

OVERCOMING THE KEEP THE MARKET OUT PREMISE (KMOP) IN PRODUCT DEVELOPMENT

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ABSTRACT

Even though market research methods including Open Innovation tools and techniques have improved, most companies have not managed to decrease their flop rate of newly developed products in recent years. As customers we all recognize B2C products, which might mainly have that problem, but flop rates which do not decrease also count for companies, which are active on B2B and B2C markets. For the market information collected, here referred to as market intelligence, it seems to be difficult to move through the organization from the collector – mainly the marketing department – to the R&D department, where developers should use the information in order to develop products, the market is waiting for. What mechanism or tool could this “Keeping the market out premise – Kmop” under which the R&D departments of most companies still develop product help to overcome? Through a qualitative study – focusing on market pull – within 5 internationally operating German companies between 2008 and 2010, the aspects of Kmop were identified, clustered in focus areas and a first concept to overcome the barrier between Market Intelligence and Product Development is proposed.

Keywords: Customer integration in product development process, market pull, not invented here syndrome, keep the market out premise (Kmop)

1 INTRODUCTION

In recent years, companies have been keen to position the customer in the centre of all economic actions. New employees have been trained to accept the customer as a central element within the companies' value chain (Figure 1), which by no means was one of the requirements the auditor was asking for, when examining companies by the TS 16949 standards. Nowadays most companies have moved from the former ISO 9001 standard to TS 16949, which focuses especially on the interfaces between the process steps within the companies and to the external world.

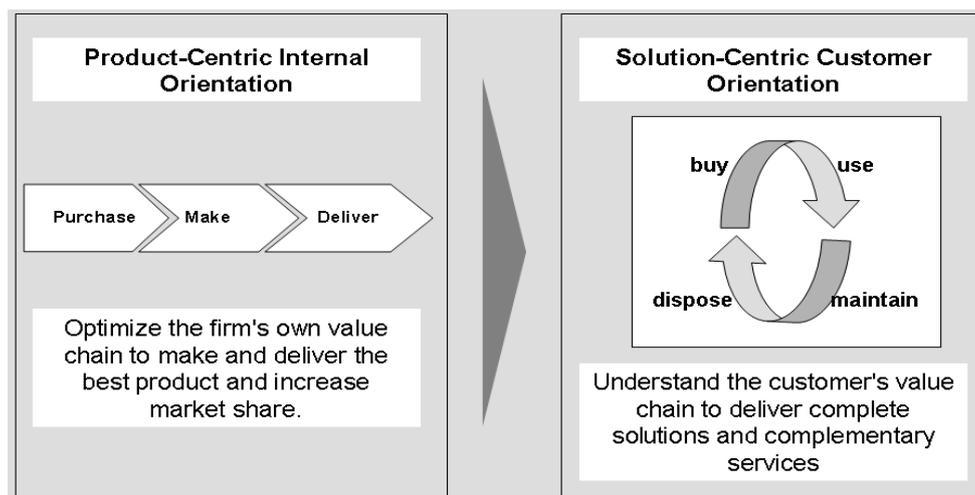


Figure 1. Companies increasingly understand to put their customer in the centre of the value chain

In the companies' numerous programs like Customer Excellence, Voice of the Customer, the empowerment of market research and the establishment of customer hotlines have been driven forward. The market research departments have been enlarged and the research know-how within the companies optimized, which in some industries – especially within the consumer goods industry – has led all the way to the integration of customers and users in the product development process.

Despite of all these efforts, there is no decrease in the flop rate of newly developed products. [14] The reason for this can be seen mostly in inter-company resistance. [10] Developers are not interested in the results of market research and processes of how to integrate the results in the value chain are mostly undefined.

An employee of the R&D department of a German Car Supplier commented on the results of a Lead User Workshop as follows: “I don't know about you, but I don't see anything you have developed in your Lead User Workshop, which is related to any of the products we are producing right now”. The marketing department, which organized the Lead User Workshop, replied: “Unfortunately, nobody will buy the products you are developing”.

This paper is based on qualitative interviews in companies and (a) clusters the reasons for permanent high flop rates of newly developed products (b) and focuses especially on inter-company communication and processes, furthermore (c) it develops a methodology of how to overcome this internal barrier and finally (d) outlines a software tool which could help to close the gap between R&D and market intelligence.

In paragraph 2, reasons for the “keep the market out premise – kmop” with sources from literature and from previous studies [8] are extracted and clustered in order to develop a guideline for the interviews conducted in companies described in paragraph 3. Paragraph 4 then states the results clustered in 5 focus areas and paragraph 6 proposes a first idea of how to overcome the barrier between market intelligence and R&D.

2 GROWING MARKET RESEARCH EXPERTISE BUT STILL HIGH FLOP RATES

Market research know-how within companies has increased in recent years. Companies started to conduct research projects through agencies years ago and now after years many have understood the methodologies and built up quite an extensive know-how and theoretical background. In some companies that process has even led to own databases and panels which are used to get feedback on functions, on newly developed products or reasonable price positions. [10]

What are the problems which companies face today collecting and applying data from market research projects into their product development process?

2.1 New challenges within market research itself

Saturated Markets

It is hard to find “new” subjects to get feedback on tested products in many markets. This process started years ago in the US and UK and has also been noticeable in Central Europe since about 2005 due to many conducted market research projects. Partly due to that reason, especially in the US and UK, it is common that subjects claim up to US\$ 100,- to answer questionnaires or participate in 2 hour focus groups. Some of the subjects live of these services they provide on a regular base to larger agencies. The information collected will not help to develop products based on market needs. [3]

Change in buying behavior

Customers buy products more spontaneously. Price and even the different functions have become more and more secondary. The customer cares for a buying experience. [2] Price points and increasingly functionalities, which can be perfectly measured and optimized by market research, are replaced by fun and joy when buying the product. But fun and joy, as all emotional data, are difficult to measure and hard to optimize by classical market research data. This partly explains why even more and more accurate data on price points do not help to predict market volumes.

The online gap

The development of online software tools and the parallel build-up of online communities have helped to reduce costs in market research over the last years. Unfortunately, the Internet community in general, and especially the ones participating in online surveys, have social demographic properties,

which make it very difficult to have a representative sample if you look for information other than MTV, MP3 players and videogames. And as time seems to be even shorter on the Internet, most surveys do not even ask for these social demographic properties and assume a representative sample, provided the amount of the subjects is just big enough. [1] [3]

2.2 Marketing still seen as communication

Conflict between marketing and sales

Marketing departments in many companies primarily focusing on communication are not seen as the promoter of customer needs in the companies by employees of the R&D departments but as internal communication agencies. These marketing departments, even when in possession of valid data on market intelligence, are not seen as know-how carrier. In these cases R&D frequently ask the sales department for input in product development and advice on new strategic decisions on new products.

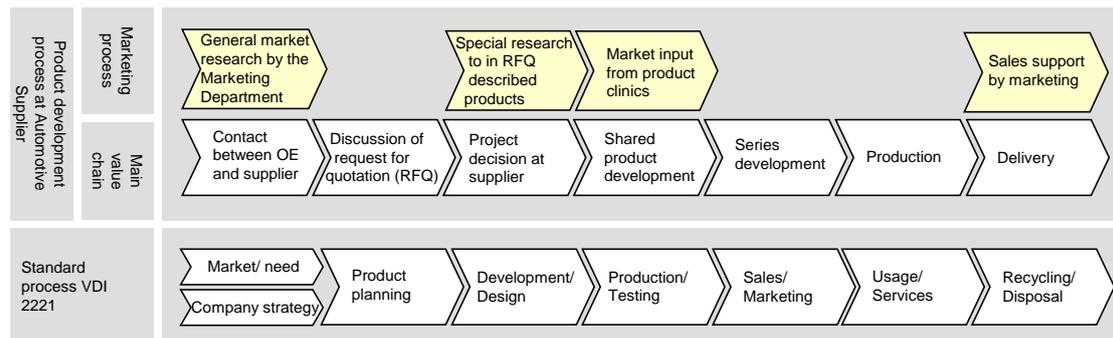


Figure 2. The product development process [8] and the not conjoint marketing processes of a German Automotive Supplier in comparison to the standard VDI process 2221

The position of Marketing in the value chain

The Marketing Department as the gateway of the companies to market intelligence is very often not part of the main value chains, R&D, Purchasing, Production, and Sales – the Marketing process steps are organized in so-called management processes above the main value chain. (Figure 2)

The interfaces to R&D and Sales are mostly undefined and not standardized. [10]

2.3 The communication gap at the interface between Marketing and R&D

R&D and Marketing on different time scales and educational levels

When R&D manager ask for a market research project to be conducted by the marketing department they often expect their colleagues to find an already finished study on the Internet, were only a summary of the results is necessary, before R&D will get the final report within days. In most cases reality is different and a primary study is necessary. As marketing departments in larger companies mostly use research agencies to carry out their research projects, the process from finding the right agency till the final presentation can take up to 6 months. In many cases R&D departments do not want to wait that long for results. [8]

The problem of different time scales is related to the different levels of education. The engineers in R&D speak an entirely different language than their more business focused colleagues in Marketing. A lot of information is lost when the questions on product features stated by R&D is transformed in a questionnaire, which can be used in a market research projects. [4]

Unclear budget allocation

As mentioned above, process interfaces between R&D and Marketing are very often not defined. Therefore when budgets are negotiated and allocated, budgets for market research are not officially assigned. Months later, when market research projects should start, they have to be financed by leftovers, hidden or relocated budgets, which are usually much smaller in size than official budgets negotiated at the beginning of the fiscal year. Due to that reason cost pressure is very common in market research projects. [9]

2.4 Not only the information receiver but also the transmitter needs to be optimized

This paper specially focuses on the aspect of the information exchange. Here one has to keep in mind that the optimization of information exchange can only be achieved if the transmitter and the receiver will be worked on from both sides. [13]

Aspects for improvement from the side of the transmitter (Marketing department with knowledge on market excellence)

Talking to R&D managers, time always seems to be an issue. They would always be interested in market feedback as long as results are presentable within days. As mentioned processes to integrate market information are mostly not in place. In meetings with R&D colleagues marketing experts sometimes realize the development of product features without any customer benefit. As pointed out in order to gain sophisticated market feedback, the process can easily take 3 to 6 months. The question has to be defined with the R&D department, an agency has to be found, they then have to find a representative sample, research has to be conducted and results have to be analyzed and presented.

Besides time, budgets are the second important issue. For the R&D manager, getting vague feedback from the market must not cost much. These research projects are usually not in the marketing budgets and R&D are mostly unwilling to pay.

Aspects for improvement from the side of the receiver (R&D department)

The receiver has to be integrated from the very beginning of the project. They have to define the topics and agree on the methodology and the questions asked.

The knowledge of many R&D managers on projects obtaining market intelligence is rather low. Companies have found it very helpful when managers are transferred within their career in-between departments, in order to understand the general approaches of the different units.

Most helpful of course is a mandatory process, where at certain milestones market feedback within the product development process is collected.

In order to obtain significant data to understand the barriers of market intelligence moving through the organization, both sides, the transmitter and the receiver, have to be analyzed. It is not sufficient to find the needs of the R&D department and optimize the process in that direction.

When applied on an R&D employee, the above discussed aspects result in developing products without market needs and feedback. The product designer would hereby work following the **“Keeping the market out premise”**.

The premise is based on the various barriers of information exchange between Market Intelligence and R&D departments. Some of the barriers, part of Kmp, are often described as the not invented here syndrome. [5] [11]

3 RESEARCH DESIGN

The challenges described above have led to the following research question:

How can the aspects of Kmp be clustered in focus areas and how does a method have to look like in order to overcome the problem of the insufficient information exchange between the provider of market intelligence and product development?

3.1 Data collection

The data in our study results from primary sources. The characteristics of the different sources will be detailed in the following.

Between 2008 and 2010, the author conducted 41 interviews in 5 different companies belonging to different industries: automotive suppliers 29%, health equipment manufacturers 24 %, special vehicles (OE) 15%, semi finished products 22% and transportation 10%. The interviews, which lasted between 60 and 90 minutes, were conducted with employees on different hierarchical levels, from VP R&D to market research team members. Both sides, the collectors of the market intelligence (57%) and the developers in R&D (43%), were interviewed. The interviews were audio taped for further analysis.

To gather the information needed about the different aspects of Kmp a quantitative methodology was not appropriate as it would not have allowed analyzing the relational complexity. Therefore the Timeline Technique was used. [12] The benefit of this technology was to get started in a rather

structured way, but it also allowed the interviewed to explain – project based – as the interview commenced in a more open way.

A guideline for the interviews was developed following the aspects discussed in paragraph 2. In addition, the interviewed were asked to explain additional barriers between R&D and the source of market intelligence. Beside the structuring into the aspects mentioned in paragraph 2, it was very useful to follow project timelines to get as many detailed information from the interviewed as possible.

3.2 Data analysis

The taped interviews were transcribed; the identified barriers were clustered in 5 focus areas. As the different sources are not in the same industry, the comparison of the data is a major challenge. In order to use the data from the different sources within one analysis, a method was used where the data were linked to the certain value chains and clustered only with results of similar value chain process steps.

As the value chain of the automotive supplier and the health equipment supplier are similar, the results of those two companies were clustered. Furthermore the results of the special vehicles OE and the transportation company were joined. Overall 3 different clusters/ industry groups were than used for further analysis.

The answers to the same criteria of the Market Intelligence provider and the R&D department as the receiver were not analyzed separately but together.

The entries were standardized, so that Marketing and R&D entries were equally weighted.

In order to develop a method, a tool or process to overcome Kmop, which is based on the results of the interviews, it is evident to rate the importance of the different focus areas. The amount of entries, as the interviewed were asked on the different subjects, were counted, standardized and translated into a 0 – 6 scale.

4. RESULTS

Even though the answers of the different industries were mainly similar, the results were clustered in the three industry groups mentioned above.

All the answers can be grouped in 5 different focus areas – no matter if the transmitter was telling why the R&D colleagues did not cooperate, or the receiver was explaining why Marketing was too expensive or did not understand R&D needs.

In the following the findings of the 5 focus areas are stated, always shown from R&D and Marketing perspective.

Trust – Trustworthiness of colleagues and reliability of results

R&D side

65% of the interviewed R&D employees do not trust the methodologies of market research. They generally have large doubts that market knowledge can be measured and that it is possible to transform the measurements with statistical methods into information relevant for the R&D process.

Additionally, for 62% of the interviewed R&D employees, the colleagues of the marketing department do not have sufficient education to understand engineering challenges and therefore cannot support their product development process.

Marketing side

The employees of the marketing department report that they are seen by the R&D department as responsible for PR only. Therefore it is very hard for them to develop a trustful relationship to R&D. Market research results are not taken seriously. One marketing employee reported, the R&D colleague, after appointing a 60,000 € market research project, did not show up without any excuse at the final presentation.

Hi speed

R&D side

Within the development process of the interviewed companies various decision gates are included. In all the companies developers decide in meetings whether a project is continued, stopped or altered. All the decisions are made within the meeting. All the relevant information is collected by the R&D employees in advance. In 73% of the interviews no colleagues, who had direct access to market data, were present in those meetings. Even if anybody (that case was reported in 4 interviews only) proposed a market study to answer open questions needed for the next decision, all reported that there

was no time to integrate a 3 – 6 months study at that point. The reason for refusal of the market study here was only the timeframe. When asked, if they would wait 2 weeks for results 80% of the interviewed R&D colleagues cared for a market study.

Marketing side

In 80% of the companies interviewed all market research is commissioned by the marketing department and conducted by agencies. This interface is reported by 76% of the interviewed marketing employees to create problems and to have a lot of potential for optimization.

Low cost

R&D side

No R&D employee reported that they include budgets for market studies in their R&D budget during the planning period. When a market study is essential later on, it has to be carried out with small budgets or entirely new sources to finance the projects have to be found.

Marketing side

78% of the asked marketing employees stated that they do not have enough information at the beginning of the year to plan all the necessary market research studies. 100% told that in the last years “dummy” project budgets for projects which might come, were not accepted by the controlling departments anymore.

Conveniences – easiness of result integration

R&D side

100% of the interviewed R&D employees stated that they had large difficulties to integrate results of market studies into their development process, the results are not analyzed and prepared the way they need the information. On the other hand all the interviewed said they know exactly how the results are supposed to look like and what information they need.

Marketing side

Marketing tells the same story, but just the other way around. 100% of the marketing employee state that they always listen very carefully to R&D and are capable of transforming the information in questions for the users.

Necessity of process

R&D side

24% of the R&D employees understand the necessity of an automated process to integrate market studies in the product development process.

Marketing side

94% of the interviewed marketing employees vote for the necessity of the described process. 57% believe without a mandatory process the R&D colleagues would never accept the integration of market research in the product development process.

The results of the different industries are shown in the spider diagram on a 0 – 6 scale, with 6 equal to 100% agreement in the interviews on the certain focus areas.

5. DISCUSSION

5.1 Trust, convenience and speed

Looking at the graph in figure 3, the following interpretation of the results can be made:

- The needs in the group of the suppliers and the special vehicles and transportation industry are very similar.
- Within the whole group, apart from the semi finished product industry, the results for trustworthiness, speed and convenience are almost equally high. The differentiation is not significant.
- All 3 groups see relatively low value for a mandatory process.
- Low cost is very important for the semi finished product industry, as they always fight with extremely low margins. On the other hand to the semi finished products industry high speed is not as important as for the others.

Summarizing the results the graph shows that trust, convenience and speed are the 3 focus areas demanded most by all the companies interviewed. Low cost and a mandatory process are far less important. Only the semi product industry does not care so much about speed but more about cost.

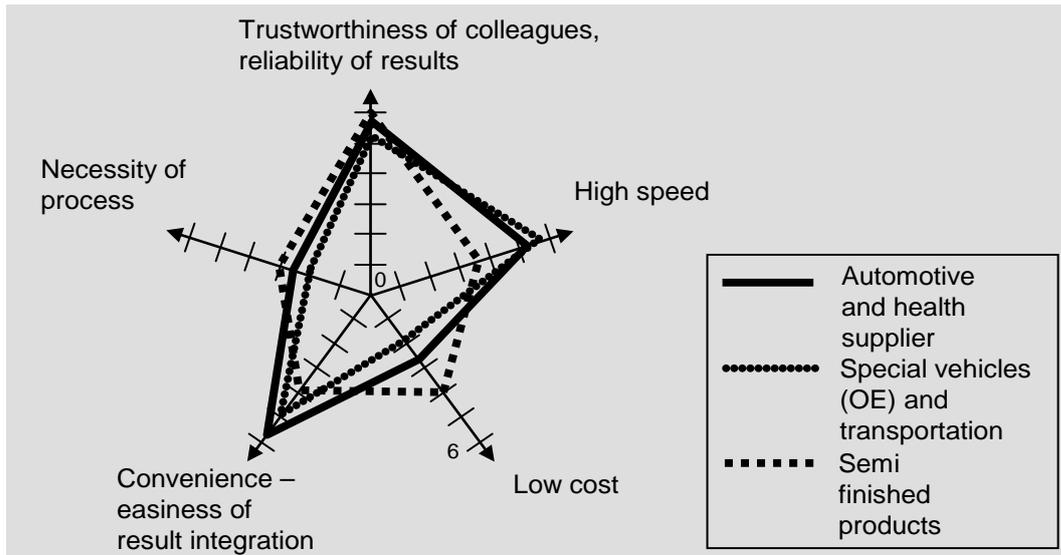


Figure 3. Five focus areas of barriers which block the market intelligence information to move from marketing to R&D

5.2 First ideas to overcome Kmpop

In order to address a maximum market a possible methodology to overcome Kmpop needs to fulfill the characteristic values of the envelop graph shown in figure 4.

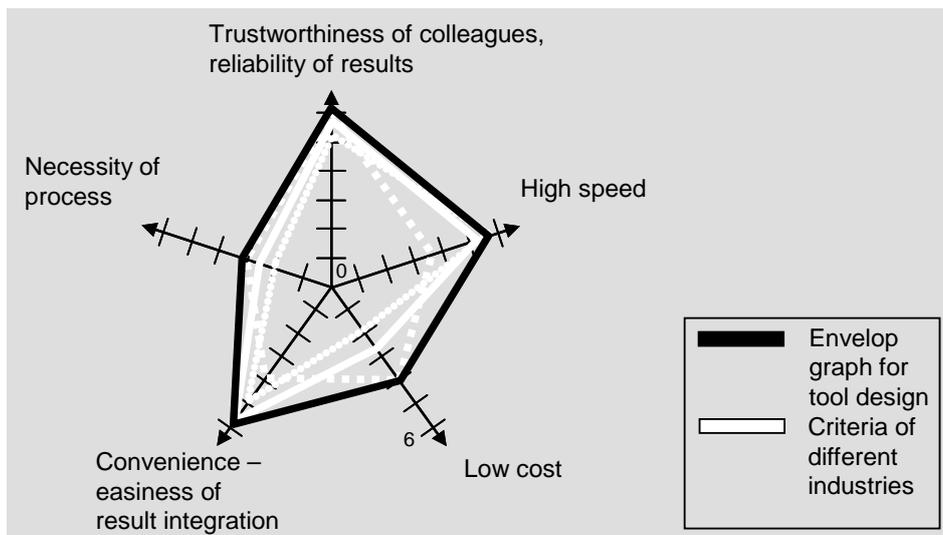


Figure 4. The envelop graph of the focus areas

To improve trustworthiness, the challenge of not trusting in methods and the competencies of colleagues, one solution might be the excessive training of the commercially orientated marketing employees to make them a more understanding partner for the engineers in R&D. It will take quite some time to see results following that aspect. A more radical solution could be a process collecting the market information without the marketing department. An idea would be a tool, with whose help R&D can collect information directly from the market and translates the information into the language of the engineers and provides the information without any intermediate.

The second most important factor is the convenience of the results. The collection process needs to be conjoint with an automatic analysis process, which structures and displays the information in the most convenient form, so that the employees in the R&D department can integrate the market information

as easily as possible in their development process. Here a graphic interface seems to be most promising. Users could state their product feedback on a graphical surface and an automated algorithm could then translate the collected information into input for the product development process. Almost as important as convenience is the speed, with which the results are presented. Here an online tool, which would generate results as they are reported by users of a product, would be a very suitable solution.

6. CONCLUDING REMARKS

The three aspects **truth** – **convenience** – **speed** lead to the concept of an online tool, which collects information directly from the user without the interface of a marketing department. A tool which collects real market feedback and displays the clustered and analyzed results directly in real time in the R&D department on a huge screen directly next to the coffee corner. A graphic interface makes it easy for a product user to interact and give feedback and possible for an automated algorithm to cluster and analyze the information collected. More **truth, convenience and speed** are hard to provide to an R&D department. The design of the tool, its features, the graphic interface, the method of collecting structured data, an evaluation of an empirical case study is presented in [6] and [7].

Next steps, after the optimization of the tool for an application in an industrial environment, will be the roll-out in various companies till the end of 2011. In order to evaluate the impact of the tool further studies are necessary. As it will take much too long to measure the direct impact of the tool in companies by measuring the decrease of the flop rate an indirect scale has to be developed to measure indirectly the tool's impact. A possible indirect measure might be the usage of the market information by the R&D employees measured before and after the roll-out of the tool.

The idea behind the tool is that in times of shorter resources we hope to improve the ability of the different industries to produce products the markets are really waiting for and thereby reducing the companies' flop rates and risks in their development process.

REFERENCES

- [1] Bartl, M. Virtuelle Kundenintegration in die Neuproduktentwicklung, *Dissertation WHU*, Deutscher Universitätsverlag 2006
- [2] Boatwright, P., Jonathan Cagan, J., *Built to Love - creating products that captivate customers* Berret-Koehler Publishers, Inc. San Francisco, 2010. first edition
- [3] Füller, J., Bartl, M., *Electronic Commerce Research*, 2006 - Springer Community based innovation: How to integrate members of virtual communities into new product development
- [4] Grieb, J., *Auswahl von Werkzeugen und Methoden für verteilte Produktentwicklungsprozesse*, Verlag Dr. Hut, München 2008
- [5] Jensen, J. Template Use and the Effectiveness of Knowledge Transfer, *MANAGEMENT SCIENCE*, Vol. 53, No. 11, November 2007, pp. 1716–1730
- [6] Kain, A., et al, Facing the open innovation dilemma structuring input at the company's border, *proceedings ICED 11*, 2011, to be published
- [7] Kirschner, R., et al, Immersive product improvement IPI – first empirical results of a new method, *proceedings ICED 11*, 2011, to be published
- [8] Lang, A. Susanne Reich, S.: „Outside in“ – Die erfolgreiche Integration von Endkunden in den Innovationsprozess, *Die neue Macht des Marketing – Wie Sie Ihr Unternehmen mit Emotion, Innovation und Präzision profilieren*, R. Kreutzer, (2007).
- [9] Kuß, A., *Handbuch Marketing Controlling, Sicherstellen von Effektivität und Effizienz der Marktforschung* (2006), Wiesbaden, Verlag Dr. Gabler
- [10] Reichwald, Piller (2009). *Interaktive Wertschöpfung*. Hamburg: Springer Verlag
- [11] Szulanski, G. (2000). The Process of Knowledge Transfer: A Diachronic Analysis of Stickiness. *Organizational Behavior and Human Decision Processes*, Volume 82, Issue 1, May 2000, Pages 9-27
- [12] Wastian, M. & Schneider, M. (2005). Zeitliche Aspekte des Projektmanagements: Die Bedeutung von Phasen, Laufzeiten, Impulsen, Ups und downs. *Wirtschaftspsychologie*, 7(3), 28-35
- [13] Watzlawick, P., Beavin J. H., Jackson D., (2002), *Menschliche Kommunikation*. Bern: Verlag Hans Huber
- [14] Wirtz, B., Burmann, C., *Ganzheitliches Direktmarketing*, Gabler, 2006