

Innovation Journalism in Tech Magazines

Factors of Influence on Innovation Journalism in Special
Interest and Specialist Media

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In recent years innovation has become a dominant buzzword in political discussions in Germany. But even though stakeholders in politics, economy and science agree on the importance of innovation for the economies of highly developed industrial countries, specific innovations are hardly covered by mass media. Especially political and business journalism in daily newspapers are blamed for virtually ignoring innovation as a topic of common interest. While general interest media despite all political appeals hardly cover innovation, a huge number of special interest magazines and specialist journals inform their readers about technology, product, service and process innovations. Though not every new product presented in e.g. a computer magazine deserves the label “innovative”, it remains clear that these magazines have covered all the great innovations in their field: From the diffusion of personal computers to the triumph of the internet or the spread of mobile telephone systems. What lessons can Innovation Journalism learn from specialist media like e. g. tech magazines? How do tech journalists deal with innovations? What are the key factors of influence on Innovation Coverage? This paper integrates Innovation Journalism into the process of diffusion, offers a model of the factors of influence on Innovation Coverage and presents findings from an empirical study on Innovation Journalism in tech magazines.

1 The role of mass media in the diffusion of Innovations

Media coverage is often the first source from which an individual learns about the existence of an innovation. Thus the media are one channel through which an innovation diffuses. This “awareness-knowledge”¹ however does not necessarily lead to the adoption of an innovation. What exactly is an innovation? How does it diffuse among the members of a society and what role do the media and specialist media in particular play in the diffusion of innovations?

1.1 Innovation – Defining the buzzword

Hardly any term is used as inflationary today as innovation. Consequentially Mast, Huck and Zerfaß suggest that this inflationary use of the term has become a major problem for the media coverage of innovations. 95% of the journalists interviewed for their study on German Innovation Communication in 2004 stated, that constant

¹ Roger, Everett: Diffusion of Innovations, 5th ed., New York: The Free Press 2003, p. 18.

misuse of the term itself is one reason for the media's neglect of the issue². While this is a problem for the practical use of the term already, it is intolerable for any scientific use. Hence it is necessary to define the underlying understanding of innovation in this paper, first.

Hauschildt discerns four dimensions of an innovation. The *content dimension* describes the objective newness and the degree of newness of the innovation. The *subjective dimension* asks, to whom the innovation is new. The *process dimension* deals with the question, when innovations start and end and the *normative dimension* clarifies whether success is a necessary attribute of an innovation³. Following Hauschildt an innovation is understood as a qualitatively new product or process, which makes a distinct difference to the condition prior to the innovation. The newness of the innovation consists of a new combination of means and ends. This new combination must prove its worth in the market or the internal usage. Creating a new idea is not enough. Sales and usage turn inventions into innovations. Finally the innovation has to be perceived as new. In this respect Hauschildt is close to Rogers, who defines innovations as follows:

*“An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption. It matters little so far as human behaviour is concerned, whether or not an idea is 'objectively' new (...). The perceived newness of the idea for the individual determines his or her reaction to it. If an idea seems new to the individual, it is an innovation.”*⁴

This subjective dimension is of great importance in the field of Innovation Journalism. One of the central questions in dealing with the media coverage of innovations is how journalists, their sources and their readers perceive innovations. In the following media coverage on innovation will be referred to as “Innovation Coverage”. Like the terms political coverage or business coverage the term “Innovation Coverage” is defined by its subject: Innovation.

1.2 Diffusion of Innovations

Before an invention becomes an innovation people must learn about, accept and use it – a process known to us as diffusion and adoption of innovations. Rogers defines diffusion as “(...) the process in which an innovation is communicated through certain channels over time among the members of a social system”⁵. Diffusion thus is a special type of communication, dealing with new ideas. Before innovations can cause social change on the macro level they are subject to a

² Mast, Claudia / Huck, Simone / Zerfaß, Ansgar: Journalisten und Unternehmen: Meinungen, Erfahrungen, Perspektiven. Ergebnisse der Studie INNOVATE 2004. In: Mast, Claudia / Zerfaß, Ansgar (Eds.): Neue Ideen erfolgreich durchsetzen. Das Handbuch der Innovationskommunikation. Frankfurt a. M.: F.A.Z.-Institut 2005.

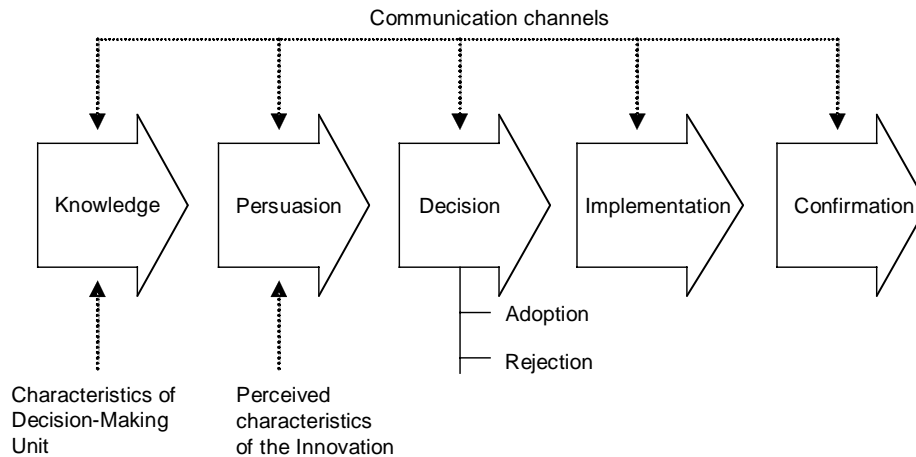
³ Hauschildt, Jürgen: Innovationsmanagement. Munich: Vahlen 1997.

⁴ Rogers, Everett: Diffusion of Innovations, 5th ed., New York: The Free Press 2003, p. 12.

⁵ Ibid., p. 5

decision process on the micro level. This “innovation decision process” is described by Rogers as the process, through which an individual person or other unit of decision-making learns about an innovation, develops an attitude towards it, decides for or against it and confirms or revises his decision at a later point of time⁶. Figure 1 shows the five stages of the decision process.

Figure 1: The innovation decision process



Source: Rogers 2003, p. 170

Whether an innovation is adopted or not depends both on the characteristics of the decider and the perceived characteristics of the innovation.

Thinking about the potential audience of Innovation Journalism it is worthwhile to take a closer look at the characteristics of different types of adopters. Following Rogers we can identify five ideal types of adopters: innovators, early adopters, early majority, late majority and laggards⁷. As their names already indicate, Rogers arranges the five ideal types on a timeline beginning with the earliest adopters and ending with complete deniers of innovations. The criterion for Rogers’ categorization thus is innovativeness. Figure 2 depicts the adopter categorization including the statistical commonness of each type.

Innovators and early adopters seek information more actively and have a greater tolerance towards uncertainty. This allows them to deal with information, which is not necessarily consistent with their knowledge and attitudes. In other words: they are open to innovation. Innovators not only seek information in the media, they also trust the media’s advice when it comes to adopting an innovation⁸. They are

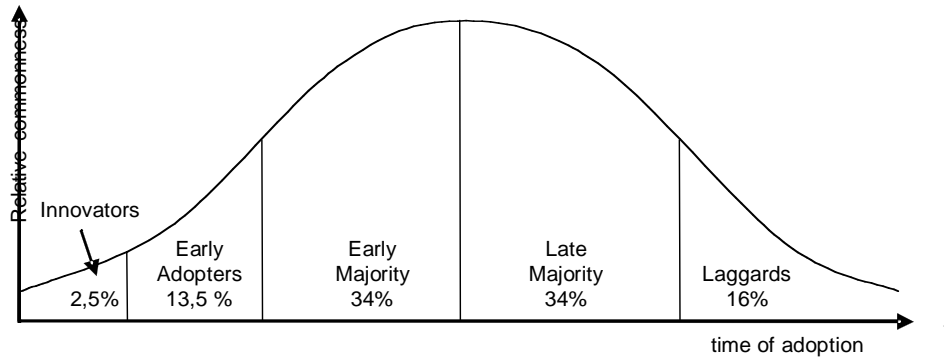
⁶ Ibid., p. 168

⁷ Ibid., 282.

⁸ Schenk, Michael: Medienwirkungsforschung. Tübingen: Mohr Siebeck 2003, p. 391.

the most likely readers of Innovation Coverage in special interest magazines and specialist journals.

Figure 2: Adopter Categorization



Source: Rogers 2003, p. 281

1.3 Tech Magazines in the process of diffusion

Rogers' definition of diffusion comprises four central elements: the innovation, communication channels, time and a social system⁹. In our context communication channels are most interesting. Through which channels do innovations diffuse and which role do mass media – and specialist media in particular – play? Mass media are the quickest way to make people aware of the existence of an innovation. Thus, mass media are important at the beginning of the diffusion process. They create awareness and transfer information about an innovation. This includes information about the combination of means and ends an innovation offers as well as information about its potential uses. When it comes to persuasion and decision, however, interpersonal communication is far more powerful. Innovators and early adopters act as links between mass communication and personal communication. They are active readers of Innovation Journalism and experts in their social groups. While innovators act as gatekeepers and introduce innovations into social systems, early adopters are also opinion leaders, who influence the decisions of later adopters¹⁰.

It is a genuine function of specialist journals to inform professionals about innovations in their field. But even among popular magazines we find periodicals, which primarily deal with innovations. Special interest magazines respond to the needs of special target groups. In Germany e. g. a huge market for computer magazines has developed, which comprises more than 80 popular magazines and

⁹ Ibid., 11 ff.

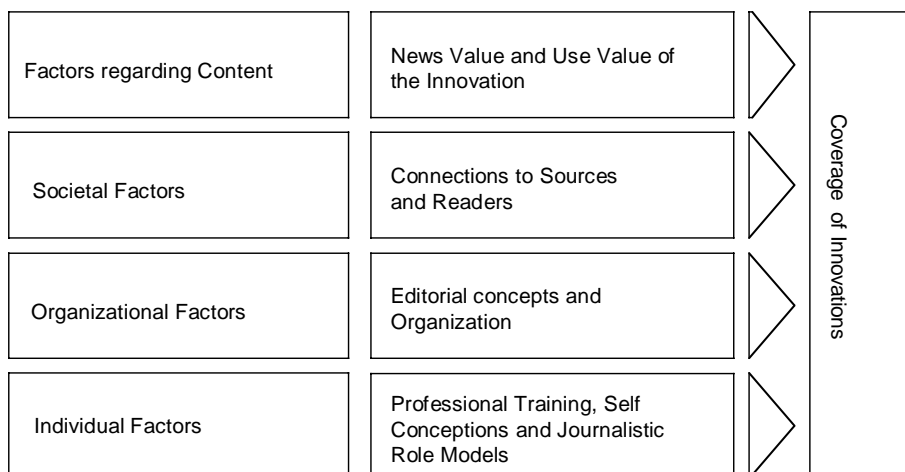
¹⁰ Schenk 2003, p. 283.

25 specialist journals¹¹. Thus it can be agreed that Innovation Journalism – understood as Journalism covering Innovations – does exist and that it plays a vital role in informing innovators and early adopters about innovations in fields they are interested in. The question is: How do they do it? Do they focus only on technology or do they also cover the economic and social implications of an innovation? And more importantly: Which factors influence the way journalists in special interest magazines and specialist journals cover innovations?

2 Factors of Influence on Innovation Journalism

Journalists do not act independently from internal and external influences. Perception, selection and presentation of an issue depend on numerous factors of influence. In the following we regard individual factors, organizational factors, societal factors and factors regarding content. For each group of factors we can resort to existing concepts developed in communication sciences. On the individual level professional training, self conceptions and journalistic role models influence Innovation Coverage. On the organizational level editorial concepts and organization structure the work of journalists. On the societal level connections to both sources and readers shape the media coverage. On the content level the issue of innovation can be analyzed with concepts of news value and use value. By applying theoretical concepts to each level we can deduce a number of questions concerning Innovation Journalism. Figure 3 shows a model of the factors of influence on Innovation Coverage.

Figure 3: Factors of influence on Innovation Coverage



¹¹ Vogel, Andreas: Pressegeattungen im Zeitschriftengewand. Warum die Wissenschaft eine Pressesystematik braucht. In: Vogel, Andreas / Holtz-Bacha, Christina (eds.): Zeitschriften und Zeitschriftenforschung. Wiesbaden: Westdeutscher Verlag 2002, p.12.

2.1 Education and Journalistic Role Models

Covering innovations requires high standards of qualification and professionalism. On the one hand journalists covering innovations need a certain expertise to understand the functionality of an innovation as well as its use and its implications for society. On the other hand journalists need excellent journalistic skills to make complex innovations comprehensible for their readers. This of course is a normative statement. Whether journalists, who deal with innovations in their daily work, do have special qualifications, remains a question of empirical analysis.

Journalistic role models describe the societal duties journalists accept in their job¹². These perceived roles depend on individual attitudes of the journalists but also on the kind of publication they work for¹³. Since journalists tend to influence each other and are socialized as members of their editorial staff, the question arises, whether there is a common role model for journalists in tech magazines dealing with innovations. In the history of journalism theory a number of ideal types of role models have been developed. However most of them have until now only been discussed in the context of political journalism. Mast specifies the objective reporter, the controller and critic, the advocate, the investigator, the counselor, the entertainer and the educator¹⁴. These role models are in fact simplified instruments to measure attitudes and can be used to roughly describe the attitudes of Innovation Journalists.

Thus on the individual level two questions can be asked:

- 1.) Which (formal) professional training enables journalists to cover the complex issue of innovations?
- 2.) Is there a dominant common role model, on which Innovation Journalists can agree?

2.2 Editorial Concepts and Organization

The next two chapters cover the internal and external structures, which shape the way journalists select, edit and publish certain issues. Internal structures are e. g. editorial concepts and editorial organization. External structures are relationships with audiences and sources.

The editorial concept describes the core competences and the unique selling proposition of a publication¹⁵. It defines the thematic focus and the target audience.

¹² Donsbach, Wolfgang: Journalist. In: Noelle-Neumann, Elisabeth / Schulz, Winfried / Wilke, Jürgen (eds.): Fischer Lexikon Publizistik Massenkommunikation. Frankfurt a. M.: Fischer 1999, p.81.

¹³ Mast, Claudia: ABC des Journalismus. Ein Handbuch. Konstanz: UVK 2004, p. 128.

¹⁴ Ibid., p. 129 f.

¹⁵ Ibid., p. 530.

We can discern general or special interest publications or publications with regional or national focus. Furthermore we can discern between information and entertainment. In how far do different editorial concepts lead to different Innovation Coverage? How large is e. g. the gap between specialist journals and popular special interest magazines?

Based on the thematic focus the editorial organization can be planned. Editorial offices are based on division of labor and require organization and coordination. Most editorial offices are divided into departments focusing on topics like “politics” or “business”. These departments structure the perception of an editorial office¹⁶. Issues, which clearly fit to a department, are more likely to be covered than issues nobody feels responsible for. Which departments or similar structures have been developed to cover innovations?

Another useful distinction in the field of Innovation Journalism is the one between input and output oriented journalism¹⁷. Input oriented departments observe societal subsystems like politics, economy or culture and inform their readers about developments in these subsystems. Innovation Journalism could be understood as Journalism observing a societies’ innovation system – as part of the economic system. On the other hand Innovation Journalism could as well be strictly output oriented. Its aim would then be to perform a certain function for a selected target group. This function could be: Informing innovators and early adopters about the latest innovations in their field.

On the organizational level these questions can be asked:

- 1.) How do different editorial concepts influence Innovation Coverage?
- 2.) How do the organizational structures of an editorial office shape perception and editing of issues dealing with innovation?
- 3.) Is Innovation Coverage primarily input or output oriented?

2.3 Audiences and Sources

The relationship between journalism and its publics is a well-known subject in journalism research. The main questions are: Does the public have special needs, which media coverage has to gratify? Is the public able to express these needs? Can journalism learn about these needs and should journalism gratify them?¹⁸ In the

¹⁶ Meier, Klaus: Ressort, Sparte, Team. Wahrnehmungsstrukturen und Redaktionsorganisation im Zeitungsjournalismus. Konstanz: UVK 2003.

¹⁷ Ibid.

¹⁸ Cf. Scholl, Armin: Die Inklusion des Publikums. Theorien zur Analyse der Beziehungen von Journalismus und Publikum. In: Löffelholz, Martin (ed.): Theorien des Journalismus. Wiesbaden: VS Verlag für Sozialwissenschaft 2004, p. 517.

context of Innovation Journalism we can ask, what journalists know about the needs, the knowledge and the attitudes of their readers, when innovations are concerned. And we can ask how journalists react. In which roles do journalists address their readers? Do they address them in their professional roles as employees, or do they also address them as consumers, tax payers and citizens?

The second important external factor of influence on journalism are its sources. How do journalists learn about innovations? The most important sources for information about innovations are companies¹⁹. Since the success of any innovation depends on quick diffusion, media coverage is vital. Therefore it is very likely, that companies and their PR and marketing departments will try to gain as much influence as possible on the media's Innovation Coverage.

On the societal level these questions can be asked:

- 1.) What do Innovation Journalists know about the needs of their readers and do they try and gratify them?
- 2.) In which roles do Innovation Journalists address their readers?
- 3.) What are the most important sources of Innovation Journalism and how great is the influence of corporate communications on Innovation Coverage?

2.4 News value and use value

The level of content can be viewed from two perspectives. On the one hand we might ask which features of innovations make them worth covering. On the other hand the question could be what criteria apply, when journalists reduce the complexity of an innovation and construct a media reality. To deal with these questions we can resort to the concepts of news value and use value. The term news value has first been used by Walter Lippman, who introduced the idea, that news in the media do not mirror reality but are the result of selection decisions²⁰. The news value journalists attribute to an event or issue not only influences selection for coverage but also the extent of coverage and the positioning and presentation of the issue²¹. In the European tradition of news value theory²² different authors have suggested several catalogues of news values for political journalism. Some of them may be applicable on Innovation Journalism as well. Among those are intensity, unambiguousness, remarkableness, personalization and

¹⁹ Mast/Huck/Zerfaß 2005

²⁰ Lippmann, Walter: Public Opinion. New York: The Macmillan Comp [1922] 1954.

²¹ Schulz, Winfried: Nachricht. In: Noelle-Neumann, Elisabeth / Schulz, Winfried / Wilke, Jürgen (eds.): Fischer Lexikon Publizistik Massenkommunikation. Frankfurt a. M.: Fischer 1999, p. 330.

²² Cf. Östgaard 1965, Galtung/Ruge 1965, Schulz 1976, Staab 1990.

negativity. How important are these news values for Innovation Coverage? Innovations often need time to reach intensity, they are ambiguous as to their use and their remarkableness is often not clear in the beginning. Therefore use values could be an interesting alternative in dealing with innovations journalistically. While news values are linked to an event or issue, use values focus on the relevance of an issue for the life of the reader. Journalism focusing on use value gives the readers advice he can use for his own decision making and action.

On the level of content we can ask the following questions:

- 1.) Which news values influence Innovation Coverage?
- 2.) Do use values play a dominant role in the coverage of innovations?

3 Findings From an Explorative Survey

The questions raised in the above chapters were the base of an interview guideline, which was used to conduct interviews with chief editors of German special interest and specialist computer magazines. Between February and March 2005 one chief editor and one deputy chief editor of special interest magazines and two chief editors of specialist journals were interviewed. Based on this small number of qualitative interviews representative conclusions are of course impossible. Explorative interviews with experts however are a potent instrument to structure new fields of research, which have hardly been covered before. The in depth interviews led to the following answers to the questions above:

- 1.) *The ability to cover innovations does not depend on a specific formal academic training.* None of the respondents considers e. g. a university degree in natural sciences or engineering a necessity for Innovation Journalists. Or as one respondent put it: "We have a philosopher on the team, whose technical understanding is just as well developed as that of a computer scientist, who works for us." Expert knowledge is vital, but it can be acquired on the job. More important are journalistic skills, for which advanced trainings are offered on a regular basis.
- 2.) *In the field of innovations journalists act as counselors and advocates for their readers.* According to the respondents readers do not only seek information, they also demand orientation. Innovations create insecurity as to their potential use. As counselors and advocates Innovation Journalists help their reader to decide about private or professional investments in innovations.
- 3.) *Since editorial concepts focus on different target groups, they do influence Innovation Coverage.* Specialist journals primarily address professional users. They do not only deal with product innovations but also cover process innovations and help professionals in concrete problem solving. Public

magazines address the private user and buyer of innovative products. And focus on the uses of new products.

- 4.) *Department structures hardly influence Innovation Coverage.* Distinctions between e. g. “hardware” and “software” in the organizational structure of an editorial office have no great influence on Innovation Coverage. The organizational structures of the researched publications do not differ decisively from other publications, which do not cover innovations.
- 5.) *Innovation Coverage is primarily output oriented.* An innovation gets covered, when it becomes relevant for the readers. Coverage focuses on the use of the innovation for the reader. Thus the event of an innovation entering the market and the media coverage of this innovation do not have to be simultaneous. Coverage may follow long after an innovation is known to the journalist.
- 6.) *The readers of tech magazines are primarily innovators, early adopters and opinion leaders.* They are highly interested, very demanding and well informed in their field of interest. Journalists learn about their readers through intense reader interest research.
- 7.) *Journalists address their readers in their roles as users and consumers of innovations.* Other societal roles like e. g. employee, tax payer, or citizen are less important.
- 8.) *Companies, which create innovations, are the most important source for Innovation Journalists.* Information from these companies is complemented by the results of the media’s own test laboratories. Corporate Communications do not play a prominent role. The respondents view PR experts rather as “bridges” to competent experts within the company.
- 9.) *News values play a minor role for Innovation Coverage.* In the news sections intensity, remarkableness and negativity are of some importance. Unambiguousness and personalization hardly matter.
- 10.) *The use value of an innovation and the use value of its coverage are the decisive factors of influence for Innovation Coverage.* The central questions are: What is the use of the innovation for the readers and how can they best benefit from the coverage of the issue?

4 Conclusions: Double Use Value as a Key for Successful Innovation Journalism

Specialist media like tech magazines play an important role in the diffusion of innovations. They address innovators and early adopters of innovations, who act as gatekeepers and opinion leaders and promote innovations through personal communication. Innovation Coverage is subject to several factors of influence

ranging from the individual abilities and attitudes of journalists, to organizational and societal structures, which constrain or enable coverage. Tech journalists' key to successful Innovation Journalism is a consistent focus on the needs of their readers. Their editorial strategies focus on small, highly specialized target groups. Their Innovation Coverage is output oriented, i.e. it does not concentrate primarily on events and issues, but on the implications for the readers. In the center of their Coverage is an implicit concept of double use value: Innovation Journalism must focus on the uses of the innovation for the readers. Coverage itself has to follow a use value strategy, i.e. it has to be useful for the reader and assist him in his decision for or against the adoption of an innovation.

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