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Anne Linke Ansgar Zerfass

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Internal communication and innovation culture: developing a change framework

Anne Linke and Ansgar Zerfass

*Institute of Communication and Media Studies, University of Leipzig,
Leipzig, Germany*

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Abstract

Purpose – Since employees are considered to be one of the most important sources for innovation, the purpose of this study is to create a change management framework for implementing an innovation culture by means of internal communication.

Design/methodology/approach – First, an interdisciplinary model was derived from research and existing literature. It was then tested in a case study with qualitative expert interviews and a quantitative online survey among all employees of a sample firm.

Findings – Instead of a linear change, as implied by the theoretical model, different identification levels existed simultaneously within the firm's culture. A typology summed up the corresponding perceptions of the innovation culture: innovation culture, innovation pioneers, mediocrity, standstill, and refusal. Significant correlations between identification and internal media ($r = 0.405$), as well as identification and action ($r = 0.158$) underlined the importance of internal communication.

Research limitations/implications – This study only explores the topic from a communication science perspective. However, examining its link to other important factors like organisational structure would provide further insight. Also, research in different countries and fields is needed, since the results of this case study cannot be considered representative.

Practical implications – The goal of communication managers should be to lead employees through the phases of identification by specifically targeting their identification levels and using the appropriate media to address the findings.

Originality/value – The developed framework helps as a management tool for assessing how employees perceive messages of an innovation philosophy and internal media. By linking the internal, innovation, and change communication, it identifies new essential aspects for creating a communication mix and specifically communicating with the target-group.

Keywords Communication management, Innovation communication, Internal communication, Corporate culture, Change management, Case studies

Paper type Case study

1. Introduction

Communication science offers extensive insight into the field of internal communication (Clampitt, 2004; Klöfer and Nies, 2003; Kruppke *et al.*, 2006; Mast, 2007), mainly covering the topic of how to convey information and ideas. This has been recognized as crucial for organisations (Derieth, 1995; Mohr, 1997; Quirke, 2008). Internal communication in this study is established according to Bentele's definition (Bentele, 2006, p. 108). He includes all communication and processes that occur within organisations of all kinds, e.g. companies, associations, societies, etc. A variety of instruments help to inform organisational members, to communicate with them, to convince them of something or to be loyal, and to improve their job satisfaction. However, there is another aspect that has been widely neglected: internal



communication can also create ideas. Those who desire an innovative company need active employees (Friedrich von den Eichen *et al.*, 2008, p. 20). The essential task is to pool employees' potential and use it effectively. Internal communication therefore plays a central role in a creative and innovative business because, "in a formal organizational setting, intentional innovation requires motivated individuals. Organizational members must be willing to contribute time and effort to the development of innovative ideas" (Monge *et al.*, 1992, p. 251).

Research shows that a compelling, creative organisational culture fulfills exactly this purpose. Mast (2009, p. 271) emphasizes the importance of a corporate culture that motivates personnel to generate ideas. Furthermore, this helps them to both cognitively and emotionally cope. In spite of this, the author illustrates how far theory is removed from everyday life through an investigation of the Top-250-DAX companies. Here, a discrepancy is revealed that must be explored in more detail.

One of the most significant difficulties lies in the definition of what is meant by corporate culture. Based on the literature reviewed, there exists a variety of different definitions. Most frequently cited is the comprehensive concept of Schein (2004, p. 17) who understands it as "a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems." Accordingly, in specific external and internal environments of an organisation, assumptions in form of a business philosophy are transmitted and communicated via different instruments – to employees via internal communication. The fundamentals are written down in mission statements and documents relating to corporate identity (Birkigt *et al.*, 2002) or the equivalent, but a corporate culture only results from the actions taken by employees in day-to-day business. So, in order to achieve a corporate culture which is in line with strategically-defined guiding principles, a number of factors are involved. They include: the commitment of managers, a permanent transparency of the vision and vitality regarding its execution, and seriousness in implementation as well as repeated references to the vision and its sanctions (Jaworski and Zurlino, 2007, p. 44f.). Diverse organisations develop mechanisms to educate new members on how to respond appropriately. In spite of this, a corporate culture is predominantly transmitted in the socialization process and not purposefully learned. Hence, it is not achieved simply by a decision of the management, but as something new which must be gradually introduced (Schreyögg, 1992, p. 1526f.).

The development of a culture of innovation, like all transformations from one existing state to another, should be analysed in the same way as a change project (Reiß *et al.*, 1997; Geiger, 2006; Hans, 2007). Change processes can be categorized in various ways (see, e.g. Kotter, 1996), but in general, they sum up transformations of different kinds in reaction to environmental conditions. Innovation then act as one special condition whereby something substantially different is applied in order to increase some sort of value. In other words, the defining aspect is the value creation (Schumpeter, 2006) which distinguishes innovation from other changes that stabilize value, such as regular CEO changes or restructuring, or even those that decrease value during a crisis, merger, or acquisition (see, e.g. Cameron and Green, 2004).

Mast cautions that employees, like any other group of people who experiences change, feel cognitive and emotional uncertainty. Employees must therefore encounter their companies' demonstration of a certain degree of consistency in its decisions,

credibility and trust, guidance, respect as well as a certain freedom of choice, if they are to be attracted to an innovation culture. Only then will they accept it and respond accordingly (Mast, 2009, p. 273). This central assumption, that a culture of innovation is established gradually as people go through different stages of identification, is similarly addressed on a more abstract level by several change management authors (Jaworski and Zurlino, 2007; Schwarz, 2006; Streich, 1997). In a general model of change processes (Streich, 1997), the following steps are mentioned. If employees are faced with change, initially they often react with suspicion and low motivation (shock). Only by overcoming preliminary refusal and discovering the innovation do they achieve a better understanding of the new and see the need for change. Still, obstructive uncertainty can occur. Only when employees accept the change and open up to it are they able to apply the new (experimental phase). Thus, knowledge is obtained and the innovation proves itself. If this is the case, the levels of stabilization and sustainability are eventually reached (Schwarz, 2006). As stated, it is assumed in this study that these same mechanisms apply for the establishment of an innovation culture by means of internal communication.

The present study adds a new perspective to this subject by combining existing knowledge in the field of internal communication with aspects of organisational culture (Schein, 2004), change theory (Kotter, 1996), and innovation communication (Hauschildt, 1997; Huck-Sandhu and Kupczyk, 2008; Prahalad and Ramaswamy, 2003; von Hippel, 2005).

The latter is a new but particularly important discipline which contributes an alternative view on the topic and helps to further develop associated theories. Above all, the research results on innovation communication appear indispensable, because in times of rapid technological change, intense competition, and global economic crisis, innovation offers the revenue needed by today's enterprises. Yet, this innovation is no longer created in isolated labs or by a single innovation leader (Schumpeter, 2006), but through processes of Open Innovation (Chesbrough, 2003). According to this concept, various stakeholders are involved early on in the systematic innovation process, from idea generation through implementation. Innovation is therefore a collaborative cooperation between different groups (Rademacher, 2005, p. 144). Zerfass and Huck (2007, p. 109) describe this change as follows:

Companies no longer create ideas in strictly guarded research labs under the veil of secrecy and control until they are ready for marketing.

This increases the relevance of communication (Tuomi, 2002) and presents questions about its interplay with innovation management (Zerfass and Huck, 2007). Zerfass *et al.* (2004, p. 7) highlight the importance of strategically-planned and holistic innovation management to create successful innovation despite their complexity. In the last few years innovation management has become established as an independent field within general management theory, dealing specifically with the innovation process. Buckler divided this process into the phases "fuzzy front end" (idea generating), "gating process" (goal setting), and "operations" (implementation) (Buckler, 1997, p. 43). Since during these phases, communication must be coordinated between numerous groups, it incorporates new tasks and is enormously relevant (Mast *et al.*, 2006; Mast and Zerfass, 2005; Nordfors, 2006; Zerfass and Huck, 2007; Zerfass *et al.*, 2004). Nonetheless, compared to other research fields, little has been done so far. However, previously existing research has identified innovation culture and internal communication as

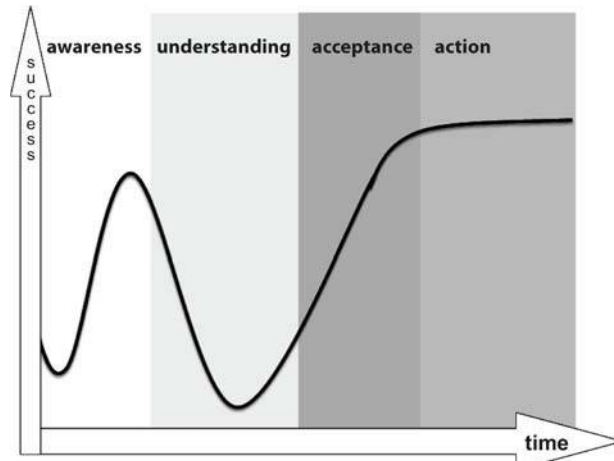
critical factors for success (Ahmed, 1998; The Boston Consulting Group, 2008; Ernst and Zeffass, 2009; Huck, 2006; Little, 2005). Here is where this study finds its place, by combining corresponding fields of research.

2. Theoretical background

With reference to these findings and the cited literature, this study advances and tests an existing change model by including broader knowledge on the establishment of a corporate culture. The central goal is to develop a new framework of internal communication aimed at promoting an innovation culture. The main hypothesis states that an innovative culture can be established when the corresponding internal communication adapts to each of the change phases: awareness, understanding, acceptance, and action. Intellectual support found in an innovation culture fosters and consequently leads to further innovation. This is encouraged through communication activities (Talke, 2007, p. 48). However, with change projects such as the establishment of an innovation culture, the process of communication comes up against some complicated tasks. One must find ways to communicate the facts objectively while motivating employees emotionally. This all depends on timing, tone, and the message (Garvin and Roberto, 2005, p. 110). Effective communication is one of the key success factors in the change process, along with commitment, social and cultural values, and the methodological approach within project management and interaction (Clarke and Manton, 1997, p. 149f.). Conversely, considering the gradual nature of the change process, not all messages are received directly, understood, and accepted once they have reached employees (stimulus-response model – for further information see, e.g. Fahr, 2006). What may appear clear, understandable, and convincing to communicators can differ from the recipients' perspective as messages are interpreted intersubjectively and processed individually. A feedback process emerges in the form of a two-way communication cycle ("Circuit approach"). In this regard, internal communication should adapt to the specific conditions of each different phase of identification within the innovation culture. So far, different requirements have not been considered in the change phase model. Therefore, the general model has been modified to a specific framework for internal communication as pictured in Figure 1. It shows the changing graph of perceived success over time for a change project and its corresponding communication tasks.

It can be seen that while the traditional one-way understanding of information transmission (Shannon and Weaver, 1949) suffices at first for creating awareness, it does not apply for all phases. For the latter, feedback circles as well as context variations need to be included in order to appropriately adjust the communication activities (two-way model). This refers to Grunig's and Hunt's (1984) differentiation between different types of public relations. Here, the linear dissemination of information is called "public information" and two-way communication is divided into asymmetric and symmetric based on the balance of effects. In order to lead employees through the different phases of the above-mentioned model, a mix of these types should be considered, not just the transmission of information. If internal communication adapts to this understanding of change communication, an innovation culture is built up successfully. The different analytical levels hereby help to demonstrate that, if management wants to establish an innovative culture according to their business philosophy, they must listen to employees and trace each step from philosophy to action. Only the aggregate of individual action can create an innovation culture within

Figure 1.
Internal communication
framework for
establishing an innovation
culture



Source: Own figure based on Streich (1997, p. 243)

an enterprise. The concept of hypotheses behind this assumption can best be explained with the help of Coleman’s scheme (Greve *et al.*, 2008) for the explanation of collective facts via the intermediate step of individual behaviour (micro level). It highlights the fact that assumingly obvious connections on a higher level (e.g. macro or meso phenomena) are caused by intermediating effects on a lower level (e.g. micro). Figure 2 indicates this for the specific research questions.

In this regard, the following hypotheses are derived from a literature review:

- H1. If internal innovation communication conveys an innovation philosophy adapted to the phase-model, then employees take it on.
- H2. If employees go through all phases of integration of an innovation philosophy, then they respond accordingly.
- H3. If the majority of employees contribute ideas according to an innovation philosophy, then they create a culture of innovation.

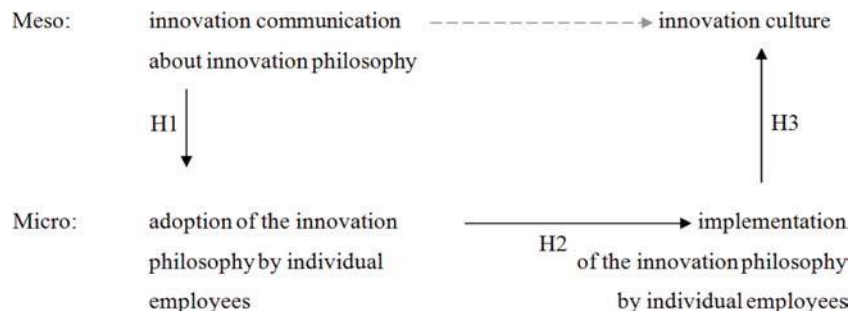


Figure 2.
Micro-meso-context of the
hypotheses (H)

Source: Own figure

3. Methods

First, in order to analyze these hypotheses, information was gathered about how internal communication, innovation philosophy, the innovative action of employees, and organisational culture are interrelated. Existing research and analytical reasoning on change processes as well as internal communication and innovation communication were used to construct a framework as a combination of the different fields. Various aspects across different disciplines were combined to present an existing change model stating the different phases as well as central tasks for communication. Second, the framework was tested empirically in a case study at a global pharmaceutical company based in Europe (turnover > 450 million Euros) by tracing each step of the process and the influence of internal communication. To facilitate this, manifestations of communication, philosophy, and culture from the test company were evaluated. In this case study, different means of internal communication (e.g. intranet, employee magazine, meetings) and a certain innovation philosophy, existed. With this as a foundation, the theoretical assumptions were challenged empirically by reality via a number of survey technologies.

A pharmaceutical firm was chosen for the case study, since in this sector, firms depend heavily on innovative products and have highly qualified employees (Trilling, 2008; Ornaghi, 2009). The sample in this study shows immense identification with innovation as a topic in its publications, as a topic of its history, and in the form of a high research and development budget. Its employees were specifically mentioned in the company's innovation philosophy, many activities were organized to create an attractive workplace, and the employees' share of success was often addressed using a variety of internal communication tools. In other words, internal communication played an important role and was managed by a special sub-unit of the communication department. In addition, there existed a long-standing corporate philosophy, which was often referred to through internal communication and highlighted as a building block of the company. Hence, the case was suitable for analyzing an innovation culture and the employees' identification level. By analyzing the management point of view as well as opinions of employees, both a targeted and a realized culture were compared. This offered additional insight into answering the research questions.

Qualitative expert interviews

In the next step, expert interviews with communication and human resources managers helped to identify the targeted culture. Since at this point in the research process, categories should be developed with explanations, a qualitative survey form was chosen. Accordingly, a half-standardised, focused, verbal question format (Diekmann, 2004; Schnell *et al.*, 1999) was selected. Such a method is not only open for exploration, but also structured enough to allow completeness and comparability. Furthermore, expert interviews (Gläser and Laudel, 2004) are particularly suitable for a diverse and profound collection of information about the inner workings of a company. Based on theoretically-derived hypotheses and subject areas, a guideline for the interviews was constructed. Questions were divided into three main thematic sections and dealt with innovation philosophy, internal communication and culture from a management perspective. This was compared later to the actual conditions according to employees. The interview-guideline was pre-tested which resulted in a few linguistic adjustments and a slight reduction of questions. Interviews were held by the authors in

the offices of field experts during the period from March 2-5, 2009 and were recorded using a dictation machine. They were later transcribed and the core results used as a basis for the construction of the online survey.

Quantitative online survey

Subsequently, a quantitative e-mail survey among all 1,000 employees was conducted to measure their innovation knowledge and behaviour. In doing so, the actual state of the innovation culture was tested. In order to check on the research hypotheses, a quantitative online survey was applied, a method particularly suitable for collecting attitudes and opinions. Due to the large number of 1,000 employees, a written format was chosen. With the written format of the survey, respondents are able to comprehend the issues better, take their time, jump between questions, and the interviewer influence is minimized. However, since there is no interaction with an interviewer, it is not possible to verify whether the questionnaire has been completed by an actual respondent (Diekmann, 2004). On the whole, advantages prevailed. Moreover, an online survey best suits the corporate structure because of the dispersal of its employees and the fact that the company communicates primarily through e-mail if it wants to contact all personnel. All employees have a company-specific e-mail address, which makes contacting them relatively easy, quick, and allows for effective control and data return (Borg, 2007, p. 345; for further information see also Jakob *et al.*, 2009). Regarding the qualitative interviews, each participant was asked about internal communications, innovation philosophy, and innovative action as a measure for innovation culture. In addition, some socio-demographic data was collected. Five-step Likert-scales were used to measure attitudes in the central questions resulting in quasi-metric data and thus enabling a variety of analytical, statistical procedures. To increase the response rate, the length of the questionnaire was formulated such that a response time of 15 minutes was not exceeded, and small prizes were offered for participation. Time and effort as well as understanding and consistency were pre-tested and, after an approval by the council, the survey was stored on the company server for responses between May 27, 2009 and June 22, 2009. In order to access the survey, subjects had to click on a link in an e-mail which stated the purpose and authorship of the study. They were then transferred to the survey site which was designed to disassociate data with their e-mail address so that anonymity could be guaranteed. After the first survey was sent to all personnel, a reminder e-mail thanked participants and once again called on those remaining to participate. The response rate was 44 percent.

Data analysis

The combination of qualitative and quantitative data allows a great variety of data analysis. On the one hand, the expert interviews were qualitatively summed up and analysed to obtain categories for the online questionnaire. On the other hand, these results showed the experts' opinions about the targeted culture. Moreover, statistical investigations with the help of SPSS were applied to the quantitative data to test the hypotheses. Descriptive statistics, such as frequencies and chi-square tests (Bortz, 2005), helped to outline the employees' perception of internal communication, innovation philosophy, and culture. Indices were constructed for the main variables, identification with media and innovation culture. The latter, e.g. was based on question 2 of the questionnaire in which each participant specified how he had dealt with

different messages of the innovation philosophy (How about other aspects of corporate culture? The statements listed below one can face in everyday business in various forms and intensity. Please mark the boxes that apply to your personal experience. For each statement several options can be selected). Each phase of the tested model of innovation culture was reflected in a corresponding answer:

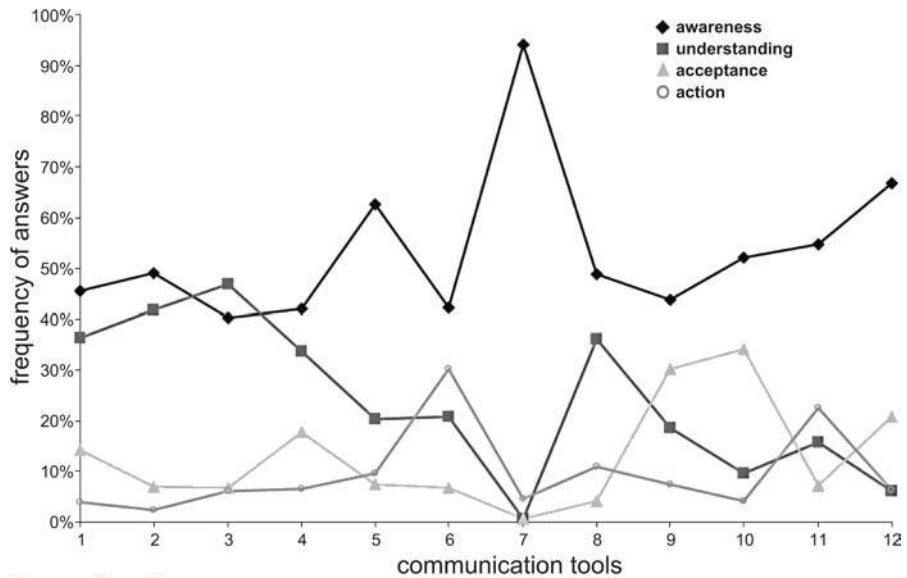
- Is aimed at the enterprise (awareness).
- Is important for the business success of the enterprise (understanding).
- I personally approve (acceptance).
- I have experienced it myself at the enterprise (action).
- Does not apply.

On the basis of points awarded for answers, it was possible to assign each respondent to a phase. Identification on a higher level was met by a higher score. It was then summed up and an average was calculated to show how an individual identified with the philosophy on the whole, indicating its identification phase. The same procedure was applied for media tools. Inference methods revealed significant distribution patterns and linkages between variables. They were also utilized to test the hypotheses. By comparing the results of both surveys, the organisation's strengths and weaknesses were also documented. Moreover, a combination of the questions, "How often do you participate with ideas?" and "How many of your colleagues frequently contribute ideas?" was used as a proxy to indicate the existence of an innovation culture. Here, different combinations of answers resulted in a typology differentiating between innovation culture, innovation pioneers, mediocrity, standstill, and refusal.

4. Results

As for this case study, various communication tools existed to internally convey an innovation philosophy and thus to support an innovation culture. Subjects were asked about the central tools and their corresponding fit to special needs in different phases of identification. Since the phases in theory are understood as successive, multiple answers are possible. Accordingly, an employee could know a particular tool, and at the same time understand, and accept it. Hence, he marked multiple response options. Frequencies showed that while more than half of the respondents believed the tools to be particularly informative, they seemed less appropriate for the needs of the last phases with percentages decreasing from 26.6 per cent to 13.5 and 10.1. Figure 3 shows that, despite a general linear tendency, tools (number 1 to 12) differed widely in their fitting to different phases. Some communication tools had low values in the third stage of identification but nonetheless relatively high relevance for action, e.g. number 6 and 8, team talks and staff meetings.

More than 50 per cent of employees judged the communication problems they were given as not applicable for the specific company (median). As particularly insignificant, they characterized employee communication as being too expensive ($x = 1.80$). With average scores of 2.92 and 2.97, the problems that corporate communication was whitewashed and does not apply to reality, appeared more significant. This would mean that while there existed an innovation philosophy on a theoretical level, no corresponding culture could be found in everyday life. However,



Source: Own figure

Figure 3. Distribution of communication tools according to identification phases

the scores were not very critical because they lie in the middle of the approval scale ranging from 1 to 5, and thus reflect indecision.

In order to test the phase model of innovation culture, important messages were listed in question 2 for evaluation by personnel. For each message it could then be calculated from the absolute and relative frequencies in Table I what percentage of employees was in which phase of identification. The total value for all employees showed that all phases occurred in an approximately equal rate. Yet, the phase of acceptance stood out with a nearly 50 per cent higher value. Also, instead of a collective linear change over time, as implied by the framework, different types of identification with the innovation culture were found at the same time.

A group comparison (Mann-Whitney-Test) revealed that those who knew more means of communication had internalized the messages more. Hence, these variables were interdependent (significant correlation $r = 0.405$). Thus, $H1$ was verified.

The last part of the questionnaire focused on the actual innovation culture within the company. In the light of the complexity of the construct and based on the theory, it was operationalized as the participation with ideas. Other studies use the creativity aspect (Martins and Terblanche, 2003). Question 7 (How many times have you yourself tried to modify existing processes by new ideas or feedback, and to go new ways?) and 9 (Was it tried to implement your suggestions?) showed that a majority of employees (81 percent) often introduced ideas and that the majority of them (62 percent) were also implemented several times. However, the assessment of colleagues (Consider the entire company and estimate approximately, how many of your colleagues have pushed renewals via their own ideas?) was less positive (Above-average effect). A total of 76 percent, the majority estimated that only about a third of their colleagues were actively involved. Regardless of their stage of identification, most of them often had contributed ideas. This suggested a culture of innovation within the company. The

Messages	Phases of identification						Total	
	Awareness		Understanding		Acceptance			Action
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
a) The management is interested in issues and ideas of its employees	143	26.7	130	24.3	198	37.0	64	12.0
b) The management is trying to implement proposals from the employees	130	27.9	90	19.3	180	38.6	66	14.2
c) The employees are proud of the company	125	24.3	142	27.6	126	24.5	121	23.5
d) Employee suggestions do not only come from departments whose primary task is the development of ideas	97	22.4	85	19.6	176	40.6	75	17.3
e) The employees are concerned with the future of the company	112	20.8	141	26.2	171	31.8	114	21.2
f) The employees try new and unknown ways in their field of work	92	18.7	98	19.9	183	37.2	119	24.2
g) The employees feel responsible for the company's success	107	19.1	142	25.3	164	29.2	148	26.4
h) My boss sounds interested in my ideas	94	17.8	99	18.8	135	25.6	200	37.9
i) I can try things without fear of negative consequences or failure	90	21.1	64	15.0	165	38.6	108	25.3
Total	990	22.0	991	22.1	1,498	33.3%	1,015	22.6

Table I.
Messages of innovation
philosophy and according
phases of identification

percentage increased further for those who had engaged more frequently with ideas with a higher phase of identification: from 75 per cent over 85 per cent and 86 per cent to 96 per cent in identification stage four. In parallel, the proportion of those who never had done this decreased. Here, too, a Chi-square test attested a high significance. The fact that there was a connection between two variables ($r = 0.158$) confirmed *H2*, that the number of introduced ideas increased with identification level. Reasons for not participating were standardization pressure (25 percent), a lack of opportunities for idea expression (16 percent), and a lack of financial resources for implementation (16 percent). Question 11 showed that 58 per cent of employees judged the handling of their ideas by the management as industry average compared to other companies. Employees here saw their company more critical than the interviewed experts.

A typology summed up different degrees of participation (significant differences at a 0.05 level) in accordance with how employees perceived themselves and their colleagues to be participating in the innovation culture. As for the organisation examined this time, 17.4 per cent of employees described themselves and their companions as very active, which in this study was understood as an indicator for a fully established innovation culture. However, those in the 65.2 per cent majority felt like “innovation pioneers” in an environment which is rarely innovative. A total of 10 per cent fell into the mediocrity category, 1.7 per cent into refusal, and 5.7 per cent into standstill. Figure 4 depicts the frequencies. The form of chi-square test used here checked whether the distribution of responses to each type occurred randomly. Since the significance value is less than 0.05, the so-called null hypothesis was rejected. This confirmed the alternative hypothesis, *H3*.

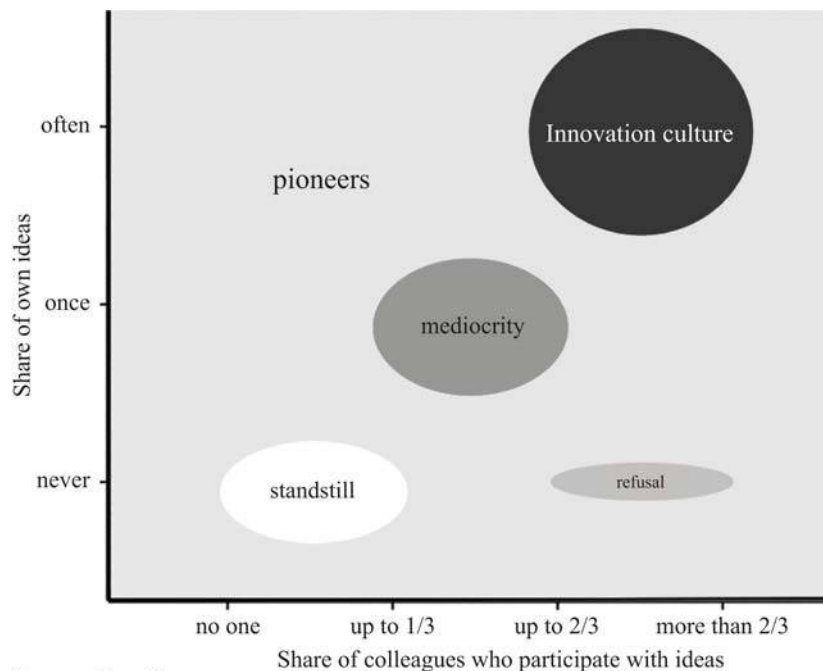


Figure 4.
Types of innovation culture

Source: Own figure

Concisely, an innovation culture as themed in *H3* was not fully realized. Nonetheless, the mechanisms implied by the theoretical model of the hypotheses were applied, since none of the hypotheses was falsified. In summary, significant correlations between identification and media phase ($r = 0.405$) as well as identification and action ($r = 0.158$) showed the same relationship existing between the variables as stated in *H1* and *H2*. Also, *H3* was confirmed.

5. Relevance

The central question of this study was: How can an innovation culture be successfully established with internal innovation communication? As demonstrated by the results of this study, it can be concluded, that in order to create an innovation culture on a meso level, internal communication should aim to lead employees through different phases of identification. Targeting different employees specifically based on their identification level makes communication more effective. Most importantly, the employee questionnaire revealed that different types of identification existed at the same time. Therefore, communication ought to address different requirements simultaneously. The verification of the hypotheses supported the suggested mechanisms as derived from existing literature. In other words, internal communication needs to adapt to different change phases with specified messages and tools to transmit an innovation philosophy. Employees then undergo different stages of dealing with it before they will take action. This is no linear change over time as implied by Streich's original model (1997), but different employee groups react differently. Such a finding is, for instance, supported by authors like Lewin (1947), Gemünden and Hölzle (2005) or Schwarz (2006). Also, not all phases must be completed in the theoretically implied sequence. Some messages are put into action without further consideration. However, if one organisation finds that some aspects of their philosophy are never enacted, they can use the framework to identify the identification phases and corresponding communication tasks they need to work on. Only through the aggregation of many employees who act according to an innovation philosophy can innovation culture be described by Mast (2009) is established. Management can support this, in addition to other factors, with the help of specifically targeted internal communication. In doing so, more staff can be advanced to the "innovation culture" category, thus contributing ideas which result in improved business performance. To achieve this, the interdisciplinary framework of internal innovation communication and culture created in this study can be used as an analytic tool. This corresponds to the demand of Ernst and Zerfass (2009) to treat innovation communication on a more strategic level.

A combination of different research areas hereby has led to a better understanding of underlying mechanisms in a practical sense and also to a progress in theory. It helps to measure the level of identification with internal media as well as identification with messages from a business philosophy. In other words, the case study and its framework contribute that linking knowledge from the field of internal communication with aspects of organisational culture, and change theory and innovation communication advance the field. Since core mechanisms interact, an interdisciplinary approach offers a better understanding of the process of establishing an innovative culture via internal communication.

Moreover, the present study has shown that the emerging field of innovation communication is of growing importance. Due to its possible contribution to business success, it is considered highly relevant and increasingly more studies are exploring how optimization can be achieved (e.g. Ahmed, 1998; Ernst and Zerfass, 2009; Huck, 2006; Kaasa and Vadi, 2008; Little, 2005).

6. Discussion

As for the case study, different strengths and weaknesses in communication were revealed. The results obtained therefore hint to further opportunities and risks. For example, it was found that a majority feel like pioneers in innovation. Managers should improve on providing these employees with the feeling that they work in an innovative environment as stated in the company's mission. Some even fell into the three disadvantageous categories: mediocrity, standstill and refusal – categories which should be decreased. Furthermore, the framework suggested that not more information needs to be transmitted as implied in the public information model of public relations, because the phases of awareness and understanding were already reached in high percentages. The focus should be primarily on incentives for action, e.g. testimonials telling encouraging stories, since this is the most crucial but underrepresented category. Hence, two-way models of communication are more appropriate. In accordance with Jaworski and Zurlino (2007) and Mast (2009), this study also documented that not all means of communication were equally well suited for such action initiatives. Some tools are more interactive as others, some reach wider audiences, and some have a quicker response rate. Consequently, they all differed in their ability to create awareness, understanding, acceptance, and action. Communication tools such as staff meetings, which showed high relevance for action, can be combined with intranet and company parties, each with high values in phase one, two and three (awareness, understanding, acceptance). Thus, a communication mix, which corresponds to the different tasks of the model and to the current situation in an enterprise, should be offered. The means of communication varies and, to be effective, it must be appropriate to the needs of its subjects, especially considering their identification level. (also see Jaworski and Zurlino, 2007). For efficient communication management this needs to be considered. By measuring with the help of a framework, another difference to the theoretically gradual change model was revealed. Here, the need for management to measure the situation of their employees becomes clear. The framework developed in this study can act as a guide for them.

Nonetheless, it cannot be used without restrictions. Only one of many possible operationalizations was applied in this study for the construct “innovation culture”. This could be extended and altered in further studies. Overall, the future requires more subtle ways to depict such a culture. With the developed typology a first step was taken, but the complex, emotional and difficult measuring phenomenon was only analysed in one of its many facets. Furthermore, this study addressed a specific case. Although there is little doubt regarding the transferability of these findings to other industries, it should be verified in further studies. In the future, also, the interdependency between different phases is likely to be an interesting research field.

Further research is needed here, particularly into strategic issues. It would be interesting to look at, for example, a combination of the typology created here with organisational types of innovators as defined by Ernst and Zerfass (2009). For instance,

testing could be done on whether innovative organisations (so called “game makers”) have more employees who identify entirely with their innovation culture. Also, it seems likely that such organisations employ typical patterns of communication in order to lead their employees through the phases of the innovation culture. These firms could act as a benchmark for others.

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About the authors

Anne Linke, MA, is Research Assistant and PhD candidate at the Department of Communication Management/PR at the University of Leipzig. She works at the competence center for interactive communication researching on social media and communication management. Anne Linke graduated in communication and media studies and sociology at the University of Leipzig and Universitat de Valencia, Spain. She gained practical experience in the fields of public relations, controlling, strategic management and corporate communication. Since April 2010 she has held the Fink and Fuchs Public Relations dissertation scholarship. Anne Linke is the corresponding author and can be contacted at: anne.linke@uni-leipzig.de

Professor Dr Ansgar Zerfass, born in 1965, is a Full Professor for Communication Management at the University of Leipzig, Germany, as well as Executive Director of the European Public Relations Education and Research Association, Brussels, Belgium. Prior to this, he worked in management positions at various companies and institutions for more than ten years, and was a honorary lecturer (Privatdozent) at the University of Erlangen-Nuremberg, Germany. He has written 24 books and more than 110 journal articles and book chapters on corporate communications. Since the 1990s, Ansgar Zerfass has established several online portals, for which he received numerous awards such as the German PR award and the German multimedia award.

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