

Innovation Readiness

A Framework for Enhancing Corporations and Regions by Innovation Communication

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Innovation Readiness - A Framework for Enhancing Corporations and Regions by Innovation Communication

Innovation is a key determinant for success of both companies and business locations. The industrial reality does no longer match the traditional understanding of innovation based on the assertiveness of creative scientists and entrepreneurs. Nowadays, an integrative approach is necessary. The concept of “Innovation Readiness” takes into account the relevance of internal as well as external stakeholders within the innovation process (stakeholder orientation) and considers the relevance of regional and branch-specific innovation systems (cluster development). It also highlights the importance of communication for the implementation of new ideas, products, and services. Following this line of argumentation, the article explains the strategies and measures of Innovation Communication. Several case studies illustrate how communication may foster the ability to innovate and thus strengthen competitiveness in a fundamental way.

1 Innovation as a Driver for Profitability and Growth

Over the past years, structural changes in the economy have accelerated tremendously. There are several reasons for this: global competition has intensified due to the prospering of threshold countries like China. At the same time, restrictions by time and space are being overcome with the help of information and communication technologies. To relocate business functions (outsourcing) and to shift jobs and the creation of value abroad (off-shoring) are on the advance. Both trends are supported by the fact that know-how is bundled around the globe in virtual teams, and successful products and business concepts are known within a short time and find imitation instantaneously. This tendency is by far not restricted to manufacturing alone but also concerns know-how intensive tasks like software engineering, customer relationship management, and product design – jobs which were originally claimed for themselves by first-world countries in North America and Western Europe. As a way out of this development economists and politicians propose strengthening the ability to innovate. From a macroeconomic point of view there is no doubt that innovations have a positive impact on growth and employment.¹ Innovations are also attractive from a business point of view. They

¹ OECD Organisation for Economic Cooperation and Development: Science and Innovation Policy. Key Challenges and Opportunities, Paris 2004.

are key to business success and the most important factor for increasing a company's profitability.²

Unfortunately, efforts by companies to implement innovations tend to be ineffective. In Germany, around 40 billion Euro are lost every year on these expenditures.³ How to explain this? We argue that an insufficient *Innovation Communication* is a frequently overlooked reason for this failure of innovation. For new technologies, products, and services it is crucial to provide background information, highlight opportunities, coordinate necessary activities, and clarify possible conflicts of interests from the outset. The trend survey INNOVATE 2004, which we conducted in autumn 2004 in Germany, demonstrates that companies experience very specific obstacles.⁴ Three out of four communication experts and journalists state that the information flow between specialist departments and the communication office is not working. More than 60% refer to a high level of competitiveness: new ideas are held back from being made public too early because competitors in the market might make use of them. There is also a lack of professionalism. In many cases, the quality of corporate communication is diametrically opposed to the company's degree of innovation. Editors of trade publications state that small and medium sized enterprises, in particular those that are technology-driven, lack a solid know-how in media relations.

Case Study: Roslin

However, large-scale enterprises and renowned research institutes have to learn, too. This was apparent in the deeply significant breakthrough in gene research in 1996, when the Scottish Roslin Institute was successful in cloning a sheep. Because it was generated from an udder's cell, its creator Ian Wilmut named it after the bosomy Dolly Parton. The "cloned sheep Dolly" caused a stir worldwide. But it backfired: The influential German news magazine Spiegel used the headline "Der Sündenfall" (the fall of mankind) on its front cover. The image of crazy scientists tinkering perverted creatures is what the public consumed. Apart from the inappropriate naming, the scientists forgot to highlight what Dolly was actually useful for. The cloned sheep was meant to produce an essential protein with the help of which the metabolic disease cystic fibroses (CF) could be cured. Later on, Roslin's press department changed its strategy and showed Dolly with two children sick with CF. The wool taken from the sheep was knitted into a sweater. An actress

² Christensen, Clayton M./Raynor, Michael E.: *The Innovator's Solution*, Boston (Mass.) 2003; A.T. Kearney: *Mastering Innovation Management*, Chicago (Ill.) 2002. Available at: http://www.atkearney.com/shared_res/pdf/Mastering_innovation_mgmt_S.pdf

³ Friedmann, Johann-Peter/Maurer, Steve: *Innovation: A Wealth of Contradictions*. In: A.T. Kearney (Ed.): *Executive Agenda* Vol. 6 (2003) No. 3, pp. 55-63.

⁴ Mast, Claudia/Huck, Simone/Zerfass, Ansgar: *Innovation Communication – Outline of the Concept and Empirical Findings from Germany*. In: *Innovation Journalism*, Vol. 2 (2005) No 7, pp. 1-14. A full report on the study has been published in German language, together with a collection of case studies on *Innovation Communication*: Mast, Claudia/ Zerfaß, Ansgar (Eds.): *Neue Ideen erfolgreich durchsetzen. Das Handbuch der Innovationskommunikation*, Frankfurt am Main 2005. See also the Research Group's website at www.innovationskommunikation.de

suffering the CF disease donated the jumper to the London Science Museum. This picture aroused attention worldwide because the complex message came across in a humane and appealing way.

The relevance of communication for the innovation process has been little discussed so far, neither in theory nor in practice. Reasons for this are obvious: technology-driven managers lack substantial knowledge of communication processes. At the same time, research has missed out on in-depth considerations of these issues. Answers to questions posed by real-life problems are best gained from interdisciplinary approaches, as is the case with all discussions concerning the fundamentals and the future of corporate communication.⁵ To start with, it is necessary to present and scrutinize the traditional understanding of the notion of innovation.

2 Conventional Understanding of Innovation and its Limitations

The conventional understanding of *innovation* originates from Latin and refers to something new – something which has not been there before. Usually, it is technological innovations that cross people's mind, like the development of the telephone by Bell, the construction of the first automobile by Benz and Daimler, or the building of the personal computer by IBM.⁶ In his work on the theory of economic development („Theorie der wirtschaftlichen Entwicklung“) published as early as 1912, Joseph Schumpeter points out that from an economic point of view *inventions* become *innovations* when they are implemented successfully and used economically.⁷ Only when technological improvements are brought into the market by dynamic enterprises and creatively turn the present conditions of the market upside down, they will contribute to economic success. Innovations do not need to be technology-driven but can also emerge out of a restructuring of services, marketing, and sales approaches, financing models, and the very culture of an enterprise. They then facilitate the increase of customers' benefits (hence, allow for higher prizes and bigger market shares), or the optimization of management and performance (hence, reducing costs). By this means one's competitiveness increases which in turn ensures a company's success.

It is important to distinguish between different *types of innovations*. Product innovations, like the Teflon-coated frying pan or the DVD player with integrated

⁵ A comprehensive theory of corporate communication has been outlined by Zerfaß, Ansgar: Unternehmensführung und Öffentlichkeitsarbeit. Grundlagen einer Theorie der Unternehmenskommunikation und Public Relations, 2nd ed., Wiesbaden 2004. See also Heath, Robert L.: Management of Corporate Communication, Hillsdale (NJ) 1995.

⁶ Van Dulken, Stephen: Investing the 20th Century, London 2000.

⁷ Schumpeter, Joseph A.: Theory of Economic Development, Somerset (NJ) 1980.

hard drive which allows for watching TV time-lagged, are directly beneficial for customers. In a similar way, service innovations, like 24 hour online banking, work in favor of customers. In contrast, process innovations, like the introduction of the assembly line in car manufacturing or the replacement of chemical testing by computer-supported simulations (bio-informatics) have a direct bearing on the production. As such, they usually tend to stay invisible for the customer. Instead, they have an impact on employees and providers of capital due to the necessary investment and expected rate of return. Also, it makes a difference whether innovations are introduced step-by-step and continuously, as an improvement of already existing products, or whether they are radically new. These “disruptive innovations”⁸ rarely happen, but when they do, they change the entire market. For example, eBay’s trading platform on the Internet revolutionized the second-hand market for individuals and allowed for the formation of thousands of one-person online businesses.

All innovations share some *basic characteristics*: they are novel, meaning that they combine purpose and means in a formerly unknown and non-realizable way. Innovations are a complex matter because their interdependencies make them difficult to grasp. In addition, the way in which they yield profit is often less obvious which leads to another feature of innovations: they are a rather abstract undertaking. Last but not least, innovations hold an immanent potential for change for the organization involved, and a high market risk. These features that constitute innovations put special challenges to communication.

Innovation management as a sub-area of management research is in charge of the design of innovation processes in companies. Its duties comprise the definition of targets and strategies, of requirements for general conditions of organization and personnel, decision-making processes, and controlling.⁹ In the past, it was assumed that innovations develop in a linear process, meaning from basic research to applied science to the experimental stage to prototyping to introduction into the market, and finally the market penetration.¹⁰ This model, however, does not reach far enough. It fails to take into account that there are many interdependencies and reactions between the different phases. Nowadays, the innovation process is understood to be an integrated, co-operative, and iterative activity, which must be strategically planned and controlled.

Until now, the implications of communication for the innovation process have rarely been considered. This is far from surprising. Innovation research from a management point of view assumes that innovations should be developed in

⁸ Christensen, Clayton M./Anthony, Scott A./Roth, Erik A.: Seeing what’s next. Using the theories of innovation to predict industry change, Boston (Mass.) 2004.

⁹ Tidd, Joseph/Bessant, John R./Pavitt, Keith: Managing Innovation. Integrating technological, market and organizational change, 3rd ed., Chichester (NY) 2005; Burgelman, Robert A./Christensen, Clayton M./Wheelwright, Steven C.: Strategic Management of Technology and Innovation, 4th ed., Chicago (Ill.) 2003.

¹⁰ Tuomi, Ilkka: Networks of Innovation, Oxford 2002, pp. 8.

companies and controlled by them (*control paradigm*). As a result, increasing the ability to innovate is up to the economy (*competition paradigm*). Implicit and much more basic is the assumption that any innovation materializes in artifacts and processes like, for example, Apple's high-tech device iPod which stores music digitally, new drugs, or a new production line in a factory (*ontological paradigm*).

From a sociological point of view the consequence of this reasoning is obvious: in companies control is primarily executed by legitimized systems of power and authority. Here, communication is nothing more than an enabling function. The same holds true for the economy at large, which coordinates itself and the market via the monetary code.¹¹ And if innovations are defined in a material way, this is done by inventors or entrepreneurs. Communication with users and other stakeholders seems to be of minor importance. It is necessary to support the diffusion of innovations by addressing early adopters and opinion leaders,¹² but remains an operational task after all. Thus, the low significance assigned to communication nowadays has paradigmatic reasons and is based on the prevailing, conventional understanding of innovation.

3 The Concept of Innovation Readiness

Recently, this traditional understanding of innovation has been repeatedly questioned by advocates from various disciplines. Management research, industrial economics, and social theory all demonstrate that the paradigms as sketched out above have to be dismissed. We will draw on this research to construct a framework that gives an overall idea of how companies and regions can sustain their ability to innovate and how communication can contribute to this. This concept is called *Innovation Readiness*. It emerges out of current discussions, which are known as Open Innovation, Innovation Systems, and Networks of Innovation.

3.1 Open Innovation

Management research has demonstrated that innovation must not be conceptualized any longer as a process, in which companies create ideas and control them entirely until they are ready for marketing. There is now an age of "Open Innovation",¹³

¹¹ Zerfaß, Ansgar: Unternehmensführung und Öffentlichkeitsarbeit. Grundlagen einer Theorie der Unternehmenskommunikation und Public Relations, 2nd ed., Wiesbaden 2004, pp. 236.

¹² Rogers, Everett M.: Diffusion of Innovations, 5th ed., New York 2003.

¹³ Chesbrough, Henry W.: Open Innovation. The New Imperative for Creating and Profiting from Technology, Boston (Mass.) 2003.

whereby various stakeholders – internal or external – systematically get involved in the innovation process.

The difference between both, innovation controlled by enterprises and Open Innovation, becomes apparent when directly comparing some features of both paradigms.¹⁴ For many years, companies with a high involvement in research focused on hiring the best researchers and marketing experts. Advocates of the Open Innovation approach, however, believe this strategy to be in vain because there is little chance to exclusively hold the most renowned experts in one company. Instead, it is inevitable to cooperate with experts inside as well as outside one's enterprise. R&D from outside is very valuable. However, internal know-how is necessary for participating in external expertise. Apart from inventors and research institutes it is customers and also competitors who might contribute to inventions.¹⁵ Because of this, a company's success does not necessarily depend on having the most and best ideas across the branch but knowing how to best use ideas, those generated within as well as external ideas. It is for these reasons that the long-established belief according to which intellectual capital has to be taken care of, controlled, and kept secret for competitors seems to be outdated. However, as our trend survey about Innovation Communication has indicated, this line of thinking is prevalent in industry today.

In contrast, the paradigm of Open Innovation suggests that it is beneficial for one's own ideas to be used by others and to strategically buy external expertise. Best practice examples supporting this can be found most notably in high-tech industries. One such success story is open source software. It demonstrates how individuals, companies, and users spread over the entire globe successfully develop technologies and products together.¹⁶ Another example in point is illustrated by mobile communication. Manufacturers, content producers, carriers, service providers, and regulators co-operate in providing new services like broadband solutions based on GPRS and UMTS. These examples indicate that innovation networks will gain in importance.¹⁷ The control paradigm as part of the conventional understanding of innovation, which used to focus on enterprises in isolation is outdated. Rather, a *systematic co-operation* and *goal-oriented communication* with various stakeholders becomes essential.

¹⁴ Ibid., p. xxvi.

¹⁵ von Hippel, Eric: *The Sources of Innovation*, New York/Oxford 1988; von Hippel, Eric: *Horizontal innovation networks – by and for users*, MIT Sloan School of Management Working Paper No. 4366-02. Cambridge (Mass.) 2002; Prahalad, C. K./Ramaswamy, Venkatram: *The New Frontier of Experience Innovation*. In: *MIT Sloan Management Review*, Vol. 44 (2003), No. 4, pp. 12-18.

¹⁶ von Krogh, Georg: *Open-Source Software Development*. In: *MIT Sloan Management Review*, Vol. 44 (2003), No. 3, pp. 14-18.; Osterloh, Margit/Rota, Sandra G.: *Open Source Software Development – Just Another Case of Collective Invention?*, Working Paper, University of Zurich 2004. Available at: <http://ssrn.com/abstract=561744>

¹⁷ Duschek, Stephan: *Innovation in Netzwerken*, Wiesbaden 2002.

3.2 Innovation Systems

Industrial economics and sociology have gained similar insights from their research into a nation's or region's ability to innovate. New ideas, products, and services emerge in particular when innovation systems based on institutions from the public and private sphere cooperate productively. This is the case for both, *national innovation systems*¹⁸ as well as *regional clusters*.¹⁹

Clusters refer to regional networks from economy, research, administration, and intermediaries collaborating in various ways. They are characterized by a mix of competition and co-operation, self-interest and shared visions. It is the proximity and the continuous exchange between producers, suppliers, customers, competitors, banks, associations, universities, research institutes, policy makers, and those being in charge of regional development that conduce to innovations. A case in point is the stronghold of the information technology, Silicon Valley (California), the world-leading ventilation cluster in Hohenlohe (Baden-Württemberg, Germany) as well as the region around Montebelluna (North of Italy) where 400 companies produce three-quarters of all ski boots worldwide. Cluster formation becomes thus a driver for innovation and the competitiveness of entire regions.

Much in contrast to the competition paradigm which makes up the traditional understanding, innovations are not primarily the result of a company's work alone but a product of various actors' interplay. This, in return, calls for *manifold public and bilateral relations driven by communication*. Only by means of this, shared visions can be formulated and continuous co-operations can be coordinated.

3.3 Networks of Innovation

An excursion into social theory lends another rather crucial insight to our argumentation. It is commonly assumed that an innovation originates when a new product, a new service, or a new process is implemented. By describing the innovation's characteristics, possible application scenarios, and by providing proof of the innovation's novelty, the originator is able to secure copyrights, i.e. with the help of a patent. This view, however, does not go far enough. Things and processes, their meaning and what they can be used for only come into being when human actors refer to it in daily life. As the Finnish innovation scientist Ilkka Tuomi points out in his groundbreaking work "Networks of Innovations", innovation only arises when social practice has changed.²⁰

¹⁸ Freeman, Chris: Technology and Economic Performance, London 1997; Porter, Michael E.: The Competitive Advantage of Nations, New York 1990.

¹⁹ Andersson, Thomas/Schwaag Serger, Sylvia/Sörvik, Jens/Wise Hansson, Emily: The Cluster Policies Whitebook, Malmö 2004; Sölvell, Örjan/Ketels, Christian/Lindqvist, Göran: The Cluster Initiatives Greenbook, Stockholm 2003.

²⁰ Tuomi, Ilkka: Networks of Innovation, Oxford 2002.

In other words, innovations are initially not more than abstract rules and resources which are available to anyone. Following Giddens' theory of structuration, they are referred to during concrete actions. They are reproduced and changed at the same time, meaning that innovations are incorporated into social practice either in the originally anticipated or in a completely different way.²¹ This is because different users and stakeholders make use of the same technology or service in very different ways. For example, the telephone plays a different role within the cultures of Japan, China, the U.S., Spain, Finland, and Bangalore,²² Additionally, new technological innovations get often redefined by users. A catchy example are SMS messages on cellular phones. This mode of communication was originally intended to indicate to users the arrival of a new spoken message. Meanwhile, an entire new culture of communication, in particular for teenagers, has arisen.

When comprehending innovations in terms of meaning and courses of action, *as a matter of principle* they only come into being with the interplay of various social actors: „Innovation is ... more about creating meanings than it is about creating artifacts“.²³ Meaning is always created in social contexts and communication processes. Therefore the ontological paradigm is insufficient. A *thorough orientation towards stakeholders* and in particular an *intensive communication with all players involved* is indispensable.

3.4 Innovation Readiness and Communication

When joining these ideas, we can construct an integral concept of Innovation Readiness (see Fig. 1). This framework highlights that a company's and a region's ability to innovate depend equally on organizational and societal factors. Regarding the broader societal dimension, the successful development of clusters comprising economy, research, administration, and intermediaries is crucial. From an organizational point of view a consistent stakeholder orientation is key. Thus, *innovation is embedded twice into the social context*. This emphasizes the importance of communication as a medium for coordinating actions and adjusting interests. Stakeholder relations and cluster interactions cannot be taken care of by the market, power relations, or administrative rules alone. Communication that aims at understanding and influencing each other via personal and mediated symbolic action gains in importance.²⁴

²¹ Giddens, Anthony: The Constitution of Society. Outline of the Theory of Structuration, Cambridge 1984.

²² Tuomi, Ilkka: Networks of Innovation, Oxford 2002, p. 11.

²³ Ibid.

²⁴ Zerfass, Ansgar: Unternehmensführung und Öffentlichkeitsarbeit. Grundlagen einer Theorie der Unternehmenskommunikation und Public Relations, 2nd ed., Wiesbaden 2004, pp. 149.

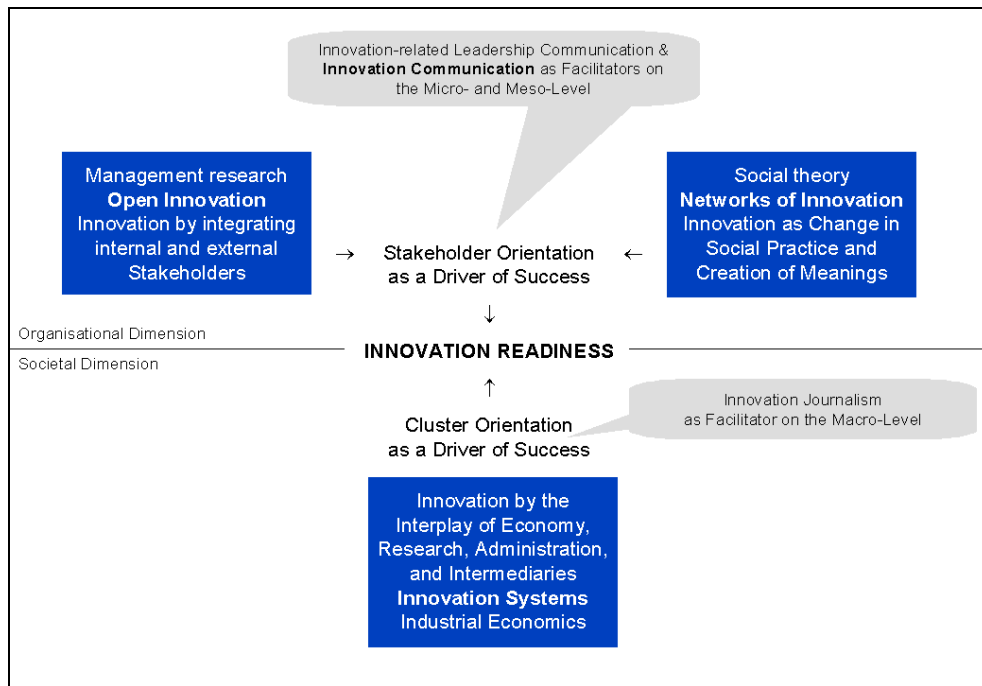


Figure 1: The concept of Innovation Readiness

As a facilitator for innovation, communication works threefold (see Fig. 2):

a) On a *macro-level*, Innovation Communication across a society, especially the public debate about novelties, plays an important part in the competitiveness of nations and regions. In particular, it is necessary to guarantee the information flow within clusters and innovation systems, to focus on relevant topics, to discuss chances and risks of new technologies, and to make research results publicly available. Since the mass media is the main means to achieve this, journalism gets challenged. Innovation researchers from Scandinavia and the U.S. advocate that a specific form of *Innovation Journalism* is required. It would cover economic, technological, and political dimensions of innovations in a fully integrated manner and would thus help to stimulate a society’s innovative strength.²⁵

b) On a *meso-level*, Innovation Communication helps single enterprises to strengthen their competitive edge. This kind of *Innovation Communication* as part of the corporate communication function is intended to systematically plan, implement, and evaluate communication about innovations. It should create an understanding of and trust in innovations and position the organization involved as the driving force behind it. This opens up a new, challenging, and important area of activity for communication departments and agencies. Competing for public attention follows very specific rules and procedures. In terms of an integrative communication approach, appropriate measures have to be planned and implemen-

²⁵ Nordfors, David: The Role of Journalism in Innovation Systems. In: Innovation Journalism, Vol. 1 (2004), No. 7, pp. 1-18. Available at: www.innovationjournalism.org/archive/INJO-1-7.pdf

ted in line with the overall market communication, public relations, and internal communication strategies.²⁶

c) On a *micro-level*, each manager is challenged to contribute putting new ideas, processes, or technologies across. *Innovation-related Leadership Communication* is thus assigned the task of influencing attitudes towards innovations by mediating meaning in asymmetrical, social relations. This kind of leadership communication complements work done by journalists and communication experts because it is embedded in concrete actions and established social relations.²⁷

In the following we are going to discuss in more detail the meso-level, i.e. Innovation Communication, as part of the overall corporate communication function.

4 Innovation Management and Conflicting Stakeholder Interests

Stakeholder relations become more important because of the opening up of the innovation process. Stakeholders are individuals, groups, and organizations which are affected by a company's goals and decisions or which are able to have an impact on them.²⁸ Corporate communication is the most appropriate means to handle those relations. It explains the innovation process, starting from the very idea to the development of the product and process up to the rollout. If appropriate, corporate communication also involves stakeholders into the innovation process, as shown in Fig. 2.

The figure illustrates typical stakeholders and communication relations: employees are affected by innovations because they might initiate new production processes and result in a loss of jobs. Research & Development partners fear for their position and their revenues when new technologies are contracted and combined from different sources. Customers who are satisfied with the current range of products might not necessarily be convinced by new products which are likely to be more expensive. Also NGOs (non-governmental organizations like Greenpeace) and regulation bodies (politics, administration) are important stakeholders who are

²⁶ This concept has been introduced by Zerfaß, Ansgar/Sandhu, Swaran/Huck, Simone: Kommunikation von Innovationen – Neue Ideen und Produkte erfolgreich positionieren. In: Kommunikationsmanager, Vol. 1 (2004), No. 2, pp. 56-58.

²⁷ As a consequence, companies need managers that may foster the process of innovation by acting as a communication facilitator. Within excellent leadership systems this role should be supported and promoted. For a more detailed analysis of innovation and leadership communication see Zerfaß, Ansgar: Führungskommunikation und Innovation. Neue Herausforderungen für Leadership Excellence, in: zfo Zeitschrift Führung + Organisation, Vol. 74 (2005), No. 3, in press.

²⁸ Freeman, R. Edward: Strategic Management. A Stakeholder Approach, New York 1984.

able to prevent the rollout of an innovation by publicly protesting and legislating to block it.

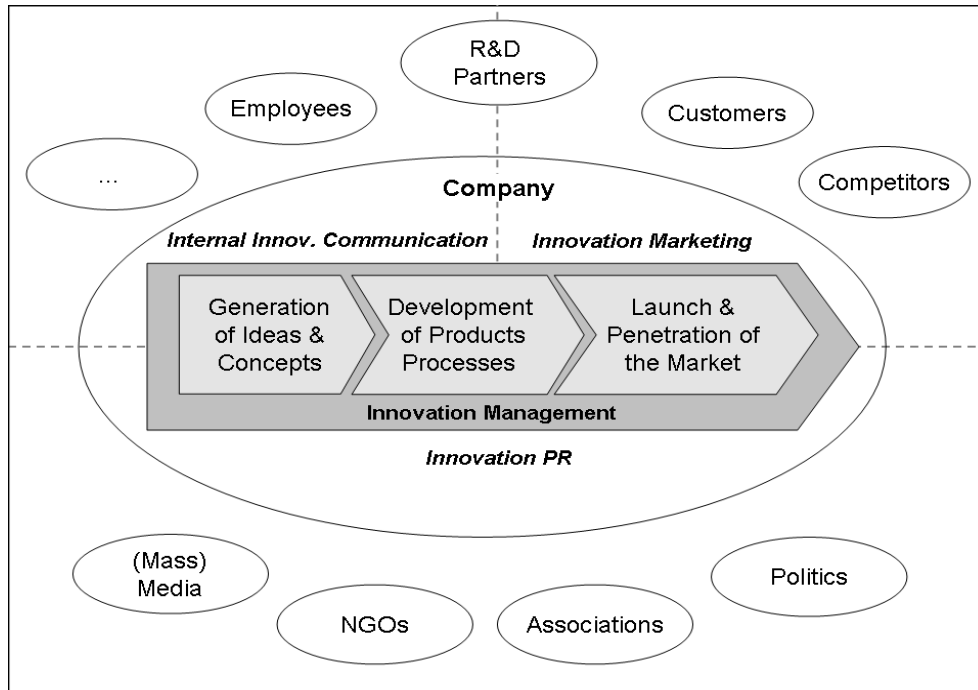


Figure 2: Innovation Communication and conflicting stakeholder interests

Case Study: Monsanto

A case in point is the introduction of gene-manipulated food by Monsanto.²⁹ In contrast to the U.S., the company was criticized in Europe by environmental groups and governments. Instead of clarifying and actively engaging in a clear labeling of products, Monsanto backed down and public debate was left to others.

Much in contrast, for Innovation Communication to be successful it has to build up relations of trust to all stakeholders from early on. This is achieved by making use of measures like internal Innovation Communication, Innovation Marketing and Innovation PR which are all geared towards the corporate and innovation strategy. As our trend survey INNOVATE 2004 has highlighted, the most important target groups are currently customers and specialist journalists followed by employees, investors, and co-operation partners. Online media, in contrast, are only rated important by one-third of the interviewed communication experts, NGOs just 6%.³⁰

²⁹ Kim, W. Chan/Mauborgne, Renée: Knowing a Winning Business Idea When You See One. In: Harvard Business Review, Vol. 78 (2000), No. 5, pp. 129-137.

³⁰ Mast, Claudia/Huck, Simone/Zerfass, Ansgar: Innovation Communication – Outline of the Concept and Empirical Findings from Germany. In: Innovation Journalism, Vol. 2 (2005) No. 7, pp. 1-14.

However, NGOs often initiate campaigns against new technologies and processes. For this reason new approaches are required here.

5 Innovation as Challenge and Chance

Communicating innovations calls for new approaches and methods. This is the case because a frame of reference is missing with the help of which journalists and stakeholders would be able to classify the innovation. Due to the high level of abstraction there are few easy-to-grasp examples available for illustrating innovations. It is also difficult for the recipients to identify themselves with new ideas. As a result, there is much reservation about innovations ranging from skeptical rejection to fear of negative consequences (see Table 1).

CHALLENGES	CHANCES
Fear of the new: Reservation or fear of stakeholders	Chance of publication: Innovations have a news value
Lack of connection: No frame of reference, missing links to the agenda of mass media	Chance of positioning: Innovations are a way out of the crisis and a facilitator of growth
High degree of abstraction: Complexity – Easy-to-grasp examples and pictures are often absent	Opportunity for communication: Innovations are a possibility for making a name for oneself

Table 1: Challenges and chances for Innovation Communication

On the other hand innovations offer various chances. There is generally a positive attitude towards the notion because it is still associated with terms like discovery and the breaking of new grounds. Innovations give reason to discussions because ultimately, it is the public opinion which decides on how an innovation is assessed. This fact can be adopted by communication managers: the positive public sentiment should be exploited with the help of professional strategies and measures for successfully positioning ideas, products, and eventually entire enterprises. Key questions are: Will journalists report positively? Will customers realize the innovation’s added value? Do investors trust in the organization’s sustainability? Will external stakeholders support the innovation or will there be boycotts and public resistance? For a successful Innovation Communication it is thus indispensable to get to know first the specific challenges before making use of the chances which communication provides when new products and processes get introduced.

6 Challenges to the Communication of Innovations

Each feature of innovations as described above poses a special challenge to communication management:

6.1 Complexity

Complexity puts great demands on the presentation of content. Innovations are usually based on complex ideas or novelties. It is hard to get technical innovations across to the layperson, for example in bio-, nano-, or information technology. They can hardly be reduced to short and simple messages but rather presuppose an understanding of the methods involved, likely application scenarios, and ways to assess them.

6.2 Novelty

With novelty, the lack of experience produces fear and curiosity at the same time. Innovations generally cover new ground so that their implications are fairly unknown. Them being novel can provoke positive as well as negative reactions. Many stakeholders are reluctant towards innovations, they often even reject them. New situations are experienced as something frightening because own schemes are missing which are helpful when dealing with i.e. new products or services. Possible dangers get emphasized which in turn creates fear. An example in point are the vigorous debates about using credit cards over the internet which shaped the start of the e-commerce age in Europe. On the other hand, stakeholders often perceive innovations to be trend-setting. It is thus the novelty which can influence the image very positively.

6.3 Lack of Examples

A high degree of abstraction and lack of practical examples impedes communication. At the beginning of an innovation, its added value is rarely apparent. It stays abstract and hypothetical. Even if there are application scenarios, real-world examples are still missing. For those in charge of communication it is a hard job to get an innovation across – and even more so, to visualize it.

6.4 Separation from Established Issues

Since innovations are new and abstract they can hardly be communicated by reference to already established issues or mindsets. If stakeholders lack previous knowledge communication has a particularly difficult job. This is especially the case with innovations that might change entire ways of living, like the telephone did. After its invention it was marketed in the U.S. for decades as a communication

tool between companies. As another major application area it was even used as a means for broadcasting. The idea was that with the help of the telephone news, concerts, services, and weather forecasts could be broadcast. It was even considered to sing lullabies to babies over the phone as a kind of good-night service.³¹ Manufacturers as well as carriers failed to imagine for a long time how the telephone could be relevant in all spheres of human life as an interactive medium. As a result it was hard to find appropriate examples, let alone communicating them.

6.5 Internal Changes in the Innovating Organisation

Within companies innovations might lead to radical changes, too. In this respect, Innovation Communication differs fundamentally from “ordinary” communication which is based on the situation that organizations and employees generally act in concert and share a common corporate goal. Changes provoked by innovations might result in both, conflicts or positive effects for employees. If the worst comes to the worst negative effects for employees could be stress, dissatisfaction, worry about the future, or lack of motivation. On the positive end, an involvement in the innovation process could lead to more motivation, integration, identification, and a stronger dedication to work.

6.6 Uncertainty about Benefits

Finally, innovations are characterized by uncertainty over whether the promised benefits for buyers and users actually come true and whether revenues are in fact made. This presents communication policy with a dilemma: on the one hand, advantages and benefits should be put across to stakeholders clearly and early in the process. On the other hand, customers, investors, and employees have experienced ever so often that innovations fail to keep their promises. Hence, Innovation Communication has to be carried out in a systematic and sensible way. Otherwise it eventually undermines its credibility.

7 Mastering Innovation Communication

7.1 Strategic Course

In order for Innovation Communication to be successful, it has to be strategically planned and fit into an overall concept of corporate communication. Such a

³¹ Fischer, Claude S.: America Calling. A Social History of the Telephone to 1940, Berkeley 1992.

concept systematically integrates internal communication, market communication, and public relations. Here, corporate goals are clearly defined for each target group, and possible amplifying effects are taken advantage of by means of a coherent dramaturgy (campaigning).

7.1.1 Strategic Planning

The task of communicating innovations cannot be fulfilled only where research and development processes take place or solely by those in charge of innovations. Rather, as part of the broader corporate communication Innovation Communication always has to be strategically planned. It is legitimized when contributing to the broader economic targets of a company.³² This is measured by new methods of communication controlling like the Corporate Communications Scorecard which establishes a direct relation between corporate and communication goals.³³ Controlling tools like this take into account quantitative as well as qualitative specifications. As such, they are particularly suitable for new ideas, products, and services because innovations – by default – ask for modifications.

7.1.2 Integrated Communication Strategy

Innovation Communication should be incorporated into an integrated communication strategy.³⁴ With this, contacting stakeholders is coordinated in terms of content, form, and time so that inconsistencies are avoided and possible amplifying effects are taken advantage of. A particular focus lies on the three classical strategic courses of corporate communication, which should be adopted for the special case of Innovation Communication. According to this, focal points for Innovation Communication are Internal Innovation Communication, Innovation Marketing, and Innovation PR (see Figure 2).

Internal Innovation Communication centers on the coordination of action and clarification of interests with all those who make up a business and who are involved in formulating and implementing the corporate goals. This comprises owners as well as the executive board, managers, and employees. Internal Innovation Communication is essential for defining innovation goals, capitalizing existing knowledge, overcoming fear, enhancing motivation, and developing shared visions.

³² Zerfaß, Ansgar: Unternehmensführung und Öffentlichkeitsarbeit. Grundlagen einer Theorie der Unternehmenskommunikation und Public Relations, 2nd ed., Wiesbaden 2004, pp. 319.

³³ Zerfaß, Ansgar: The Corporate Communications Scorecard. A framework for managing and evaluating communication strategies. Paper presented at BledCom 2005, the 12th International Public Relations Research Symposium, “Public Relations Metrics: Evaluation and Measurement”, 1-3 July 2005, Lake Bled, Slovenia.

³⁴ Bruhn, Manfred: Integrierte Unternehmens- und Markenkommunikation, 3rd ed., Stuttgart 2003; Kitchen, Philip J./de Pelsmacker, Patrick: Integrated Marketing Communication. New York 2004.

In contrast, communication processes as part of *Innovation Marketing* are targeted at all those with whom one cooperates or competes: suppliers and business partners, investors, traders, customers, and competitors. The mutual coordination of an innovation's design and implementation is ultimately demonstrated by the accomplishment or failure of a (sales) contract. Market-oriented Innovation Communication can support these coordination processes, as do for example advertisements for pilot customers, promotions for traders, or systematically undermining competitors' strategies by announcing new technology standards.

At last, *Innovation PR* is directed at those stakeholders to whom there might not be a connection organization- or market-wise, but who are important for the implementation of an innovation. This includes local communities, scientists, NGOs, governments, and administration. Here communication processes help to coordinate specific actions to be taken, i.e. drafting a general legal framework for new technologies. They also aim at building up trust and credibility, and at positioning the company as a source of innovation.

Case Study: ThyssenKrupp

By means of a systematic coordination of all communication measures innovations can be covered and positioned from early on. This can be achieved in a credible way by the organization and its representatives. An example in point is the German company ThyssenKrupp. With a broad initiative in 2001, the company started to shift its image away from traditional values to key issues like innovation, sustainability, and international competencies. An image campaign with TV commercials and advertisements starring the children of ThyssenKrupp's employees lent themselves to this goal. The topics covered are associated with naive and childlike fantasy and expressive pictures. In just two years the sympathy value of the company in the public more than doubled. Meanwhile, according to a survey by Sinus, 80% of the German shareholders of ThyssenKrupp think of the company as being "innovative" and "operating in future markets".

Together with the campaign ThyssenKrupp started an interactive program named "Discovering Future Technology" ("Zukunft Technik entdecken"). It started mid-2004 and comprised, among others, several pages long supplements in national daily newspapers. A three-day long fair of ideas peaked out the campaign. It took place at the soccer arena "AufSchalke" from 2-4 September 2004 and was supported by numerous partners. Around 60,000 visitors were attracted by fascinating technical exhibits, prominent guests, and various hands-on activities for young and old which covered 17,500 square meters, the size of three soccer grounds. Children, teenagers as well as adults were able to closely experience technology, to find out about training and study on offer, and to follow exciting discussions and presentations. The integration of employee communication and PR is striking here: the internal newsletter "ThyssenKrupp inside" gave background information and the motivation to run the campaign beforehand. Similarly, employees were informed about the interactive program and were encouraged to participate, each one as an ambassador of the company, so to speak.

7.1.3 Campaigning

In view of the complexity and the uncertainty of planning innovation processes, modern forms of campaigning are worth falling back on. Campaigning pursues the aim of drawing public attention to innovative topics, of gaining agreement over the company's attitude and intention, and, ideally, of initiating supportive activities.³⁵ By using mass media their ability to mediate, connect, and amplify can be benefited from while at the same time targeting an audience and likely competitors and taking their responses into account. In contrast to conventional communication programs, campaigning prepares a message dramaturgically: innovative topics are being presented to stakeholders by means of a story. Another special characteristic is the flexibility and multi-linearity: campaigning does not follow a single logic in a linear way but requires new decisions, new courses, and new implementation regularly. During the entire campaigning process, communicative measures are continuously examined and modified.

Case Study: Segway

Campaigning is the means by which innovations are well positioned. When they are put in a story they gain in attraction for press coverage. One of the most famous examples for a successful product launch by means of a dramaturgically-oriented media campaign is attached to the name of Dean Kamen, a prominent inventor in the United States.³⁶ On June 1st, 2000, Kamen submitted an invention to the U.S. patent office. His idea was a two-wheel means for carrying a passenger. Both wheels were placed side by side while an electronic control stabilized on the vertical. German university professor Klaus Hofer had a very similar idea to this. His patent was registered just one day later. He thought of a one-wheel vehicle with a wide roll and a vertical being controlled electronically. The German invention was accompanied by many ideas but in the end it neither went into production nor was it bought up.

³⁵ Röttger, Ulrike: Campaigns (f)or a better world? In: Röttger, Ulrike (Ed.): PR-Kampagnen, 2nd ed, Wiesbaden 2001, pp. 15-34.; Rice, Ronald E./Atkin, Charles K. (eds.): Public Communication Campaigns, 3rd ed., Thousand Oaks (Ca.) 2001.

³⁶ Drösser, Christoph: Das Rad, zweimal erfunden. In: Die ZEIT (2002), No. 20, Nov. 13, 2004, p. 38.



Figure 3: The Segway Transporter – An innovation made famous world-wide by means of campaigning (Source: www.segway.com)

Kamen, however, managed to make headlines in the press worldwide with the aid of a clever Innovation Communication. His invention was disclosed step by step and got accompanied by many rumors. It started off with news in the online magazine *inside.com* in January 2001. It was reported that the Harvard Business Press supposedly had paid Kamen 250,000 US dollar in advance for writing a book on a new invention, an apparatus with the pseudonym IT. Initially it was very vague what the invention was about at all. Later, it was assumed that the innovation had to be some form of vehicle. This was because the prominent founder of Apple Computers and friend of Kamen, Steve Jobs, claimed that IT would be as successful as the personal computer had been and that entire cities had to be redesigned for the sake of IT. Speculations worldwide were sparked off. In Germany, too, there was some guesswork done, among others by the well reputed weekly newspaper *DIE ZEIT* that reported several times about what was then called “Ginger”. In December 2001 it finally happened: Dean Kamen presented the Segway Human Transporter, the first self-balanced and electrically powered vehicle ever (see Figure 3). It was designed to allow for more mobility in short distances and city centers. The device got quickly praised as being like the invention of the wheel by the *Time Magazine*. In the meantime there are several models of the Segway transporter on the market. Above all, they are useful for commuting to work, on campus, in large storehouses, and other similar locations. The example illustrates that a dramaturgically prepared campaign makes a solid invention become an exciting media event. Communication is key for strategically implementing corporate concepts at large.

7.2 Operative Measures

When putting Innovation Communication into practice, three aspects should be taken into account: when mass media is involved positive news values of an innovation have to become clear. Missing factors should be made up for by communication. In case of tabloids, advertising journals, corporate publishing media, and online services it is crucial that the presentation and visualization of an innovation do justice to the format. Innovations especially call for other means of communication apart from mass media, whether direct or indirect ones.

7.2.1 Orientation Towards News Values

Corporate communication relies on the mass media to make innovations known to the public or to an expert community. Daily newspapers, special interest and expert magazines as well as economic and scientific programs on TV possess the necessary size in coverage and reputation to do so. Whether innovations will be covered in the media depends on the news value that journalists ascribe to a new product, service, or technology. As several empirical studies have highlighted, those information are highly rated that arouse attention. This news factor is just one among many: the probability for an event to be covered by the media increases when it is easy to explain, topical, clear, unexpected, negative, or sensational. Furthermore, the selection of news is affected by the consequences an event is anticipated to have on the audience and by the use of personalization that illustrates a story with reference to a concrete person.³⁷

When comparing news factors with typical features of innovations it shows that innovations have a high degree of novelty (news factor: topicality), they are mostly unpredictable and thus quaint for the recipients (surprise), and have a rather high potential of conflict and uncertainty (negativism). These aspects raise their news value. At the same time innovations are often very complex (lack of clearness), they are little noticeable at first (missing the threshold factor), and rarely are in accordance with present attitudes and expectations of the audience (absence of consonance). Furthermore, direct consequences can hardly be comprehensible for the recipients (lack of concernment and significance). Especially technological innovations lack concrete examples of use (absence of clearness). Finally, innovations emerge independent from publishing cycles of mass media, much in contrast for example to activities by politicians (lack of frequency). For this reason journalists have difficulties in anticipating when a novelty can be reported on. These considerations demonstrate that Innovation Communication has to overcome many obstacles when using mass media as multiplier.

So far, it has also become apparent how innovative topics should be presented by those being in charge of PR and media relations: first, special emphasis has to be

³⁷ Galtung, Johan/Ruge, Marie H.: The Structure of Foreign News. In: Journal of Peace Research, Vol. 2 (1965), pp. 64-91; Schulz, Winfried: News Structure and People's Awareness of Political Events. In: Gazette, Vol. 30 (1982), pp. 139-153.

placed on the topicality and to the way in which it provides an unpredictable and uncommon solution to a present challenge. Even more important though is to compensate those less pronounced news factors. In particular, an innovation's complexity should be limited as much as possible and presented in a comprehensible manner. This can be achieved by (hypothetical) examples or personalization. In order to meet possible resentments by journalists or stakeholders it is crucial to realistically point out positive as well as negative aspects and to highlight likely applications. Bias can be countered with objective and factual argumentation. The principal task is to place special emphasis on the usefulness and benefits of an innovation so that in the end, the significance and personal relevance are evident. Personalization is another starting point for activity, which is derived directly from news value. A new method can be illustrated, for example, by highlighting its inventor and his motivation. In case of a very abstract innovation it might be suitable to directly link it to an already established topic, even if it is borrowed from a far away context. For example, an innovation can be presented as a solution to a well-known problem. In doing so one draws attention. In a next step, the innovation itself can be described.

Success factors like the ones described above are still often underestimated, as our trend survey INNOVATE 2004 has highlighted: while 44% of journalists participating in the survey think of personalization as an important issue, less than one third of those in charge of communication do so. Similarly, the trend towards a journalism characterized by putting the readers' benefit first has not been realized yet. 65% of editors but only 54% of PR experts rate this to be a success factor.³⁸

Case Study: Siemens / New York Subway

By simply taking into account these news factors even rather uninspiring topics like control and communication systems in public transport can be presented in an appealing way. This has been demonstrated by Siemens. A recent press release by the company's technology communication unit was entitled "Subway online: Hightech in the heart of Big Apple" ("U-Bahn online: Hightech im Herzen von Big Apple"). The centenary of the maiden trip of the New York subway prompted this headline – an occasion rich of emotions, myths, and personal experiences of journalists and readers alike. Having been encouraged to read on the message by Siemens is the following: the company currently installs a new control and communication system called ATS that identifies place and speed of trains in real-time by means of sensors and special software. All data is continuously compared to the schedule and is supplied to a radio-controlled train override. Signals as well as customer information can be adjusted accordingly. This important innovation gets portrayed and presented in a simple but appealing way and in accordance with the media format.

³⁸ Mast, Claudia/Huck, Simone/Zerfass, Ansgar: Innovation Communication – Outline of the Concept and Empirical Findings from Germany. In: Innovation Journalism, Vol. 2 (2005) No. 7, pp.1-14.

7.2.2 Preparation and Visualization in Accordance With Formats

Many media professionals do not primarily select any more according to criteria of content, like news values, but instead base their decisions on whether the information provided is presented in a purposeful and target-oriented way. This would make it easy to adopt. This applies particularly to tabloids, advertising journals, online services and corporate publishing media like customer magazines and internal newsletters. Such media have a very broad reach, but are often produced in a semi-professional way. It is well known that journalists working in this field are open for innovative news. This is especially true because – unlike the daily press and expert publications – they are less interested in well-balanced and critical reporting than in topics that draw attention.

However, due to the lack of time and manpower in the editorial offices, it is indispensable to present any message in accordance with the format, style and text length of the relevant media. It may be necessary to respect technical settings, i.e. mandatory teasers and the maximal size of pictures for online magazines. Visualization and the provision of pictures free of charge also facilitates the work. According to our trend survey around 60% of the interviewed communication experts and journalists state that illustrative material is a success factor when communicating innovations.³⁹ From an economic point of view this is comprehensible. Most media neither possess large archives nor human resources to obtain and edit images. Anyone who delivers good-quality pictures or graphics increases the chance of getting through to journalists and ultimately to stakeholders via Innovation Communication.

Case Study: German Coal Corporation

Deutsche Steinkohle AG, a German coal corporation, provides an example of how visualization can be set into practice. The technology with which the company works is perceived in public as being very traditional and little profitable from a macroeconomic point of view. The coal corporation has thus a difficult job to communicate its technologies to the broader public. A message the company is currently putting across is the following: in Germany sustainable mine technology is developed. By using information and communication technologies the company is on the brink of a major breakthrough. It is in great demand worldwide in all export markets. More precisely, with mobile computing and wireless networks (WLAN) operating processes are accelerated, and maintenance work is reduced, which both add to value creation. The complexity of the topic is captured in a simple and attention-drawing image, the “mineworker of the future”. The press photo depicts a miner with a helmet that integrates both a computer monitor and a headphone. The picture and an accompanying press release was sent via the ots news service to all significant editorial offices in Germany and thus reached several ten thousands journalists.

³⁹ Ibid.

7.2.3 Using All Communication Channels

Apart from mass media Innovation Communication should always consider alternative means for establishing contact to stakeholders. Important groups may be reached directly and straight away using corporate publishing, events or seminars. This might be rather complex to organize. But within personal settings, messages can be put across relatively concise and illustrative at the same time. Alternatively, one could use already established brands or bodies and their reputation, i.e. by participating as a speaker at congresses or by contributing to cluster initiatives. An especially suitable tool for announcing innovations are contests. When having bright ideas and being awarded for them by prominent people or institutions one attracts attention in the long run, wins credibility, and gains access to mass media that were previously uninterested.

Case Study: Netviewer

This is documented well by the success story of the Netviewer GmbH located in Karlsruhe (Germany). The company provides a successful tool for supporting virtual cooperation. Internet users can watch each other live on screen while they can edit texts, spreadsheets, graphics, and other documents together. Since the company's formation in 2001 it has consequently used contests for making its name. Thanks to an innovative product and a professional communication Netviewer has received already seven awards. In addition, it run a promotion tour "UMTS-Tour 2004", a bicycle tour which allowed managers to practically test mobile and virtual work. This campaign attracted the attention of media and policy-makers throughout Germany. Since that time the company has cultivated over 1,000 customers in 21 countries and branch offices in London, New York, and Melbourne. This provides a good example for Innovation Readiness within small and medium sized enterprises in Europe.

8 The Future of Innovation Communication

This paper has shown the significance of Innovation Communication by drawing on insights gained from innovation theory, management research, communication studies, and social theory. The theoretical considerations are supported by results gained from our empirical trend survey in Germany:⁴⁰ According to around 70% of communication experts and 56% of journalists interviewed, Innovation Communication will gain in importance in the next three years.

For communication managers this area of activity means chance and challenge at the same time. Innovation Communication is placed in a triangle of research and

⁴⁰ Mast, Claudia/Huck, Simone/Zerfass, Ansgar: Innovation Communication – Outline of the Concept and Empirical Findings from Germany. In. Innovation Journalism, Vol. 2 (2005), No. 7, pp. 1-14

development, corporate management, and the corporate communication function. Those responsible for Innovation Communication face several challenges. First, they have to mediate between the company and its environment. This task consists of communicating values, attitudes, products, and processes to the outside. This must be done while absorbing the expectations, needs, and fears of those involved and feeding these back into the company. Secondly, their job also involves some translation work in that they present complex innovations in a comprehensible way to the public at large. At best, this can simply be achieved by transforming expert language to commonly understandable terms. However, this may also require writing stories in which innovations are put across by means of emotions and personalization. In this respect, communication managers fulfill a task similar to journalists. For this reason it is obvious that Innovation Communication and Innovation Journalism⁴¹ are two sides of a coin and should be pushed ahead simultaneously.

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⁴¹ Nordfors, David: The Concept of Innovation Journalism and a Programme for developing it. In: Innovation Journalism, Vol. 1 (2004), No. 1, pp. 1-14.

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