SUCCESS FACTORS OF CHANGE IN KNOWLEDGE MANAGEMENT

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Abstract

The goal of our study is to examine, how the logic of change management implementation and analysing raster of success factors helps to lay the foundation of building up knowledge management system. We led our research first of all along theoretical basis building upon technical literature. We present a generally utilized changing logic extracting those essential elements that get similar importance in the course of building up a learning organizational culture.

As a result of our work we established that the utilization of change management logic is indispensable for the successful formation of corporate knowledge management system. Accordingly with the appearance of the demand on continuous learning and putting the individual in the centre both on individual- group- and organizational level simplify work. Comparing the two logics confirms our hypothesis.

Keywords: organization, change management, knowledge, learning organization, knowledge management.

1. INTRODUCTION

According to the conventional economics thinking the goal of companies is to consciously build up positions that are needed for keeping and increasing their competitive edge. Companies focused on the external word at first then after the eighties the examination of internal abilities came to the front. Nowadays companies focus on the individuals, since they mean with their knowledge, abilities, skills not only an inexhaustible resource but competitive edge too. For this reason the goal of a company is to exploit effective, develop further, share and utilize the knowledge of its experts.

In the midst of constant and accelerating changes of our environment organizations can be able to wrestle with this challenge if they acquire those continuous learning ability that remains the companies own in spite of any changing. This ability means that on organization learns faster and accommodates quicker than its competitors, to which it use up both from outside and from inside descending information and knowledge. For establishment of an organization that is able to react intelligent upon the situation of the moment in the shortest time, in accordance with future expectations first of all we have to grow familiar with organizational cultural expectations of learning organization formation. We have to realize long-term and consistently completed changes for this (Bencsik , 2004)

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2. CONTINUOUS CHNAGING ABILITY

What we need for that both people and an organization will be able to realize continuous change?

If an organization moves to the direction of change greater part of leaders concentrate rather on tangible, numerable things than productivity, efficiency, quality etc. although these are only symptoms. We have to look for the root of real problems in other depths of the organization. If the organization concentrates on the "hard" problems, it ensures only illusory result since they can be treated and improved easier as if the company would start to solve "soft" problems. The soft problems are always in relation with humans (Bencsik, 2004)

This question cannot come to the surface in case of learning organizations that means the preconditions of building up a knowledge management system. Since the source of soft problems are the mentality, way of thinking, attitudes, incorrect behaviour and attitude, lack of self-confidence of people etc. in this case they are naturally in the centre of attention. Resulting form this if the goal is the successful leading of the change management process, where the results of real changes are accepted by organizational members and these build in the further behaviour, norms of the organization, we immediately arrive to the possibility of becoming a learning organization. We arrived on this point as well to answering that question, why the changing intervention is different in case of learning organizations

3. CHANGE MANAGEMENT AS A PROJECT

Lets look at it more detailed how can be realized the transition from traditional organizational operation towards learning organizational operation. We also have to examine what kind of conditions and way of thinking are needed for the applied change management logic.

Both in the course of learning organizational features and change management first appearing loosen phase depends on the individual behaviour, attitude, openness, developing ability etc. and culture. Together with this we can say that the realization of changes can be perceived as an innovation project in which intertwine with each other the "loosen" phase – that has important role in the course of realizing changes – and the problems of project launching. On behalf of that the projects – independently from their size – can be closed with success we have to pay similar attention to their realization in the beginning phase as we do in the beginning phase of change management in connection with any other organizational intervention.

A changing project can be reckoned successful if:

- it performs the planned target
- within a definite time frame,
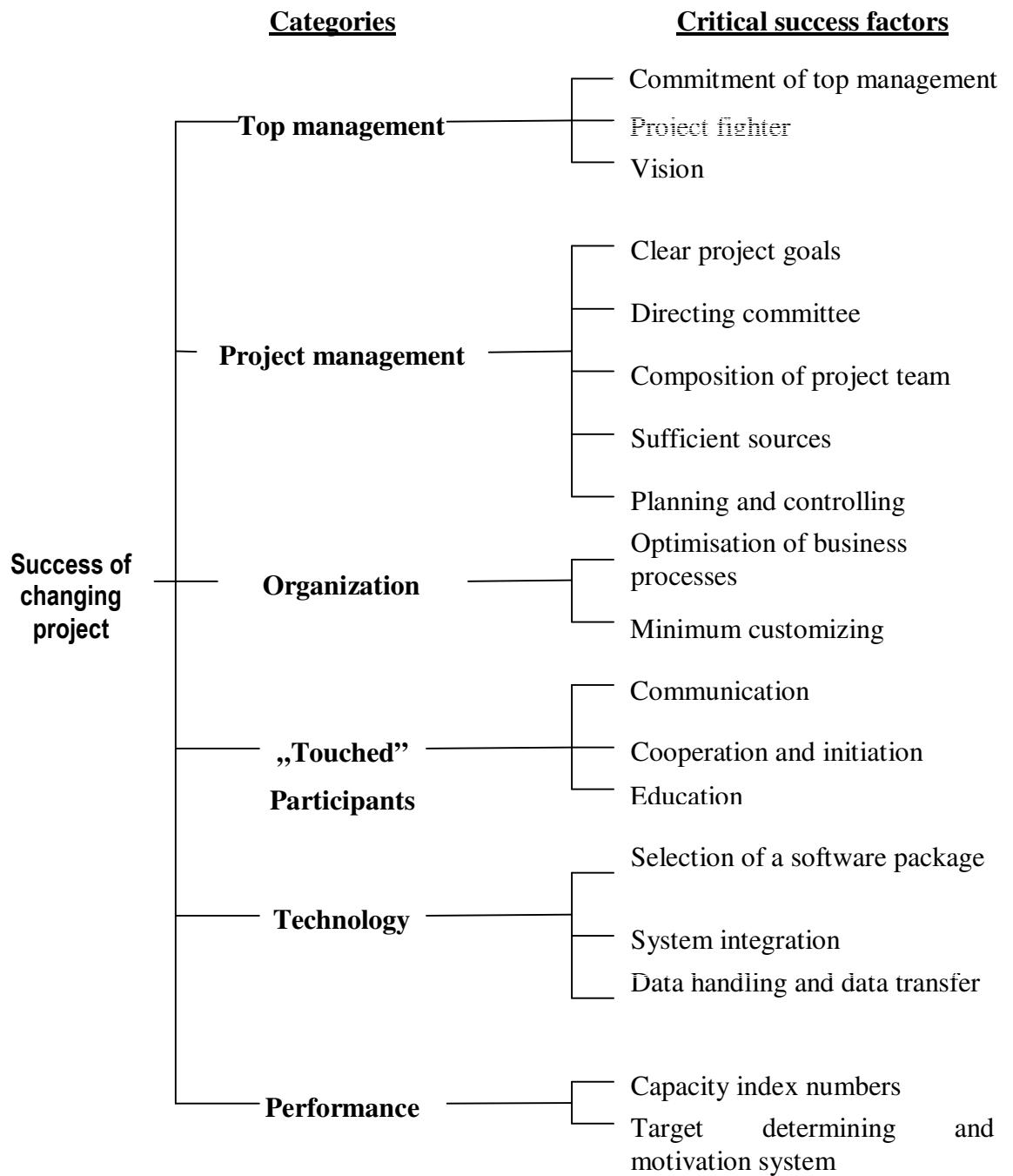- among given spending limits (Fitz-Gerald and Carol, 2003)

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Categories	Critical success factors

Success of changing project

- **Top management**
  - Commitment of top management
  - Project fighter
  - Vision

- **Project management**
  - Clear project goals
  - Directing committee
  - Composition of project team
  - Sufficient sources
  - Planning and controlling

- **Organization**
  - Optimisation of business processes
  - Minimum customizing

- **„Touched" Participants**
  - Communication
  - Cooperation and initiation
  - Education

- **Technology**
  - Selection of a software package
  - System integration
  - Data handling and data transfer

- **Performance**
  - Capacity index numbers
  - Target determining and motivation system

FIGURE 1 - SUCCESS FACTORS OF A CHANGING PROJECT

At the same time those projects are unsuccessful, which:

- were broken off before or during its deployment or

- it is realized but it doesn't reach its goal.

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Several studies deal with those problems that belong to the category of critical success factors. Since there is partly an overlap between these partly they complete each other, six higher categories have been developed that contain different success factors as it is shown on Figure 1 (Umble et al., 2003)

It seems justified from Figure 1 that success depends on many factors. Nevertheless, for understanding to what extent these factors are in relation with the principles of change management we have to view the importance of change management a bit deeper.

3.1 Leading logic of change

We mean under change management the leading of profound and planned modification of companies (see: Figure 2). Change management concern primarily people while the aspects concerning a subject is covered by project management. The change management aims the changing process form the beginning to the closing assessment and it does not make a declaration for the possible content.
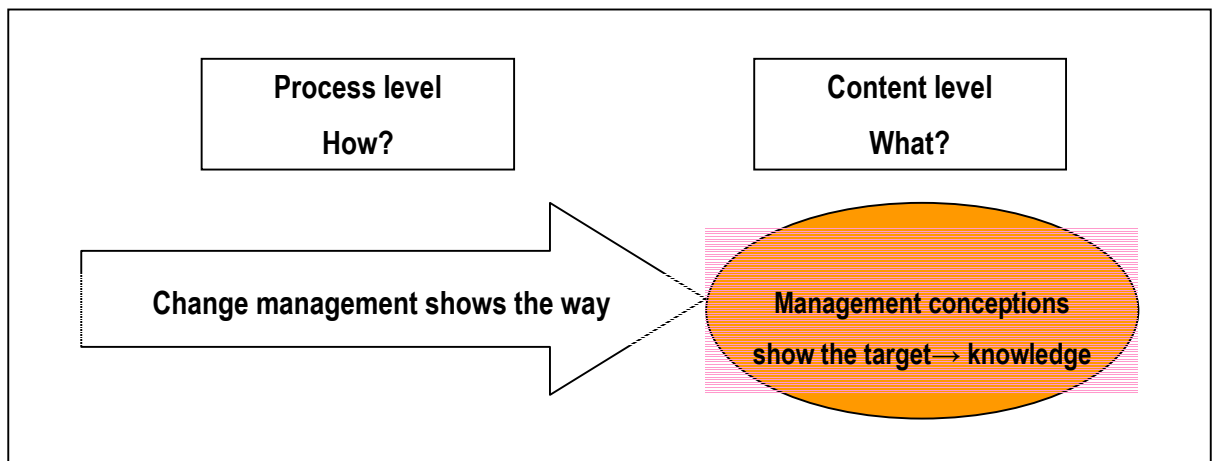

FIGURE 2 - CHANGE MANAGEMENT AS A PROCESS

Building upon the ideas above: While the critical success factors of „Organization" and „Technology" categories concern clearly the content level, respectively they show the goal of project deployment, till then the „Top management", „Participants" and „Performance" categories present the human oriented side of the process. The „Project" category covers clearly the aspect concerning the subject of the process. Kotter and Schlesinger (1983); Kotter (1995)

Results of empirical studies confirm that hypothesis that change management has significant role in course of organizational interventions especially regarding to the influence of human behaviour. This is true in case of learning organizational culture, thus in the course of building up knowledge management too. In the followings we summarize the most important results concerning the three human oriented categories of success factors:

Top management:

Within the critical success factors the support of top management was valued for the most important. Usually not only the large parts of the company are touched in organizational changes but also the different professional field's functions because of the integrating nature. For that the necessary changes can be managed the support of top management is indispensable. The support concerns not only to the insurance of necessary sources but also to the modification process.

In this meaning has to be examined the role of project fighter (with other wording of technical literature: agent) It is not enough that he is the member of the top management he also has to give orders to the possibility responsibility for decision approval covering all touched fields (Fitz-Gerald et al., 2003).

Creating the vision of change appears only in average field compared to other success factors. However it shouldn't deceive us because the vision has very important role since it shows the way to intervention activities.

Moreover a vision insures long-term perspective. Learning organizational transformation and changing of organizational culture are usually long-term plans, which can make use of 5 ore more years. This is reflected by the 2nd highest valued problem field valued by another study. Kohnke (2005) The short term perspective of management and the focus through fast results hinders the success. Time is needed for radical changes and management has to give this time for the company.

Touched:

From problem fields listed in studies the most frequent mentioned was that the necessity of changes is not recognised. Nevertheless building up a knowledge management system extraordinarily requires those preparatory activities, which can be applied in the loosening phase of change management. Not worth starting the deployment of it without sufficient preparation, openness, learning willingness.

Organisational inventions leads to sweeping changes on touched organisational fields. The touched employees consider this diversely so it can leads to uncertainty, fear and resistance that can negatively effect on the success of realisation (Aladwani, 2001, Kohnke ,2005).

In practice it is often yielded to this resistance and such way the necessary organizational changes do not occur, only the old processes are mapped in the new system. Finally the (mistaken) calm of the organization has to be paid with the failed benefit (Kohnke, 2005).

The most important task of the invention accompanying change management is the reduction of resistance and the acceptance of new work method and system.

Within a company, where the employees have common values and aims and they are open for changes the probability of success of realization is bigger.

Performance:

Performance as critical success factor appears in several studies but the determination of index-numbers were valued rather low considering other factors. The difficulties of definition of convenient performance aims concerning to the established processes are mentioned. That tendency is also mentioned that rather the easier numerable and measurable index-numbers are brought into focus. It means challenge that index-numbers have to be defined for the necessary behaviour changes and these have to be verified regularly.

The high values shows in many fields that frequent cause of fall of workable organizational intervention is that the human oriented "soft" success factors are less taken into consideration. Change management is not at all, or only insufficient applied in these cases.

3.1.1 Preliminaries

Learning from previous failures of the deployment of new systems, nowadays already a lot of organizations and enterprises try to put into practice the tools of change management for supporting complicated changing processes and/or innovation projects. However, under the headword "change management" a lot of arrangements are executed, that is based on incomplete, less carefully conceptions. Therefore such, partly expensive activities are going on, which "attack" on the unimportant points and for such reason they do not contribute to success of changing project. These procedures have that characteristic, that in many companies and organizations the communication of change is only a simple press-matter. The internal communication cannot be solved aimed, taken to groups. Figure 3 (Brettel et al., 2005) shows the logical steps of change management.
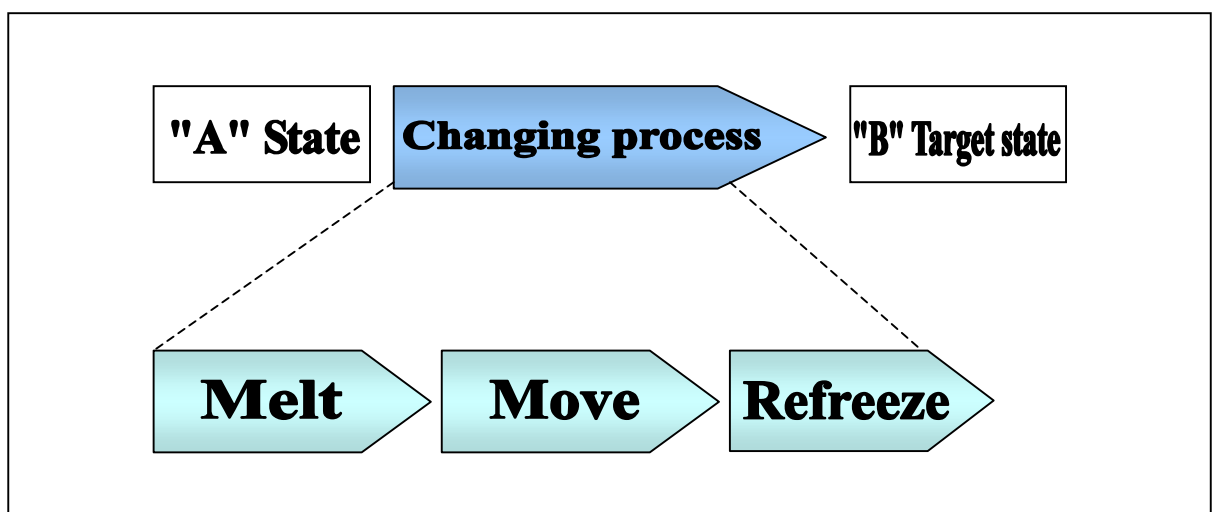

FIGURE 3 - LOGICAL STEPS OF CHANGE MANAGEMENT

3.1.2 Characters of changing process

For the conscious formation of changing process (see: Figure 3) it is necessary to know, which characters (see. Figure 4) are important in the changing process, namely who are the touched persons, who can influence the changing process (the success of the project) positively or negatively. Bach et al. (2002) We have to distinguish here the following levels of characters(Brettel et al., 2005):

The organization:

The supreme level is the given organization that has to be changed for example an office, a company, a foundation or a ministry. Depending on how the "B" target state of the changing process contently looks like, the organization that has to be changed can be just like an internal section of an office or an independent manufacturing unit within a company.

Teams (groups):

The next level within the organization is the level of various groups that assembles from individuals. We can distinguish here formal (e.g.: departments, business federation organs) and informal (e.g.: traveller associations, student days banter) groups. Both types of groups can be important in the changing process, because informal groups also have influence (Brettel et al., 2005).

According to the target oriented change management such groups have to be identified that can or want to influence the changing process.
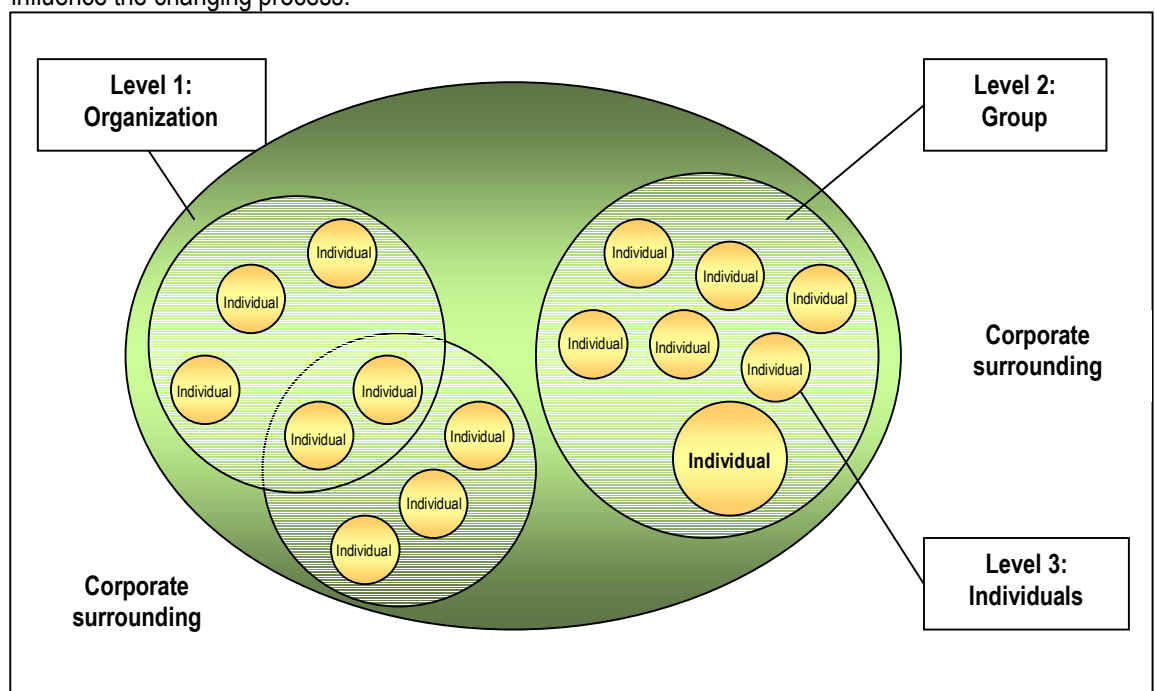

FIGURE 4 - CHARACTERS OF CHANGE MANAGEMENT, BRETTEL ET AL. (2005)

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Individuals:

The individual level can be found within the organization and group. Especially those individuals have to be identified, who affect the most the changing process. We have to pay attention to that case that individuals can be the member of more groups (and mostly they are the member of more groups). The change manager has to find out, who are those individuals, who can or want to influence both positively and negatively the changing process. It is very important to look for individuals who have topflight in more groups at the same time.

All three levels have to be analyzed separately for that the organization can be directive through considerable persons. Accordingly we always have to give answer to those questions, what is the organization that has to be changed, what are the important formal and informal groups and who are the important individuals in the changing process.

We can ask the same questions in the event of the establishment of knowledge management too. After all one of the most important precondition is the self-control ability proper to individuals, composition of individual goals and the learning willingness. The group collaboration ability depends on one hand on the individual willingness on the other hand on the stance of the group.

The group cooperation ability on one hand depends on the individual willing on the other hand the approach of group fellowship. The explicit forms of group thinking and cooperation are the communities of practice that have great influence on the consummating of success. All of these factors appear also in the criterions of learning organization therefore they are affirmable in the accomplishment of change management. Additionally we are not allowed to forget either the organizational level because the system thinking that holds together the previous elements is basic factor of answering higher level directing questions, where decision about the questions of knowledge management is also born.

3.1.3 Determinant elements of action of persons

We have to get a nearer view of individuals for managing the changing process. The behaviour of individuals is determined by their own internal model (thinking shame in the head as a learning organizational criteria) that serves the purpose of scuffling through complex tasks. A person forms such model because he does not hold all of information and he try to prevent the forthcoming actions and their effects on the basis of this model. Internal models are defined by three factors: willing and knowledge of the person, the acting frame in which they act (see: Figure 5). All of the three elements are such assist for the change management and knowledge management with which the behaviour of identified persons can be influenced.

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Intent

The act of persons are greatly influenced by the willing of the person id est what is the motivation of the person that can be different pro person at the same time.

Basic intent can be the income getting, promotion in hierarchy, self-realization by achieving certain performance aims, free time, social status, esteem or an interesting task field, pleasant and friendly working environment, getting new knowledge etc. Many factors motivate human actions that can stay in conflict with each other such as career building and free time maximizing. The aims of person also can be changed by time for example in family phase free time maximizing is ranked forward as career building. It can be happened totally different in the previous and following life period.

Therefore the task of change management is to find out what the influential persons of changing process want, what would be the desirable change form the point of view of success of initiation of knowledge management system and what (and how large) is the difference between them.

Knowledge

The method of change is defined by the abilities of persons. Physical and intellectual abilities belong here (for example: physical and mental loadability) the same as professional knowledge, knowledge of method, social abilities. Those abilities of employee can be utilized especially in the changing process that played just secondary role up to that time. (The importance of knowledge and learning get here important role again since the aim is to obtain the more modern and higher level cognitions behind operational realization of all new system.) Other abilities that played important role for certain persons can turn into out-of-date (for example: cognitions in such system that become unnecessary with the initiation of new one).

For forming the changing process it is important to know what kind of abilities are needed in the course of the changing process, what the significant persons have from these and where are deficiencies. The exploration of it will also be important information later on.

The frame of action

All persons have action frame that provide from one hand action possibility on the other hand it precludes certain things in this way it determine the corridor on that the person can move. White (2000).

The action frame consists of external rules that were brought outside the company (for example: laws and decrees) and internal rules that can be changed by the organization (for example: company orders). Both the external and internal rules can be divided into formal rules (everything that is formulated in word or in writing for example: Organizational and Operational Regulation) and informal rules (everything that is not formulated for example: company culture). In addition to rules the action frame consists of more for example the

available sources, political status and those persons who stand out but their behaviour can have an effect on the changing process.
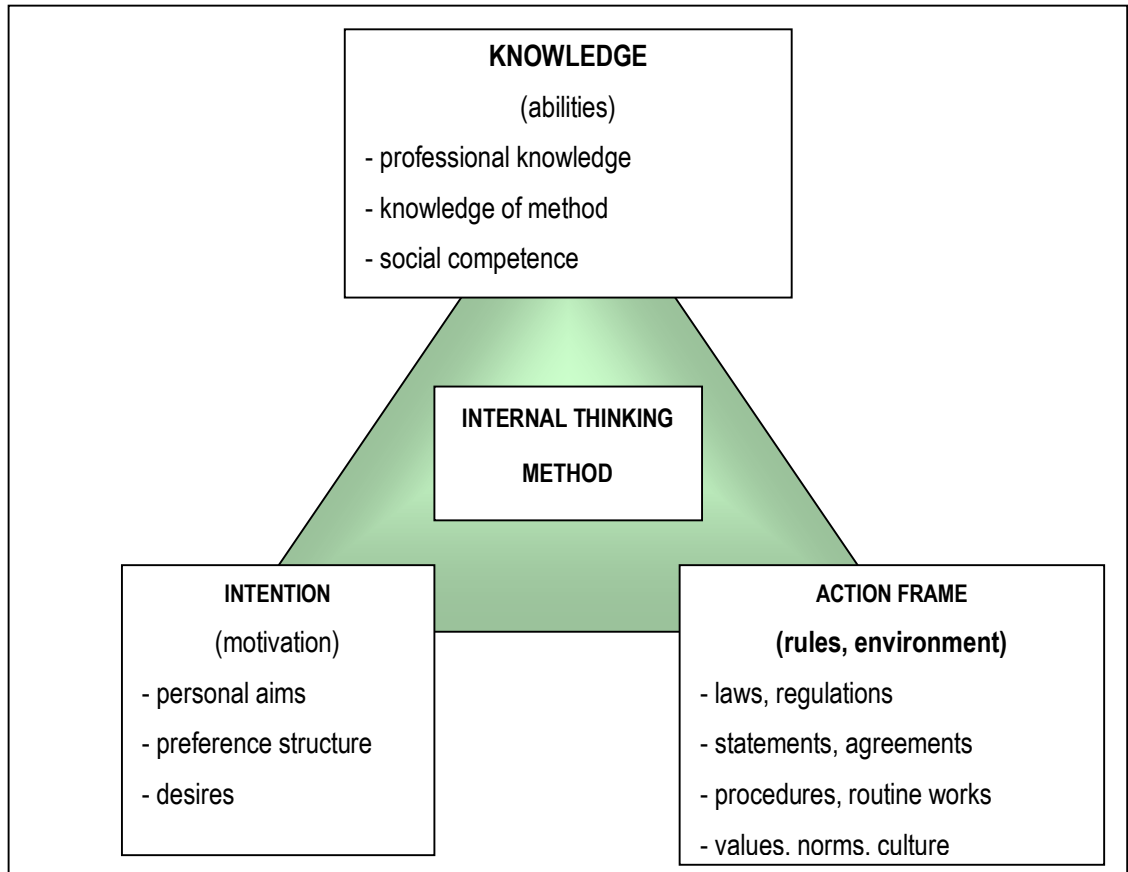

FIGURE 5 - FACTORS THAT DETERMINE ACTION (BRETTEL ET AL., 2005)

The aimed usage and/or formation of action frame in change management that we sketch out and analyze it in detail.

3.2. The cube of change management as the analytical grid of success factors

We can divide changing (realization of innovation project) according to the presented and discussed three dimensions (see: Figure 6):

- Phases: melt, move and refreeze

- Levels of characters: organization, groups and individuals

- Factors that determine actions: knowledge, intention and action frame

The combination of the three dimensions can be represented as a cube that consists of 27 elements. The single elements of the cube are the possible regulations of change management from that the changing process and in addition the success factors of knowledge management system can be deduced.

Since the same characters and action alternatives can be identified that can be interpreted in the following 3 phases according to the functional phase of knowledge management system:

Melting means the formation of learning organizational function. Moving is the deployment of the system itself and refreezing contains the assurance of long term function of the system. According to this the analytical grid of success factors means the basis of the formation of knowledge management system on the basis of the same principles.
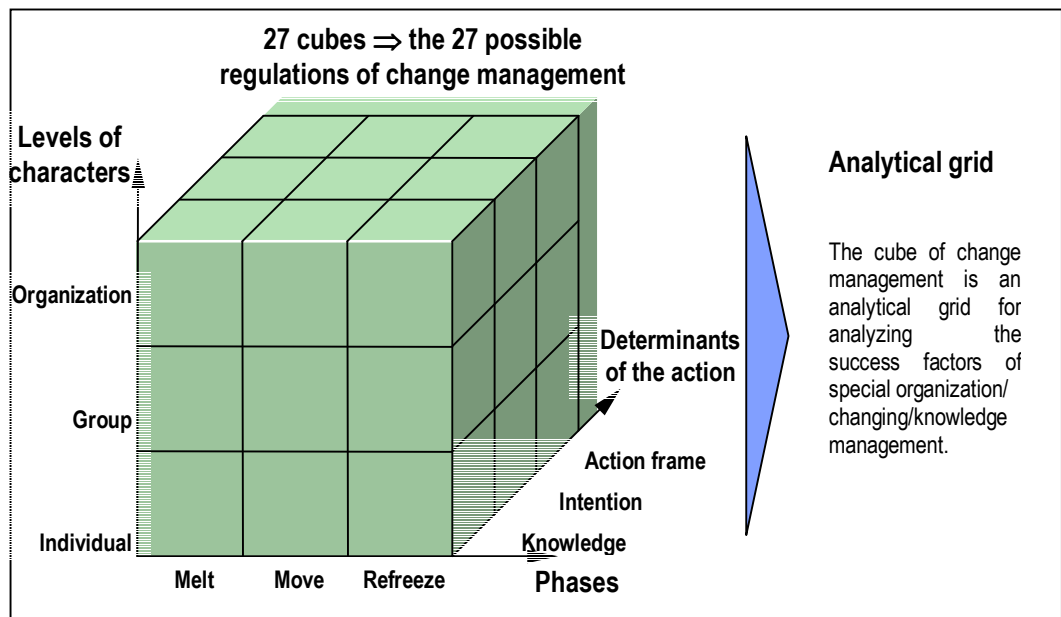

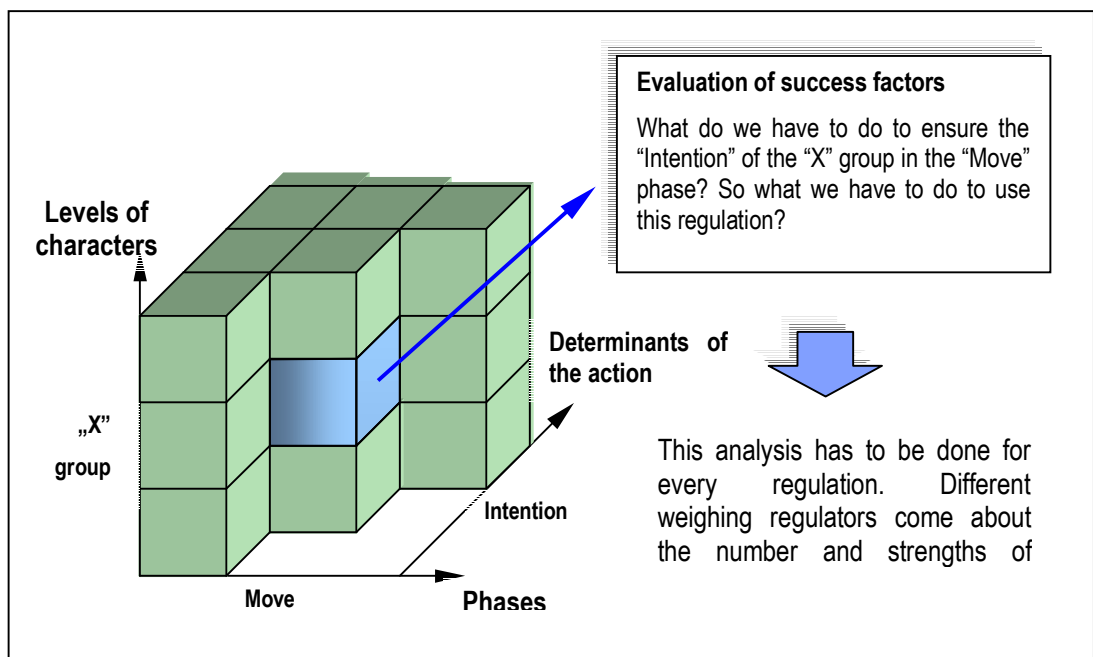FIGURE 6 - THE CUBE OF CHANGE MANAGEMENT (BRETTEL ET AL., 2005)

FIGURE 7 - DETERMINATION OF THE TYPICAL SUCCESS FACTORS (BRETTEL ET AL., 2005)

The cube that is shown on Figure 7 is an analytical grid that makes possible to raise the expedient questions: what should have an identified "X" character to intend to do in the single phases, what does he has to know and what kind of action frame he needs? Answers given to these questions leads to the changing process and at the same time it leads to knowledge management system as a success factor that is effective for building up the aim (Figure 7).

3.2.1. Depth of intervention into the internal models of characters

It is necessary to examine how the aimed changing intervenes in the way of thinking of touched before we apply the tools and arrangements of change management. Different containing changes suppose the different depth modification of internal models of touched persons (see: Figure 8). The individual (subjective) conception of touched characters influence greatly the determination of depth of interpenetration. The higher level succeeds the learning organizational culture all the less causes problem the depth of intervention. Namely in this case fundamentally the openness and naturalness of acceptance of new things are valid for individuals. Such changes that touch the internal models of touched characters just a bit (for example: insignificant changing of educational system) require different tools and arrangements then changes that demand totally different internal model (for example: substitution of the whole information system).

Therefore the task of change management is to determine the depth of penetration into the internal models of important characters.
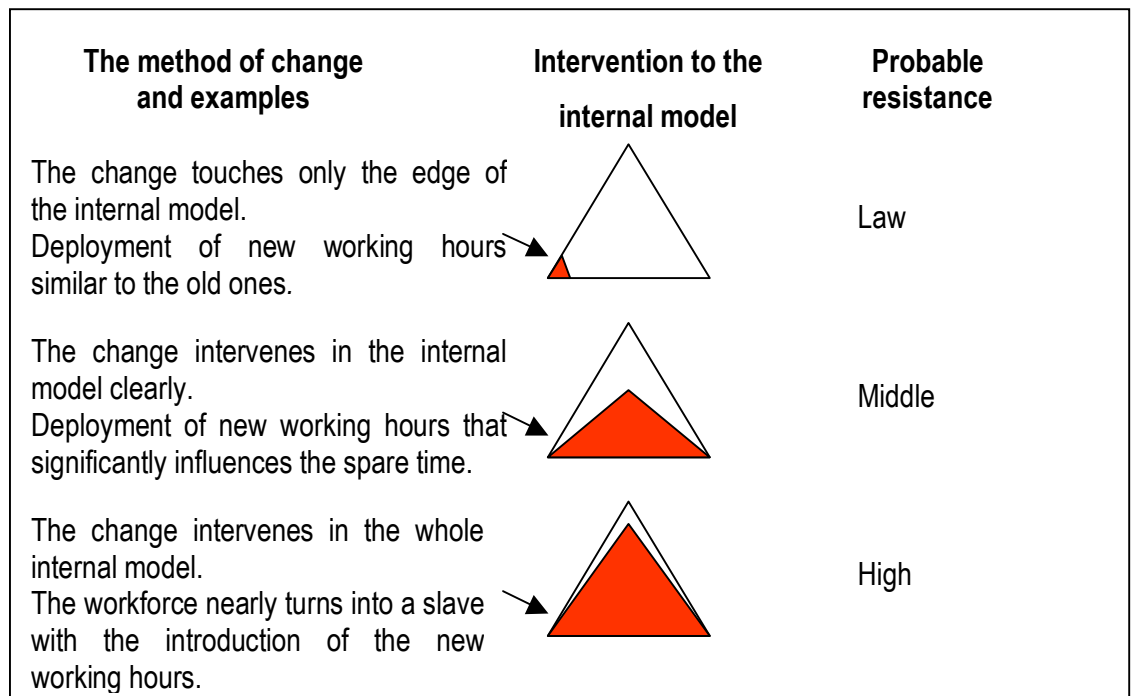

The method of change and examples	Intervention to the internal model	Probable resistance
The change touches only the edge of the internal model. Deployment of new working hours similar to the old ones.		Law
The change intervenes in the internal model clearly. Deployment of new working hours that significantly influences the spare time.		Middle
The change intervenes in the whole internal model. The workforce nearly turns into a slave with the introduction of the new working hours.		High

FIGURE 8 - DEPTH OF INTERVENTION AND THE PROBABLE RESISTANCE (BRETTEL ET AL., 2005)

3.2.2 The arrangements of change management in the deployment of knowledge management

With the application of tools and arrangements of change management we have to have an effect in every phase on those components of the intention, knowledge and action frame of important characters, which count as a success factor.

Aimed can be chosen the tools and arrangements on the basis of the depth of intervention and the explored success factors concerning the important characters. For this the success factors of all important characters can be opposed to the given situation in practice. The suitable tools and arrangements can be deduced form the found deficiencies. Pomberger and Heinrich (2001)

For example strong commitment occurs as a success factor in the case of top management in the "Intention" determinant. If it turns out from the analysis of the existing situation that this target group is not completely uniform and sure in the advantage of the system yet and it does not support actively the change we can highlight the convenient information of top management about advantages as a necessary arrangement. Such solutions offer themselves here for example a performance oriented free conversation or a great program having an event character and a practical show.

From a situation analysis concerning employee (operate of established project) who act in a new system can clear up that not everyone have the necessary technical knowledge. As a suitable arrangement we have to organize trainings for them before the "Move" phase.

It can be highlighted as the success factor of the internal project leader target group that for the commitment towards change the right motivation is needed. The situation analysis can show that neither the special effort is rewarded in the new system for the moment nor the insufficient commitment is sanctioned. Therefore the deployment of a sufficient motivation system is an appropriate tool of change management.

In this way it is possible to determine systematically such arrangements and tools for all important target groups, which are suitable for greatly increasing the success of changing process. Namely a "piece to size cut" change management can be practised that assures possibly low source utilization beside (suitably) high efficiency.

It can be seen from previously presented examples that wide repertory of tools is known leant on the broad literature of change management. These tools can be applied in every changing process on behalf of innovation projects in particular the success of the formation of knowledge management system if we work them up and transform them. Doppler and Lauterburg (2005)

As a summary we present the complete cycle of change management on Figure 9 that – is valid for building up the knowledge management system in the same way – contains the following steps:
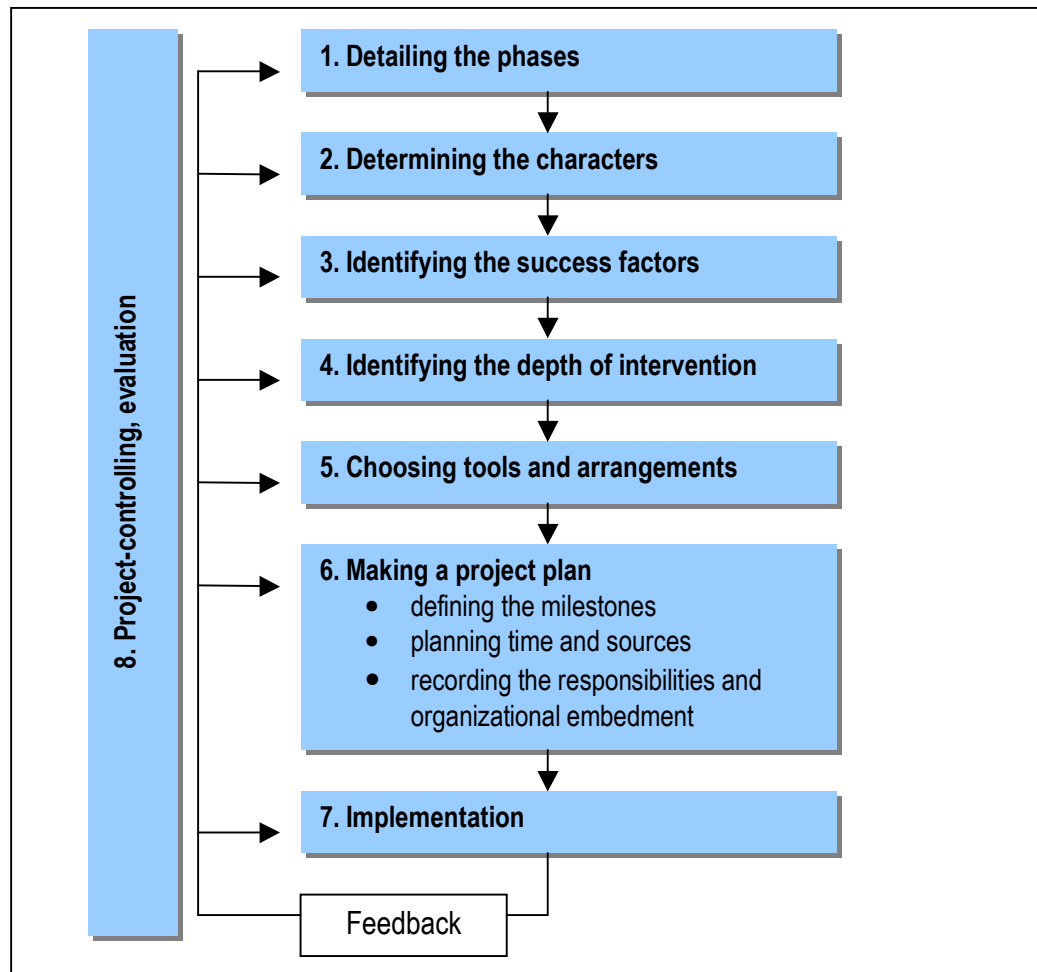
FIGURE 9 - THE CYCLE OF CHANGE MANAGEMENT (BRETTEL ET AL., 2005)

1. The phases of change have to be detailed, the starting **A** state of the organization have to be analyzed and the **B** target state that we would like to reach have to be clearly determined.

2. The important characters of the changing process have to be found out.

3. In every phase success factors have to be identified concerning to important characters on the field of "Intention", "Knowledge" and "Action frame" with the help of change management cube.

4. Depth of intervention into the internal models of important characters has to be determined.

5. The right tools and arrangements of change management have to be chosen or maybe they have to be worked out.

6. Project plan of change management has to be created that determines the milestones, draws up the plan of time and sources, records the responsibilities and regulates the organizational embedment.

7. Arrangements of change management have to be realized.

The necessary cybernetic feedback loops have to be assured with the help of project controlling/checking.

4. SUMMARY

The practical experiences prove that it succeeds to put the arrangements and tools into action with systematic conception punctually on those points where the important regulators of changing process, the determinants of success of new systems can be found.

The change management cube as the combination of three viewpoints of the analyzing grid makes a "piece to size cut" initiation possible that

- is less complex,

- source spare (cost effective),

- attached with fast results

- and assures long term effect.

Comprising arrangements into project plan and the continuous supervision of the access of goals influence significantly the success of changing processes of the new system.

It turns out clearly from the process of change management cycle that every organizational intervention – for example building up a knowledge management system – embedded suitably into the logic of change management makes the full preparation, all-embracing planning and execution of implementation and next to them the system of continuous control possible.

We hope that the hypothesis (*building up a change management and a knowledge management system is inseparable from each other and the success can be identifiable in both cases by weighing of the elements of the analyzing grid)* that we set up in the beginning of the article is proven for all reader.

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