A Modified Customer Approach for Publishers under the Influence of the "Internet of Things"

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Abstract
New technologies under the influence of the "Internet of Things" enable a connection between the virtual and the physical world by adding the "material" dimension to access to information via the internet - through intelligent everyday objects. One area that has not yet concentrated on the influence of IoT and its new technological possibilities is the publishing industry. Publishers already have the essential component of their potential product for intelligent everyday objects: High-quality content. However, publishers first need a strategy to address the different buyer groups. The paper is based on Everett Rogers' "diffusion theory" and its extension by Geoffrey A. Moore. Rogers divides the customer approach into different buyer groups and analyses to what extent these can be convinced by new products. The aim of addressing the customer groups is to create or strengthen customer confidence and thus establish a stable, long-term customer relationship. Geoffrey A. Moore takes up the "diffusion theory" and discusses necessary extensions, especially with regard to the effective closing of the gap between the transition of "early adopters" and "late majority". The paper develops an approach to the different customer groups of the publishing management of the intelligent publishing products. The author focuses on the "open innovation approach" as well as the conviction of influencers to generate competitive advantages, depending on the customer group.

Keywords: Diffusion Theory, Internet Of Things, Publisher, Intelligent Everyday Objects, Rogers, Moore, Customer Approach

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Introduction

1.1. Potentials for Publishers through Intelligent Everyday Objects

Under the influence of the "Internet of Things" (IoT), a connection is established between the virtual and the physical world, as access to information via the internet is extended by the material dimension - through intelligent everyday objects. The material dimension includes objects such as refrigerators, coffee tables or cookers that are clearly identified in their surroundings, communicate with each other and with their surroundings and can therefore be described as intelligent (Barton 2014, p. 15). These technological innovations and thus opportunities for product development have so far hardly been integrated by publishers into their existing value chain. Direct data exchange between the products and thus also between the publishing products will become possible, which will offer additional added value for both the publisher and the consumer. For example, individual customer requirements can be exchanged between products to personalize their output (Uckelmann et al. 2011, V).

With the progress of information and communication technology and in particular the minimization of electronic components, the vision of connected intelligent everyday objects is becoming increasingly lucrative for publishing house management. At the same time, price degradation makes the technology affordable and thus usable (Fleisch and Mattern 2015, p. IX).

Different types of media in publishing management (e.g. print and online offerings as well as the inclusion of intelligent everyday objects as content channels) can increasingly be connected through the use of new technologies. This increasing media convergence creates room for a changed value proposition for publishing house management (Breyer-Mayländer 2015, p. 5; Zerdick et al. 1999, p. 130). Thus, under the influence of the IoT, new possibilities open up for publishing house management by linking media content and offering it in intelligent everyday objects.

1.2. Changes in Customer Usage Behavior under The Influence of The Iot

This leads to changes in customer usage behavior and requires innovation processes in the area of publishing management. With these changes a differentiated approach to the different customer groups is necessary. Here it should be emphasized that publishing houses can use intelligent everyday objects to offer publishing content to their existing target groups for print and online - both in terms of their experience in adapting their publishing products and generating new publishing customers for the new content channel.

However, using intelligent everyday objects as playout channels for publishing content means that publishers must first develop a possible approach to meeting the different customer needs of different customer segments. This paper addresses the question of how publishers can meet different customer needs. The author uses the "diffusion theory" of Rogers - which includes the analysis of the different customer segments - and takes into account the extension according to Moore (Rogers 2003, p. 5; Moore 1991, pp. X-XII).

1.3. Possible Integration of Intelligent Everyday Objects for Publishers

How the whole thing can now be implemented for publishers can be explained using an example of a stove that has already integrated a display into an intelligent cooker. A possible recipe from the publisher's content could be presented on the display. The customer thus has the option of directly calling up the publisher's content (here the recipe) via the manufacturer's product (here the cooker) and implementing it directly during cooking. An additional media channel for retrieving the publisher's content is therefore not necessary. Here, publishers have the opportunity to integrate their content into the intelligent everyday object and to sell this added value to the manufacturer (e.g. an intelligent refrigerator now serves as a content supplier in addition to the cooling function for food).

The publisher's contents are thus directly related to the customer's use and thus gain added value for the customer. Above all, content is made available to the customer at the right time and in the right place, which is exactly where the customer wants it. In addition, if the customer uses a large number of intelligent everyday objects, individual customer needs can be met in a targeted manner. Moreover, the customer himself is part of content production and distribution, which is why the customer can identify strongly with the publishing product. For example, the publishing customer can be integrated into the selection of the content in the form of communities.

1.4. Scientific Background

In the monograph by Buhse: “Management by Internet: Neue Führungsmodelle für Unternehmen in Zeiten der digitalen Revolution” (2014) as well as in the publication of the authors Elgar, Weinberger and Wortmann discuss in their essay “Geschäftsmodelle im IdD”. (2014), those models are discussed which take into account the developments of the IoT.

The publications by Fleischhacker: “Die Zeitung” (2014), by Breyer-Mayländer: “Vom Zeitungsverlag zum Medienhaus - Geschäftsmodelle in Zeiten der Medienkonvergenz” (2015), by Paesler in his article “Make vs. Buy, Digital vs. Print: Verlagsstrategien im Lokal- und Regionalmarkt” (2015) possible regional strategies for publishers as well as Rolf and Sagawe: “Des Googles Kern und andere Spinnennetze: Die Architektur der digitalen Gesellschaft” (2015) discuss the topic of the necessary change in the existing publishing business model and possible design options. In their publication “Das X-Modell für die Medienindustrie” (2002), for example, Tzouvaras et. al. have developed an approach to publishing management that focuses on the relevance of content aggregation for the publishing business model in times of increasing digitalisation.

Published application-oriented publications in the field of IoT, in addition to technological explanations, have so far mainly taken up examples from the fields of logistics, production, health and mobility, e.g. in the investigations by Botthof and Bovenschulte: “Das 'IdD': Die Informatisierung der Arbeitswelt und des Alltags. Explanations of a new basic technology” (2009). In his monograph “Communication and Control Strategies for the IoT” Chisu focuses on the following topics (2010), the areas of logistics and production.

Changes in the publishing industry are therefore often discussed, but so far there is no analysis of possible opportunities for addressing the various customer segments, taking into account the influence of the IoT (Sendler 2013, p. 13). Rather, business models in the age of

the digital revolution are generally discussed with the focus on the necessary adaptation of cross-industry business models.

Therefore, the focus of this paper concentrates on a research gap and thus contributes to scientific progress. The paper thus focuses on research results that are both sound (valid) and unpublished (original) and also provide some new insights in the field of publishing management research. According to Alvesson and Sandberg (2013, p. 29), the research questions thus refer to a so-called "gap spotting" and in particular to a "neglect spotting" with the characteristics "Overlooked area", "Under-researched", "Lack of empirical support", "Lacking specific aspects" as well as an "Application spotting" with the characteristics "Extending and complementing existing literature".

2. Methodology

2.1. Methodological Techniques

The scientific basis of the work is based on an interpretative approach (Gephart 2004). Individuals construct their own reality and therefore the author of the paper is not objective. Furthermore, the author has been active in the media industry for years, so there is no complete objectivity based on personal experience.

The author uses an abductive approach according to Alvesson and Kärremann (2007). This approach takes into account the logic of inductive research, i.e. the exploration of something unexpected and not expected. Nevertheless, the data have merged with the theory and the development of new scientific insights for the media industry has focused on rethinking/problematizing an established theory (here Rogers' "diffusion theory") in publishing management research. The focus of the work is therefore on the investigation of cases that cannot yet be represented by Rogers' "diffusion theory" (Alvesson and Kärreman 2007, p. 1265; Rogers 2003, p .5).

The author uses a document analysis to answer the research questions. This methodology was chosen because it guarantees comprehensive access, comparability, long-term analysis, a large sample and a retrospective perspective according to the criteria of Costas (2015, pp. 50-58). The author uses detailed secondary documents (compiled from primary sources) as well as printed mass media (e.g. journals, newspapers and books). The selected texts of the printed mass media have the following criteria: be at least one page long, have been written by authors of the respective editors of the professional journals and concentrate as addressees on persons working in media companies.

2.2. Methodological Approach

First, the author connects the topic of new technologies under the influence of the IoT with potential publishing customers, i.e. to what extent publishers can profit from intelligent everyday objects in the future and offer their content to their customers via them. In addition, the advantages under the influence of the IoT within the publishing value chain - the associated performance promise - as well as the role of the individual publishing customer along the various stages of the value chain are explained.

A theoretical-conceptual, but also logical approach serves as a basis for the development of recommendations for action for publishers. From the general (deductive approach / top-down

approach) several specific recommendations for action for publishing management are derived.

In the course of the work, Rogers' “diffusion theory” will be taken into account (Rogers 2003, p. 5). At first, the theory with the different customer segments in the adjustment process with the product introduction of innovations is presented. Subsequently, the author will explain the different customer groups of publishing house management under the influence of the IoT. The abstractness of the theory will be reduced by concrete solution alternatives for publishers. The aim of the author is to explain the influence of the IoT as a phenomenon and to derive recommendations for publishers as to how they can address the various buyer groups. These design options for publishers within the framework of the IoT serve as guidelines for maintaining competitiveness and tapping new sales potential (Eigler 2006, p. 522; Scheuss 2008, pp.216-219).

The advantages of the IoT for publishing houses can be worked out well from this and thus the relevance of the individual customer for his needs can be shown. Subsequently, the author develops both recommendations for action and suitable adaptation attempts of Rogers' theory in relation to the publishing industry under the influence of the IoT (Rogers 2003, p. 5).

The author analyses the individual categories of the theory so that a large number of factors are listed, completeness and sufficient data of the research project can be guaranteed (“rich data”). These explain the necessary measures to address the individual customer needs of the customer segments. The feasibility of the project is strengthened above all by the part of the document analysis.

2.3. Object of The Study: The Value Chain and The Role of The Customer under The Influence of The Iot

In the area of procurement, it can be said that the manufacturer of the everyday objects is added as an additional partner. The customer himself does not yet play a direct role here, but a suitable selection of manufacturers should nevertheless be made for the provision of content. With the IoT new risks arise for publishers that the information that is disseminated about everyday objects will continue to guarantee independent content. Consumers can quickly assume that only selected journalistic content is reproduced by the publishers in cooperation with companies. It is therefore increasingly important to maintain credibility and transparency as competitive criteria in both the reader and advertising markets, and thus to cultivate and expand trust in customer relationships (Döpfner 2012, pp. 168-169, 181).

In the area of production, it is evident that the personalization of content is improved by the new technologies and that the customer can be integrated into the content creation process. Personalization by incorporating the content wishes of the individual consumer and, for example, querying them in the form of community or feedback formats within the product and implementing them immediately. The creation, maintenance and expansion of a stable customer relationship should be taken into account in content production, for example by delivering independent, credible content. In the advertising market, too, it is important to ensure that both credibility and transparency are conveyed to the customer during content production.

In the area of distribution, the new distribution channel will reduce printing costs and specify advertising, so that the length of stay will also increase. By taking up the individual usage

context of the publisher's customer, the increase in the length of stay will improve significantly. The creation of communities for the direct exchange between the individual customer segments as well as feedback functions additionally improve the satisfaction of publishing customers' needs with regard to integration and communication.

Stable customer relationships support the sales market and future demand within distribution. These can be consolidated within distribution by gathering sufficient information together with the customer about his needs. Particularly with regard to independent content, publishers can obtain feedback from their customers on the extent to which credibility and quality can continue to be guaranteed as part of the distribution of their products.

The art of publishing house management should therefore consist in ensuring that the adjusted performance promise in the IoT corresponds to the changed customer needs. These changed customer needs - especially with regard to the individual customers of the various customer segments - can be examined with the help of Rogers' “diffusion theory” and the extension according to Moore (Rogers 2003, p. 5; Moore 1991, pp. X-XII). Possible approaches to fulfill these customer needs can be developed, e.g. with “open innovation” approaches. “Open innovation” means the active involvement of the customer in product development (Gassmann and Enkel 2006, pp. 132-136; Osterwalder et al. 2011, p. 33; Scheuss 2008, p. 256).

2.4. Rogers “Diffusion Theory” as An Option for Defining The Customer Approach under The Influence of The Iot

The “diffusion theory” according to Rogers (2003, p. 5) focuses on the process and thus the diffusion in which an innovation is communicated to a social system via various channels over a period of time (Rogers 2003, p. 5) A new product or service that reaches the market is not adopted by all potential customers at the same time. Some individuals decide to adopt earlier than others. The decisive criterion for dividing adopters into different categories is the joy of innovation, i.e. the extent to which an individual is willing to adopt an innovation earlier than other members of a social system (Rogers 2003, p. 280). Initially, a user acquires product knowledge and develops a positive or negative opinion of the innovation (persuasion). This is followed by the decision of the adaptation (decision), from which the implementation and the confirmation of the decision for the innovation follow (Olenberg 2015, p. 9, Rogers 2003, p. 37). The innovation factor makes it possible to divide customers into different segments in terms of their willingness to adapt to innovation (Olenberg 2015, p. 9).

Rogers "diffusion theory" describes different customer segments when innovation penetrates in the market. These can be depicted as a Gaussian bell curve (see Figure 1).

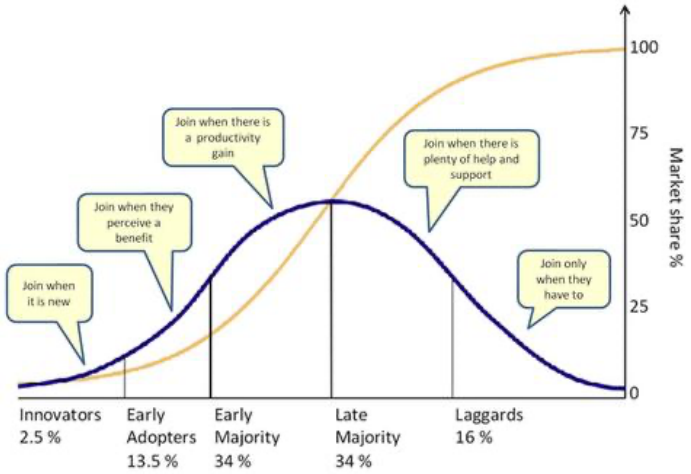

Figure 1: Rogers 1962, p. 247.

In his "diffusion theory", Rogers distinguishes between five groups of buyers in terms of the speed with which they are willing to accept an innovation/new product. The x-axis represents the time and the y-axis the proportion of users of the respective group in relation to the total. The different groupings differ in terms of psychological and demographic characteristics that determine their willingness to innovate (Rogers 2003, p. 5).

The "innovators" are both enterprising and willing to take risks. These people adopt an innovation independently of other individuals. Since there is only limited information available about the new product at this time, an innovator must be able to cope with a high degree of uncertainty. The ability to understand and apply new technologies is also required.

The "early adopters" act cautiously, but accept new ideas at an early stage. They enjoy a high degree of opinion leadership in most systems. They are often asked for advice when it comes to adopting and testing a new idea.

The "early majority" adopts new ideas earlier than the average consumer with thoughtful action. Caution and deliberation are important. It is a matter of moving with the times and adopting an innovation, even if it seems to prevail. Contact with members of the same category is of higher importance than the opinion of previous adopters. Imitation plays a decisive role.

The "late majority" is rather skeptical about new ideas and only accepts innovations once they have been evaluated by the majority of consumers. Rather, the motivation is in line with social pressure and economic necessity than with the actual joy of the idea. Cheap and absolutely safe solutions are required.

The "laggards" accept innovations if they are integrated into their environment and are already described as traditional new products (Herrmann and Huber 2009, pp. 267-268). They are suspicious of new achievements and adhere to traditional ideas and conceptions (Rogers 1962, p. 247; Rogers 2003, p. 5).

2.5. Adaptation of The "Diffusion Theory" as A Success Factor for The Customer Approach in Publishing Management under The Influence of The Iot

Rogers' "diffusion theory" is useful for dividing the various customer groups for content consumption into intelligent everyday objects. However, the Gaussian curve according to Rogers' "diffusion theory" and thus the distribution of customers among the different customer groups strongly depends on which technologies are necessary for content consumption via intelligent everyday objects and to what extent these are accepted by the different customer groups.

In addition, the successful distribution of content depends on the use of the individual customer groups. If the "innovators" - according to Rogers the first customer group that consumes content via intelligent everyday objects - do not accept the technological innovation and its offer to consume content, the publishing product will not reach the other customer groups according to Rogers. (Rogers 2003, p. 5). Moore (1991, pp. 15-17, 20) examined this approach in detail. He speaks of "crossing the chasm", which should occur particularly in the transition from "early adopters" to the "late majorities" (Moore 1991, pp. 15-17, 20). Moore (1991, pp. 10, 20) intended to focus on one customer group and use each group as a basis for marketing the next one. If a successful company can achieve a "bandwagon effect" with sufficient momentum, the product becomes the de facto standard. The "bandwagon effect" is a phenomenon where the acceptance of beliefs, ideas, fashions and trends increases when adopted by others. In other words, the "bandwagon effect" is characterised by an increase in the likelihood of individual adoption compared to the proportion that has already done so. Once, a group of people believe in something, others will "jump" on the bandwagon, regardless of the underlying evidence (Moore 1991, pp. 11, 16, 116-118).

Publishers can learn from their experiences with different customer groups in relation to existing online and offline formats to achieve acceptance of content through intelligent everyday items for different customer groups. Publishers should try to achieve a "bandwagon effect": An adaptation of the new product is significantly influenced by the fact that a large number of publishing customers have already consumed content about intelligent everyday objects, are active in communities here and contribute to the continuous expansion of the product through feedback loops. These measures can be subordinated to the "open innovation" approach. Moreover, it is important to win influencers who have a positive influence on the following customer groups and their product acceptance. Which role open innovation approaches and influencers have for the different customer groups for the production of competition advantages, explains the author in the following after the diffusion theory of Rogers (2003, p. 5) and its extension after Moore (1991, pp. X-XII). That is, a customer approach, which builds on one another and depends on the success of the preceding customer group is the basis of the analysis.

"Innovators" are characterized by an open and risk-taking acceptance of new products. This target group is initially reached by publishers because they enjoy the added value of intelligent everyday objects. This group in particular enjoys possible "open innovation" approaches. They are willing to express appropriate know-how and product wishes and, together with manufacturers and publishers, to work out these requirements for the other customer groups in the existing publishing product and then integrate them.

The buyer group “early adopters” acts cautiously, but shows a high willingness to consume published content about intelligent everyday objects. It is likely that these are customers who have a high degree of trust and commitment in the publishing product itself and are also influenced by the IoT for products (Herrmann and Huber 2013, pp. 267-268; Rogers 1962, p. 247). Publishers are increasingly integrating this customer group into the value chain in the form of “open innovation” approaches and benefit from the experience they have gained with the “innovators”. In this way, publishing products can be personalised together with publishing customers according to their needs. This results in a high data volume with individual and personal publication products that are tailored to the customer needs of the customer groups “innovators” and “early adopters”.

Publishing customers who belong to the “early majority” are increasingly concerned with the new content product. The goal of publishing management is to convince these customers of the quality and the existing credibility of the publishing product. This customer group wants to receive an almost mature publishing product, so that the integration via “open innovation” concepts, e.g. in the form of feedback loops, is not as effective for the success of the conviction of this target group as it is for “innovators” and “early adopters”. Rather, this group of buyers wants to receive a “high-quality” publishing product.

The “late majority” buyer group can be apporached with ratings, communities and experience reports from other buyer groups. “Open innovation” approaches are almost pushed into the background. For this reason, it is crucial for publishing house management to win over suitable influencers as customers, which provide for a product acceptance of the further customer groups by appropriate reviews for this reason.

The “laggards” can be approached if consumption has established itself via intelligent everyday objects from the contents of the publishing house and, in addition to “print” and “online”, also shows noticeable buyer acceptance. This noticeable buyer acceptance can be promoted again by publishing houses, by moving customer reports into the foreground, with which the “laggards” can identify themselves, i.e. likewise the focus on influencers. “Open innovation” approaches are not prioritized by this target group. Rather, this customer group benefits from the integration of the previous customer groups into the various stages of the value chain in the form of “open innovation” approaches in order to obtain an almost mature, intelligent publishing product.

If one transfers Moore's approach to publishing management, it becomes clear that the approach to achieving competitive advantages in the form of “open innovation” approaches or focusing on influencers is changing in the gap between “early adopters” and “late majorities” described by Moore (1991, pp. X-XII, 20).

For “innovators” and “early adopters”, “open innovation” approaches are precisely the means of convincing consumers to buy and co-develop the publishing product under the influence of the IoT. The acceptance of “open innovation” approaches, however, is already declining among the “early majority” users, since they aim to consume an almost completely developed product. For this customer group and the following “late majorities” and “laggards” it is of crucial importance to integrate suitable influencers in the evaluation of the publishing product via intelligent everyday objects in order to strengthen the product acceptance of their (and the following customer groups). It is particularly important that the publisher's product has already been developed at a fairly high quality level (with the help of “innovators” and “early adopters” through “open innovation” approaches), so that this transition increases the

acceptance of the publisher's product for the following customer groups with regard to the product acceptance of the new intelligent publishing product and its evaluations by suitable influencers.

3. Conclusion and Discussion

3.1. Main findings

On the one hand the author has pointed out that with the development of new technologies around the topic IoT and the development of intelligent everyday objects as a possible content channel, publishers now have the chance to integrate a multitude of additional channels into their portfolio and to fill them with personalized, individual content for the different customer groups.

An essential key activity is the management of customer relationships and their different customer groups, i.e. the adaptation of publisher content via intelligent everyday objects. It is crucial to involve publishing customers in product development, in order to close the gap between “early adopters” and “late majority” customers (Moore, pp. XI, 20). According to Teece (2010, p. 189), the focus is on answering the question of what customers really value and how the product's range of services satisfies these needs in order to meet customer wishes and thus customer benefits. Osterwalder et al. (2011, p. 27) complement this question by stating what value is conveyed to the customer and what product and service package is offered to each customer segment. A tailor-made range of services tailored to customer needs contributes to the company's added value (Osterwalder et al. 2011, p. 27).

The most important point is therefore the adaptation to customer wishes by personalizing the product. Customer needs can be analyzed and fulfilled with the help of the different “open innovation” approaches: These “open innovation” processes can help to achieve the “bandwagon effect” for publishers in regards to their customers. This means that the various “open innovation” concepts satisfy customers with regard to their needs. The customers would hereby be part of the production process and thus have a decisive influence on the publisher's content. Thus, publishers can generate a higher number of customers within the different customer groups, which has a positive effect on the generation of further customers within the next customer group according to Moore (pp. XI, 20). The publishers thus have a tool to close the gap between “early adopters” and “late majority” customers (Moore, pp. XI, 20; Rogers 2003, p. 5).

3.2. Implications for Publishing Management

In conjunction with Rogers (2003, p. 5) “diffusion theory” and the adaption of Moore (1991, p XI), the work divides the various groups of publishers' buyers and develops recommendations for action for publishers to address customers in the IoT. According to the “diffusion theory” from Rogers (2003, p. 5), it is necessary to address the various buyer groups differently and during the various product launch phases. The aim of addressing the customer groups is to create or strengthen customer confidence and thus build up a stable, long-term customer relationship, thus increasing the relevance of the customer relationship.

In summary, Rogers' diffusion theory and Moore's adaptation can be used to develop a strategy for addressing publishers' customers that makes a positive contribution to successful intelligent publishing products. The author points out that the integration of influencers as

well as “open innovation” approaches - depending on the different customer needs of the different customer groups - positively influences the success of the customer approach and thus the distribution for the publisher management. Here, the focus on influencers - especially among the customer groups “late majorites” and “laggards” - is a key factor for the success of intelligent publishing products and their acceptance by all customer groups. Precisely because the acceptance of different customer groups builds on each other, the influencers are decisive for the acceptance of the publishing product via the content channel intelligent everyday objects for later following customer groups.

The business focus on good customer relationships has a positive effect on the reputation of publishers and promotes acceptance of the new content channels. In addition, the perception of the publisher's customers also benefits with regard to the user-friendliness of the new publishing product. The goal of publishing house management should be to ensure that the value proposition under the influence of the IoT corresponds to the changed customer needs and has a positive effect on the customer relationship and thus the adaptation of the various customer groups.

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