

**VALUE CREATION POTENTIAL OF WEB 2.0 FOR
SME — INSIGHTS AND LESSONS LEARNT
FROM A EUROPEAN PRODUCER OF
CONSUMER ELECTRONICS**

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Web 2.0 as a contemporary phenomenon receives considerable attention by IS scholars due to its perceived transformational impact on businesses. This paper critically elaborates on the value creation potential of Web 2.0 for small and medium enterprises (SME). By conducting an inductive study we reveal that SMEs can effectively use Web 2.0 as a means to support customer acquisition, alleviate resource limitations and to maintain customer enthusiasm associated with the customer purchasing process. In case that a high customer convenience is required which is based on the involvement of different parties or on personal service support, there is hardly any Web 2.0 value creation potential. This research contributes to the domain of business modeling by assessing the notion of value in a Web 2.0 setting. It also contributes to IS research on Web 2.0 adoption.

Keywords: Web 2.0; value creation; social media; SME; business model.

1. Introduction

Web 2.0 as a contemporary phenomenon receives considerable attention by IS scholars as it changes the perception and usage of the Internet. User integration, engagement, experience and collaboration are motivated in this context, i.e. social mechanisms being integrated within a technological-mediated environment. Eventually, these mechanisms revolutionize communication of organizations since their target groups become effectively involved in the corporate communication.¹ The simplicity for web users to recommend, tag, share, score or comment on organizational contents possibly leads to a high reach of company messages. This user empowerment therefore impacts organizational value creation which should be explored and exploited.²

Yet, there is still uncertainty how companies should integrate the opportunities of Web 2.0 to generate sustainable business value.³ While it is claimed that Web 2.0 provides opportunities especially for small and medium enterprises (SMEs) to overcome difficulties in adopting new technologies,⁴ there is a slower adoption to be noticed compared to large organizations.^{5,6} To address Web 2.0 and value creation challenges for SMEs, it is our objective to elaborate on the value creation potential of Web 2.0 as a key for organizational success. In an inductive study we apply the business model (BM) construct and value creation theory to identify how SME can exploit Web 2.0 as well as which factors are difficult to be replaced by these mechanisms. Put differently, we aim at developing an answer to the question: How can SME integrate the opportunities of Web 2.0 to create value?

We begin by reviewing the conceptual background underlying this research. Hereafter we present the methodology that this paper employs. In succession we perform the case analysis followed by a discussion of our findings. We conclude with the observation that SMEs can effectively use Web 2.0 as a means to support customer acquisition, alleviate resource limitations and to maintain customer enthusiasm. No potential for using Web 2.0 mechanisms is observed in case that high customer convenience is required which is based on the involvement of different parties or on personal service support.

2. Background

2.1. *Web 2.0 in a business context*

In the absence of a commonly accepted definition, Web 2.0 can be described a multidimensional phenomenon⁷: There is a social dimension represented by satisfying basic sociological patterns over the internet like identity seeking through affiliation in groups, sharing experiences and building relationships. A technical dimension is given as web users use the advancements of modern communication technologies to create, modify and distribute information, to collaborate with others, or to contribute globally regardless of their social status.⁸ Last, there is an economic dimension, as organizations make use of Web 2.0 mechanisms and tools to create business value.² Frequent usage for an external collaboration is observed within the corporate functions communications, marketing and human resources.⁹ Rather than being mainstream, organizations struggle how to effectively integrate the opportunities or typical Web 2.0 applications. They have cost-benefit considerations, miss proven concepts, fear of loss of control¹⁰ or feel the necessity to implement an IT innovation fashion.^{2,11}

Recent academic research aims at developing an understanding of factors related to an organizational Web 2.0 deployment.¹²⁻¹⁶ Case study-based research within large organizations is a common approach for that purpose. Publications on Web 2.0 adoption in SMEs are fairly limited.^{4,17-21} One assertion herein is that Web 2.0 provides potential for SMEs to easily adopt these new technologies. Few resources, little technical skills and knowledge would be required to establish a decent Web

2.0 footprint and compete against large competitors.¹⁹ Nevertheless, it seems to be neglected that maintaining these communication channels is vital after implementation. Corresponding activities require human resources, a considerable amount of time and relevant contents for a decent channel management. Moreover, there are only little insights about the value potential of using Web 2.0 mechanisms for SMEs.²²

2.2. Using BM to explain the notion of value

The importance of the Internet for organizations is a major driver for research into BM.²³⁻²⁵ Scholars propose the BM as unit of analysis because no single theory can explain the value creation potential of e-business.²⁶ Value in this context refers to the total value created, i.e. the value to each stakeholder that is involved. The theory of value creation by Amit and Zott²⁶ identifies the sources of value creation in e-business as efficiency gains, novelty, lock-in effects and complementarities (see Table 1).

As this value potential arises from multiple sources, it is the BM as unifying element that captures all of this potential. In the absence of an agreement on BM definition²⁷ we align our understanding with Amit and Zott²⁶ stating that “a BM depicts the content, structure and governance of transactions designed so as to create value through the exploitation of business opportunities” (p. 511).

The BM literature on e-commerce considers Web 2.0 as enabler for transformation and the notion of value as ultimate consequence of companies’ activities. Within this domain, BM ontologies are provided to exhibit a comprehensive and structured conceptualization of elements, relationships and semantics of a BM.²⁷ By that means, ontologies represent a point in time description of a BM and can serve as an analysis framework to understand an organization. The ontology by Osterwalder^{28,29} is applied for this research. While it is holistic, it is still simple in its presentation and applicable in interaction with practitioners. It is depicted in nine building blocks consisting of: customer segments, value propositions, key resources, customer relationships, cost structure, key partnerships, revenue streams and distribution channels (see Appendix A).

Table 1. Sources of value creation.²⁶

Source of Value Creation	Description
Efficiency	Search costs, simplicity, speed, selection range, symmetric information
Novelty	New transaction structures/contents, new participants, capture latent needs
Lock-in	Switching costs, positive network externalities
Complementarities	Between products/services for customers, between technologies/activities

2.3. BM evolution

With an increasing penetration of Web 2.0, organizations face the need for change and innovation. Scholars indicate BM innovation to be imperative to firm performance.²⁷ Yet, there are yet little insights on BM evolution.³⁰ A notable contribution is presented by Wirtz *et al.*³¹ The authors present an approach to determine the adaptations needed for integrating Web 2.0. To do so they assess an organization’s market performance, i.e. those aspects a customer can experience. For identifying necessary BM adaptations, they start by classifying a BM into one of four types: *Content-oriented BM* (e.g. Wall Street Journal online) collect, select, compile, distribute and/or present online contents. Their value proposition is to provide convenient and user-friendly access to various types of contents. *Commerce-oriented BM* (e.g. Dell) initiate, negotiate or fulfill online transactions and aim at providing a cost-efficient exchange place for buyers and sellers of goods/services. *Context-oriented BM* (e.g. Google) sort and aggregate available online information. Thereby, they provide structure and navigation to increase transparency and reduce complexity. *Connection-oriented BM* (e.g. EarthLink) offer provide a physical and/or virtual network infrastructure as pre-requisite for exchange of information over the Internet.

Following that BM classification, Wirtz *et al.*³¹ examine four factors that represent the major characteristics of the Web 2.0 phenomenon. They are identified as social networking, interaction orientation, user-added value and customization/personalization: *Social networking* is about web users behaviors to connect with peers, exchange or gather information or express oneself. *Interaction orientation* represents web users demands for intense and authentic dialogues with organizations and peers. *User-added value* describes the contribution of web users in creating or modifying digital contents. The factor *customization/personalization* reflects the configuration of products or information for individuals or distinct groups.

As a result of their empirical analysis, Wirtz *et al.*³¹ determine the relevance of distinct Web 2.0 factors on each BM type (see Table 2). Following this alignment of BM type with each Web 2.0 factors, they eventually propose specific activities for embracing those factors in existing BM such as presenting a company on a relevant Social Media platform (social networking) or to provide reward for interaction (interaction orientation).

Table 2. Relevance of Web 2.0 factors for each BM type.³¹

BM Type	Web 2.0 Factor			
	Social Networking	Interaction Orientation	User-Added Value	Customization/Personalization
Content	++	+	++	+
Commerce	-	++	0	+
Context	+	-	0	+
Connection	++	+	0	+

++ very high relevance, + high relevance, 0 medium relevance, - low relevance.

3. Research Methodology

3.1. Research framework

Following the reasoning from above, we conceptualize our research by initially applying Osterwalder's BM ontology^{28,29} to develop an understanding of the case company's state of practice, its success factors and challenges (see Appendix A). In a second step, we apply the approach of Wirtz *et al.*³¹ to disclose potential adaptations to the current BM. Merely applying the approach by Wirtz *et al.*²⁸ is not sufficient since their approach does only focus on customer-facing activities, not the entire BM. Finally, we point out which changes in the BM are valuable based on an assessment of the proposed adaptations and the current BM along the four value dimensions by Amit and Zott (see Fig. 1).²⁶

3.2. Research approach

With only little research available or applicable to the scope of interest, we perform an inductive study to broaden the existing knowledge base³² and to test existing research propositions used in our research framework.³³ A qualitative approach fits our research purpose to reveal the notion of value in a holistic manner and the case company's given context.^{34,35} A single case is chosen since the case company is quite unique.³³ On one hand, the company is skeptical about the added value of Web 2.0 technologies. With 10 years of experience in running Europe's largest consumer electronics online forum, the management is familiar with managing its online dialogue with customers. However, the ongoing discourse about the Web 2.0 led the management to initiate a discussion in the company's forum:

“Do we need that? Is it expedient? What is the value for us? What is the value for our customers? We think, if we do something, we should do it properly [...] We cannot invest more time and also do not have a lot of relevant content [...] I need to spend more time [if a Social Media content generation would be outsourced], because I want to see what they are posting and I want to control what they are writing”.

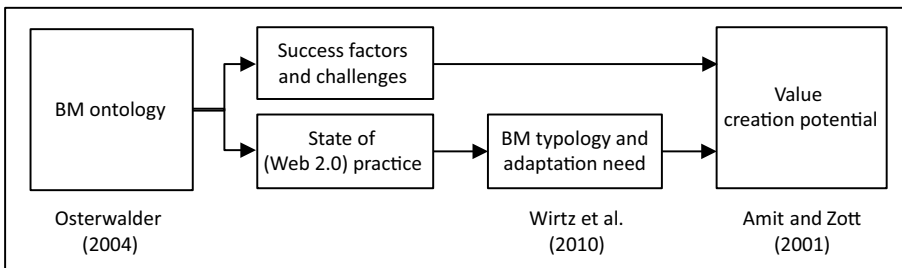


Fig. 1. Research framework.

On the other hand, the company registers increasing online revenues in a highly fragmented and declining market. Customer acquisition is a critical success factor since the duration of goods sold satisfies the customers' demand for years.

3.3. *Data collection and analysis*

To ensure a rigorous research approach^{33,36} we use different data sources. This allows for triangulation later on to reduce subjective interpretation.^{37,38}

The first source of information is interviews with the company's managing director, the two directors of sales as well as an additional product support representative. Selecting these interviewees allows for an integration of different perspectives on the subject matter. An interview guide was used to conduct the investigations at the on-site discussions. The interviews were semistructured to ensure comparability on the information collected between the different interviewees but provide flexibility to integrate new or unexpected information that emerge during the interview. All interviews were documented to capture the retrieved information. The online forum, as second data source, served as a basis to investigate the company's community management approach. The initiated forum discussion provided evidence from a customer perspective whether the company should increase its Web 2.0 footprint. It also revealed the perceived brand and company image. Additional sources of information were the YouTube channel, and the company's website. By reviewing the YouTube channel, we investigated the use of video clips for external communication. The Website provided information about the company, the products as well as customer reviews.

The subsequent data analysis was performed systematically using an explanation building technique.³³ We began to establish the BM ontology by matching collected interview data with required information per dimension. Two phone interviews were used as feedback and validation session of the initially retrieved information. Due to limited insights regarding the home audio market, we reviewed market reports to gain an understanding, i.e. we kept some flexibility in the collection and analysis process.³³ In succession, we matched the proposed adaptation of established BMs with the current state of practice. Lastly, we described the four value dimensions and differentiated whether the sources of value are already related to a Web 2.0 context.

4. Case Analysis

4.1. *BM description*

Following the ontology by Osterwalder,^{28,29} we developed our general BM understanding along the nine building blocks to derive success factors and challenges^a

^aTo focus this paper on the essential findings, please see Appendix A for a full elaboration on the different BM components.

Table 3. Description of BM success factors and challenges.

Success factors	Convenience	Service excellence Fulfillment of the entire consumer process Payment and delivery process
	Brand image	Product quality Reliability Complementarities of products
	Forum	Feeling of belonging/social identity Co-operative value creation Direct communication to management
Key challenges	Customer acquisition	Word-of-mouth recommendations Brand awareness Access to mass market
	Growth management	Capacity limitation of suppliers and storage Involvement of directors in daily business Resource constrains

(see Table 3). The company is an owner-managed producer of hifi loudspeakers and complementary equipment. Known for its awarded product and service excellence, it pursues a direct sales model and employs 86 people. The premise for customer centricity is operationalized by a service hotline that is highly valued and recognized as driver for success. Six sales agents support about 150 customers a day regarding the company's products and increasingly also regarding the entire consumer process of home-entertainment i.e. bundling of all customer needs in terms of products and information. Customers expect high convenience during support, payments and delivery due to an intensive decision process for purchasing durable goods and an average transaction volume of close to EUR 1000.

“People demand a personal contact and are not willing to solve problems on their own. [...] Our extensive support is not possible in a written form and we also do not have the capacities and capabilities for that”.

The target segment is the niche market of audiophile people. Touch points are two stores, the website, the hotline, a Facebook fanpage, a YouTube channel, an Amazon account and an online forum. The forum is self-managed by its users and an important contributor for customer loyalty. Requests for support are discussed in a supportive dialogue between members providing detailed answers to all kinds of topics related to the audio experience and the audio/video/hifi-consumer process.

Key challenges are the management of organizational growth after a tripling of revenues from 2008 to 2011 as well as customer acquisition in the mass market. A key driver for that are recommendations from satisfied customers:

“Recommendations are very important. We only receive recommendations if we offer good quality and a satisfying service ... [as well as] only if the customer is completely enthused”.

4.2. Strategic BM development

After having developed a general understanding of the company's BM and its state of practice, we apply the research concept of Wirtz *et al.*³¹ In a first step, we classify the BM as "commerce-oriented" because the case company is a producer of audio products selling its goods predominantly over the Internet. Especially the identified success factors factor "convenience" and "community" provide strong evidence for cost efficiency. In a second step, we compare the current state of practice with the four Web 2.0 factors that should be embraced in existing structures to ensure organizational fit in a Web 2.0 environment (see Table 4). The relevance of each factor depends on the underlying BM typology.³¹ For a commerce-oriented BM there is supposed to be a low relevance of the factor "social networking". In turn, our case company considers this factor to be very relevant. While the forum supports the development of a social identity, social trust and binding, it is still a closed environment. Contents are mainly visible to its members. Since customer acquisition is a challenge, it is acknowledged to maintain a presence on popular social networks (i.e. Facebook) to generate more awareness and finally recommendations.

The factor "interaction" orientation is valued as highly relevant, both by the framework and the case company's state of practice. The co-operative value creation is due to the engagement of forum members to provide support to other members. Contributors are not only customers but voluntary business partners. User rewards for contribution did not work in the past since key community members rather value the social recognition by their peers and rejected any rewards by the company.

Considering the factor "user-added value" there is a proposed medium relevance to implement new activities. Integrating user-contents is already possible on the website. Additional potential is identified in the integration of existing customers' YouTube clips that present their audio systems in a home environment. The integration of rating and recommendation systems from external service providers could also allow for increasing awareness. Offering any incentives is no common company policy and no viable option.

A high relevance is suggested for the factor "customization". In our case this factor is considered as unimportant due to the standardization of technically complex and durable goods. A tool for product-set configuration and a selection of component colors for one product line are the only customization possibilities. Offering Rich Site Summary (RSS) feeds that automatically transmit latest information could be an option for customization.

4.3. Value creation assessment

The factor analysis reveals the fit of current operations in a Web 2.0 context and proposes adaptations for additional alignment. To assess the value creation of these adaptations we further elaborate the aspects "monitor other platforms", "maintain presence on platforms", "tool integration for user-generated info" and "customization efforts". By comparing the BM success factors (see Table 1) with the proposed

Table 4. Web 2.0 factors and state of practice.

Web 2.0 Factors	State of Practice
Social networking	
Build own platform	Forum is Europe's largest branded online community
Monitor other platforms	n/a
Maintain presence on platforms	YouTube channel established for purpose of website integration and Apple device compatibility Facebook channel established to create awareness
Interaction orientation	
Be responsive and always available	Monitoring of forum contents and response if needed Forum members are highly responsive to requests 24/7 support not demanded. Most requests by phone
Reward users participation	n/a
Encourage feedback	Community rules in place to encourage critical dialogue Active discussions in case of critical comments Detailed response by director in case of criticism
User-added value	
Integrate tools for user-generated information	Upload and review of customer pictures on website Guest book available for comments Product reviews possible
Offer incentives	n/a
Use metadata	n/a
Customization/personalization	
Customize efforts	n/a
Make customization easy to use	Set configuration tool available on website Select colors for components of one product line

Table 5. Value driver assessment for success and adaptation factors.

	Efficiency	Lock-in	Novelty	Complementarities
Monitor platforms	x			
Maintain presence	x	x		
Tool integration	x			x
Customization		x		
Convenience	x	x	x	x
Brand image		x		

Note: x = Match of value drivers with adaptation factors.

adaptations (see Table 4) we derive those factors that are not affected by any adaptations. In particular these factors are "convenience" and "brand image". This appears plausible since these factors are difficult to be virtualized with Web 2.0 mechanisms and are complex in their gestalt. To eventually examine the value creation potential of these factors we match them with the four dimensions as defined in the theory by Amit and Zott (see Table 5).²⁶

The analysis indicates the value dimensions "efficiency" and "lock-in" to be mostly affected by the different factors. Efficiency is understood as the enhancements of reduced search costs, comprehensive information and the simplicity of information transmission.²⁶ This eventually impacts brand awareness which results at best in customer acquisition. A Facebook profile is recognized to be a necessity in

our case company despite consideration on how to manage the maintenance efforts. The monitoring and commenting on relevant platforms is difficult with a lack of resources. An analysis of Twitter and a Google blog search with the company's name as search term indicates that there is little conversation about the company on the Internet. Consequently, the only monitoring to be in place remains that of the forum and the Facebook channel.

Lock-in effects are related to switching costs and positive network externalities.²⁶ Switching costs are established in our case study due to a high convenience offered as well as the good brand image. While convenience is mainly related to an offline setting (e.g. hotline), it is the brand image that will be pushed in an interconnected and highly networked Web 2.0 context. The network externalities are exposed to the forum's member base. Next to the forum, this can be established with a growing and interactive community base on external platforms which leads to a formation of a social identity³¹ and sense of belonging.^{2,39} The added value of a customization is considered as rather low. There is no real customization of products possible but only of the information to be pushed. In essence, lock-in effects contribute to maintain customer enthusiasm and loyalty which eventually should lead to positive recommendations.

Novelty as a third driver is about connecting different components, satisfying consumer needs or offering innovative transaction methods.²⁶ In the case at hand the novelty is expressed by a comprehensive support of the entire consumer process. The possibility to receive competent support from a single source is a kind of service integration that fosters differentiation and competitive advantage.⁴⁰ Customers value this service excellence and have a high confidence that the purchase exactly matches their particular need.

Complementarities describe the additional benefit of a combination of different aspects in comparison to their independent values.²⁶ In the case company complementarities are generated by a multitude of equivalent customer touch points, i.e. in a written or an oral form, to receive information or even purchase the products. The convenience of one-stop-shopping by offering complementary and compatible products ensures an optimal consumer experience during usage. Hence, it supports customer acquisition and loyalty.

5. Discussion

The BM ontology^{28,29} provides a comprehensive and easy to apply concept for developing an understanding of our case company. While applying the approach by Wirtz *et al.*³¹ we realized that the proposed adaptations in BM depending on its classification do not appear to be plausible. It seems to not account for organizational specificities such as type of target groups, business environment or object of sales. Hence, we consider an equal relevance of the four factors to be suitable as it allows for a more objective and holistic perspective. In the absence of a clear Web 2.0 definition, we find affirmation in the proposed factors to be endorsed in

further studies. For our case we reveal that integrating Web 2.0 mechanisms lead mainly to efficiency gains and lock-in effects. The efficiency gains refer to the access of multiple source of information, in particular user-generated information. Lock-in effects can be established by improving brand image and a high service orientation of the company. The dimension novelty and complementarities could be identified as well but with less direct levers of impact.

Since the different value dimensions are linked to and influenced by each other,²⁶ there is a need for integration of different communication channels. With the website as major source of information, there should be clear references to and integration of other communication channels in order to provide convenient and comprehensive information gathering.² Incoming requests on the hotline that cannot be addressed right away could be advised by an answering machine to contact the community. Thereby, it would be suggested that a customer request could still be solved despite the unavailability of hotline agents. This measure, yet very simple, appears suitable for SME due to limited resources for customer support compared to larger organizations with, e.g. a 24 h call-center support structure that ensures quick call pick-up.

The forum as an online community is a major asset for value generation due to the co-creation and content quality (intellectual value), high interactivity (social value) and self-governed community (cultural value).⁴¹ Support for this argumentation provides the service-dominant logic^{42,43} which indicates that value for the customers is created through interactivity, integration and co-creation. Since the product's complexity requires detailed explanation, the forum provides this possibility by facilitating knowledge creation, transfer and integration.¹³ Thus, it represents a source of co-operative value creation. Even though requests can be solved quickly by phone, it should be considered pushing the forum as full-service channel for the after-sales support. Since customers that recently purchased durable goods will repurchase soon, there is no up- or cross-selling potential if the after-sales support is offered on the hotline. Being able to direct these requests toward the forum would reduce the call volume and thereby solve the resource constraints which hamper additional growth and that might be a general challenge among SMEs. Especially when addressing the mass market, it is the forum that could keep up with an increasing number of support requests. A pre-requisite would be that the community provides the same level of service excellence like the support hotline which is difficult to guarantee. Moreover, the high customer convenience during the purchasing process as well as the solid brand image mainly relate to an offline setting due to the personal contact between the company and its customers as well as the physical products. They can be hardly replaced by any Web 2.0 mechanisms but are key assets, since consumers develop relationships with those organizations that provide them with an entire host of related services.⁴⁴ Communicating and credibly claiming these factors by customers in the interactive and interconnected Web 2.0 is an option to increase brand awareness. Social networking, tagging and bookmarking mechanisms may support this purpose.¹³ Especially in the case of small marketing

and communication budgets, we receive confirmation from our case company that this aspect is of high relevance for SMEs.

To ensure that relevant, sufficient and complementary contents are available for dissemination, emphasis should be put on integrating user-generated information. A side effect thereof is that third party information is higher valued by customers than perceived marketing claims.⁴⁵ Especially, multimedia formats like YouTube represent a good opportunity. They convey the user experience with sound, movements and a natural environment compared to plain text or images. As a consequence, there is a higher impact on customer experience as decisive factor in the purchasing process.^{46,47} Moreover, customers that create brand-related contents (product reviews, images or videos) are willing to share this to a large audience due to motivations of self-presentation. Providing the stage to a large audience requires a careful platform selection considering, e.g. the platforms architecture, culture and norms, intentions of usage, degree of interaction or impact on brand image.⁴⁸ However, our interviewees as well as forum members were considering only Facebook as an option due to its large user base. Equally, they are considering Web 2.0 to be equivalent to Facebook. So while specifying the value creation potential of Web 2.0, there is still the necessity to develop and clarify the general understanding about the concept — both within practice and in science. Especially among SMEs we regard that education process as crucial. During our investigation we have seen that all employees are mainly taking care of managing the daily business. Since there is no strategy, corporate development or a dedicated marketing department, compared to larger organizations, they miss the possibility to exploit new and cost-efficient opportunities for providing value to customers.

6. Conclusions

The objective of this paper is to elaborate on the value creation potential of Web 2.0 as a key for organizational success. Within an inductive study we use the BM construct to specify the case company's current state operations as well as the need to adapt them due to a growing importance of Web 2.0. By applying the theory of value creation, we assess the adaptation potentials against the value they can provide — for both the company and its target groups. Particular value contribution of Web 2.0 mechanisms are identified in scope of the customer purchasing process, i.e. the phases awareness, evaluation, sales and after-sales.

To increase product and brand awareness, we assert that the SME under investigation should communicate information about product quality, service excellence and proximity to customers. Ideally, creating and pushing these messages should be done by customers and not by the company. Also, there is more credibility within the message if it is user-generated information rather than a perceived marketing message from the company.⁴⁵ Especially satisfied customers are willing to express their gratitude and show the products they have acquired. Being able to engage them in a conversation maintains customer enthusiasm and loyalty (lock-in).

Pre-requisite for users to generate encouraging word of mouth recommendations is a positive customer experience. This experience can hardly be pursued with Web 2.0 mechanism. A personal relationship is critical when durable goods are sold. Especially within the evaluation phase this customer-consulting function is important as it is about the support of the entire customer process and not only about a product sale.⁴⁹ Hence, for technically complex and durable goods there is the need for comprehensive online and offline information during the evaluation phase that are efficiently accessible. Little use of Web 2.0 is regarded within the actual sales phase of the examined company. For premium goods that are sold over the internet there is the demand for secure payment processing and rapid delivery. Moreover, personal communication provides the best up-selling potential for undecided customers and fast problem solving support. The retrieved value of this high convenience can be related to all four value dimensions. Valuable usage of Web 2.0 mechanisms is also indicated in the case company within the after-sales phase. The need for support requires again detailed information which can be retrieved from an active online forum with a large community. Individual support from other customers underlines a high efficiency for the requestor and enhances the lock-in of a supporter. Moreover, scalability of requests can only be managed with external user support, thus co-operative value creation. If used appropriately the forum community can take over tasks of a support hotline as means to manage resource limitations.

The impact and magnitude of these Web 2.0 adaptations are a limitation of this research and subject for future investigation. While value is attributed to four factors, organizations demand a quantification of these effects as ultimate justification. As our results are based on a single and qualitative case, there is a need to prove these outcomes as well as their generalizability with additional cases. In this context it would also be possible to validate and enhance the proposed research framework as a means to identify the value creation potential of Web 2.0 mechanisms within the present BM.

Eventually we find evidence for an adoption of Web 2.0 tools to be pursued by SMEs as a means to enhance organizational awareness, to maintain customer enthusiasm and to alleviate resource limitation. Being present on popular platforms allows for a high reach of online recommendations that may be related to the product quality, service excellence, and consumption experience. A strong online community can be valuable to provide comprehensive customer support within the after-sales phase as well as to cope with an increasing amount of customer requests that could not be handled with limited available human resources.

Appendix A

The BM ontology developed by Osterwalder^{28,29} presents the logic of intend to generate profits. We use these nine building blocks as a framework to develop the understanding of our case company.

Customer segments

The case company focuses on the niche market of audiophile people. This target group is interested in audio entertainment, values high-quality products and is willing to spend some money on respective components. To meet the diversity of needs and financial potential, there are five distinct product lines. It is perceived by management and its community members' that the current target group (30 years +) has little affinity toward Web 2.0 platforms and that the company's image may not fit in such a setting. Information retrieval for a purchase would still rely on online and offline magazines for audio, video and hifi, not on Web 2.0 platforms. Correspondingly, the managing director states:

“In addition, we see our audience rather in a segment where Facebook and Twitter are not necessarily the most important communication”.

However, for getting access to the mass market as well as to increase brand awareness, it is recognized that there is a need to maintain some presence on the most popular social networks such as Facebook.

Value propositions

The central means to attract customers is the extraordinary and award winning service quality at the customer hotline. Six sales agents support customers not only in regards to the company's products but more and more also in regards to the entire consumer process of home-entertainment, i.e. bundling of all customer needs in terms of products and information.

“People demand a personal contact and are not willing to solve problems on their own. [...] Our extensive support is not possible in a written form and we also do not have the capacities and capabilities for that”.

Next to this, there are frequently requests for support within the forum of which the employees are not aware of. In these cases, there is an extensive and supportive dialogue between community members about all kinds of details related to the audio experience at home. As a consequence, the high service quality can be attributed to the hotline as well as the forum.

An additional value proposition is the product quality represented by the label “Made in Germany”, numerous product awards and a long durability of about 30 years.

Reliability is thought to be a further value proposition. This relates to the speed in terms of product delivery, honesty of support agents, value stability of products and a long product guarantee.

Key resources

To leverage the value propositions requires mainly human resources. As main face to the customer there is a need for knowledgeable experts on the hotline that can

explain, consult and convince. Outsourcing this task is no option since the direct customer interaction is at the heart of business.

Furthermore, being able to offer loudspeakers with the latest technology demands a high degree of technical expertise. Since the company's owner is responsible and dedicated to the product development, it could be ensured that there are product innovations which can generate market impact. This is important since the overall market for home entertainment is declining while customer demands are still increasing. In particular, product design, wireless connections and mobility are trends that have to be taken care of. The sales director stated in reference to product development and design:

“The living room is usually the playground of a women and full of accessories. A loudspeaker has to subordinate in such an environment”.

Hence, it is a challenge to develop design-oriented loudspeakers that meet the demands for a high-quality consumption experience.

Customer relationships

The personal assistance is the most vital type of relationship. Since the purchasing process for durable goods is quite intense there is a need for much information. With the complexity of the products, it is considered as most customer-friendly (convenience), effective (due to a high up-selling potential) and efficient (quick problem solving) to have a personal exchange on the phone within the pre-sales phases. After a product purchase and some after-sales questions, there is usually no more interaction between the customers and the company. Hence, it is important to collect as much customer information as possible at the few touch points (usually two times before a purchase and two times after a purchase). From a customer perspective, this personal relationship is also expected. Since the products are sold over the Internet, there is no possibility for a physical product experience (e.g. touching, listening) during the purchasing process. Customers therefore expect a high convenience during support, payment and delivery to be confident that the purchase (average shopping basket of close to EUR 1000) matches their individual needs as much as possible.

The online forum as another key interaction point and aspect to manage the customer relationships is self-managed by its users and not driven the company's involvement.

“The forum serves in the first places the exchange of experiences between customers and interested people. [...] There are many specialists, connoisseurs and experts that are willing to provide their expertise as well as to share their enthusiasm about the wonderful hobby “music and movie play-back”.

Therefore, the forum contributes significantly to acquiring and retaining customers. Requests for support are discussed in a supportive dialogue between members providing detailed answers to all kinds of topics related to the audio experience and the audio/video/hifi-consumer process. To maintain the positive dialogue culture within this forum, there are principles for a fair communication. In addition, there are two employees that review newly established contents and serve as a kind of passive moderators. In case of problems, questions or complaints, they escalate to the managing director who takes care of solving the issue within about 12 h.

Cost structure

Considering the intensive relationship management, it is evident that the BM is very much value driven due to the personalized service and overall customer orientation.

“We are ready to help and spend quite some money to offer the service. [...] We listen a lot to our customer and therefore we accomplish our growth”.

As it is as an owner-managed business there is a high cost consciousness. Outsourcing cost drivers like the service hotline or product assembly, i.e. high fixed costs, are no viable options due to control and quality concerns as well as traditional reasons of the business.

Key partnerships

Ensuring high-quality products requires close ties to local suppliers. Long-term collaborations allow for flexibility in the production process of different loudspeaker components in case of problems or short-term adaptation needs. Collaboration with the service provider for product delivery is also critical to warrant a fast transportation of goods. Smooth operations with financial institutions are further in scope to offer a high convenience and security during the customer's payment process. Paying via PayPal Express is the latest option within a multitude of payment possibilities in this context since 20% of orders are dropped during the last step before the order is placed. The reduced efforts with this payment method should reduce dropout rate, increase customer's convenience and indicate customer orientation due to multiple requests for that payment option. The opportunity to sell products in the future via a Facebook store is no viable option as it is regarded as insecure.

Revenue streams

Revenues stem from product sales on the internet and the two stores. Within the last years, the share of online revenues is continuously increasing and make up already more than 70% of total sales. While only loudspeakers and related accessories are

offered on the website with fixed prices, there is some rebate potential for additional equipment which can be used to tempt a customer within the sales process.

“We do not enforce that [price reduction for additional equipment] because it is a critical area. If we want to compete against Amazon and Co., we will fail”.

That is, there is no emphasis on complementary products because the complex support and customer service could no longer be financed for products with lower margins such as DVD players.

Channels

The interfaces between company and customers during the customer’s buying process are presented in Table A.1.

Two stores originate from the company’s beginnings about 35 years ago and offer a full product range of consumer electronics. With about 20 employees they are the tradition of the company and kept as long as they are somehow economically justified.

The most important source of information is the website including product descriptions and videos, customer and expert reviews, a guest book, customer images of their entertainment equipment, contact numbers, a product configurator, a C2C market for used products and the integrated e-shop. The guestbook as a means to publish customer reviews was established in 1998. The sentiment of comments in the majority of posts is very positive and provides excellent word-of-mouth recommendation for products and service. Particular positive and especially the few negative comments are commented by the company. In case of negative comments it can be observed that there are other customers that start arguing in favor of the company. Making these comments public to a large audience, i.e. on the wall of a popular social network or an online rating platform, could facilitate to increase brand awareness and brand image.

Amazon is used as placement platform to increase product reach and awareness due to high number of visitors. Only a selected range of loudspeakers are offered

Table A.1. Customer touch points during the purchasing process.

Channel Type	Channel Phase				
	Awareness	Evaluation	Purchase	Delivery	After-Sales
Stores	x	x	x	x	x
Website	x	x	x		
Amazon	x		x		
YouTube	x	x			
Online forum	x	x			x
Facebook	x				
Hotline	x	x	x		x

Note: x = Support of a channel type within a dedicated channel phase.

with only little information describing the products. Interested web users should be motivated to navigate to the company’s website for detailed information, products and complementary equipment as well as to perform the actual purchase on the online shop.

The YouTube channel was established in 2008 due to the simplicity to integrate product videos on the website. It also enables Apple device users to watch the clips since these devices do not support the flash technology which is used by the website. The potential of YouTube as a means of integrating customer-generated information seems to be underestimated. There are currently 33 video clips uploaded by the company and 98.000 visitors. Most of these videos are product-related clips. Only a few of them provide supportive content which is valuable when setting up the home audio system. Providing more of these supportive clips could be used as additional service for the after-sales phase. The 1.650 related video published by customers (to be identified when using the company name as search term in YouTube) could be a valuable source for these support tips. Alternatively, they might be referred to on the company’s website. The rationale for pushing YouTube clips is to influence customer experience due to music, movement, a customer’s home environment when considering a purchase.

The online forum as a major company asset counts about 19.500 registered users and about 640.000 posts. In scope of this study we analyzed the discussion threat whether the company should increase its Web 2.0 footprint. Within this threat, there are in total 125 comments. We classify the sentiment of these comments into positive, neutral, negative or not related to the subject matter. The results do not indicate a clear tendency (see Table A.2).

Even though it was intended to discuss the Web 2.0 footprint in general, the discussion quickly developed in to a discussion about Facebook. Based on the arguments there is evidence that contributors have little familiarity with Web 2.0 applications beyond this popular social network. Those that argue in favor of Facebook consider the benefits related to enhancing brand awareness within the mass market. Especially younger people that become potential customers in the future can be attracted by this means. The concerns within this group of people are related to the availability of relevant contents and the possibility to initiate and engage in a dialogue on that platform. These concerns are shared by management. While the forum is mainly self-managed and developed without enforcement over time, there will be significant efforts to be spent for establishing a large Facebook community, pushing proper content and adequately responding to requests. Moreover,

Table A.2. Forum analysis.

Sentiment	Count of Answers	Comment
Positive	36 (29%)	Comments are in favor but still skeptical
Negative	28 (22%)	Strong position against increasing a Web 2.0 footprint
Neutral	17 (14%)	No clear positioning due to ambivalent opinions
Not related	44 (35%)	At the end of discussion, when there were no more new arguments

Facebook is perceived as a platform for interaction among friends not between an organization and its followers.

“There is no such thing as friendship on Facebook between producer and its customers [...] “If we are doing it, it has to look good and there needs to be a large community”.

Those comments that indicate a negative sentiment take a clear position: Existing communication channels are sufficient, target customers do not use this communication channel and Facebook might be only a contemporary phenomenon. Moreover, Facebook would not fit the company’s image of being personal, serious, credible, customer centric, autochthonous. The large numbers of comments without a relevant contribution to the topic evolve at the end of the discussion. The assertions herein are mainly related to Facebook in general, privacy concerns and company examples that maintain a poor Facebook presence.

Despite these critical sentiments of current customers as well as the management’s considerations, there is a Facebook fan page since mid-2012. It is considered as an experiment and currently used as a push communication channel.

“We cannot neglect Facebook but it is not sure what is going to happen in two years because everything is so dynamic. [...] One or two posts per week have to be sufficient because I [the managing director] do not want to spend more time and also do not have relevant contents”.

The company postings are marketing messages about new products or positive product reviews of some magazines. There is little interaction in terms of comments or link sharing from followers. Moreover, there is little knowledge how to stimulate an online dialog or engage followers in content creation. As a consequence, there is a huge potential to foster interaction and web user participation as a means to increase reach and thereby facilitate customer acquisition.

The hotline as a last communication channel should be touched upon only briefly as it has been explained already before. Mentionable in this context is that it is the central point of contact for all customer matters and the fastest source for question and complaint handling.

The linkage of the different online channels — especially the YouTube channel — is not intended and considered as of no assistance. The management argues that all information is supposed to be available on the website, including the product videos. It is also considered that visitors of the YouTube channel are attracted by other videos or advertisement of competitors and therefore leave the website.

Key activities

A central activity is the management of organizational growth. Since there are no growth targets to be accomplished and conservative prediction about future product demand, it is acknowledged that preparing the company for further growth has

been somewhat neglected. Managing growth poses challenges related to increasing supplier and production capacities, storage space, availability of qualified human resources and general management capabilities.

Customer acquisition is the second central task to be pursued since emphasis needs to be put on generating awareness in the mass market. Of special interest are those people that buy audio products at a wholesaler in the age of 18–20 and develop increasing expectations when they turn older. With an increasing penetration of mobile devices and table computer there are advertisements in e-paper and Ipad magazines next to regular online and offline magazine. The Facebook profile is recognized as most suitable in this context despite the above-mentioned concerns and questions related to value contribution and sustainability. A pre-requisite for customer acquisition is to maintain service excellence. The combination of product quality and service excellence drives the most significant aspect for acquisition i.e.

“Recommendations are very important. We only receive recommendations if we offer good quality and a satisfying service ... [as well as] only if the customer is completely enthused”.

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