ALTERNATIVES TO CHANGE MANAGEMENT BY INTRODUCING ERP SYSTEMS

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Abstract: The presentation attempts to analyse certain aspects of change management, based on adaptation processes, resulting from the introduction of an ERP system in a modern organization. Similarly, they offer opportunities to manage the process of change and adaptation, as well as some guidelines in the post-implementation period. The emphasis is placed on a technological solution in which, while revealing the weaknesses of certain theoretical developments and models, a real working model is provided.
Keywords: ERP systems, Information technology (IT), management, change, adaptation.

1.   INTRODUCTION

The information-technological changes are a specific type of changes that have been imposed on modern organizations over the last 20 years. Under information-technological changes is meant the deployment of large-scale software systems for resource, customer and business management. Such are ERP systems, CRM systems, BI and others. The traditional belief that the introduction and utilization of these systems is done by setting a current project is wrong to a certain extent. In fact, their introduction and exploitation provoke changes in many aspects for the organizations.

This is the reason why the adaptation of the employees proves to be a cause for the occurrence of significant management difficulties. Staff adaptation is one of the most important aspects of its development and improvement, especially when new technological solutions are introduced. Leading authors believe that it is exactly then that the conditions for the human factor to acquire new qualities to manifest itself as human capital arise. (Stoyanov, 2013:136-158)

ERP systems have an impact on almost all aspects of organizational work, not only at the start-up but also throughout the entire utilization period. The system initiated by the organization reflects its need for upgrade opportunities and more advanced technological solutions. In this context, a framework is needed to analyse and validate these systems, including initial decision-making, development process and utilization from the beginning to the foreseeable end. (Markus, Tanis 2000: 205)

The main change in behaviour is triggered when the staff face a significant discrepancy between expectations and reality. Staff members adapt to change as a result of new expectations, that promise success under the new conditions.

There are three factors at the individual level:

A) mentally, to understand what is happening and how to react;

B) emotionally, to deal with various feelings such as loss, anxiety, threat, relief, joy, optimism, etc .;

C) physically, to adapt the bodily consequences of stress, excitement, and so on.

In order to realize the expected benefits of a major change, those affected must have enough energy to develop in the process of adaptation. The capacity for adaptation includes mental, emotional and physical means, in order to incorporate new attitudes and behaviours - to accept the key effects of change. The total demand, going beyond the available adaptive capacity, leads to overloading, as a result of which irrational thinking and behaviour are manifested. (Connor 2010: 1)

Adaptation is a process, specific for every individual, which is not contingent on his individual qualities, but is determined by the environment, the attitude and mental attitudes (Holland, 2000: 345)

2.   OVERVIEW OF THE THEORETICAL MODELS FOR REALIZATION OF THE CHANGE

The problems of adaptation of the human factor, are a prerequisite for seeking effective management for their solution by using theories, methods, models and approaches that focus the human factor in the organization.

One of the theoretical developments in this direction is the Theory of Motivated Action by Fishbein and Eisen. It explains the relationship between human behaviour and the possibility for acceptance of new technologies. The behaviour itself is determined by the intention of behaviour of individuals, which is determined by two main factors: a factor related to the individual or the attitude of the person and a social factor or a subjective norm - the

personal perception of the individual as to what is determined as significant to be done . (Fishbein, Ajzen, 1975: 388)

Another method known as The Technology Acceptance Model of Davis, Bagozzi and Warsaw is a specific basis for tracking the impact of external factors on inner conviction, attitudes (way of thinking) and intentions. Its main objective is to provide a method for tracking the impact of external factors on staff, attitudes and intents for adopting new technologies. (Davies, Bagozzi, 1989: 982-1003)

In his Theory of Planned Behaviour, A. Eisen accepts that behaviour is a direct function of intent and the perceived behavioural control. The intention for behaviour is formed by the attitude, which reflects the feeling of benevolence or malevolence towards expression of behaviour. The subjective norm reflects the individual's perception of significance for him/her persons, which he or she wants to express or not with a certain attitude. The adopted behavioural control reflects the perception of external and internal barriers to given behaviour. (Eisen 1991: 179-211).

Stage in the development of the model thinking is the popular Advanced extended model of Taylor & Tod's Theory of Planned Behaviour. In it, the beliefs or notions related to the attitude, norms and control are expanded into a multidimensional structure of assumptions. This extended approach shows the following: it is unusual that monolithic structures of beliefs presenting different dimensions are consistently associated with predecessors of intentions; by developing the structures of belief, these connections and relationships become clearer and clearer; by focusing on different beliefs, the model becomes much more related to management, focusing on specific factors that determine the perception and use of new solutions. (Taylor, Todd 1995: 144-176)

About the Theory of dissemination of innovation - can be said that it is used to explain the process of dissemination and acceptance of innovation in the organization. It considers innovation as a new idea, which is to be perceived by the staff. The main elements in disseminating new ideas are four: innovation, communication channels, time, social system. (Rogers 1995: 181)

It is interesting to know that the created at the end of the twentieth century Model for Advanced Technology Acceptance 2 (TAM2) implies the understanding of four cognitive tool determinants of the perceived usefulness: suitability of work, output quality, demonstration of result and perceived ease of use. According to the model, people use mental representation to assess the match between important work goals and the consequences of performing the act of using a system as basis for making judgments about the effectiveness of use, that is, perceived usefulness. The relevance of the work is determined by the perception of the individual as to the degree to which the system can be applied to his work.

Venkatesh and Davis associate the presence of technology primarily with profitability. They impose the opinion, that judgments regarding product quality are based on cost-effectiveness tests, where in the case of choosing between multiple systems, a person will tend to choose a system that delivers the highest performance quality. (Venkatesh and Davis, 2000: 191).

The consolidating of the most significant constructions of the mentioned theoretical developments and models structures a new model, known as the Unified Theory for Acceptance and Use of Technology (UTAUT). According to it, three constructions are the main determinants of the intention to use information technology. In brief, for each something essential may be said:

1) The estimated efficiency is determined by the extent to which the user expects that the use of the system will help him achieve effect and progress.

2) The duration of effort is the degree of accessibility associated with the use of the system.

3) The social influence is the extent to which the individual perceives that management believes that the new system should be used. The authors also state that the impact of facilitating conditions on use is modelled by the age and experience of the individual. (Venkatesh and all, 2003: 447-453).

The last significant attempt to offer an effective method of managing change is the ADKAR model for Adaptation Management during Change proposed by J. Hiatt. The name is an abbreviation of the first letters of five basic , according to him, psychological features that help the person to adapt during organizational changes. These are Awareness, Desire, Knowledge, Ability, Reinforcement. It is based on the understanding that employees want to perceive the nature of the change and the possible risks, even if it - the change does not happen.

The critically reviewed theories and models for managing the human factor adaptation in information and technological changes are largely based on the study and anticipation of human behaviour and the probability of occurrence of changes and deviations. It is possible, however, to approach more pragmatically and to propose a methodology based on previous developments, which provides specific guidelines for the management of adaptive processes.

3. THE SOLUTION - A PRAGMATIC-ADAPTIVE MODEL

The proposed methodology includes a sequence of actions of the managers aiming at managing the adaptation of the human factor in the organization during the implementation of information-technological change. The methodology is intended to be applied during the implementation of a large-scale information-technology change, materialized by an ERP system.

The process structure consists of 4 stages:

I. Determining the situation

At this stage, the need to introduce a new information system in order to help design and make management decisions, related to manufacturing processes, strategic solutions related to them, improving communication between individual hierarchical levels, and improving communication channels for transmitting important information, is established.

Management should identify the affected groups, processes and possible positive or negative impacts. It is necessary to follow several successive steps, such as:

- First, in order to better manage the ITC process, there are usually three groups of affected and participants involved: employees; low and middle managers; implementation team;

- Second, identification of the affected employees through whom and for whom the change will take place. It is necessary to classify existing employees according to certain criteria such as: age indicator, length of service and experience in the organization, technical literacy; level of motivation for novelties, eternal opposition;

- Third, it is necessary to address the criteria for mental readiness to accept change by identifying: the possible fears of change, the strengths and weaknesses in the flow of information, the attitude of the people towards the "time", the employees with high activity in their work, ratio: fast-learning - slow-learning, etc.;

- Fourth, defining the characteristics of management in the organization by clarifying the following - knowing the teams; attitude towards innovation; image among the majority in the organization; tendency to make quick and adequate decisions during a crisis, complicated or unclear situation; assessment of the technical knowledge and qualifications of the available managers; assessment of the potential for receiving, transmitting and sifting information relevant to the change; skills to impose appropriate sanctions so as not to impair the process of staff adaptation;

- Fifth, includes selection of the implementation team, which consists of external consultants and experts on the new system, and internal specialists familiar with the people, processes and technology.

- Sixth, an assessment of the IT technology that is chosen to be implemented in the organization, including: the complexity of use by the employees; the time for making the change; the scope of a system in the organization; usefulness for the employees; usefulness for the management when taking managing decisions.

At this stage, external forces acting for the environment can have no or almost no impact on the performance. This is because the first stage has only diagnostic and evaluative character, but it is not yet accompanied by concrete actions and decisions on which external factors will influence.

II. Preparation of an action plan

This stage includes an action plan which should include the preparation of specific measures and solutions of the possible difficulties, obstacles and weaknesses identified in the first stage of implementation. The second stage includes:

- Plan measures targeted at the affected or participating staff should include: setting up appropriate teams; determining the awareness stages; trainings on regular stages during the introduction of the change; an explanation for the staff and who will do it; feedback reporting planning; planning the distribution of time for making the change;

- Plan measures affecting management: planning for shifts or replacements in the management staff; planning sufficient training to guide staff adaptation; planning time for running current and new tasks; planning ongoing actions in view of the employees

- Plan measures affecting the deployment team: options for expanding, reducing or shifting the composition of the deployment team; enough time to get acquainted with business processes in the organization; planning the necessary time to familiarizing with the currently running software or software systems in the organization; providing enough time to reach a good dialogue with the affected participants in the change.

- Plan measures affecting the process of transformation from one information system to another: providing enough time for testing the new system; allowing enough time to experiment with those affected by the new system; giving enough time to work with both systems at the same time;

III. Actual actions performed during the change process

This stage of the proposed methodology is the most long-lasting because it involves the actual process of implementation of the information technology innovation. Here, the problems of employees' adaptation, their resistance and mistrust to the new are most evident. The main management measures for managing the adaptation process are presented at this stage.

1. Activities actually carried out, following the defined plan with no deviations or with minimal allowances.

- What managers need to observe and assess about employees and the impact of the change on their daily behaviour are the reactions of people in the collision with the new system, such as: performing current and new tasks; optimal distribution of working time; fears from the new job challenges; is information transmitted correctly; is the received information perceived by the employees; do employees respond adequately to the collision with the new way of working; has the employees' labour activity been disturbed on the basis of the new obligations; is it possible to build a system of interdependence and mutual assistance in the team; does everybody perceive correctly each and everyone's place and responsibilities in dealing with the new system, etc.?

- Specific steps that managers should take to help adapt their employees to ITC: attract the attention of everyone and generate interest; stimulate employee activity; make a detailed estimate of the available time; introduce new activities and obligations related to the new system in stages; develop a common profile and criteria for the capabilities and abilities of the employees; carefully monitor the movement of information; strengthen the trust in the direct supervisor; make proceeds to remove unnecessary fears; engage the staff in building a vision for change, and more.

2. Actual activities that require temporary or permanent suspension or termination. Possible reasons for this are:

- external to the organization factors acting on the implementation of change, such as financial crises or political instability. The suspension may be for a short or longer period of time. If stopping for an indefinite period of time is necessary, it is necessary to provide that the renewal of the change may require an extension, changes to the deployed system, such as upgrading, adding functionalities, etc.;

- Another reason for not observing the plan may be the inability of those affected by the change to: adopt the new system and the new way of working; their reluctance to adapt to changes in the workplace; refusal to abandon habits and stereotypes to perform routine activities; unwillingness to increase the attention that innovation requires; strong opposition to the new system without a special reason for it.

IV. Reporting results

- When successfully implementing management measures and adapting people to the new system, attention must be paid not only to the actual results at the moment, but also to the right conclusions about the success or failure of the performed change;

- Failure to apply and implement the change - the reasons for the failure are sought, the actions that led to failure are analysed, were all the instructions followed, summary conclusion of the situation and the opportunities for a successful implementation is made. (Danailova, 2016: 125-136)

The effectiveness of the proposed methodology has the potential to increase its level if the application itself is accompanied by reinforced control and regulatory measures while respecting the technological characteristics of the methodology.

In addition to the ITP introduction process, it is also necessary to address the situation after, when the first inconsistencies between the desired and the actual condition begin to emerge. In many organizations that have successfully implemented ERP systems, have experienced a decline in activity and quality of work is because the work with people after the implementation has ended, on the one hand. On the other hand, the shortcomings and inconsistencies of the system with the employees' activity are clearly visible. In the presence of such a situation two factors are important - the control functions over the activity and the personal capacity and the potential of the people to cope with the crisis moments. The critical question here is whether people can function in situations of continuous change. Both ERP systems and others from higher levels of application such as balanced maps, require users to continually learn and familiarize and master new opportunities and changes, both in the particular system and within the organization itself. Changes to even a single part or module of ERP systems bring with them a request for changes, if the organization develops more complex related systems aimed at strategic or management control (Stoyanov, 2009: 77)

What can be done is to build a system of continuous staff adaptation. This system must be tailored to the potential of the people and their psychic potential for the continuous learning of new knowledge and skills. According to some, taking into account human differences, we can speculate that human ability to cope with continual change is related to expectations. In some companies, it is understood from the very beginning and the fact that there will be a continuous change is expected by the employees. (Lucky, 2005: 114-116). While others believe that the constant changes in which there are no clearly defined views on the purpose and the meaning of doing them,

do not create readiness for acceptance by the participants in the change. This creates additional tension and the occurrence of emotional burnout. Thus the implementation is blocked and the effect is reduced. (Todorova, 2008: 29)

The solution is a system for continuous adaptation with the following components:

- Continuous training - the training, as a continuous accompanying process of work activities, assists the learning of novelties, creates learning habits;
- Continuous reminders of the upcoming changes - the reminder is one of the measures that upkeeps the vigilance and the readiness to act;
- Maintaining stable and cohesive teams - the teamwork and consensus of teams favours a work environment without conflicts and unnecessary tension;
- Provision of a good social environment - good working relationship enhance trust among employees, sharing equal values and aspirations at work, motivate for success and accomplishment of tasks;
- Maintaining routine in some of the actions and duties - the routine creates a sense of security in the abilities that are important to the process of change;
- Training self-confidence skills - confidence in the fulfilment of duties, in the knowledge and skills essential to maintain employee's working rhythm.
- Moving in small steps - Making permanent changes to the organization will have a higher rate of success if they are done steadily and step by step every day, rather than cyclically and violently.

4. GENERALIZATIONS

From the lines of the presentation, the following conclusions can be drawn:

First: Information-technological changes are inextricably linked to the desire for innovation and development of modern organizations.

Second: The people's adaptation to ITC is a tedious and slow, but manageable process that requires patience, skills and adequacy on the part of management.

Third: The search for adequate solutions for managing people during the transition from the adaptation to the use of new information technologies in the work process continues. There is still no single and universal concept, which to ensure rapid and successful adaptation of the people.

Fourth: The proposed methodology is in line with the practice and actual situations in order to achieve the maximum effectiveness of the change.

Fifth: The post-adaptation period, where changes are manifested as inconsistencies, deviations or errors is essential and important, because it is then that new standards of work and new patterns of thinking and behaviour are set.

The formulated conclusions lead to the conclusion that the most essential alternative for success of the modern organization is development based on controlled change, where technology and intangible success factors consolidate into a pattern of adaptive and creative behaviour. If change becomes a philosophy, and adaptation - a model of improving behaviour, then organizations themselves will work even more efficiently and inter-organizational relationships will develop constructively and fruitfully.

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