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Abstract

Successful changes in strategy, organisations, and processes require alteration in the thought and behaviour patterns of employees and management. Despite this realisation, many change projects fail due to a lack of acceptance on the part of the affected stakeholders, which the authors believe can be attributed to insufficient communication and a lack of understanding for the proposed changes by the management. The method presented here was developed in cooperation with a well accepted polytechnic university and eight corporate partners, within the context of a public funded research program. The method object's is to systematise the target group-oriented communication of change, and thus to accelerate the change of mindsets. The method is a process-oriented approach, which is intended as an aid to those project leaders and communication managers responsible for change projects to avoid inefficiency in implementation and ensure that the affected parties understand the changes. The method is currently in development and thus represents findings of our research in progress.

Keywords

communications management, change, project management, internal communication

Introduction

In this paper we argue why communications management is a crucial issue in change processes and propose a method for systematic communications management in change projects. After the introductory chapter we introduce an analysis framework as the basis for the method to be developed in the following section of the paper. The proposed method is based on results from research in diffusion theory, change management, communications science, and corporate communications and from real world experience from industry.

The significance of the method for communications management in change processes

Usually change produces drastic changes in strategy, processes, organisation and culture, with corresponding effects on employees. A lack of understanding of the introduced changes and their effects can lead to a loss of direction and feelings of anxiety in those affected. Internal resistance and frictions arise and impede the implementation of planned initiatives. The systematic change of attitudes as well as patterns of thought and behaviour in those affected

by change projects is the deciding success factor for handling change processes. This transformation can only function if all stakeholders develop an understanding of the new reality, possess the necessary practical knowledge, support the transformation and adapt their behaviour accordingly. In authors eye the key to success is systematic communication.

Pressure to innovate as a driver of corporate change

Altered market environments, changing customer needs, and innovative technologies are only some of the factors which are forcing successful companies to continual adapt themselves. Innovation in information and communication technology lead to fundamental transformations in the structures of organisations, whole sectors (Tapscott 1996; Tapscott 1998; Tapscott, Ticoll & Lowy 2000) and society as a whole (Glotz 1999). With the introduction of technical innovation and its diverse consequences for processes, working practices and required know-how, companies are faced with two basic problems: firstly, how will the implementation be achieved on a technical level, and secondly, how will the affected stakeholders be prepared for the deployment of the new technology.

Project organisation as the classical form to introduce innovations

The usual approach to introducing technological innovations within enterprises is a one-off, time-limited project. Various studies show that the strategic and operational goals of IT projects are often insufficiently or not at all fulfilled. The damage attributable to terminated or delayed projects in DAX 100-quoted companies runs to an estimated 41 billion Euro. In only 15 percent of cases are projects completed successfully and on schedule (FAZ 2002). In a separate study, McKean observed a total of 35 CRM projects world-wide over a period of seven years. His conclusion: technology, in this case software, contributes only 10 percent towards the success of the CRM project, but makes up 82 percent of the costs. Measures aimed at cultural change, communication or employee training nevertheless receive only one or two percent of the project budget (Newing 2002). Within the context of total quality management projects which, similarly to IT projects, require a fundamental change of attitudes on the part of employees, (Senge 1999, 5f) compares studies by Arthur D. Little, (1992), McKinsey (1992), Champy (1995), Kotter (1995) and Strebel (1996) and concludes that over 66 percent of TQM projects and over 70 percent of BPR projects fail.

The significance of communication in the successful structuring of corporate change

Project management literature, scientific studies, practitioner case studies – all these sources refer again and again to the exceptional significance of communication in the successful execution of change processes. A systematic analysis of the communication perspective is extremely rare. Lechler (1997)'s dissertation presented a comprehensive analysis of project success factors. He analysed the success factors for successful change projects using a theoretically derived model based on 44 empirical studies which analysed a total of 5,760 projects. By analysing a sample of 448 projects, 257 successful and 191 unsuccessful ones, he was able to derive eight success factors which were instrumental in describing the success of the project. He comes to the conclusion that the two most important success factors are the efficiency and effectiveness of communication (19%) and the quality of the target definition (17%).

Lacking methods for the communications management in projects

Despite this general awareness in the field of the importance of communication for the successful execution of change processes, we were unable to identify, even after in-depth study of project management literature, any detailed method which adequately deals with the communication of change through change processes. The following texts were examined (alphabetically): (Daenzer & Huber 1999), (Diethelm & Bernhard 2000), (Friess 1999), (Kerzner 2001), (Klose 1999), (Koenigsmarck & Trenz 1996), (Krüsi Schädle 2001), (Kummer, Spühler & Wyssen 1985), (Lechler 1997), (Lock 1987), (Lock 1992), (Lock 1996), (Neumann & Bredemeier 1996), (Niederer 2000), (Patzak, Rattay & Volonte 1998), (Rosenau 1998), (Turner & Lock 2000), (Wetzel & Seiler 2002).

Conclusion

Continuous market pressure forces companies to introduce innovations. This is usually done in the form of projects. Studies show that the success rate of projects is inadequate. Studies also confirm that communication is a high-ranking success factor within projects. Project management literature does not provide suitable communications management methods. It is this deficit we aim to address with the method presented in this paper.

Analysis framework and definition of terms

We distinguish two forms of implementation in the introduction of new technology within companies. Implementation I describes the technical change which materialises in the form of changed processes, new IT and new organisational structures. In parallel, an Implementation II, which refers to the necessary change of mindsets, i.e. the implementation of the changes in the mind of the affected stakeholders, takes place. The terms Implementation I and II were originally introduces by (e.g. Schmid 2001, 48f.) and are incorporated here (in this respect, please also see Figure 1).

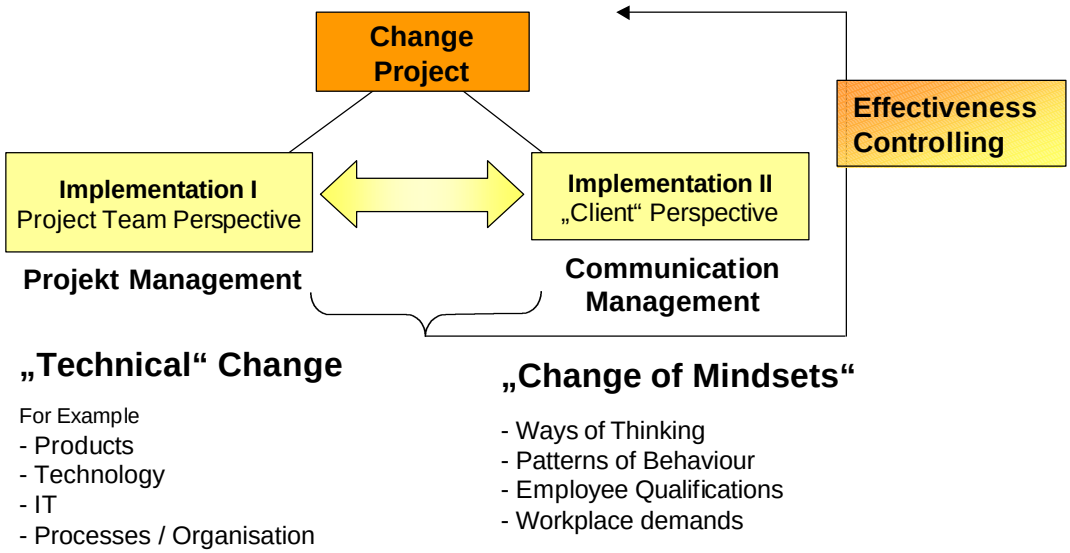

Figure 1: Analysis Framework

Implementation I is typically the task of project leaders who are responsible for the technical introduction. The goal of Implementation II is a permanent change of behaviour of the target group according to the requirements of Implementation I. The employees must be able to comprehend the process- and organisation-related changes within the company. With the method communications management presented here, this change of mindsets is intended to be communicated efficiently, precisely, in the appropriate language and via the right channels to the target group.

Research Question

Research questions in the area of communications management which build on previous research are complex. With the question of an acceleration of change processes through systematic communication, the questions of the communication target groups, of the chosen language, the communication channels and the transmitted content also attain a central role. Which specific communication activity steps are necessary here? Which criteria will determine whether the method can be used successfully for systematic communications management of change processes in practice? Further questions could relate to organisational measures as well as the capabilities necessary for the successful realisation of the method in the corporate context.

Research Methodology

The above questions will be answered in accordance with the holistic system approach of the St. Gallen-Management-Concept (Bleicher 2001). The company as part of a larger system (Bleicher 2001, 48) is not only analysed in its organisational, functional and process aspects, but above all considers social components – human beings – as part of the system. “business management means shaping and directing a social institution” and the behaviour or social systems is the subject of management theory (Bleicher 2001, 143). To understand the behaviour of social systems, a scientific discipline alone is not sufficient; instead, various perspectives are required (Bleicher 2001, 143). System-oriented thinking leads to a willingness to adopt discoveries from all basic sciences if these can contribute to the solution of business management problems (Bleicher 2001, 59).

A central building block of communications management is the situation-specific communication in the corporate context (Schmid 1997). The term communications management tries to integrate concepts from management theory, business communication, psychology and the communications sciences, and thus develop new ideas and methods for practical application.

The method presented here was developed and validated based on the concept of action research (Fitzgerald & Avison 1988), (Greenwood & Levin 2000), (Myers 1997), (Myers 2002), (Avison et al. 1999) in a 24 month co-operative project between a technical and a business university, as well as eight partner companies. In addition to scientific interest, a key focus is practical relevance.

A Method for communication in projects

Our method should be seen as a plug-in for project management and a part of the internal communications of the company. The authors understand project communication in the organisational context as a precise horizontal and vertical exchange of information between

functional and organisational units. The aim of this exchange is to make the change processes comprehensible to those affected and thereby initiate specific modes of behaviour.

Diffusion Research

Downes & Mui describe in the 'Law of Disruptions' which changes will take place at which pace (Downes & Mui 1998, 41f.). In summary: *"Social, political and economic systems change at a linear pace, but technology changes at exponential speed."* The insight to be gathered is that technology changes at a considerably faster pace than human beings are capable of adapting to the changes. While Downes & Mui show which changes diffuse at what pace, diffusion research tries to explain the diffusion of innovations. Rogers defines diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers 1995, 5). Rogers' model serves as a foundation for the analysis, planning, implementation and monitoring of the effect of communication (Rogers 1995). The S-curve is typical of the course of empirically observed diffusion and adoption (see Figure 4). The S-curves have little forecasting value, but are valuable for the analysis and description of the ideal progress of innovations within social systems. The selection of communication instruments depend on the processes being run in the decision phase. Communication should be designed based on the identification of the innovators and imitators (early adopter, early majority, late majority and laggards), the knowledge curve (when did people first hear of this invention?) the decision phase and the adoption curve (when will the innovation be used on a daily basis? When are the experiences positive, and the knowledge diffusion to the next adopter-group correspondingly positive?). In practice, this means that the mix of channels must be adapted according to both the innovation diffusion phase in which the company finds itself and the stakeholders to be addressed within the company.

Change Management

The method for systematic communications management in change projects incorporates experiences from the field of change management. According to Burnes, change management cannot be strictly separated as a discipline, but is rather a synthesis of various disciplines (Burnes 1992). Change management is concerned with the management of change in organisations and pinpoints the patterns in change processes which continually repeat themselves. Current change management literature represents the general sequence of these projects, which methods are available and how the change process should be organised (Senge 1999); (Doppler, Lauterburg & Hinst 2001); (Doppler & Lauterburg 2002); (Senge & Berchtold 2000); (Spalink 1998); (Königswieser 1999); (Königswieser 2001). As the method under consideration here relates to systematic communications management in change processes, insights from the field of change management play a significant role for the practical applicability of the method.

Communications Sciences

Communications science provides different communication models that serve to reduce complexity (Merten, Schmidt & Weischenberg 1994), (McQuail & Windahl 1999), (Maletzke 1998). The models show how communication functions between sender and receiver. The best-know formula is probably that of Lasswell (who says what in which channel to whom

with what effect) from 1948 (Lasswell 1948). For the method presented here, the different models serve as a basis for the understanding and connections between sender and receiver.

Corporate Communications

D'Aprix notes: "Communication is an essential tool for accomplishing change. It is a tool that is used poorly or thoughtlessly and to the degree that is used poorly in organisations. It confuses people. It makes them angry, and it feeds whatever scepticism or cynicism they feel about the motives of the people who lead them – in process worsening their fears and making them resistant to change." (D'Aprix 1996, 3). Bruhn's insights into the use of communication instruments in the organisational and personal shaping of communication have also been taken into account here (Bruhn 1995). Pepels provides a synthesis of the effects and perception theories of communication which are important on a personal level between employees (Pepels 1999, 32ff.). The knowledge of various authors is summarised into theoretical perspectives and methodological processes for the area of corporate communications (Goldhaber & Barnett 1988). Meier observed in his empirical study of the state of internal communication in Swiss companies that companies of more than 100 employees experienced a deficit in dialogue exchange processes between the management and employees (Meier 2000, 58). Only one third of the analysed companies have an adequate number of especially trained staff (Meier 2000, 121).

Criteria of Development Requirements for the Presented Method

The method presented here was developed in close co-operation with industry, and this is reflected in the design of the method. Simplicity, communicability, efficiency, effectiveness, and target-orientation are only a few of the criteria which this method must fulfil when used in practice. But which are the criteria the method must fulfil to be accepted by the scientific community? Various authors have commented on the term 'method', for example (Fitzgerald & Avison 1988, 4), (Raffée 1974, 11), (Roth & Heidenreich 1993, 34). Quintessentially, a method is a planned and systematic problem-solving procedure. The procedure is based on a collection of rules and principles, which help to solve a problem and ensure that the results are objectively verifiable. Nienhüser describes the criteria to be fulfilled with a metatheory (Nienhüser 1989, 144). The most important criteria are: to show gaps in currently used methods, to demonstrate fundamental theories, to describe rules for use (who, when, what, how), to demonstrate the relationships between the individual steps, to describe organisational requirements as well as necessary competencies, and to indicate the required framework for deployment of the method.

Based on the theories of the various disciplines as well as the motivation for the development of this method for systematic communications management presented above, we now present the method below as short version. As research in progress, the work should be considered as a draft and a basis for further discussion.

The Communication Cube

Use of the method predicates the following assumptions: At the beginning, a decision is made by the management to introduce an innovation. The time plan for the Implementation I project is the starting point for communication management activities. The method for systematic communication should already be used in this phase of the project, in order to gain

valuable time. Additionally, we assume that not every company has the necessary communication competencies for change projects at its disposal, and is thus dependent on external competency.

To successfully plan and carry out the communication within a project, and introduce necessary corrections, four levels were identified. Each level has a specific task with specific responsibilities within the project and the company. The following table (see Table 1) shows the four levels and the communication cube (see Figure 2) shows the elements of the various levels.

Levels of the Communication Cube	Analysis Framework (see Figure 1)	Extent of Responsibility	Function within Project
A) Management Level	Vision, strategy, resources, market analysis	Overall company responsibility	Commissions project
B) Project Level	Change project Implementation I	Project responsibility	Commissions project
C) Communications Level	Implementation II	Communication responsibility within project	Staff function of project leadership
D) Monitoring and Feedback Level	Monitoring effect	Supervisory responsibility	Independent supervisory body

Table 1: Elements of the Communication Cube

In order to allow the external resources to organise communications appropriately for the situation, full information regarding background and goals of the project must be made available, i.e. those responsible for communication must build up knowledge about the context and background of the project. To this end two questionnaires are used, with which information is collected first at the A) Management Level, and subsequently on the B) Project Level.

On the A) Management Level, information about the history of the company, the product/service portfolio, the current situation and the strategic goals for the future of the company are gathered. The focus is on the vision, strategy and company goals, but also the processes and organisation, as well as the tools necessary for the provision of services. Also important is the assessment of the position of the project in the company's overall project portfolio, and the personnel and career planning of employees and management. The questionnaire for the B) Project Level collects information regarding the origin of the project, its organisation, the specific goals, the available resources, methods employed, the major risks at the beginning and during the course of the project.

On the C) Communication Level, first of all a stakeholder analysis is carried out. All functions which are in any way affected by the project are identified and prioritised. Which affected persons are especially important to the success of the project is also analysed. For those directly affected by the project, the specific changes are analysed and the measures to be taken are drafted. This focus on those groups particularly important for the change serves to reduce complexity and increase the efficiency of communication. The catalogue of

measures represents the foundation for the contents of target group-specific communication and training. Once the affected stakeholders and the contents to be communicated are defined, the suitable sender and dialogue partner for the affected stakeholders must be identified. The results of the analysis are entered into the communications matrix and described as communication situations. For those communication situations which are attributed a high level of significance, communication is systematically planned and implemented. The communication contents are to be formulated receiver-oriented, in a suitable language, and are to be transmitted via a suitable channel.

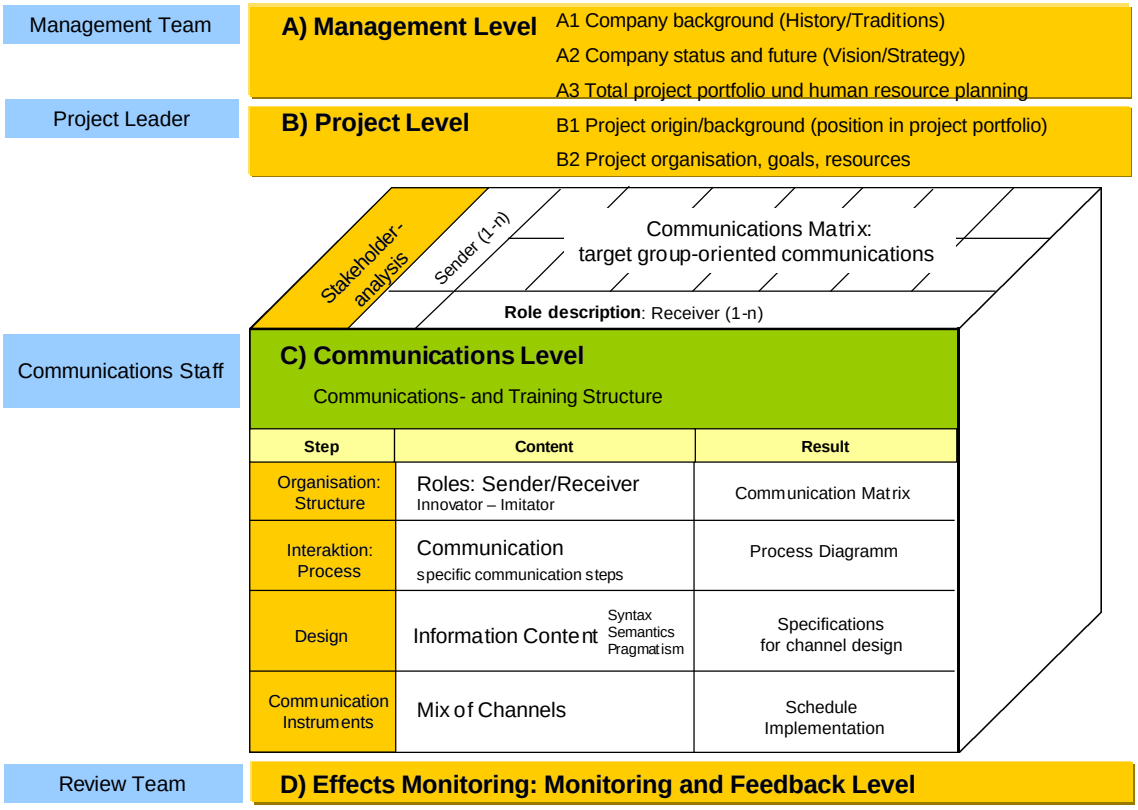

Figure 2: The Communication Cube

D) Effectiveness Monitoring: to ensure success - and take corrective measures if necessary - the communication effect must be measured. To do so, diffusion and adoption rates of the change target groups are gathered and monitored, and appropriate further communication measures are taken if necessary.

The Diffusion Process

The diffusion of an innovation is determined by the factors time, innovation attributes, social system and communication channels. With the empirical process of the diffusion, Rogers indicates key elements for the design of communication. Based on the investigations of diffusion research, innovators, early adapters, early majority, late majority and laggards (normally distributed over the total population) can be identified in every social system.

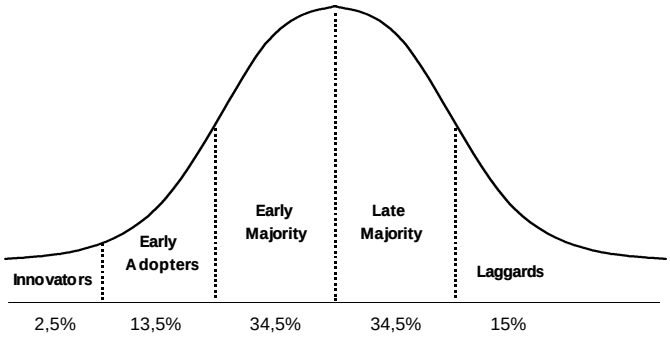

Figure 3: Adopter Categories (Rogers 1995, 262)

The following figure (see Figure 4) represents the diffusion and adoption curve and shows the decision period between an innovation initially becoming known and its regular use. The below example depicts this connection with the example of the diffusion of pesticides among farmers in the US after World War II.

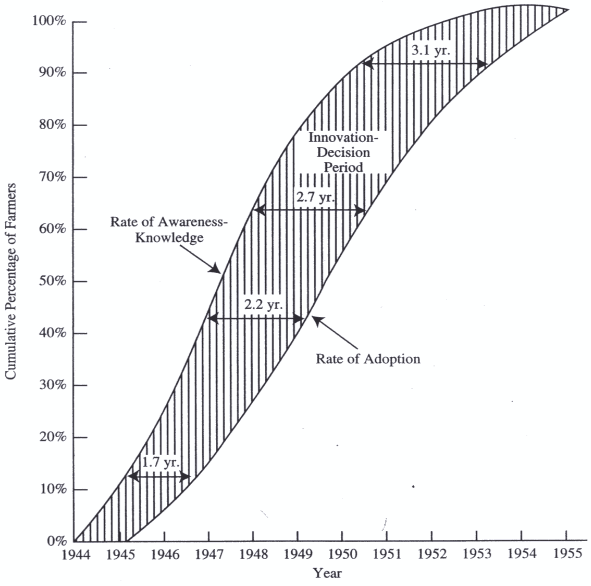

Figure 4: Diffusion and Adoption Curve (Rogers 1995, 200)

The figure shows that it took 11 years until 100% of farmers knew about pesticides and also utilised them. During the decision period, a change occurs which, following Rogers can be divided into the phases information dispersion, knowledge building, approval, training and use, as well as subsequent experience dispersion to following adopter groups (Rogers 1995, 161).

Phase 1: Knowledge Creation/General Sensitisation

In the first phase, the main issue is to create awareness in the affected stakeholders regarding the necessity and content of coming changes. In this first phase, messages are sent to all the stakeholders of the change project in a general format. Knowledge regarding the necessity of the changes is a prerequisite for their acceptance. With the transmission of knowledge, the affected stakeholders are given the opportunity to assimilate the change process and help shape the changes. Typical communication instruments for this purpose are for example

information events (e.g. the quarterly report by the CEO) where the head of the company personally speaks and expresses his backing of the changes, and thereby underlines their importance.

Phase 2: Create Certainty/Role-Specific Information Distribution

To enable the affected stakeholders to carry out a concrete assessment of their own situation subsequent to the initial, general information of Phase 1, role-specific information which apprises them of the new situation is required. Changes bring uncertainty and are occasionally even a cause for fear. If situations with similar starting circumstances have been encountered before, this will trigger memories of the earlier experiences, which can influence the change process positively or negatively. Developing an attitude towards the changes is a social process. Opinion leaders have a special role here, since they possess the trust of their colleagues and speak a - to them - familiar language. Openness and transparency of information increase trust and encourage participation in shaping the changes. Communication instruments could be: Interactive workshops within the affected business area, where the matter specifically is further explained and discussed. Another possibility is the identification of opinion leaders who can take part in a cross-hierarchical committee to accompany the changes and help to support the implementation process. In this way, the employees can also be given a say in the process.

Phase 3: Active Decision by the affected stakeholders

Transformation and mobilisation processes require commitment from employees and constructive engagement from top and middle management (Deekeling & Fiebig 1999, 17). Not only must the usefulness of the innovation be demonstrated to convince employees, but motivating means and incentives should be utilised to ease the transition, since the employees will be required to bear part of the responsibilities and promote the changes. Those who are particularly motivated can help speed up the process by helping to convince those as yet undecided. Those who decided not to adopt have to leave. For this type of communication, process-explanatory workshops and regular personal employee meetings can be used.

Phase 4: Use Concept and Required Training

Once the affected stakeholders are convinced of the contents of the change project, the employees' skills must be adapted to the new demands. To correspond to the revised task and competency profiles, this broadened skill set is required. Training session, demonstrations, demo-software and/or training documentation are classically used to build up competencies.

Phase 5: Assessment of Change Decision and Measures for Improvement

Phase five consists of two aspects – firstly ascertaining the diffusion and adoption curves, and secondly, initiating any required changes. Once an idea has been introduced, management and the affected employees wish to check the effectiveness of the implemented measures and assess the decision to change. For the analysis and assessment of the effectiveness, adoption and diffusion curves can be used. Data can be gathered using feedback workshops or surveys.

The Stakeholder Analysis

With the stakeholder analysis, affected groups are identified and prioritised according to the phase of diffusion and adoption. The target groups are recorded and systematically evaluated. A part of the stakeholder analysis is role description, whereby the benefit of each stakeholder, the number of affected employees, and the degree of change is analysed. Thus, for example, a negative benefit, a high number of affected employees and a high degree of change would be an indication that this target group requires special observation and that their influence on and interaction with the projects' success should be especially analysed. The 'ACTUAL and DESIRED status is compared in the role description, and from this comparison a DELTA, i.e. the sum of required changes is identified and necessary measures are derived. If the communication of information succeeds with the appropriate tools, in time and to an acceptable extent, the necessary knowledge regarding the changes and thus the required trust can be gained with the stakeholder analysis. Not only those affected by the changes but also the senders of the respective information are identified and prioritised by the stakeholder analysis. The sender is assessed according to criteria such as: does he have responsibilities within the project, is he an innovator, is he a suitable multiplier, does he enjoy the trust of the recipients and does he have communication competencies. More detailed rules will be developed.

The Communication Process and Communication Contents

Once the sender and receiver (WHO with WHOM), as well as the content (WHAT) of the communication are identified, the planning and implementation of the operational communication measures (HOW) is undertaken. Which processes are necessary to acquire and prepare the information and communicate it to the relevant target group? The data gathered by means of Questionnaire A (management level) and B (project level) is an important source of information about the background of the launched project. The role description of the stakeholder analysis provides details of the specific changes due to the project, and thereby derives the actual measures to be undertake. This together forms the communication content. Shared knowledge of the communication situation as a prerequisite for mutual understanding is necessary for successful communication. Depending on context, communication content may have different meanings. Semiotics, comprising the sub-areas of syntax, semantics and pragmatics, must therefore be taken into account in order to design successful communication. Syntax is the relationship between language signs, semantics are the meaning of the respective signs and pragmatics that which regards the understanding within a specific context, with reference to the relationship between speaker and listener. For further information, for example: (Chandler 2002), (Eco 1979), (Eco 1994), (Forgas 1999), (Goffmann 1980), (Goffmann 1982), (Mead 1973).

Choice of Channel

As the final step, the appropriate channel must be chosen (WITH WHAT). Communication planning and implementation is prepared with reference to the Implementation I project time plan and the insights of diffusion research. Using communications sciences, the basic forms of communication are represented. Maletzke distinguishes the types of communication as follows: direct (face-to-face) vs. indirect (chronological or spatial distance), reciprocal (dialogue) vs. one-sided (monologue), private (limited number, certain persons) vs. public (neither limited nor specified persons) (Maletzke 1963). Further types by Littlejohn:

interpersonal communication, small-group communication, organisational communication, mass communication, (Littlejohn, 1992, 19). Types by Rosengren: group communication, social communication (Rosengren 2000, 70). Based on the well-known Lasswell-formula - who says what, in which channel, to whom, with what effect (Lasswell 1948) – and the above distinctions by Maletzke, Littlejohn and Rosengren, we have represented the basic forms of communication in the below table.

Name	**Sender : Receiver**		**Medium**
Interpersonal Communication	1 : 1	2 persons	Personal conversation
Small-Group Communication	1 : n n : n	More than two persons	Presentation, group discussion
Organisational communication	1 : n n : n	In closed networks, with known target groups, for example, company internal	Presentation, group discussion
Mass communication	1 : n	Public, anonymous communication	Print Media: Newspapers, periodicals, books, posters, flyers Radio and television Film/Cinema Entertaiment media: Video, record, tape, CD, DVD
Telecommunication	1 :1 1 : n	Personal communication, small-group communication	Speech communication: telephone, two-way radio transmission Text communication: telex, teletext, screen text, cable text Fixed-picture communication: tele-facsimilie, telephoto Moving picture communication: picture phone, teleconference Data communication: data transmission, telematics

Table 2: Basic Forms of Communication

This table represents the basis for developing further details of the method with regard to use of media in the various situations.

Monitoring the Effects

Based on diffusion research, the rates of diffusion and adoption are collected analysed through surveys and data gathering (Rogers 1995, 200).

Formula for the knowledge curve:

Degree of „ Number of Stakeholders who are aware of“

$$= \frac{\text{Number of stakeholders who are aware of innovation}}{\text{Total number of stakeholders}}$$

Formula for the decision period:

Phase x

$$= \frac{\text{Number of stakeholders in the respective phase}}{\text{Total number of stakeholders}}$$

Formula for the adoption curve:

Degree of „Innovation is used on daily basis“

$$= \frac{\text{Number of stakeholders who use innovation}}{\text{Total number of stakeholders}}$$

Conclusions and Further Research Areas

This method represents a review of the insights of various theoretical and practical disciplines. The corporate partners of this study provided the tasks to be resolved as well as much of the experience and knowledge necessary for the development of the method. The two academic research organisations provided theoretical knowledge (desk research, case studies) of diverse fields of research. Thanks to the involvement of the corporate partners, it was possible to utilise and continually develop the method in practice, which ultimately enabled its' speedy and practical development. Criticism of the approach used in developing this method is likely to concentrate on the use of action research as part of the development. That project experiences cannot be generalised beyond the limits of the individual project is cited as a disadvantage of action research (Eberhard 1999, 57). The replicability and intersubjectivity required by the scientific method can therefore not be guaranteed. The quantifiability of the method's effectiveness can only be determined through additional case studies over the course of time. A critical assessment of the method's limitations will only be possible as information from a sufficiently large number of cases becomes available. To address this point of criticism, the method must be applied in a large number of contexts in various companies and industry sectors. But this type of research is additionally of interest and relevance because the direct co-operation with industry promotes knowledge transfer and thus reduces the danger that theoretically developed methods are not used in practice.

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