Web 2.0 and Digital Business Models

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Abstract The increasing acceptance and prevalence of the Internet as a modern information and communications technology has advanced the commercial use and enabled the development of digital business models. Since 2005, increasing Internet services can be noted in this context, that can be associated with the phenomenon of Web 2.0 and that changed the Internet Economy (Wirtz 2010, p. 328). This paper analyses the strategic implications of the changes of digital business models through Web 2.0. For this reason, Internet business models are first classified based on the 4C-Net-Business-Model typology (Wirtz 2000; Wirtz and Lihotzky 2003, p. 522), then the term Web 2.0 is defined and an empirically validated model of explanation regarding strategically relevant components of the Web 2.0 is shown (Wirtz et al. 2010). Using these components, the influence of Web 2.0 on single Internet business models is explained. Thereby, various Web 2.0 applications are assigned to the business models. Moreover, the effect of individual Web 2.0 components towards the applications is explained and implications for practice are derived.

Keywords Web 2.0 · Social media · Business models

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1 Introduction: Business Models on the Internet

The business model is a holistic management approach that reflects the fundamental value creation logic, value creation architecture and the functioning of a company (Timmers 1998). Here, various sub-models can be considered, which can be assigned to the strategic domain, the customer and market domain or the value creation domain. Since the late 1990s business models have evolved to an established management tool, and accordingly have gained an increasing importance within the scientific literature (Ghaziani and Ventresca 2005, p. 543; Wirtz 2011a, p. 6 et seq.).

For further analysis, a structuring of the different business models on the Internet makes sense. For the B2C sector, four basic business models can be identified on the Internet which are characterized by different service offerings. Since these encompass the areas Content, Commerce, Context and Connection, the classification is considered as 4C-Net-Business-Model typology (Wirtz 2000, p. 218). The individual sections are designed to exhibit a high degree of heterogeneity among themselves, but internally to possess of preferably homogeneous elements. The typology thus corresponds to a holistic approach and therewith forms the majority of business activities on the Internet as a prototype. In practice there are often hybrid forms of these prototypes in the appropriate service offerings which are known as hybrid or integrated business models (Friedman and Langlinais 1999, p. 38). Nevertheless, the typology can be applied in these cases as well, to draw conclusions from the combination of several areas or to place an emphasis on the strategic orientation. An overview of the 4C-Net-Business-Model typology is shown in Table 1 (see in the following Wirtz 2011b, p. 445 et seq.).

Internet business models, which consist primarily of the area of *Content*, focus its activities on the collection, selection, systematization, processing and distribution of information. These are allocated on their own online platforms. The central value proposition in this type of business model is the user tailored access to relevant content. Revenues are generated through advertising, subscriptions and charges for individual content. The variants of the content business model are distinguished by their different accents of entertainment and information services. The Wall Street Journal online is an example of a company that focuses on this type of Internet business model.

In contrast, the Internet business model *Commerce* focuses on the initiation, support or handling of business transactions. A market platform that provides both sellers and buyers an efficient environment, in this context consequently represents the value proposition. Revenues will be achieved either directly through sales or as an intermediary through commissions. Further differentiation of this type of business model is possible through the different phases of a purchase transaction which are supported by the online platform (initiation, negotiation, implementation). Amazon is an example of a company for the Commerce model which both attains direct sales revenues as well as commissions from its marketplace platform.

Internet companies that specialize in the *Context* type of business model are characterized in their value creation mainly through the aggregation, sorting and

Table 1 The 4C-net-business-model typology

	Content	Commerce	Context	Connection
Definition	• Companies that archive, select, compile, distribute or present content online	• Companies that initiate or handle business transactions	• Companies that sort and aggregate information	• Companies that provide physical or virtual network infrastructure
Value proposition	• User friendly and convenient access to various content	• (Cost-)efficient market platform for sellers and buyer	• Reduction of intransparency and complexity for users	• Requirements for exchanging information over the Internet
Forms of revenue	• Advertising • Subscriptions • Pay-Per-Use	• Sales Revenue • Commissions	• Advertising	• Advertising • Subscriptions • Time-/Volume-Based Billing
BM-variants	• E-Information • E-Entertainment • E-Education • E-Infotainment	• E-Attraction • E-Bargaining/-Negotiation • E-Transaction	• E-Search Engines • E-Web Catalog	• E-Intra-Connection (community) • E-Inter-Connection
Examples	• Wallstreet journal online	• Amazon	• Google	• Intra: Facebook • Inter: Vodaphone

processing of information. Thereby, the central value proposition is the reduction of intransparency as well as complexity between various Internet offers to the user that are manifested for example by a shorter information processing task. To a great extent revenues are achieved through advertising and as alternatives of the business model the search engine and catalogue approach is available. Google is an example of a company that uses the Internet business model type Context.

Internet business models whose value creation is primarily focused on the provision of physical or virtual network infrastructure are assigned to the category *Connection*. This infrastructure provides the requirements for exchanging information over the Internet as a key value proposition. Basically it can be distinguished between two variants of this business model. First, there are Intra-Connection providers that provide communication services within the Internet and in the broadest sense feature a community-concept. On the other hand, there are Inter-Connection companies that primarily establish and merchandise access to the physical networks. Revenues are realized in the Connection business model through advertising, subscriptions or time- or volume-based billing. Facebook is an example of a company that is primarily characterized by Intra-Connection and Vodafone is an example of the Inter-Connection model.

2 Web 2.0 as a Game-Changer

Since 2005, in the context of Internet offers, a sustainable trend has evolved. There was a growing number of platforms and services that have a novel combination of existing web technologies and are characterized by a high degree of participation, networking and social interaction in their service offerings. This phenomenon is referred to as Web 2.0.

The term can be traced back to Eric Knorr as well as Dale Dougherty and Craig Cline, who used it in late 2003 or early 2004. In public, the concept was finally established in 2005 by a widely noticed article of O'Reilly (O'Reilly 2005). To date the scientific definitions of Web 2.0 are heterogeneous (Song 2010, p. 249 et seq.). Nevertheless, a number of basic dimensions, such as platforms, networks or participation, can often be found in the literature (Koh et al. 2007; Park 2007). Taking into account subject-oriented, goal-oriented and functional aspects the following definition can be derived: Web 2.0 includes innovative applications and platforms across the Internet, which exhibit a high creative potential. By actively shaping the content and the cooperation between users and providers as well as users among one other, social networks are created that serve the permanent networking of users and the distribution of content (Wirtz 2010, p. 328 et seq.).

Companies using traditional Internet business models, need to respond to these changes and make appropriate adjustments, because the business sector of the Internet is a high-velocity market. In particular, a systematic analysis of the key trends, influences, and changing user expectations is the starting point for a successful implementation.

2.1 The Web-2.0-4-Factors-Model

For structuring and evaluation of relevant changes that are induced by Web 2.0 in Internet business models, the Web-2.0-Factor-Model can be used. It includes four key dimensions of impact, which consist of several sub-factors: Social Networking, Interaction Orientation, Customization and Personalization as well as User-Added Value. Through technological advancements and changes in the expectations of Internet users, these four factors have become increasingly important for Internet business models. They stand close to each other in a substantive connection as regards content, so that a clear-cut delineation is not always easy to establish. The Web-2.0-4-Factors-Model is shown below in Fig. 1.

The construct *Social Networking* includes concepts that describe the structures of the direct interaction between Internet users. The relevant services are aimed at a preferably durable connection of users that are reached by the treatment of specific topics, the mapping of real-existing kinship and familiarity levels and assessment tools. Social Networking generates various benefits for the users, including opportunities for self-reflection, image building, maintenance and access to important information. The relevant trends in this area include the four subcategories: Social Trust (Valenzuela et al. 2009), Social Identity (Gangadharbatla 2008), Virtual Word of Mouth (Dwyer 2007; Vilpponen et al. 2006) and Customer Power (Constantinides and Fountain 2008). These categories are further explained in Table 2.

The second important factor in Web 2.0 is referred to as *Interaction Orientation*. This construct describes the ability of a company to establish an authentic dialogue with customers on the basis of individual interactions and to obtain these (Ramani and Kumar 2008) and therefore encompasses interactive phenomena

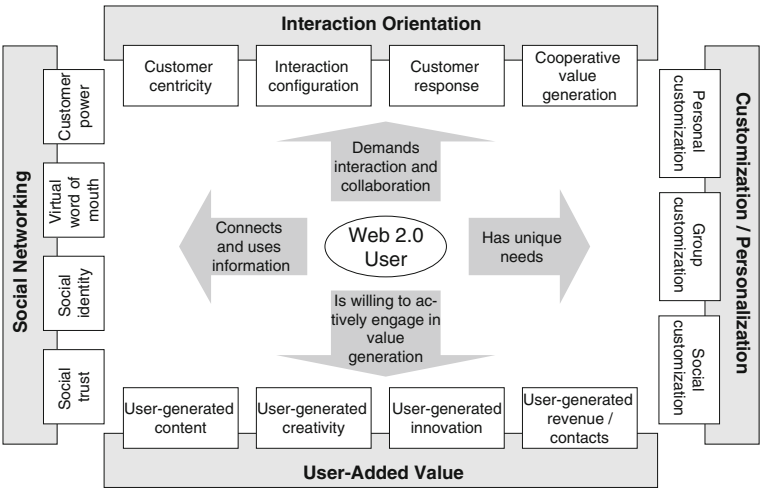

Fig. 1 Web-2.0-4-factors-model (Wirtz et al. 2010, p. 279)

Table 2 Categories of social networking

	Definition
Social trust	• Denotes the trust of Web 2.0 users in reciprocal interactions that are based on participation and control • Examples: Wikipedia, product reviews online
Social identitity	• Denotes the image-management and membership in social groups on the Internet, aiming at social reinforcement and self-realization • Examples: Second Life, group function at Facebook
Virtual word of mouth	• Refers to the informal transfer of information between various stakeholders through Internet applications • Examples: blogs, review sites, e-mail
Customer power	• Refers to the increasing influence of consumer opinions on decision making in companies • Examples: open innovation, evaluation of support requests

Table 3 Categories of interaction orientation

	Definition
Customer centricity	• Denotes the central focus of business activities on the customer's perspective • Implies organizational change processes in order to simplify customer interaction • Examples: Amazon order transaction
Interaction configuration	• Refers to the structure of the interaction possibilities of a company • Includes types of information, responsibilities and standardized procedures (routines, codes of conduct) • Examples: Dell support
Customer response	• Refers to a company's ability to perform customer dialogue • Response patterns for individual customer feedback and the collection of relevant data to improve customer dialogue are essential components • Examples: Amazon product recommendations
Cooperative value generation	• Refers to a company's ability to integrate the customer into business transactions as equal partners • Develop and maintain a customer-based competitive advantage through direct information to improve the service offerings • Examples: Apple App Store

between companies and customers. This ability is made up of four components: Customer Centricity, Interaction Configuration, Customer Response and Cooperative Value (Ramani and Kumar 2008). These are summarized in Table 3 and an example of each is illustrated.

The factor *Customization/Personalization* of the Web-2.0-4-Factors-Model displays adjustment phenomena as well as segment-accurate alignment and consists of the sub-categories: Personal, Group and Social Customization. These constructs capture the opportunities to customize service offerings on the Internet (Kumar 2007). Here, the contextual focus goes beyond similar considerations in the context of e-business and information system. The individual components are shown in Table 4.

Table 4 Categories of customization/personalization

	Definition
Personal customization	• Refers to the ability to customize Internet offerings to meet specific needs and preferences of the user • Examples: Avatare in communities
Group customization	• Denotes adjustment possibilities of Internet offerings by groups • Examples: rankings of service offerings through users
Social customization	• Designates service offerings on the Internet that are used to represent membership in social groups • Examples: Second life

Table 5 Categories of user-added value

	Definition
User-generated content	• Designates Internet user-generated content of diverse characteristics that can be used for information or entertainment • Examples: profiles, websites, videos
User-generated creativity	• Refers to user feedback to improve business processes, service offerings and organization • Examples: Open Innovation (product and process innovation)
User-generated innovation	• Refers to innovation processes outside the company which are related to the company's service offerings • Examples: Open Software
User-generated revenue/contacts	• Denotes the expansion and optimization of the service offerings of a company by the inclusion of users as entrepreneurs with the help of a platform • Examples: App stores

The last factor of the Web-2.0-4-Factors-Model is called *User-Added Value*. This construct reflects the growing importance of value adding by the customer. Herewith, it is a series of phenomena that are being discussed intensively in the literature (Franke et al. 2006; Füller et al. 2006; Bilgram et al. 2008; Daugherty et al. 2008; Strube 2011). Table 5 shows the individual sub-categories.

The interplay of the components of the Web-2.0-4-Factors-Model result in a number of specific implications for the Internet business models according to the 4C-Net-Business-Model approach. These are presented in the next section.

2.2 Impact of the Factors on Internet Business Models

The four Web-2.0-Factors have a different meaning of success for individual Internet business models. Therefore, they are evaluated separately using the 4C-Net-Business-Model types. In this context the allocation is based on conceptual considerations and the analysis of existing Internet services. Table 6 presents the results in an overview.

Table 6 Impact of the Web-2.0-factors on Internet business models (adapted from Wirtz et al. 2010, p. 285)

Web-2.0-factors / Business models	Social networking	Interaction orientation	User-added value	Customization / personalization
Content	◕ • Value offering model • Distribution model	◑ • Value generation model • Distribution model	◕ • Sourcing model • Value offering model	◕ • Value offering model • Distribution model
Commerce	◔ • Value offering model • Distribution model	◕ • Value generation model • Distribution model	◑ • Sourcing model • Value offering model	◑ • Value offering model • Distribution model
Context	◑ • Value offering model	◔ • Value generation model • Distribution model	◑ • Sourcing model • Value offering model	◑ • Value offering model • Distribution model
Connection	◕ • Value offering model	◑ • Value generation model • Distribution model	◑ • Sourcing model • Value offering model	◑ • Value offering model • Distribution model
Explanation:	○ No effect	◔ Low effect	◑ Moderate effect	◕ High effect	● Very high effect

In the Content business model a high or very high relevance emerges for all four Web-2.0-Factors. Thus, Social Networking affects for example the service offerings as well as distribution. By integrating Social Networking tools like blogs and chats, on the one hand, the core content is expanded and on the other hand the reach is enhanced in the outreach. They can also be used as a means of maintaining customer relationships. Interaction Orientation affects companies in the Content sector mainly in the service generation and distribution. Direct customer contact and the corresponding ability to integrate customer feedback adequately is of relevance to each stage of value creation. The most important influencing factor for Content-based business models on the Internet is presented by User-Added Value. Thereby, user-generated content can serve as a source for the own content platforms but also expand the whole range of services by user-generated innovation/creativity. An example of this is the integration of Twitter responses as a complement of opinion leaders in news items. In addition, the area of Customization/Personalization also has a major potential influence on Content business models. The customization of the presentation of content and segment-specific alignment of content improves the perceived value of content.

In Commerce-based Internet business models, however Interaction Orientation is referred to as the most important influencing factor. In this context the ability to tailor the service generation and distribution processes to the customer is considered as a differentiator with competitors. This is particularly relevant for long-term customer loyalty. However, aspects of the Customization/Personalization can be used for differentiation of service offerings of a Commerce Internet business model. Especially in light of the increasing mass orientation of Internet trading and related services, these two aspects constitute the starting point for potential competitive advantages (Artefact Group 2008). For example, the success of

Amazon was influenced extensively by the use of intelligent product recommendation algorithms that shorten the search process of the customer as well as influence personalized request lists, and simplify the ordering process (one-click-checkout, shopping cart metaphor). User-Added Value is especially relevant for Commerce business models in the context of innovation. Crowdsourcing and co-creation are the corresponding phenomena which are used to explain this impact. However, the importance of User-Added Value is not as high as in the Content business models because it is only relevant to one part of the value creation logic.

Internet business models from the field of Context can benefit from the developments in Web 2.0 by focusing primarily on Social Networking and Customization/Personalization. One example is the search engine market leader Google which increased the user loyalty and the average time a user spends on the site, by the introduction of the social networking platform Google+ as well as the ranking of search results through the function +1. In addition, through individualized search results a stronger value proposition is established.

Intra-Connection-based business models on the Internet are particularly affected by the phenomenon of Social Networking. While classical Intra-Connection providers have offered special one-to-one communication, such as e-mail or instant messaging, in their service offering, many-to-many communication has gained a stronger meaning through Web 2.0. In addition, for Intra-Connection providers also Customization and Personalization are relevant. Hotmail, the e-mail service from Microsoft, is an example of this. In 2005 the service was incorporated into the larger Windows-Live-platform, which offers e-mail and contact management as well as messenger-support and interfaces for the integration of social networks like Facebook or LinkedIn. Companies pursuing business models in the Inter-Connection area, however, should focus on the area of Interaction Orientation. In particular, strongly complex products in the categories of triple or quadruple play require a responsive pre-and after sales communication with fast reactions.

Overall, it can be stated that companies that have an Internet-based core business, should constantly scan their environment for new trends and developments. Thereby, technological developments are relevant, but especially changes in user behaviour need to be paid close attention. The willingness to recognize changes and further develop these as a source of competitive advantage should be anchored at all levels of the company. In this context, the integration of innovation that occurs outside the company is of major relevance, for example through Open Innovation. In addition, a basic knowledge about the business model and appropriate structures and processes for an effective change management within the company, are the prerequisite for further development. Especially in the implementation phase of business model modifications or redevelopment, a high demand for supporting management activities is given.

3 Applications of Web 2.0 Business Models

In Web 2.0 a number of new interactive applications and tools are developed, each providing different customer value. They are based on a combination of various existing Internet technologies with the aim to improve the communication within the network. In scientific publications different classifications of Web 2.0 services or applications have been established. Early approaches often used the type of content or the functionality of the service as a classification criterion (e.g. Kolbitsch and Maurer 2006). Constantinides and Fountain identified five basic categories of Web 2.0 applications on a more abstract level: Blogs, Social Networks, Content Communities, Forums and Content Aggregators (Constantinides and Fountain 2008, p. 233). Hoegg et al. also incorporated a business model perspective, which leads to three superordinate classes. These classes are based on case study research and can be identified as Community, Platform/Tools and Online Collaboration (Hoegg et al. 2006, p. 8). However, these dimensions are not mutual exclusive. In summary it can be stated that the different classification approaches of Web 2.0 applications are quite heterogeneous. Based on these considerations Web 2.0 applications, their service offerings and their benefits are shown in (Table 7) with reference to the approach of Constantinides and Fountain, who proposed "a basic classification based on application types divided into five main categories: Blogs, Social networks (Content) Communities, Forums/bulleting boards, Content aggregators"(Constantinides and Fountain 2008, p. 233).

Blogs are a form of chronological web diaries which are mostly issue-oriented or individual-related and are equipped with commenting features as well as journaling. Moreover, also link collections, and What's-New areas may be part of a Weblog. Interaction takes place through comments and links to other blogs. In contrast, File Exchange and Sharing comprise platforms spreading multimedia content. Well known examples are YouTube for videos, Flickr for images or Slideshare for presentations. The offers are supplemented by comments and subscription features that enable interaction with users.

In connection with modern technology-based knowledge management, as a Web 2.0 application Wikis have gained particular importance. They constitute a set of web-based tools for content creation as well as further development in groups. Thus, their orientation is on the publishing and sharing of knowledge. Podcasts, however, provide topic-oriented audio or video information that can be updated automatically through a subscription feature. Their characteristics are very similar to those of Weblogs.

Mash-Ups can be categorized as a kind of meta-offer. They allow the user-specific data integration and sharing of different service offerings on Web 2.0. For example, address data from the contacts application of the social network Windows Live can be displayed directly within the platform on a virtual map of Microsoft's search engine provider Bing Maps. On the contrary, tagging

Table 7 Overview of Web 2.0 applications (Enderle and Wirtz 2008, p. 37; Constantinides and Fountain 2008, p. 233)

	Service offering	Customer value	Categorization by Constantinides and Fountain 2008
Blogs and RSS—Feeds e.g. Blogger.com	• Provision of an authoring tool for creating blogs • Hosting of blogs • Categorization of blogs	• Unfiltered and personal publishing opportunity for "everyone"	Blogs
Podcasts	• Topic-specific audio and video content • Possibility of a subscription	• Location and time unbound consuming of content • Automatic update	
Social networking e.g. Facebook.com	• Self-presentation of the users • Linking among users • Linking of users and content	• Mediation of social contacts through virtual interaction	Social networking
File Exchange & Sharing e.g. Youtube.com	• Provision of online storage • Systematization of content, such as by categories and ratings	• Broadcasting for "everyone" • Provision of an audience	
Wikis e.g. Wikipedia.com	• Tools for creating and editing of content by users • Provision of a platform for searching and presenting information/knowledge	• Aggregation of topic specific information • Freedom regarding the contents and authors • Users as a collective editorial	Content communities
Review Sites e.g. Ciao.com	• Aggregation of product information • User-generated product reviews • Price comparison with links to online stores	• Independent product reviews from users • Simplification and support of decision–making and purchase process	Forums/Bulleting boards
Mash-Ups e.g. Windows Live	• Combination of basic data (mostly maps) with additional information (addresses, pictures, events, etc.)	• Added value by linking related information	Partly content Agregators and others
Tagging e.g. del.icio.us	• Central archiving and ubiquitous availability of bookmarks • Tagging of bookmarks • Access to collections of links from other users	• Individual editorial processing of the Internet	

applications target editorial processing of lists of favorites and links through the Internet users. Thereby, meta-information is generated and shared with other users.

Social Networking is one of the most important Web 2.0 applications. Services are subsumed under this term, that provide platforms for social interaction as well as information exchange and that are aimed at the networking of users. Examples of this are Facebook and Twitter. Frequently, user profiles, chat systems, group functions, comment functions, and interfaces to transfer information from external sources, such as game consoles, are deployed. Review sites are however mainly focused to specific topics. The central function of the user integration and interaction is the creation and evaluation of feedback on service offerings of companies. For that purpose, comment functions and comparison lists are primarily used. In the next section the importance of each Web-2.0-Factor for specific applications is explained.

4 Influence of Web-2.0-Factors on Applications

The various Web 2.0 applications are characterized by the strategic characteristics of Web 2.0 in varying degrees. Table 8 summarizes this and in the following examples are used for further explanation.

In the areas of Social Networking and Interaction Orientation Blogs and RSS Feeds have only a limited creative potential. They can, for example, be used for virtual word-of-mouth campaigns or as part of the interaction configuration. In the field of User-Added Value, a wide range of user-generated content offerings can be integrated within this instrument. The possibilities for personalization are however small. File Exchange & Sharing platforms are used primarily for the dissemination of user-generated content and the extraction of user know-how. Here, comment functions and evaluation systems are available as well as possibilities for social interaction. Although these are used very often, the degree of interaction is not overly strong. Due to the possibility of a topic-specific selection of platforms the ability to personalize is given.

Because Wikis are used as participatory knowledge storage tools, their strengths lie in the areas of User-Added Value and Interaction Orientation. In particular, the utilization of user know-how is paramount. Social Networking and Customization can be used with this application, however limited. Podcasts, given their mass-media-sized structure, have almost no interaction potential. They allow only simple forms of individual customization. Hence its importance in Web 2.0 is classified as increasingly low.

Mash-Ups also exhibit a low interaction potential for companies. The integration of interfaces to other Internet service offerings, however, may represent an added value for its own offer. Thus, a map extract of Google Maps broadens the offer of an address search provider. In the area of Mash-Ups are especially interfaces to services with high added value such as Google Maps, and interfaces to Web 2.0 services with a high number of users, such as Facebook, of relevance.

Table 8 Impact of the Web-2.0-factors on Internet business models (adapted from Wirtz et al. 2010, p. 285)

Web-2.0-factors / Web-2.0-instruments	Social networking	Interaction orientation	User-added value	Customization / personalization	Overall evaluation
Blogs & RSS Feeds	◔ • Low capacity for dialogue	◔ • Low interaction possibilities	◕ • User reviews • User-generated content	◔ • Rather address the "masses"	◔
File Exchange & Sharing	◑ • Partial capacity for dialogue	◑ • Frequent interaction between companies and users	● • User-generated content • Extraction of user know-how	◑ • Specific communities enable individualized approach	◑
Wikis	◔ • Capacity for dialogue hardly given	◑ • Users as a collective editorial	● • User-generated content • Extraction of user know-how	◔ • Rather address the "masses"	◑
Podcasts	○ • No user-dialogue	○ • No interaction	○ • No user added value	◔ • Subscription of podcasts individually allocable	○
Mash-Ups	○ • No user-dialogue	○ • No interaction	◔ • Low user added value	◔ • Few options available for customization	◔
Tagging	○ • No user-dialogue	○ • No interaction	◔ • Low user-generated content	◕ • Individual editorial processing of the Internet	◔
Social Networking Communities	● • Company-participation • Dialogue with users	◕ • Strong interactions between the company and users	◕ • User reviews • Media uploads	◕ • Alignment of service offers to customer needs possible	◕
Review Sites	◔ • Capacity for dialogue hardly given	○ • Reviews only from the customer side possible	◕ • User reviews	○ • No options available for customization	◔
Explanation:	○ No effect	◔ Low effect	◑ Moderate effect	◕ High effect	● Very high effect

Tagging and Social Bookmarking applications are particularly important in the area of Customization/Personalization. Within this application, however, there is a low impact potential on the part of the company.

Social Networking communities like Facebook or Twitter, utilize all Web-2.0-Factors. They also represent the most commonly used instrument. The strategic direction of the Internet business model to this application also requires a consideration of additional content and services, in order to create real customer value that goes beyond a static web page. For companies, Review Sites such as Google Shopping are especially relevant in the field of User-Added Value as the possibility to analyze customer feedback is given. Additionally, support activities may also be executed on these platforms.

In summary, it can be stated that for a successful alignment of Internet business models in the context of Web 2.0, an integrated use of various applications is necessary. Thereby an adequate customer benefit is created for all Web-2.0-Factors. In this context the following points summarize the central findings of this contribution:

- Through the four strategically relevant factors of Web 2.0, Social Networking, Interaction Orientation, User-Added Value and Customization/Personalization, Internet business models are subjected to peer pressure.

- Thereby, different types of Internet business models have a different sensitivity to influencing factors.
- For the use of the Web-2.0-Factors a number of different applications and tools are available.
- The applications/tools can in terms of their effects also be assigned to the Web-2.0-Factors in varying degrees.
- A successful strategic alignment of Internet business models therefore postulates an integrative set of applications/tools–depending on the type of business model.

5 Managerial Recommendations

The environment of a company has a significant impact on which business models lead to a successful value creation on a specific market. Since in a variety of industries a high level of continuous environmental change is given, the ability to recognize these changes and to adapt the business model accordingly or further develop it is the foundation for a sustainable competitive advantage. As an example, this paper has shown how the phenomenon of Web 2.0 affects Internet business models and which action parameters for adaptation are available.

Web 2.0 was conceptually divided into sub-characteristics and transferred into a management-oriented evaluation system. This was done on the basis of the specific influences. Thus, various trends and developments in the field of Web 2.0 and social media can be classified with respect to their relevance for Internet companies. In addition, practical applications have been presented and evaluated, which can serve as a reaction pattern for the integration of Web 2.0 characteristics into existing Internet business models.

Firstly, marketers have to analyze the core aspects of their business model and choose the most important aspects of a potential Web 2.0 strategy accordingly. After this step an evaluation of the best suited Web 2.0 applications and instruments follows up. Therefore existing Web 2.0 applications have been classified and matched with basic Web 2.0 characteristics in this paper. This allows marketers to adjust their Web 2.0 online campaigns according to strategic key aspects and increase campaign success in terms of impact. However, besides the evaluation processes discussed, which are primarily related to value generation, options of value capture have to be considered as well.

Secondly, an adjustment between the perceived environmental changes and the individual aspects of the affected business model can be made with the help of the discussed Web 2.0 assessment tools. The aim is to identify market opportunities and challenges early on, in order to anticipate countermeasures through the modification of the business model. However, this requires an exact knowledge of the business model, which is facilitated by systems such as the 4C-Net-Business–Model typology and a clear image of potential competitors and their Web 2.0 activities. The structured analysis of the core aspects of the business model makes it easier to respond to environmental changes appropriately.

A final important aspect of managerial practice is the tracking of the implementation status of the business model modification, which is relevant for the successful application of the concepts. In particular, changing business processes and organizational structures require an extra degree of enforcement and control by the responsible managers. The corresponding resources should be considered in the planning process. Overall, the tools presented in this paper allow an early detection of relevant fields of action in the context of Web 2.0 for Internet business models and support the decision-making to adapt the business model accordingly.

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