



E-business models and consumer expectations for digital audio distribution

E-business
models

Michael Amberg and Manuela Schröder

University of Erlangen-Nuremberg, Nuremberg, Germany

291

Abstract

Purpose – The purpose of this paper is to aim to evaluate to what extent present e-business models for digital audio distribution meet the consumer's expectations.

Design/methodology/approach – The research method in this paper is particularly based on two empirical studies. In the first study, the supplier side was examined. In this context, 15 e-business models in the German music market were identified, classified according to two criteria (type of compensation and dependency on the supplier or its technology) and analysed with regard to four aspects "type and volume of content", "price of content", "rights of use", and "additional services". To evaluate the identified e-business models, the consumer expectations for digital audio distribution were analysed in a second study. Finally, the results of both studies were compared.

Findings – The paper finds that most of the identified e-business models do not meet all of the fundamental consumer expectations. Either the identified category of e-business models and its characteristics (e.g. dependency on technology) lead to a conflict with regard to the expectations of the consumers, or the implemented e-business models reveal discrepancies between the concrete offer and the demand.

Research limitations/implications – The results in the paper are limited to e-business models for digital audio distribution in the German music market.

Practical implications – The paper shows that, in order to reach more consumers, most of the existing e-business models have to be modified.

Originality/value – Based on two empirical studies, this paper presents the state-of-the-art of the digital audio distribution in Germany and systematically identifies gaps between the demand and the supply side of digital audio content.

Keywords Consumers, Germany, Music

Paper type Research paper

Introduction

Declining sales in the trade of audio carriers are a worldwide phenomenon, leading to new challenges for the music industry. For instance, the total turnover of audio carriers in Germany decreased at a rate of 38.5 percent over the period of the last seven years (IFPI: International Federation of the Phonographic Industry, 2004). There are different reasons for this development, e.g. the economic downturn, changes of media usage and consumer behaviour, an increasing competition with new distribution channels as well as the introduction of innovative entertainment formats. In addition, technical advances (e.g. MP3, CD writer or peer-to-peer networks) enabled consumers to illegally copy and share content for free on a mass scale.

Nowadays, companies in the audio sector face tremendous challenges: first, to manage the risks of the market developments (e.g. altered consumer behaviour and increasing cost pressure) and, second, to tap the full potentials of digital media content



(e.g. multiple use and low distribution costs). There are different possibilities to meet these challenges. One opportunity is to fight against the production, the distribution and the use of illegal copies, for example, with the use of protection technologies. Another one is the development of innovative and customer-oriented business models, which consider the changed consumer behaviour.

Few companies in different industries (e.g. music, telecommunications, entertainment, or information technology) have already implemented Internet-based business models for digital audio distribution. Most of these e-business models are not able to reach the mass market. At the moment, the data exchange via peer-to-peer networks is many times higher than via the existing e-business models (Röttgers, 2005). What are the reasons for this phenomenon? Does the legal offer of digital audio content not meet the expectations of the consumers? In order to find answers, it is necessary to compare the expectations of the consumers with the current e-business models. For that purpose, the paper focuses on the following research questions:

- (1) Which types of e-business models can be identified with regard to the digital audio distribution and what are their specific characteristics?
- (2) What are the fundamental expectations of the consumers with regard to the digital audio distribution?
- (3) To what extent do the identified e-business models meet the fundamental consumer expectations?

An analysis of the current literature with regard to these questions shows that the main research is focussed on DRM (Digital Rights Management), the phenomenon of online piracy and problems with intellectual properties (e.g. Rosenblatt *et al.*, 2002; Becker *et al.*, 2003; Sobel, 2003; Sundararajan, 2004). Furthermore, there are several articles, which are focussed on e-business models in general or in another area (e.g. Wu, 2005; Wirtz, 2000; Sabki *et al.*, 2004). Some contributions include findings about e-business models and the needs of consumers in the area of digital audio content (e.g. Buhse, 2004; Gordon, 2005; Duft *et al.*, 2005; Buxmann *et al.*, 2005). Few of the studies are produced during our research activities. In contrast, we could not identify any contributions, which focus on the evaluation of e-business models with regard to the consumer expectations in the area of digital audio content.

To answer the research questions, our research method was particularly based on two empirical studies. In the first study, we analysed e-business models for digital audio distribution. The analysis particularly considered e-business models in the German music market. The results are presented in section 2. The second study focussed on the analysis of the consumer expectations for digital audio distribution. Based on a survey with consumers of digital audio content and a literature review, we summarised in section 3 the fundamental characteristics, which influence the disposition to buy digital audio content. In section 4, we finally discussed to what extent the analysed e-business models are able to meet the fundamental consumer expectations.

Identification and classification of e-business models

For a better understanding of the digital audio distribution in the internet, we examined the current e-business models, whose central product is digital music. The analysis was focussed on the German music market, where we identified 15 business

models. In one case, we used an example of the American market, which will also be introduced in Germany (Erhart, 2004). With regard to our examination of e-business models, we start with a classification based on two criteria. The first criteria is the type of compensation, e.g. flat rate or pay per download (or usage) of digital audio content. According to Wirtz (2000), the compensation or the revenue is used to structure e-business models for digital media content. Buhse (2004) applied this characteristic to describe scenarios for e-business models, especially for online-music stores. The second criteria is the dependency on the supplier or its technology (consisting of soft- and hardware). During the analysis of e-business models, we noticed that some of the suppliers tried to generate customer retention by creating a state of dependency. Hence, technology is seen as an enabler. According to the two criteria mentioned above, we were able to identify four categories of e-business models:

- (1) *Category A* includes e-business models, which are based on “pay-per-download” and independent of the technology of the supplier.
- (2) *Category B* comprises e-business models, which are also based on “pay-per-download”, but which are dependent of the technology of the supplier.
- (3) *Category C* contains e-business models, which are based on a flat rate.
- (4) *Category D* describes e-business models, which include commissions for reselling of the digital audio content.

In the following, the identified categories of e-business models are presented in more detail with regard to four aspects. The first one is the type and the volume of content. This aspect particularly considers the central product of e-business models and includes the number of offered songs, the data format and the type of the music genre. The second aspect of our analysis is the rights of use, which determine the authorisation level with regard to download, export and copy the digital audio content. Considering the revenues, we analysed the price of content as the third aspect, which comprises the prices of a single song, an album and the special offers. Finally, we considered the additional services. This criterion includes the offered information (e.g. about artists, bands or concerts) and the features to support the customers in using the offer of digital audio content. For the detailed analysis, we chose two typical examples per category from all identified e-business models and collected their characteristics.

Category A: E-business models, which are based on “pay-per-download” and independent of the technology of the supplier

In e-business models of this category, the customers can download music (single songs or whole albums) and have to pay per downloaded song or album. The offered digital audio content is in a data format (e.g. WMA or MP3), which is not restricted to or dependent on any hardware. Therefore, it is not necessary for the consumers to invest in a special technology to use this offer.

The suppliers have to offer such audio content, with which it is possible to realise profit or at least to cover the expenses. Hence, the offers include predominantly well-known audio content (e.g. songs of international music charts) in a high data quality. Actually, the customers do not buy the content but the rights of use. They receive the license to download the content, to burn it on CD, and to export it on a mobile device in a limited number. To organise these rights, suppliers use

DRM-technology, especially for controlling the access and the usage of the downloaded files.

The prices of the audio content are standardized. In a growing number of cases, the suppliers try to acquire customers by offering price-bundlings, special prices or prepaid discount. This attempts to stimulate the customers to download more audio content. In comparison to other types of e-business models, the additional services are not so sophisticated. Particularly, services, which support the selling of digital audio content, are predominantly offered. The identified e-business models of this category are MediaMarkt, Karstadt and Tiscali with music on demand via OD2, MSN, MTV, T-Online with the music platform “musicload.de”, AOL music download, Medionmusic, and one4music. Table I presents in more detail two representative examples (T-Online and MediaMarkt) of this category with regard to our analysis criteria.

Category B: E-business models, which are based on “pay-per-download” and dependent of the technology of the supplier

This category of e-business models uses the same payment model (pay per download) like category A. However, the offered digital audio content is in a data format, which depends on the technology of the suppliers. The latter benefits particularly from selling their technology, which is reinforced by the offer of digital audio content.

For using this offer, it is necessary for a new customer to do an initial investment in the corresponding technology. This technology is based on a proprietary development. First, the customer has to install a client software responsible for access control, usage control and accounting. Furthermore, the installed client software supports the administration of the audio content and the rights of use. In general, there is no opportunity to deploy another software in order to use the online offer. Second, the suppliers offer mobile devices, which support the proprietary data format and are the

Characteristics		T-Online	MediaMarkt
Type and volume of content	Number of songs	www.musicload.de > 300,000	musikdownload.mediamarkt.de 360,000
	Type of songs	Rock and pop music, charts	A full range of songs, particularly charts
Price of content	Data format	WMA	WMA
	Price per song	€0.99-1.59	€0.99
	Price per album	€7.99 upward	€9.99
Rights of use	Special offer	Six songs in a price-bundling for €5	Nonexistent
	Number of downloads per song	Within six months of date of purchase	4
	Copy rights	5-10	5-10
	Export rights	5-25	5-25
Additional services	Information	Not any additional information about artists, bands, etc.	No additional information about artists, bands, etc.
	User support	Guided tour, software to administer the audio content and rights	Information about the use of the online shop

Table I.
Examples for e-business models of the category A

only possibility to export the downloaded audio content for mobile usage. This leads to a technology-based customer retention.

To achieve customer loyalty, it is necessary to offer enough audio content, interesting services and information. That is the reason why the offer of digital audio content does not really differ from the e-business-models within the first category. It is well known and in a high data quality. However, the customers can unrestrictedly use the digital audio content, particularly with regard to the technology of the supplier. Examples of this category are Apple iTunes and Sony Connect, whose characteristics are presented in Table II.

Category C: E-business models, which are based on a flat rate

E-business models of this category are based on the idea that the customers have to pay only a monthly fee (a flat rate). In return, they can use the audio content on an unrestricted scale, particularly with regard to downloading and listening. These e-business models are attractive for consumers, which are interested in downloading audio content on a mass scale and do not like to pay for each song downloaded.

To attract such “heavy” users, these e-business models offer a great variety of audio content, which contains more than one million of well-known and independent songs. For using this offer, a client software is necessary. Based on this software, the suppliers can control the access and the customers can download an unlimited amount of music and share them with other members. If the customers are interested in copying audio content in order to burn it on CD or transfer it to a compatible music-player, they have to pay an additional fee. This is not included in the flat rate.

An important challenge of these suppliers is the acquisition of the customers, because the commitment to a contract for at least 30 days is a greater barrier than a one-time downloading fee. Therefore, the suppliers provide detailed information about their offering. For the advancement of the offer, there are numerous additional services and information, e.g. play lists, information about the artists, the audio content or

Characteristics		Apple iTunes	Sony Connect
		www.apple.com/de/itunes	www.connect-europe.com
Type and volume of content	Number of songs	700,000	360,000
	Type of songs	Rock and pop music, jazz, audio books, AAC (M4P)	A full range of songs, particularly charts
Price of content	Data format	WMA	WMA
	Price per song	€0.99	€0.99
	Price per album	€9.99	€9.99
Rights of use	Special offer	Nonexistent	Nonexistent
	Number of downloads per song	1	4
	Copy rights	Unrestricted	5-10
Additional services	Export rights	Unrestricted	5-25
	Information	Information about few artists and link to their web sites	No additional information about artists, bands, etc.
	User support	Client software for using the offer	Information about the use of the online shop

Table II.
Examples for e-business models of the category B

important events such as concerts and communities. These communities support the data and information exchange. Examples of this category are Napster and Rhapsody. At the moment, Rhapsody is only available in the US market, but it will also be introduced in Germany (Erhart, 2004) (see Table III).

Category D: E-business models, which include commissions

This category of e-business models represents a new idea of selling digital content. The consumers can be both the vendees and the vendors of digital audio content. They get a low-rated commission, if they can resell their acquired audio content. The incentive to use the offer of these e-business models is the opportunity to earn money by reselling the audio content. In this context, the accounting system plays a decisive role because it is more complex than in other e-business models. Figure 1 gives an overview.

Characteristics		Napster	Rhapsody
Type and volume of content	Number of songs	www.napster.de 1,500,000	www.rhapsody.com > 1,000,000
	Type of songs	A full range of songs	A full range of songs
	Data format	WMA	MP3
Price of content	Price per flat rate	€9.95/month	\$8.33/month
	Price per song	€0.99	
Rights of use	Special offer	Nonexistent	Nonexistent
	Number of downloads per song	Unrestricted within the flatrate/on up to three PCs with the same user name and password	Unrestricted within the flatrate/on up to three PCs with the same user name and password
	Copy rights	Not included	Not included
Additional services	Export rights	Not included	Not included
	Information	Artist biographies, music reviews, recommendations, etc.	Artist photo galleries, music videos, recommendations, jukebox software, etc.
	User support	Community feature	Community feature

Table III.
Examples for e-business models of the category C

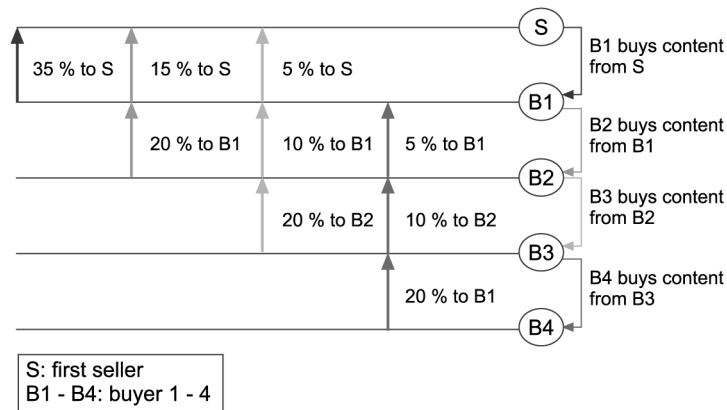


Figure 1.
Accounting system in e-business models of category D (4FriendsOnly, 2004)

A further incentive to use this offer is that the customers can use the digital content without any restrictions. They get all freedoms and the whole responsibility to use the audio content according to the copyrights. To enhance the users' senses of responsibility, the suppliers focus on the relationship between fans and artist. The customers get information about the artists, e.g. the last interviews in text and video, CD reviews, a calendar of the major gigs, and direct links to the artists' homepages.

At the moment, the e-business models of this category offer only few and independent content and have comparatively few customers. In the future, it is necessary to prove the operational reliability of this system together with an offer of content on a mass scale and a great number of customers. Especially, the performance of this system will decide on the customers' acceptance. Examples are www.dorfdisco.de or www.bevision.de. These offers are based on the Potato System, a development of the Fraunhofer Institute, which also invented the MP3 standard (see Table IV).

The analysis shows that the identified e-business models have both similar and different characteristics. At the moment, only few offers are profitable. The reasons for the low success are not really clear. One reason may be that the supply does not meet the demand. Therefore, it is necessary to analyse the expectations of the consumers of digital content in order to better understand the demand.

Analysis of the consumer expectations

To find out what the consumers expect from an offer of digital audio content with regard to the four criteria type and volume of content, price of content, rights of use and additional services, we carried out an explorative survey with persons using file

Characteristics		Dorfdisco.de	Bevision.de
Type and volume of content	Number of songs	www.dorfdisco.de 100	www.bevision.de 30
	Type of songs	Independent music	Independent music
	Data format	MP3	MP3
Price of content	Price per song	€0.79-0.99	€0.80-1.00
	Price per album	Ca. €8.00-10.00	€4.50/€7.60
	Special offer	5, 10 and 15 percent rebate depending on the volume of purchases	5, 10 and 15 percent rebate depending on the volume of purchases
Rights of use	Number of downloads per song	1	1
	Copy rights	Unrestricted	Unrestricted
	Export rights	Unrestricted	Unrestricted
Additional services	Information	Interviews with artists, links to the artists' homepages, information about gigs, focus on the relationship between fan and artist	Interviews with artists, CD covers, postcards
	User support	Nonexistent except FAQ	Nonexistent except FAQ

Table IV.
Examples for e-business models of the category D

sharing tools or legal offers of digital audio content. The reason for conducting our survey was that we could not find any data about the consumer expectations of digital audio content with regard to these four aspects at present.

Our survey was based on a random sample of 72 interviewees. The web-based questionnaire consisted of 21 closed-ended and ten open-ended questions. We conducted the survey in German and English language over a period of two months at the end of 2004. To contact the interviewed persons, we placed an invitation for participation in several online-forums (e.g. www.emuleforum.net and www.hifi-forum.de). The predominant part of the interviewees was male and German. The average age of the interviewed persons was 25 years with all interviewees ranging from 12 to 60 years.

To consider the above-mentioned criteria of the analysis, we asked the following questions. For the type and volume of content, we chose the questions: What are the reasons for buying content from legal provider? What are the reasons for the illegal consumption of copyrighted content via file sharing tools? What features and characteristics increase or decrease the attractiveness of consuming a digital product (such as mp3 songs)?

To analyse the rights of use, the interviewees should evaluate, whether personalised ownership rights and restricted number of copies increase or decrease the attractiveness of consuming a digital product such as mp3 songs. Additionally, we asked the following question: what are the reasons for illegal consumption of copyrighted content via file sharing tools?

Questions, which considered the price of content, were: How much are you at most willing to pay for a song and a music CD? How much are you at most willing to pay for weekly entertainment? What do you think of a file sharing system that requires you to pay for each downloaded song but also allows you to get paid a small provision whenever someone else downloads one of your songs? Furthermore, the interviewees should evaluate whether diverse pricing models (e.g. subscription service/flatrate) increase or decrease the attractiveness of a legal offer.

To consider the additional services, the interviewees should evaluate, whether additional information, suggestions about other products of possible interests, membership in clubs, community features and merchandising offer increase or decrease the attractiveness of an offer of digital content. Additionally, we considered the answers to the following question: what are the reasons to use a legal or an illegal offer of content.

Based on the responses to the asked questions, we identified the consumer expectations. Furthermore, we considered the results of later studies, which analysed the same or similar criteria.

Type and volume of content: in general, the interviewed persons expect a correct content and a high data quality. Instead of buying an entire CD, 69.4 percent of the interviewed persons prefer to buy a single song. In addition, it was mentioned in our survey that in file sharing tools, a wide range of digital audio content exists and that these tools are the only option to get unknown content, which you cannot buy in a legal offer. Due to this fact, one important consumer expectation is a wide range of digital audio content. Above all, it is important for the potential customers to find the required content efficiently. Further reasons for preferring a legal offer of digital audio content are buying a genuine, a collector's item, or a present. Therefore, the choice of digital audio content is influenced by the emotions and special interests of the consumers.

Price of content: 82 percent of the interviewees are willing to pay for digital content. The weekly budget for entertainment (music, movie, cinema, or print articles) ranges from 1 to 15€, independent of the type of digital content the interviewees would like to buy. The price acceptance for a single song is shown in Table V.

These prices are between a few cents and 1€. This corresponds with the requirement of an affordable price, which was mentioned by 60 percent of the interviewees. Beside the price acceptance, different pricing models can increase the attractiveness. This is demanded by most of the interviewed persons. According to Dolan and Simon (1996), the following two pricing concepts are possible:

- (1) Customized pricing with regard to the type of content and the characteristics of the vendees: Buxmann *et al.* (2005) show that the interviewed persons have a different willingness to pay depending on the type of content (e.g. a topical song, an older song, a song of a newcomer or a rarity).
- (2) Pure or mixed price bundling: pure price bundling means that the audio content (e.g. a single song) cannot be bought individually. Mixed price bundling includes the offer of a single song as well as the offer to buy the entire album.

In innovative concepts, the customers are integrated in the selling process. They get the opportunity to resell their acquired content and receive a low rated commission for that. In our survey, we found out that 31.9 percent of the interviewed persons are willing to sell their own content for a commission. That could be a new incentive for the consumers of digital audio content to use the legal online offer.

Rights of use: for the interviewed consumers, restrictions with regard to the usage of the digital content decrease the attractiveness of the offer. Characteristics which are typical for the application of protection mechanism or Digital Rights Management (DRM) technologies such as the “restriction in the number of possible copies” or “personalised ownership rights” are disliked by most of the interviewed persons. The qualitative analysis reveals that most of the interviewed persons do not accept such protection technologies. Similar results are found by Fetscherin (2003) and are also confirmed by Duft *et al.* (2005). The latter asked the interviewed persons questions about price acceptance with regard to the different rights of use. For example, the interviewed persons should choose between two alternatives: “A song that you can only copy once and burn 3 times for 50 cents.” or “A song you can do whatever you want with for 1 Euro”. Here, most of the interviewed persons selected the second alternative (63 percent).

Additional services: In our survey, the interviewed consumers preferred additional services such as information about the content (86 percent) and community features (57 percent). Especially, up-to-date information (e.g. about concerts, new songs and charts) were important to consumers (Fetscherin, 2003). The community features can

Study	Price acceptance per song
Result of our survey	€0.67 (average price acceptance)
Buxmann <i>et al.</i> (2005)	€0.10-0.49 (depending on the type of content, e.g. newcomer or older song)
Hansen and Zota (2004)	€0.50 (25 percent of the test persons paid that price)
Duft <i>et al.</i> (2005)	€1 (without restrictions of usage)

Table V.
Price acceptance for
digital audio content

help to support consumer-based needs to communicate with other consumers and to choose the right audio content. In contrast, services, aiming at earning additional money for the supplier (e.g. merchandising offers, customer profiles for personalized buying or club membership offers), are demanded infrequently. A service, which is mentioned by 76.4 percent of the interviewed persons, is the possibility of downloading a file to preview the content. Additionally, the usability of an online shop supports the selling process. This is also confirmed by the study of Buxmann *et al.* (2005).

Our survey showed various issues of consumer expectation, which can fundamentally influence the demand of digital audio content. In summary, most of the interviewed persons expect a broad offer of digital audio content also including music of special interests with a price limit near 50 cents and no restriction in usage. Furthermore, they prefer additional information and services, which support the communication and the data exchange and facilitate the handling of the offer. Even though, the random sample of our survey was relatively small and is focussed on a special target group, the results were able to be verified by simultaneous and later studies, e.g. an European consumer survey with 4,852 internet users by Duft *et al.* (2005), a survey with responses of 2,260 individuals conducted by Buxmann *et al.* (2005), or a study of Hansen and Zota (2004), who evaluated the voluntary payment process with 28,225 internet users.

Evaluation of e-business models with regard to the consumer expectations

On the basis of the idea that the offered content is in a standardized data format, which is not restricted to any hardware, the category of e-business models, which are based on "pay-per-download" and independent of the technology of the supplier, generally meets the consumer expectations. However, the restricted copyrights represent an important discrepancy between the current offers and the identified consumer expectations, which could have an impact on the acceptance of the consumers. A limited number of copies and the use of protection technology is contrary to what the consumers are used to from other internet distribution channels, such as peer-to-peer networks. In addition, the implemented e-business models are focussed on well-known content and do not consider the special interests of the consumers. Usually, the prices of the content are higher than the average price acceptance and the additional services are not at a sufficient rate. Hence, possible starting points to improve the consumer acceptance could be the expansion of the offer of content, the reduction of the prices, and the creation of incentives for legal consumption instead of the use of protection technology. Furthermore, the suppliers could improve their additional services.

The category of e-business models, which are based on "pay-per-download" and dependent on the technology of the supplier, shows a fundamental discrepancy with regard to the identified consumer expectations. The offered data format is limited to the technology of the supplier and therefore, the usage of content is restricted. This could decrease the consumer acceptance, but it is also dependent on how widely-used the technology of these suppliers is and how easy it is to prompt the consumers to buy this technology. For consumers, who already have the required technology, there is no restriction, especially there is no limitation in number of copies. The example of Apple shows that a combination of selling hardware as well as audio content, a so-called mixed calculation can be successful (Pogue, 2005). In another case, the dependency on technology could lead to an absent acceptance of the consumers. With regard to the

price or the type and volume of content, the implemented e-business models are nearly comparable to the business models of the first category. The prices are in the same range and the main focus of the offered content is on well-known music. Furthermore, there are few more additional services, which also support the customer loyalty.

The flat rate as the central payment model is not contrary to the consumer expectations. With regard to the identified e-business models, which are based on a flat rate, the monthly fee is not higher than the budget of the interviewed persons in our survey. Furthermore, the offer of content is, in comparison to all the other categories, the biggest one. Beside this big offer of content, the consumers get lots of additional services, especially the possibility to communicate with other consumers. These characteristics exactly meet the fundamental expectations of the consumers. Problems with regard to the consumer acceptance could be that the consumers are forced to commit themselves to a supplier and that the usage is restricted, especially with regard to the rights of copy and export. In this context, the question arises whether the offer of content on a big scale, a lot of additional services and community features are enough for the consumers to commit themselves to such a supplier.

Finally, the category of e-business models, which include commissions, meets the majority of the consumer expectations. The offer of content is in a standardized data format, which is not restricted to any hardware. The usage of the downloaded content is not limited with regard to the copyrights. Especially, the customers get incentives to act in a legal manner. In addition, there are lots of additional information and the prices nearly correspond with the upper limit of the price acceptance. However, the marginal volume of content is not sufficient to make a statement if this category of e-business models is suitable for the mass market.

In summary, the evaluation shows that the identified e-business models do not meet all of the fundamental consumer expectations. On the one hand, the category and its characteristics (e.g. dependency on technology) lead to a conflict with regard to the expectations of the consumers. On the other hand, the implemented e-business models reveal discrepancies between the concrete offer and the demand. There are different possibilities to overcome these discrepancies. For e-business models, whose category corresponds with the consumer expectations, the suppliers could adapt their concrete offer, e.g. the prices, the volume of content or the number of additional services. For e-business models, which are based on a contradictory category with regard to the consumer expectation, it is possible to change the general conditions, e.g. the suppliers could push their technological standard or strengthen the brand awareness. In addition, there is also the possibility that the consumer behaviour will alter in the future and the consumers will accept the restricted usage of the content. In this case, it is necessary to constantly watch the market and analyse the expectation of the consumers.

Conclusion

Media enterprises have to view e-business models as a new communication and distribution channel with regard to different consumer behaviours and needs. In this context, it is necessary to adapt the offer of digital audio content to the changed demand. To better understand the consumption of digital audio content, we analysed the supply as well as the demand side. For the analysis of the supply, we identified four categories of e-business models for digital audio content and highlighted their specific

characteristics. The presented examples of e-business models show that there are different possibilities to distribute audio content.

In an effort to evaluate the identified e-business models, we analysed the demand, especially the consumer expectations, and compared the results with the specific characteristics of the identified e-business models. The comparison shows that current e-business models do not address all facets of the consumer expectations. This could be one reason, why consumers prefer to copy and share the digital content for free via peer-to-peer networks.

The main benefit of this paper is, that it provides a systematic analysis, which is based on four aspects: type and volume of content, price of content, rights of use and additional services. By considering these aspects, it is possible to identify concrete discrepancies between the supply and the demand side as well as starting points for improvements of the current e-business models. Here, the enlargement of the audio content, especially the consideration of special interests, more reasonable prices or different pricing concepts, more confidence in the consumers and better additionally services, which support the community of the consumers, could increase the acceptance of the legal offer of digital audio content.

The paper shows that innovative concepts are necessary to establish profitable e-business models, especially in the area of digital assets. Furthermore, the already existing, theoretical findings should be taken into consideration while implementing an e-business model. The research results of this paper aim to create a deeper understanding of e-business models in the area of digital audio content. Companies, which have not yet implemented an e-business model, shall be able to benefit from our research results in order to avoid possible mistakes. Companies, already in possession of e-business experience, shall be given the opportunity to compare their experiences with the results of our study as well as to align their activities according to our results. These results are limited to the German music market. However, it would be interesting to know whether this is a German specific problem or a global phenomenon. Additionally, the transfer of these finding on other parts of the content industry could lead to more conclusions.

References

- Becker, E., Buhse, W., Günnewig, D. and Rump, N. (2003), *Digital Rights Management: Technological, Economic, Legal and Political Aspects*, Springer, Berlin.
- Buhse, W. (2004), *Wettbewerbsstrategien im Umfeld von Darknet und Digital Rights Management: Szenarien und Erlösmodelle für Onlinemusik*, Deutscher Universitäts-Verlag, Wiesbaden.
- Buxmann, P., Pohl, G., Johnscher, P., Strube, J. and Groffmann, H.-D. (2005), "Strategies for digital music markets: pricing and the effectiveness of measures against pirate copies – results of an empirical study", *Zukunftsmusik.net*, July, available at: www.zukunftsmusik.net/paper_zm/strategies-digital_music.pdf
- Dolan, R.J. and Simon, H. (1996), *Power Pricing: How Managing Price Transforms the Bottom Line*, The Free Press, New York, NY.
- Duft, N., Stiehler, A., Vogeley, D. and Wichmann, T. (2005), "Digital music usage and DRM: results from a European Consumer Survey", *INDICARE*, July, available at: www.indicare.org/tiki-page.php?pageName=Downloads
- Erhart, V. (2004), *Rhapsody kommt nach Europa: Musikportal soll ab 2005 zugänglich sein*, September, available at: www.presetext.de/pte.mc?pte=040408028

- Fetscherin, M. (2003), "Evaluating consumer acceptance for protected digital content", in Becker, E., Buhse, W., Günnewig, D. and Rump, N. (Eds), *Digital Rights Management: Technological, Economic, Legal and Political Aspects*, Springer, Berlin, pp. 301-20.
- FriendsOnly (2004), *PotatoSystem: Friendly Music Distribution*, July, available at: www.potatosystem.com/download/PotatoBroschuere.pdf
- Gordon, S. (2005), *The Future of the Music Business: How to Succeed with the New Digital Technologies*, Backbeat Books, San Francisco, CA.
- Hansen, S. and Zota, V. (2004), "Schluss: Ergebnisse der Musik-Download-Aktion", *c't*, Vol. 21, pp. 102-5.
- IFPI: International Federation of the Phonographic Industry (2004), *Jahreswirtschaftsbericht 2004*, July, available at: www.ifpi.de/
- Pogue, D. (2005), "Ipod's Law: the impossible is possible", *NY Times*, September, available at: www.nytimes.com/2005/09/15/technology/circuits/15pogue.html
- Rosenblatt, W., Trippe, W. and Mooney, S. (2002), *Digital Rights Management: Business and Technology*, M & T Books, New York, NY.
- Röttgers, J. (2005), *Tauschbörsen verzeichnen stetigen Zuwachs*, July, available at: www.netzwelt.de/news/70974-tauschboersen-verzeichnen-stetigen-zuwachs.html
- Sabki, A., Ahmed, P.K. and Hardaker, G. (2004), "Developing an e-commerce solution: a case study of TimeXtra", *Journal of Enterprise Information Management*, Vol. 15 No. 5, pp. 388-401.
- Sobel, L.S. (2003), "DRM as an enabler of business models: ISPs as digital retailers", *Berkeley Technology Law Journal*, Vol. 18, pp. 666-96.
- Sundararajan, A. (2004), "Managing digital piracy: pricing and protection", *Information Systems Research*, Vol. 15 No. 3, pp. 287-308.
- Wirtz, B.W. (2000), *Electronic Business*, Gabler-Verlag, Wiesbaden.
- Wu, Y.-C.J. (2005), "Unlocking the value of business model patents in e-commerce", *Journal of Enterprise Information Management*, Vol. 18 No. 1, pp. 113-30.

Further reading

- Hansen, S. (2004), "Fair, fairer fünfzig: Der richtige Preis für den legalen Musik-Download", *c't*, Vol. 12, pp. 96-100.
- Timmers, P. (1998), "Business models for electronic markets", *Electronic Markets*, Vol. 8 No. 2, pp. 3-8.

Corresponding author

Michael Amberg can be contacted at: amberg@wiso.uni-erlangen.de

To purchase reprints of this article please e-mail: reprints@emeraldinsight.com
Or visit our web site for further details: www.emeraldinsight.com/reprints

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.