



THE EARLY STAGE OF THE INNOVATION PROCESS FROM A MARKETING PERSPECTIVE (CASE STUDY)

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Abstract

Innovations are seen as being mandatory for organizations to succeed in the long-term. New products, services, processes or entirely new business models are often not an easy task to develop within an organization. Especially in a global economy with increased competition, the risk of failure is high regarding financial losses. Hence, the tendency in perceiving the development process of innovations as a burden is understandable, especially if organizations have been successful in the past with existing business and without innovations. As the development process for innovation can also be a time consuming, uncertain and expensive matter, it is worth to think about methods on how to create innovations faster and more successful. Based on a field observation, this article aims to show a successful way on how innovations can be created by involving customers at the beginning of innovations. Therefore, the authors analyzed a start-up company within the pumping industry which growth mainly is based on a relationship-marketing approach and innovative products. As the research methodology, the grounded theory according to Strauss/Corbin was chosen to get qualified and open-minded data material to answer the research question on how innovations were created in the early stage. The results show that a strong customer focus is the company's key driver in succeeding with both existing and new products.

Keywords: Relationship-Marketing, Innovation management, Fuzzy-front-end, customer-involvement, Grounded Theory

Introduction

Innovation is known to be a key driver for an organizations' long-term success and hence intensively discussed within the literature as well as picked up from managers within all business sectors [1], [2]. Therefore, many companies implement the term "innovation" within their vision, mission and value statements. However, the success of innovation is primarily based on the willingness of the company to make them succeed. However, why do still many companies fail with their efforts in being innovative?

Researchers analyzed what successful innovating companies do right: the conclusion of such studies concluded that successful innovations are related to the company's innovative mindset and its profound implementation within the whole organization forming a unique corporate culture [3]-[5]. Successful innovations are based on a corporate culture which is willing to continuously develop and create new ideas leading to innovations which can finally be monetarized. However, each organization needs to define its meaning of what successful innovations are [6] as innovations are not limited to products, services or business models. Optimized processes within an organization leading to increased profitability are also described in being innovative as well as ideas leading to positive environmental or social effects.

However, in this article, the focus is set on product-related innovations and more specifically on how these are developed within the early stage: In general, companies have the choice either to develop by their own new, innovative solutions or to involve customers in the creation process [7]. Involving customers regarding an open-innovation process can be very successful as the rating of product ideas is based on market-related statements rather than on uncertain internal assessments, opinions or faith [8]-[12]. Hence, picking up customers problems, involving them right in the beginning of the innovation process can be a very valuable marketing strategy regarding both fulfilling customer needs by innovative solutions and increasing the dependence for future contracts [13]. Nevertheless, especially the fuzzy-front-end of such innovations is not well understood [14]. The present study shall provide a deeper understanding on how innovations are created in the early stage by involving customers based on a field study.

Research Methodology

For the present study, the authors observed a German industrial start-up company within the pumping industry after a year in operation. The primary focus of the company is the development, assembly and testing of crude oil pumping solutions for the Oil & Gas industry. The research was performed based on the grounded theory methodology (GTM) according to Strauss and Corbin [15]. (1996). The basic idea of the GTM is to explore and formulate new, commonly valid theories generated with the help of data deduced through empiric field observation. In this case, the grounded theory methodology plays an intermediate role between the extreme theoretical positions within existing science research [16]. The positivism research position on the one hand, which is oriented to the natural sciences [17] (Brand, 2009) and after which reality is measurable and provable by theses, and on the other hand the constructivism position, whereas the reality is neither measurable nor verifiable because it is "individuality" [18]. The positivistic approach is therefore often used in the context of quantitative investigations. Since the present study is based on a single company, a quantitative study would not be adequate. Therefore, the GTM as a post-positivistic approach shall be a promising approach for the present study and a good starting point for ongoing comparative studies. Typically for the GTM are field observations which mark the starting point for the iterative process of identifying the data's central categories by so-called coding [15]. The results of a coding process will be used as a starting point for the next data collection to gain more profound insights into the question. This iterative process can repeatedly be executed until satisfactory results are available for the researchers (see Figure 1) for developing a theory.

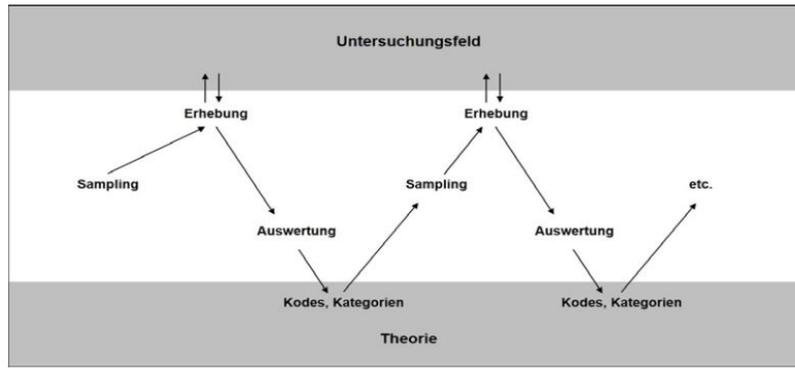


Figure 1: Iterative Research Process of the Grounded Theory Methodology

(Source: Albeck, 2016)

For the present study, the authors observed the industrial start-up company after a year of operation from mid-October 2016 until end of October 2017. The following GTM methods were applied:

- Behavioural field observation
- Informal interviews with management (founder and employed co-founders with high business market knowledge)
- Informal interviews of employees (persons without specific business background)

The study's framework is described as per table 1.

Table 1: Characteristics of the study

Aspect	Characteristics
Observation period	October 2016 until October 2017
Form of collection	Field observations, informal interviews of management and employees
Research object	German-based start-up company created mid-2015 Manufacturer and dealer of oil pumping systems
Execution of survey	Performed by the authors, field notes according to Grounded Theory Methodology (GTM)

Research findings

Customer orientation and its expectations

The central question to be answered within the primary research was to find out which priorities were set by the executive management of the company. During the first three years of existence, the company achieved a remarkable growth in terms of order intake (Order intake 1st year: ~5M

€, second and third doubled order intake) which is unusual for companies within saturated and competitive markets.

In this context the first question to be answered was: *Which general marketing approach is the organization making use of?*

Based on this open-ended research target – as it is common practice within the grounded theory methodology (GTM) – the observations made were focused to the managements' mindset, behavior and implemented actions to set up the young company. Generally speaking, the studies' outcome confirmed that an intensive relationship-oriented marketing approach seems to be promising within the business to business markets. As presented subsequently one specific result of this open-ended study was that customers should play an important role when it comes to developing successful and fast product innovations. It could be confirmed that ideas based on specific customer needs are a promising source for creating innovations. Furthermore, the customer satisfaction and customer loyalty can be increased leading to increased sales contracts. The overall result of the GTM research was the elaboration of so-called categories according to Strauss/Corbin [15] to find out which topics were in mostly in focus of the company or – respectively - were permanently on mind within the organization. The worked-out categories are the result of multiple informal interviews, discussions with the managements' team (first line manager) and direct customer feedbacks during customer visits at the company headquarters.

The multiple loops of sampling, analyzing and coding lead to an overall subject ranking by “importance”: what were the main topics within all these discussions?

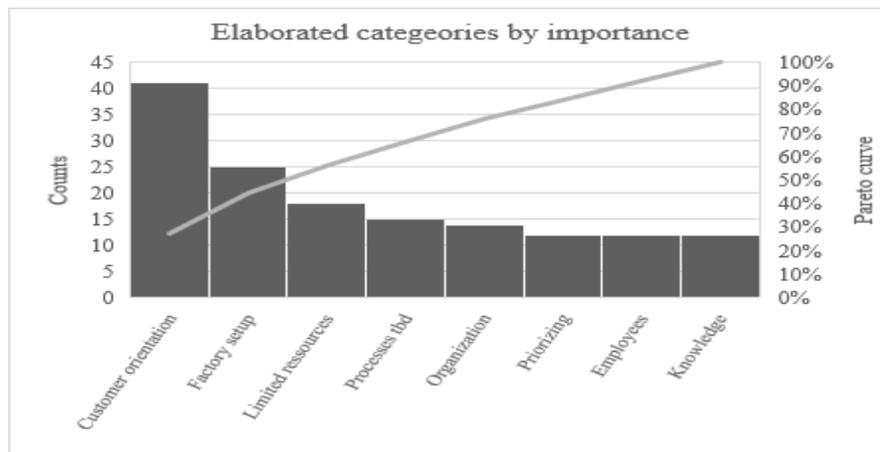


Figure 2: **Elaborated main categories by importance**
(Source: Author's own research finding)

As per Figure 2 “customer orientation” as the primary subject kept the organization occupied during the research period and still plays the significant role in all activities.

The setup of the new factory to execute the customers' product orders as well as the limited resources, in general, was the second and third largest core-categories. Hence, it can be stated that the customer orientation takes the primary place within all internal company activities.

In the following, the article focuses only on the first “core” – category: “customer orientation”. According to the analyses, the general findings confirmed that the company culture is purely

driven by a customer interaction - approach with the aim to increase the success chance for new orders. Setting the customer in the “drivers”-seat in terms of a marketing approach means, on the one hand, to analyze first the company’s general strategy and to understand the customer’s role within this strategy. In this context, the grounded theory method and its open-ended approach helped to understand the main topics addressed by the management to the whole organization. It shall be pointed out that during the research period the company was dependent from few but high potential customers only in the first years.

The data collection showed that the following statements (excerpt) of the managing director could be noted on a regular basis underlining the customers’ importance:

- "No action shall be performed unless the customer is willing to pay for it in a given time."
- “We only do things for what the customer is paying us or for what he is expecting.”
- “Customers shall always get what they expect.”
- “The customer shall have the feeling that we know what we are doing.”
- “The [new] factory shall look professional and busy when the customer is coming.”
- “All actions shall only be executed if this helps to serve the customer.”

These declarations can lead to the assumption that “customer orientation” is to be seen as fundamental core value also because it was repeated most of the time within most meetings observed. The department managers implemented these “requests” by prioritizing their actions accordingly. Furthermore, during the setup phase of the company core values have been worked to set the company’s strategy. One of the selected core values was indeed “customer orientation”. After all, the customers’ expectations have been placed in the center of all marketing and sales activities.

In a second step, subcategories were created for each core category as per the GTM methodology. These second-level categories show the relation or interaction to the core-categories and importance respectively. Setting the focus on the main category “customer orientation” the questions to be answered were now:

Which expectations do the customers have?

What needs to be done to fulfill the customers’ expectations?

Therefore, clusters of the data material collected (field notes) were created: the result was six different linked sub-categories as per Figure 3 showing the customers’ expectations and its meaning:

1. Get third party certifications: the implementation of a quality management system according to ISO 9001 and an Environmental Management System according to ISO 14001 was one central requirement formulated by the customers.
2. High order backlog: interestingly, customers also await a certain increasing order backlog over time; some kind as a “proof” of excellence. In this context, it could be figured out that suppliers, having a higher order backlog, are apparently being rated as more attractive.
3. Delivery reliability: this request can be seen as a general expectation. Suppliers with a timely delivery are seen as being operationally excellent.

4. Total Quality Management (TQM) – Commitment: customers expect their suppliers to develop an overall excellence-mindset and continuous improvement philosophy.
5. Local and competent customer service: background can be seen first in being able to install supplied products and secondly being able to react in case of need (e.g., product failure and troubleshooting)
6. Product innovations: customers expect the suppliers to improve their products continuously and to develop new products based on their needs

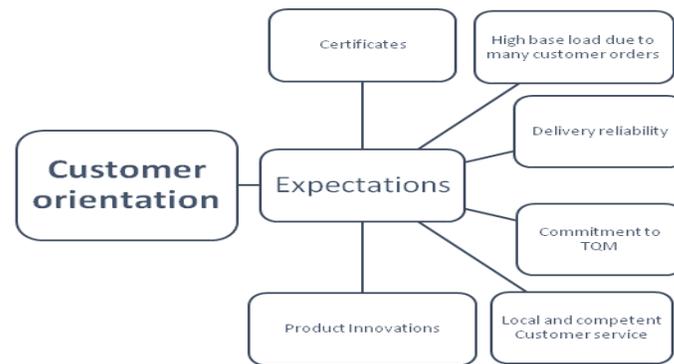


Figure 3: Core category “customer orientation” with sub-categories
(source: own graph, results of study)

In the following, the authors analyzed the process of how innovations are created and developed with a focus on the early stage.

The early stage of innovations

Focusing on the customer's expectations to create product innovations, the question to be answered was: *How are innovations created in the early stage and what role do customers play?*

As mentioned earlier the company has defined the customers to be in the center of each activity: “No action shall be performed unless the customer is willing to pay for it in a given time” (Managing Director’s original voice). It could be observed that this strong statement also has a direct impact on the creation of innovations in general: the authors determined in the field notes an accumulation of typical approaches within the early stage of the innovation development process as described in the following:

First of all, and as a matter of fact, the start-up company did not yet define an innovation development process within the existing ISO 9001 Quality Management System (QMS) as it is often the case in established companies. No formal way on how innovations are developed. Despite this fact, an "unwritten" or informal system as the starting point of an idea leading to a potential product innovation could nevertheless be determined (see Figure 4). Independently where or who (engineering, sales, manufacturing, others) was in touch with customers, the customer himself always initiated each product development. This by a general request for quotation (RFQ) or a general idea of how a particular problem within the customers' environment could be solved with the help of a new or adapted product. Internal ideas were not generated in the first step. The source of ideas was always outside the company. This external

(customer- driven) input can be declared as the starting point for the innovation process within the investigated company.



Figure 4: **Customers innovation input** (Source: authors)

According to Figure 5 the starting point, hereafter called "Stimulus", always comes from the customer initiating the early stage before any further feasibility studies or calculations, hereafter named "Phase 1". Phase 1 observations could not be structured as a rigorous linear process which is typically at this early stage where vague and so-called "fuzzy" discussion characterize this phase.

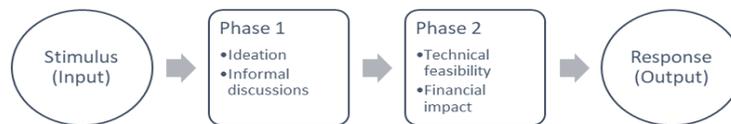


Figure 5: **Principal innovation development process in the early stage**
(Source: Author's own research finding)

However, some apparent abnormalities could be determined to move forward to "Phase 2" which – in this context – can be seen as the late stage of the observed innovation process:

- The idea is being discussed between sales, finance, engineering and manufacturing prior discussing with the managing director
- The discussions in phase 1 are informal and take place at localities such as kitchen, smoking corner, working breaks, etc.
- At some points, the customer was questioned again to collect further information
- The duration is entirely unspecified: phase 1 could last from only a few minutes up to 2 months
- Only if phase 1 was promising to generate a real opportunity, then the idea was discussed with the managing director. At this point, a simple yes/no – decision was taken to move ahead. If the decision was “no” the idea was being buried consequently without any back-loop. If the decision was “yes” phase two was started immediately to understand the impact of this new idea.

The observed “Phase 2” can be described as a way of checking both technical feasibilities as well as rough financial planning to check the probable return on investment (ROI). This phase can be described as a standard process within all innovation processes. However, contrary to a typical understanding of investment, the ROI shall be reached immediately with the first customer order placement. This attitude can be seen as quite unusual within the industry as discussed later. In consequence, this means that all ideas not being able to be financed with a positive balance immediately within a short time (first or latest with a guaranteed second order) are being

vanished. The decision was always justified with missing financial capital or the unwillingness of the customer to pay such a high starting investment. Strategic-wise this attitude might not be purposeful for the long-term development of organizations.

A positive outcome of Phase 2 was achieved if the technical and financial planning were promising to take into consideration that the technical aspects can be respected either based on internal resources (engineering) or with the help of external knowledge (suppliers). Suppliers could also play a financing role as it was the case for one of the observed product developments where the supplier covered all engineering and development resources, and hence the risk shifted.

After all, Phase 2 could either end again in a “no” decision (being vanished) or in a “yes” decision leading to a formal offer to the customer as response acc. to Figure 5 (= output). The offer was related to technical assumptions, calculations, supplier’s feedback and financial calculations. Contrary to Phase 1, the duration of Phase 2 was much shorter with duration of 1-2 weeks. This short “reaction” time seems to underline the willingness of the organization to perceive opportunities in general. Even if apparently higher (the offered price as per customer statement is ~15% higher than from competition) the realization time of the new products within the industry seems to be seen as much shorter (as per customer statement: ~ 50% less development time compared to the competition). This advantage is not negligible as for both customer and supplier a shorter time is an advantage: the customer can solve its problem earlier, and the supplier can achieve market advantages (the first takes it all). In another context but within the same GTM research this – sometime – opportunistic attitude could be confirmed: prior the finding of the already mentioned core-categories a side memo was created within the field notes from January 2017 showing the opportunistic behavior of the company as per Figure 6.



Figure 6: **GTM memo “opportunism”** (Source: Author’s own research finding)

The memo shows multiple reasons why opportunism occurs within the organization and confirms the guess in perceiving chances quickly if they are promising to increase future turnover or vital for the company.

Discussion

The result of the present study makes clear which role the customers take within the general marketing strategy. All market-related actions need to fulfill two conditions: on the one hand, the aim is to convey a certain feeling to the customer that he is taken seriously and on the other hand all actions are more or less purely financially driven. Ideas are being taken up and if worthwhile also realized. For this a steady customer- relationship is needed in the first step to be as close as possible to its needs and potential. This mindset reflects the general paradigm shift within an

increasingly competitive market from a traditional “inside-out-perspective” towards an “outside-in-perspective” as described by Bruhn [19]: the famous “4P”-marketing mix – activities (product, price, place, promotion) are somewhat related to an inside-out-perspective. The company focus to generate transactions with its customers whereas the outside-in approach is more relationship-orientated. The latter perception is typically found in B2B markets or professional services where nowadays short-dated relationships with customers are the exception.

This leads to the assumption that the traditional 4Ps are not appropriate for dealing firmly with customers as it is the case with a relationship- marketing- approach where the recruitment, the retention and recovery (“3Rs”) of potential customers seems to be the key to succeed in the long-term [20]-[22]. As shown in figure 3 customers do have basic expectations (such as standard certification) which may also vary from customer to customer, but these expectations are more likely to increase over time. Binding customers means to fulfill or even excel their expectations [23].

One proven way to ensure a continuous competitive edge is to achieve a so-called "excellence"-status. Excellent, outstanding achievements are by means the result of a Total Quality Management philosophy based on well-defined and working processes integrating all stakeholders involved in the company's activities: customers, suppliers, employees, shareholders, local institutions and other third parties [24]. Especially because the general economic environment is quite dynamic, it is most probably that organizations will have difficulties in keeping their achieved competitiveness in the long-term: As Classen [13] states it is most likely that imitations, as well as resource substitutions by competitors, will weaken existing market leadership. In consequence, knowing customers' expectations by developing a steady customer- relationship can be a promising and worthwhile strategy: in this respect, the management and development of innovations is one key- aspect in ensuring long-term competitiveness [25]. Chesbrough [26] is stating: „Everyone knows that innovation is a core business necessity. Companies that don't innovate die”.

The initiative of generating ideas, developing and market these to new products is handled differently inside organizations. Existing models describing the organizational approach on how to manage ideas leading to innovations are primarily described either as process-oriented or as result-oriented perceptions [27]. In any case, the traditional way of creating innovations internally within an organization and shield these activities from the outside shall be abandoned if innovations need to be more successful. Quite often innovations are generated without the customers' input resulting in non-market-conform products and leading at the same time to a high flop-rate [26], [28]. Hence, involving customers from the beginning is a meaningful way in increasing both market acceptance and also profitability, respectively through shorter development costs [7].

The first step in creating successful innovations is the right ideas promising success. The ideas are generated in the early stage, often called also “fuzzy” front-end as the starting point (=ideation phase) of an innovation is vague and not well known [29]. However, the research of this fuzzy front-end is still a young research field and in many cases not well understood [14]. In this context, the present study could show that customer's idea can be a promising starting point for the development of successful innovations. At the same time, a promising idea should be realized quickly to ensure competitiveness and customer loyalty.

Conclusion

The research shows that relationship- marketing is a considerable way for organizations to succeed. Customers have more and more the possibility to choose their suppliers in an increasingly competitive market. Hence, involving customers within an organizations' innovation management can strengthen the customers' loyalty besides the fact that the innovation process itself will be improved as well: market-related ideas and a quicker innovation cycle leading to a more efficient way to increase the success rate and profit. If sagacious organized and also planned from a marketing perspective product innovation can be the opening to further markets to increase sales. However, the downside of such a customer-orientated innovation approach is also apparent and was confirmed within the study: innovations which are too customized risk to fit for a limited market only. Furthermore, a stringent focus on a single customer as it was the case for one of the product innovations can limit the resources for further innovation projects, especially in small or medium-size organizations.

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