive attributes of the organizational culture and pay an extra attention on critical issues that might put in danger the whole change process.

This is why it is mandatory to improve the knowledge and experience level in organization by motivating the employees to continuously upgrade their knowledge by following trainings and different courses, in concordance with the specific of the change process within organizations.

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CULTURA ORGANIZAȚIONALĂ, CAUZĂ POTENȚIALĂ A REZISTENȚEI FAȚĂ DE SCHIMBARE ÎN ORGANIZAȚII

(Rezumat)

Lucrarea dorește să investigheze existența unei relații directe între cultura organizațională și rezistența la schimbările tehnologice în organizațiile din România, în scopul găsirii de metode care să permită depășirea rezistenței la schimbare.

Metodologia de cercetare conține un studiu cu 57 de persoane din 43 de companii din România, care se confruntă cu schimbările tehnologice. Chestionarul a fost folosit la nivelul de vârf și mediu de management al departamentelor funcționale, direct implicate în schimbările tehnologice. Datele obținute au fost analizate din punct de vedere cantitativ cu SPSS și calitativ cu MAXQDA.

Rezultatele relevă o mai bună înțelegere a culturii organizaționale și a rezistenței la schimbările tehnologice din organizație, pentru a trece peste opoziție și a atinge scopul final al procesului de schimbare. Cultura organizațională are o influență semnificativă în organizațiile confrunte cu schimbările tehnologice. Rezistența la schimbare, un efect implicit al oricărei schimbări, poate fi depășită printr-o înțelegere mai bună a cauzelor care o generează.