Trend Report 2007

The Future of Publishing
Trends for the Bookmarket 2020

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Trend Report 2007: The Future of Publishing, Trends for the Bookmarket 2020

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Preface

Books are haptic goods which can be substituted only with difficulty by digital media in certain scenarios of utilization. Although this appraisal is still correct today, the book branch as a subsector of the media industry is faced with digitization-induced changes. The meanwhile established selling of books on the internet is accompanied by the proposition of additional services. Topical examples like gathering recommendations for books in the community LovelyBooks or the initiatives of Google book search and libreka! for on-line full text search show huge potential for further scenarios. Besides these valuable developments digitization nevertheless comprises risks for the book branch.

On this account referring to their own statements many established publishers and bookstores are looking for strategies that can cope with these changes and prepare them for conceivable future evolutions.

The present Trend Report starts off at exactly this point. Upon 250 pages it contains the results of the Trend Seminar on the topic The Future of Publishing and therefore illustrates a practically oriented insight into the contemporary and future trends of the book branch.

The Trend Seminar is held at the Center for Digital Technology and Management (CDTM) which as a joint initiative of the Ludwig-Maximilians-University Munich (LMU) and the Technische Universität München (TUM) is a practical oriented center of excellence and therefore part of the Elite Netzwerk Bayern (ENB).

The gathered information and the thereby crafted knowledge is displayed in a two step approach. While the first part of this report illustrates the basic changes and drivers in the book market, the second part introduces possible future scenarios and respectively adopted business models.

Talking in terms of results, a valuable reference book is at hand which processes the digitization-induced trends as well as promising scenarios within the book branch and delivers helpful suggestions to both beginners and experts.

Thomas Hess, Professor at the Ludwig-Maximilians-University
Member of the Board of the CDTM

Munich, January 2008

The entire Trend Report was written by CDTM students in 2006/2007. The papers compiled here do not claim to be scientifically accurate in every case; they are rather meant to give a structured an broad overview of trends relevant in the context of the future of the Publishing market.

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Technology Push: Technology as driver for product and service innovations

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1.1 Executive Summary

Over several hundred years the book has been the most successful media for saving and spreading ideas and information as well as for entertaining readers. Having analyzed the past and upcoming trends within the book market, one can predict that their cultural influence will sustain also within the next 20 years, although it is likely that they will be augmented with several new features based on upcoming technologies like new ways of displaying and visualizing content. This primarily technical development will also impact as drivers on the increasing digitalization of books which can be regarded as the major change within the book market throughout the following years. So a fertile soil for new products like eBooks, audio-visual integrated solutions and Augmented-Reality-based devices will emerge and advance. This fusion will attract both the user's visual and audible senses and provide him a manifold media experience. Nevertheless this development will also rise to a challenge for the publishers. They will have to evaluate adequate pricing models as well as strategies to cope with dangers like piracy, free content offers and monopolizing players within the Digital Book Market. On the other hand they will be able to optimize their retailing as well as their overall competitiveness. The publishers, which will head the technological development and integrate in effective networks, will assert themselves in the future Digital Book Market.

1.2 Book Market Driving Technologies

1.2.1 Access to Content

1.2.1.1 Easy Remote Access

Wireless LANs become faster and more ubiquitous as time goes on. Some years ago Bluetooth and WiFi (a two-way radio technology) boomed and recently the next-generation technologies like Ultra Wide Band and Cognitive Radio are going to fasten the remote connection development [Ker05]. Cognitive Radio is an advanced wireless technology area that would enable a cellular radio device to "cognitively" adapt itself to use whatever spectrum may be available in a particular operating environment, which could potentially solve the issue of limited spectrum availability. "Ultra Wide Band is a wireless communication technology that can currently transmit data at speeds between 40 to 60 megabits per second and eventually up to 1 gigabit per second is beginning to take a stronger foothold in the wireless networking industry."[Gei03] This technology helps devices to have a range of 30 feet and data rates of around 100 Mbps. This means that connection between various devices as well as the connection to the Internet continues to improve and we are allowed to expect a remarkably easy, fast and all-around Internet access in 2020.

Considering the probable overall access to the Internet in the next 10-15 years, many content-producing companies, including publishers, do not need to sell their product. This means that the user does not have to download any content, in that he/she should only purchase the all-time access to a specific content. This will also be a great help to the security concerns, as controlling the access is much easier than controlling the already sent out content.

1.2.1.2 Rising Up New Standards

There is presently no absolutely standard of protecting copyright for eBooks. Still each manufacturer of eBook readers (e.g., NuvoMedia and SoftBook) and each electronic publisher (e.g., Fatbrain's Ematter) has come up with its own method of secure distribution and prevention of unauthorized copying [Ney01]. This situation is due to the unmatured and new state of digital content (music, movies...). As presently all the companies seem to have agreed on the Digital Rights Management technology (DRM) in regard of right management, it can be expected that in the future new standards in new areas will be developed, on which all the content-producing companies, as well as content-readers manufacturers agree.

1.2.1.3 Access with Identity Check

If the user of each software and service is well-identified, there would be no need to worry about selling the content. There have been a lot of improvements in defining the user's identity in the last couple of years. Biometrics for example, which refers

to "a class of techniques which use measurements of one or more physical characteristics of the human body"[Fer05], is a nearly safe way to generate a unique identifier. However, these methods are not always totally secure. For example, fingerprints and iris-scanning are not considered as safe anymore, as one is able to use gelatin to create fake fingerprints or use high quality photographs to fool iris-scanners. Thus the best way of identification is presently mixing body-based identifiers with user-defined ones [Fer05].

In the near future there will be an internal webcam and a touchscreen - both with a much better usability and quality then today - installed to every device [Han06]. Thanks to these facilities and identification methods mentioned above, the user will be identified and it will be always clear who is working with a software or who is benefiting any kinds of applications. This will prevent the consumers to use any content, which does not actually belong to them.

1.2.2 Storing Content

When thinking about new ways of providing information in a digital manner, it is also important to take new ways of storage and file formats into consideration. In the following an overview on new memory technologies and upcoming methods which will serve the download process will be given.

1.2.2.1 Storage Media

Between 1970 and 1990 the first medium, containing audio data, was provided by the development of Cassette Tapes. With the development of the Compact Disc in 1982 the problem of inflexible navigation was solved and selecting tracks was made possible. As a book of a few hundred pages requests playtime of 5 to 40 hours, several CDs are necessary for one Audio Book. In order to compensate the CDs lack of sufficient capacity, the use of DVDs and Blue-ray Disc^{TM} as carrier of data for Digital Books will be the next step in the near future. Although there will be a development in the market for mobile memories, the main focus will be turned to fixed, integrated memory, as downloading from Internet platforms will gain size and importance than buying discs in a shop. Some experts from storage firms, like in [Meh04], predict that there will be a point in future, where single bits on a layer are put so close together that they can not be distinguished any longer. So it is likely that technologies like vertical recording or holographic memory will play a more important role. These techniques are based on the idea of storing information at high density inside crystals or polymers [Wikc]. The advantage of using a three-dimensional volume instead of just a surface will allow for storing much more data per material unit. As these media consist of cheap material and can be build very small and compact they would be suitable especially for mobile devices. On the other hand they will provide a solution to problems like mass storaging which will probably emerge in the digital book market.

1.2.2.2 File Formats

Besides the direct distribution of Digital Books as hardware in the book store, downloads from Internet platforms will gain size and importance. Therefore compression methods like MP3 are inevitable as a possibility to store voice and music in very good quality using only little disc space. On the one hand this will enable Internet stores to sell Digital Books directly to customers as files, on the other hand the data volume, intended to be recorded on a CD or DVD, could be increased considerably. The successor of MP3 will be the AAC (Advanced Audio Coding) method [Wika]. As AAC provides audio encoding that compresses much more efficiently than older formats such as MP3 yet delivers quality rivaling that of uncompressed Audio CD, it will be the audio codec of choice for Internet, wireless and digital broadcast arenas. AAC has already been part of several products since 2003. For example all of the music sold in iTunes Music Stores uses AAC for playback on desktop or iPod. As the latest cell phones, PDAs and even the SONY Reader[TM] support the AAC standard, this technology must be taken into consideration when talking about future data formats for audio books. Publishers already look into the subject of supporting media. According to [8.004], in doing so more than 50 percent of all audio book publishers are willing to introduce DVDs in the nearer future. The variety of supporting media will finally decide on the quality and complexity of future Digital Books and the techniques to extend them with additional features.

1.2.3 Usability of Content

1.2.3.1 Facilitation of Listening

An Audio Book is a collection of electronic files arranged to present information to the audience mostly via human or synthetic speech. By creating and assembling these files on a CD or DVD in order to make an Audio Book, in most cases flexible navigation is restricted. As one can therefore only distinguish between tracks, no features such as bookmarking, highlighting, keyword searching, spelling of words and user control over the presentation of selected items like footnotes, page numbers, etc. are available yet.

In order to guarantee a versatile access especially to Audio Books new technologies are expected to close this gap within the next 20 years. First of all they will provide very flexible hierarchical navigation functions. Therefore it should be possible to navigate between different chapters as well as to jump down several hierarchical levels from chapter to page and finally down to single sentences and footnotes. Also individually controlled will be the speed of speaking without losing the natural sound of the human voice. The future Audio Book also provides various edit functions that give the user the possibility to easily set an arbitrary amount of bookmarks, which the player will visualize afterwards. So important sections can also be reminded. Furthermore it could be possible to record own notes and remarks in addition to the spoken text. Another important special feature might be the so called resume function: the player memorizes the point of interruption to later carry on from this

particular former stoppage. Furthermore software integrated in a mobile device will augment the previous functions so that besides complex text structures as well as different kinds of paragraphs, tables, highlighting of texts, image descriptions and in the future also mathematical and symbolic dictions can be phoneticized also interactive voice control could be possible. Those extensions could make it easier to replay specialized, reference and school books as well as scientific publications in the form of Audio Books.

These assumptions are inter alia based on the emerging worldwide Standard for Digital Accessible Information Systems [Hör]. In the future it is essential to take those developments into consideration in order to provide users with flexible and efficient access to information on Audio Books, so this medium can consolidate its position between books and films and assert its role as future information source.

1.2.3.2   Facilitation of Reading

While regarding mobile devices which will not exclusively serve as players for Audio Books, it is not such important to provide new navigation function as hierarchical structures can be more easily displayed. Nevertheless there are also technologies which are expected to augment the usability. If the user wants to switch between different chapters of an electronic book, he will probably use inter alia his voice. So a much more flexible and independent control could be achieved. Besides the features concerning Audio Books mentioned above like adding personal information which will be also suitable for eBooks, technology improving on the visual perception would be interesting. An integrated sensor could for example measure the amount of incoming daylight and then adjust automatically the brightness of the display. So an optimal visual presentation could be achieved.

1.2.4   Visualization of Content

Other areas, where technology pushes the development of the book in the next years are new ways of displaying content. Therefore, the following chapter introduces new technologies of visualization, that are imaginable to be used to read books, especially eBooks. But first of all, the term eBook has to be defined, to have the same mindset and to avoid confusion, as the word is used in many respects, which Cory Doctorow commented with: "Ebooks: Neither E, Nor Books" [Doc04].

The first idea of an eBook was the digital edition of a printed book, produced by simply scanning it. New, digital production processes and ways to integrate videos, graphics and animations lead to a new multimedia-based type of eBook, which were enhanced by hyperlinks and interactive elements and converged more and more to the original idea of a website. But also the physical device to display the content is often but imprecisely called eBook. Therefor, in the following section, the digital content is called eBook, the electronic gadget is called reading device. One factor, why eBooks are still not broadly accepted, is that common display technologies are not convenient to read books on. First of all technologies like LCD or TFT are

unpleasing or even harmful to read for any length of time, moreover the haptic and emotional quality of a printed book can never be competed. But there are new, promising ways of visualization, that will drive the eBook market in the next years.

1.2.4.1 E-Paper, E-Ink

According to the disadvantages of devices based on display technologies similar to notebooks, explicated in the foregoing clause, new ways have to be found, to display eBooks. One of them are new, thin and flexible displays, which simulate the appearance of real ink and paper. Contrary to common displays, the E-Paper devices don't use a backlight, so reading is much more comfortable, as backlighting is hard on the human eye, and the power consumption is lower, as the device only draws electricity for paging. Further advantages of the new E-Paper are high contrast, flexibility and no flickering. Moreover the quality of the display is independent from the user's viewing angle.

One of the leading technologies, realizing the idea of E-Paper, is E-Ink, a proprietary material, which is developed in association with Sony and Phillips. Between to layers of plastic or another carrier material, E-Ink uses millions of capsules. "These beads, which consist of positively charged white particles and negatively charged black particles, react to different electrical charges. Should a positive charge run through the circuitry, the black beads will move to the top of the layer and become visible" [Cor06].

But there are still many disadvantages of E-Paper and E-Ink in the current state of development. First of all, there are too high costs of reading devices using the new technologies, moreover it is not possible to use them without external light. Also the development of fast paging colored displays based on E-Ink will take another few years.

1.2.4.2 Head Mounted Displays

Head Mounted Displays (HMD) can be a new technology to display books in the future. HMDs are devices, that consist of two displays, which are installed in front of the user's eyes, so any kind of information or content can be displayed directly into the user's field of view. With this technology, it is possible to create Virtual Reality and to get immersed in a 3D world. Current devices are helmet-shaped, very bulky and still too expensive and unsatisfactory in their display quality to read books on them. But, in association with the army, new technologies will be developed, to integrate microdisplays in normal glasses to realize "Augmented Reality", i.e. "overlaying the real world with one or more layers of additional information that may or may not be interactive" [Ros]. This will enable the user to read either 3D-generated books or any kind of content, displayed in their field of view, combined with the real world. An interesting utilization would be a tourist guide or instruction manuals.

1.2.4.3 Projectors

Supporting the idea of mobility and the possibility of reading eBooks anytime, anywhere, it is imaginable to use new technologies of projection to display content. But projectors with today's technologies, e.g. Liquid Chrystal Displays or Digital Light Processing are way too expensive, heavy and big to accomplish this idea. One of the most promising technologies is developed by the Fraunhofer Institute, providing a projector in the size of a sugar cube. It contains of a mirror which is rotatable in to directions and three lasers in the fundamental colors. This technology makes it possible to integrate projectors into mobile phones, digital cameras or other devices to display text and graphics.

1.3 New Innovative Products 2020

1.3.1 Printed Books Featured with New Technology

1.3.1.1 Description

One of the big phenomenons of the current book market situation is described by Frederick Kilgour, as "the unacceptability of the present electronic book is often expressed in what has come to be known as the "can't curl up in bed with it' syndrome", closely followed by the "can't read it at the beach' complaint" [Kil98]. More precisely, most of the readers prefer printed books because of emotional, haptic and olfactory reasons. Starting from this phenomenon, one of the most innovative products in the next years and at the same time one of the biggest chances for publishers will be the integration of the described technologies into printed books.

One imaginable product could be a traditional-designed book, which is not only filled with printed pages, but also with pages based on E-Paper materials like E-Ink. Adding instant Internet access, memory, a touchscreen and a music player, this book would provide a whole new variety of possibilities. For example it could show additional information to the printed content, that could be updated from time to time. Moreover it would be possible to play animations, videos and music files to enhance the pleasure and the effectiveness of reading. Due to the touchscreen display interactive features could be integrated.

1.3.1.2 Possible Content & Target Groups

One reasonable application for these "enhanced" books could be cyclopedias. With the new possibility of updating information these cyclopedias never would get out of date. And thanks to the animations they could present some facts more precisely and more entertaining. These new cyclopedias would be maybe in a high price segment, but well-educated people, who are concerned about their reputation of being up to date and of being intellectual, would pay the additional charge.

The next field of interests are scientific books and schoolbooks. Both profit by the chance to update the content and to illustrate it on a vivid and understandable way. The new possibility of interaction would particularly serve the educational books a lot. That way the pupils could get an instant reaction to given tasks and could learn so easier and faster.

Besides these particular areas of application - which indeed could profit extraordinary by the new possibilities - every other area of the book market also could benefit. E.g. appropriate music could do a great job in supporting specific moods of any kind of books.

1.3.2 Mobile Handheld-Devices Combining Reading and Listening Features

1.3.2.1 Description

The following table is part of a survey through eBook users, published by the International Digital Publishing Forum in February 2006 and shows which type of device users prefer to read eBook titles on. [FOR06]

Device	Number of users
Personal Digital Device (Palm etc.)	79%
Laptop	8%
Desktop PC	7%
Dedicated Reading Device	4%
Other	1%
Cell Phone	1%

According to the survey, most of the eBook readers use generic devices instead of dedicated eBook reading devices to read their Digital Books. That implicates, that products in the future have to combine several technologies of consuming content in a convenient way, e.g. devices with displays based on E-Ink combined with high-quality audio output and a size that still gives the possibility to e.g. work out. From the user's point of view, reading eBooks on electronic devices has manifold advantages over printed books. First of all, eBooks, as they are digital, take up little space, so hundred or thousands of books can be stored on a device. Moreover eBooks can be displayed in any size, color or type face, it is even possible to use text-to-speech software, which transforms an eBook into an Audio Book. Especially for readers of scientific literature, the possibilities to update or correct an eBook immediately or to use interactive features like search and cross-reference capabilities are crucial advantages over printed books.

As the mobility and usability of the coming devices is crucial for the user, many providers of eBooks try to concentrate on formats, that can be read on small displays. E.g. the "Projekt Gutenberg", one of the biggest providers of free eBooks, tries to dissociate completely from dedicated ERDs and, according to the projects

co-founder Michael Hart, wants to provide more than 20.000 eBooks, which are specially designed to be read on generic mobile handheld devices [Bag06]. A new type to display eBooks on mobile phones is called ICUE, and has big success in England. Instead of forcing the user to scroll through the book himself, the software shows the eBook word for word by word or subset by subset, similar to a tachistoscope.

1.3.2.2 Possible Content & Target Groups

Using electronic devices, which combine reading features in a visual quality, that is comparable to a printed book, with listening features and complete mobility offers a totally new field of products. On the one hand it will be possible, to add additional content to audio books, e.g. videos, interactive elements or added pictures, which may be interesting for children, disabled and old people. But also audio guides for tourists can be enhanced with additional visual information or maps. On the other hand, also the addition of content to eBooks, e.g. sounds, interactive elements or videos is exciting. This concept is interesting for almost every content and target group, e.g. encyclopedias, scientific books, books for children, language courses or just fictional books, added with background music.

1.3.3 Head Mounted Devices

1.3.3.1 Description

After talking about solutions to make an alternatively auditory or visual (reading-) experience possible we now want to have a look at a product, based on the technology of Augmented Reality (AR) [Wikb], that will integrate both senses in the reading process in the near future. This can be achieved by using a microdisplay installed in correlative AR-Glasses also containing a camera. This technology is about to educe from the AR-Headmounted-Display and because of reduced weight and compact build, they will be more comfortable to wear and user-friendly in the future. So the consumer can perceive his surroundings as well as the information dubbed in. An integrated microphone and loudspeakers close to the user's ears, that are also responsible for sound, serve as navigator. Thereby the computer is controlled by voice recognition to influence the display mode. The camera will allow synchronized details from environment and lecture. Among the most outstanding features the user will be provided are the possibility of attracting simultaneously our visual and acoustical senses, one of the best ways of representing virtual 3D data embedded in a real context in a highly realistic manner and the particular and flexible way of using such devices concerning the low weight and easy methods of controlling.

1.3.3.2 Possible Content and Target Groups

The range of use for these AR-Glasses is manifold. For one part there is the option to just show pages of books for reading but also the virtual embedding of animated objects in the real world is made possible. That could be an interesting margin for

kid's books to improve the learning progress in a graphic way as well as for reference books and encyclopedias to be enhanced by additional animated contents. Anatomical situations in medical schoolbooks could be synthesized threedimensionally. A new meaning also arises for Audio Books for example in the category of guidebooks for travelling and sightseeing. The user would be individually supplied with information via loudspeaker and could receive supplementary data of buildings and sights via display and depending on his location. Furthermore the AR-Glasses would be a particular interesting solution for areas where books contain detailed descriptions of processes or step by step instructions like in cooking books or manuals. There you often need free hands and it is not quite comfortable to look in book every two minutes while working somewhere else. With AR-Glasses you can simply hear the instructions and get additional embedded information dubbed in the display.

1.3.4 Digital Home Library

1.3.4.1 Description

For many people, their library at home expresses their social identity. These people show the others what kind of books they are interested to and how many books they have already read. That might be a good reason for them not to have any tendency to eBooks, as they can not parade their own belongings anymore. A Digital Home Library will be a new, interesting product for people with those intends.

The Digital Home Library will consist of a touchscreen and the corresponding software and hardware to import or access new eBooks. The touchscreen can be either a thin screen, based on new technologies (cp. 1.2.4) which will be installed on the wall, or an image projected on the wall, when a huge screen is not wanted or there is no place for it. In the case of projection, there will be also an extra camera with the beamer and selecting the desired books will be done by image processing.

The saved or bought eBooks appear then on the screen/wall, in the way the real printed books appear in a library shelf. The way the books look can be set by the user. An external book reading device can also be connected to this library and the selected book by touching the screen/wall will be imported in the book reading device. These libraries can also have extra features in comparison to the real libraries, like sorting eBooks according to what the user prefers, and showing the books in different covers offered by the publisher in the eBook package. Moreover, the users can have the eBooks which they plan to buy or have lent to somebody else in their library blinking. This library will be also able to show the cover of other digital products, like music and movies on their shelves. With an extra sound device, people can also listen to an Audio Book as well as album.

1.3.4.2 Possible Content & Target Group

The Digital Home Library is a luxury product for the high society and people with good educational background and financial situation. It will be often used as a status

symbol to show some valuable and intellectual eBooks. Moreover the product is interesting for e.g. libraries, as they can still keep their charm, without providing physical books.

1.4 Consequences for the Publishers

1.4.1 Challenges

1.4.1.1 Pricing Models

There are many possible pricing models of eBooks. Pricing eBooks is based dramatically on the rights of the user. Examples of different using-rights are limited reading-parts, limited remote-accessing (e.g. for encyclopedia), lending conditions, limited time of usage, limited reading-zone, the number of simultaneous users, printing and other services which are usually offered to users.

Single copy pricing model is when the customers are interested in buying each book individually. The prices of eBooks in this model can be based on whether the value of the acquired eBooks (based on its print-value), or simply the size of it. In this case the price of eBooks is usually lower than the printed versions, considering that there are no printing costs, shipping costs, and also no need to accept returns from booksellers.

Collection acquisition is another possible model for selling eBooks. Pricing in this model are normally based on the total number of potential users in the organization buying the collection (or simply the access to it), or through the number of simultaneous users. "The publisher may also specify a flat price for a collection, irrespective of the number of users."[Mik06] For this kind of service, prices of eBooks are in some cases clearly higher than the printed version, as there are more than one user making advantage of one specific book [Mik06].

Finally another possible pricing model is flat-rate. The service provider offers user rights to a continuously updated eBook collection on an agreement, which is based on a determined period of time. Long term subscriptions can also contain a gratis eBook-reading-device. This would be a very effective way to convince the users of reading books in a digital way. This model is also very interesting to the libraries, because from the perspective of library-holders, "the value of a collection of eBooks should be defined by how comprehensive and up-to-date the collection is."[Mik06].

1.4.1.2 Monopoly in the Digital Book Market

As the internet will play an important role in the book market of the future, the publishers have to be aware of one of the fundamental Internet-rules: "who comes first, takes it all". This rule could come true for the Digital Book (eBook plus Audio Book) market as a next step.

At the moment there are two big players entering the Digital Book market, which have the potential to work out very well: Sony and Amazon. Both will come up with their own tandem of a Digital Book device and store for the German market and provide so products, which will be a serious competition to traditional books [GIZ06].

The biggest danger for the publishers in this context is one big player obtaining a monopoly status selling books over the Internet [Tel06]. As a monopolist has got so much power that he can play one publishers off against another, he will be able put a high pressure on the prices. And due to the fact that he is not interested at all in the margins of the publishers, he will push the prices to a level, where the publishers can barely survive. He will follow this strategy, because he is mainly interested in selling his devices to a price where he can maximize his profit, as the consumers will buy the product to get the cheap book prices afterwards. So he can generate a perfect market situation: he obtains big margins due to sale of the devices and the publishers have to pay the price for this in getting hardly profit for their books they sold over the Internet.

1.4.1.3   Piracy

In the past few years the music industry has struggled heavily and has lost a big part of their revenue due to piracy. In some cases things for the Digital Book market will even be easier. Mainly there are three ways to get books in the Internet illegally:

First of all every modern book starts as a PDF or similar data file anyway, so it would be cheap and easy to set this up. One leak in the supply chain would be enough, to give away a huge mass of digital content.

In addition to that the enthusiasm of the underground eBook scene equipped with professional scanners and OCR software should not be underestimated. E.g. Harry Potter 6 was scanned, proofread and pirated in less than a day after the official paper book release [Dun05]. Just a look at the file sharing sites shows that they have already a pretty large database of books online.

Finally there are the non-commercial offers like Google Books or the project Gutenberg. With their huge capacities, they could upset the business plan of the publishers totally.

Due to the fact that Digital Books are only a part of the whole book market, the publishers will not suffer from piracy like the music industry does; but the damage will be or is already big enough that the publishing industry should start fighting back piracy e.g. in providing standardized Digital Right Management Systems.

1.4.2   Chances

1.4.2.1   More Efficient Retailing

The book market in 2020 does not only hold dangers for the publisher but also offers chances. Especially the digitalization of Audio and eBooks will provide a more

efficient production and distribution. As the publisher already receives a digital version of the former manuscript from the author, the processing of the text to the file based final product is more economical than a conversion to the conventional print format. Digital producing makes the whole manufacturing process needed for traditional books unnecessary, so the costs can be kept low. As for every published book only one original file is needed, a huge variety of offers presents more appeal to the customer. Therefore the publisher can address a bigger consumer group. Compared to printed books traditional storing space is not needed, so costs for maintaining warehouses can be reduced. In the future the distribution will almost exclusively concentrate on the Internet. On the one hand this diminishes the logistic effort considerably, as there is no shipping of goods required. On the other hand there will be a bigger group of prospective customers that daily checks on new releases so the advertising appeal will be increased significantly. By selling digitally it is easier to keep for example scientific publications, textbooks and lexicons updated so that the customer can purchase only the modifications of the newest edition without having to buy a completely new book. Left over copies of old editions will be nonexistent and therefore be a further occasion of possible cost reducing for the publisher. By the digitalization a production surplus can completely be avoided and taking back of unsold books from book stores will be unnecessary. Over all the producing process of books will be highly optimized and of unprecedented efficiency.

1.4.2.2 New Strategies Against Free Content

The second internet gold rush is in full swing, and this time it is all about real people, creating, editing and showcasing their own lives and opinions [Lan06]. It is called Web 2.0 and is probably just at the beginning of its development. So it is possible that in the future a big part of the literature is created and provided for free. Publishers have to react in providing high quality, not only regarding to the content, but also to the manner of deliver it to the readers. With high-end products (cp. 1.3) the publisher can generate the surplus, which is needed to convince the consumer not to take the gratis offers.

1.4.3 Recommendations

1.4.3.1 Leading Position in the Technological Development

Despite the truthful statement, that the traditional printed book will last forever, the book market is on the brink of a new era. The technological developments will have a significant impact how we will read and consume books in 2020. Different imaginable products will change our way of reading significantly.

One of the most important targets for publishers in the future is the identification of new technological developments and being the first on the market with an adequate and valuable product.

Therefore the publisher has to invest in market analysis to find out which of the

products are really demanded and which content should be offered in a digital way. So he can assign every specific new product appropriate content and target groups (cp. 1.3).

On the other hand the publishers should be warned to follow every new trend rising on the horizon. There is a danger of investing a lot of money in a new standard, only to find out later, that there will never be a return on investment. The best way to minimize this risk is to head the technological development and to do active trend research as sustained as possible.

1.4.3.2 Network of Publishers

To prevent the upcoming danger of a monopoly of the Digital Book market, the publishers have to join forces. They have to face the rising problem together, or they will not be able to dispose it. Moreover they have to launch their own Digital Book supply in the Internet: They should provide an own "tandem" of a Digital Book device and an appropriate store and have to take care that the handling of this new service is as easy to understand for the consumers as possible. That would mean also to generate a standard Digital Book reading software with a consistent DRM [oAP00]. So they could get rid of the second biggest danger of the Digitalization of the book market: the piracy.

Sometimes, especially in the Internet, the best business plan is to copy an idea and do it just better. And a network of publishers could provide Digital Books in the Internet better then anybody else. Consequently would a forceful network of publishers conquer the Digital Book market easily and could so not only avert the dangers of monopoly and piracy, but could also extend their target groups and so finally stop the stagnation of the book market in Germany: With a network of publishers providing the possibility to download books, where- and whenever you want to, on a device, which is smaller, has less weight and provides the same pleasure of reading a printed book does, a new era in the book market - with a higher total revenue then ever seen - will have begun.

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Chapter 2

Value Added Services for the book market of 2020

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2.1 Abstract

The following report discusses the importance and development of value added services in the book market with an outlook to the year 2020. For this purpose, different forms of value added services were classified. Services that rely closely on the content represent the first class. Secondly, opportunities that develop by going beyond the content are analyzed. The final part illustrates how an extra value can be created by combining the core product with additional products and services.

2.2 Introduction

Value added services increase the intrinsic value of a product, by offering additional services around the core product [MD01]. As they are always subjective perceptions, these specific extra values vary for every customer. The content of a book is a homogeneous good, thus the importance of these services will increase dramatically. To demonstrate the resulting business related developments, we used the following simplified value chain as a frame work, that will be discussed in detail in the related sections.
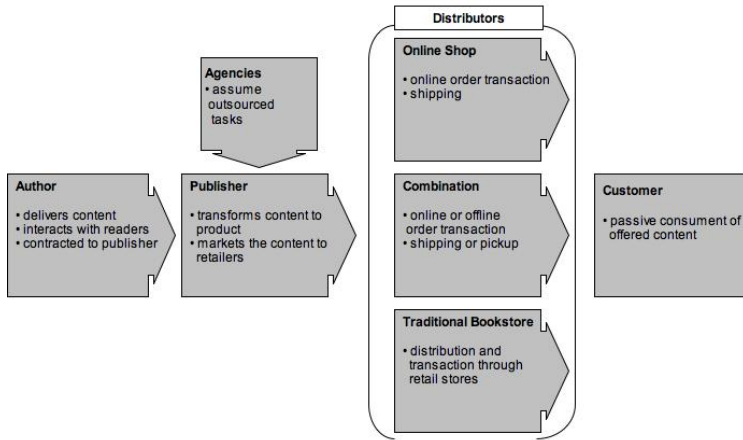
2.3 Services close to the Core Product

2.3.1 Information Management and Language Settings

2.3.1.1 Coping with the Information Overload in 2020

As the information material available to readers is constantly growing and more and more persons are gaining access to these information sources throughout the world, the development of new methods of complementing, managing and enhancing the content will continue [MD01]. Today, various computer-based search tools ease the information filtering process. Nevertheless a personalized distilling by the end user of this material is still necessary. Therefore the importance of highlighting tools for paper-based and electronic books will continue to rise. Features like highlighting text, tagging and hyperlinking are already available in many e-book reading devices, e.g. the ETI-1 from eBook Technologies [eT06]. By enhancing these features, the reader of 2020 will be able to highlight a text-passage that interests him and citation information will update automatically, allowing the reader to easily browse through many different cross-referenced sources.

2.3.1.2 The Multilingual Book

For many readers, language barriers still present a difficulty, as rare books are normally only available in the author's native tongue. In the university environment, it is not unusual to hear students admiring the didactic approach of a specific textbook, but at the same time complaining that the book is only available in a language in which they are not fluent. Computer-based translation tools commonly available nowadays, already provide initial help concerning this issue. Nevertheless, as these tools improve, the readers of 2020 will certainly enjoy the advantage of being able to freely choose and switch between various delivery languages. This feature will

not limit itself to the visualized content of an e-book, where either the complete text or parts of it will be translated to the tongue of choice, but will also influence the delivery of audio content. Improvements in the area of text-to-speech synthesis mentioned in section 2.3.2.1, make it easy to think of a handheld device that will automatically translate a highlighted passage and read it out to the end-user in the language of his choice.

2.3.1.3   Business Models

For the services described above, a trend towards the creation of an additional business player seems very likely. This business player will take the place of an agency in the value chain illustrated in the introduction. His tasks are to create the necessary images, videos and sounds and at the same time adapting them for use with a specific book. In the educational area, Academy123 Inc.[Aca06b] already offers content enhancing services for online use, mainly aimed at the market of computer-assisted instruction. This model can certainly be adapted to satisfy the future needs of both, the fiction and non-fiction book market.

2.3.2   Customizing Books

2.3.2.1   Overview

"People want to control their reading experience by being able to customize the content to fit their needs." [Hen02]. So, instead of having the author and publisher choose the way a book is presented, the reader wants to personalize his reading experience. This customization, especially concerning the visualization, voice and content features of a book will be discussed below.

Customization of the Reader's Voice
As mentioned in the article "In the beginning was the word", the improvement in text-to-speech synthesis will vastly expand the playback options for audio books and e-books [InT06]. The user will be able to choose among different voices or even match the voice of the reader to the voice of a famous person or a close family member. For instance, in a not too far future, as user, you will be able to have your favourite recipe book read out by your mother's voice while you are trying to mix together the ingredients. At the same time it will also be possible, to create voice models of deceased people of which audio recordings are available. These models can then be similarly used as described above.

Visualization Features
One of the most requested features for an e-book concerned the personalization of content appearance, especially relating to font-size, font-type and color [Hen02]. Customization for paper-based books has been mainly limited to large print editions, which principally address the growing demands of the aging population [BPR06].

Nevertheless, the print on demand model described in section 2.3.2.2, is opening the doors for a more user-customized paper-book, where the reader will have the ability to choose among different font sizes and styles and a specific text-layout. In addition to this, book cover designing services, as already offered by libri.de will continue to play an important role in the customization process of a book.

Although, many of these visual personalization services have already been implemented for e-books, the reader of 2020 will demand additional enhancements. Considering the results of the Open eBook Forum survey, the e-book consumer of the future will be able to easily edit and manipulate images embedded in the text [Hen02]. Furthermore the ability to move images, charts and tables and place them exactly where needed, will significantly assist the user in the reading process.

Content Customization

Merging together different chapters of standard books into one compilation is an idea that has been around for some years [LS01]. Although this concept might seem useless for fictional books, the educational community will certainly benefit vastly from this service. Instead of recommending various book titles, instructors will be able to put together a compilation of chapters of different books, which suits their own specific syllabus.

Moreover, the importance of user-generated content described in section 2.4.3 and the amount of information available about each reader through customer relationship management, will allow content-personalizing services as Libri's "Personal Novel" to offer interactive content that is closely related to the consumer.

2.3.2.2 Business Models

Customization allows for some very interesting business models that could be adapted to serve the book market in the year 2020. Successful ideas from the music and digital image printing market could be adopted.

Print on demand

Print on demand is a model within the publishing industry, in which a copy of a book is only printed after having been ordered [Wik06c]. One of the main advantages of this methodology is the cost-effectiveness of smaller print runs. In the future book market, where many users will personalize the content and appearance of their books, this methodology will certainly play an important role as print runs of a single copy will be very common. This leads to a change in the value chain, as the user steps into the role of the publisher for small circulations.

Online-to-retail and online-to-mail are two of the distribution methods that are based on print on demand. These models basically consist in having the user upload his customized information, in this case personalized books, to the website of a company which then takes care of the printing. In the online-to-retail case, the company then delivers the printed book to a retail-store close to the customer for pickup. In

the online-to-mail model, the end-product is directly shipped to the consumer. The main advantage of the online-to-retail model lies in the timing as for this case, the printing can be done directly in the pick-up stores, thus speeding up the distribution process. These models have already been implemented in the areas of digital printing for photography. Here, the online-to-retail ordering has been the fastest growing option in the past years [onl06].

Book Printing Terminals and Media Bars
The online-to-retail model described above can be also expanded by the addition of so called printing terminals for customer use. These terminals have already been successfully implemented in the printing business for digital photography, a concept that could be adapted to the book-printing industry allowing readers to print their books just in time.

Moreover, in 2004 Starbucks introduced the so-called Media Bars, which allow the customer to listen to digital music and burn a customized selection of various music titles to CD while enjoying a coffee [Ceb06]. Adapting this idea to the book market means allowing the user to read through a database of e-books and at the same time giving him the option of selecting specific chapters for his personal compilation. This customized compilation can then be uploaded to an e-book reading device or printed out at the printing terminal available in the store.

2.4 Going Beyond the Content

2.4.1 Providing Additional Content

Today most books are restricted to the pure content and deliver no further information about special topics mentioned in the text. If the reader comes to an interesting passage in the book and wants to further explore it, he usually has to search for the desired information on his own. This way he gets a lot of unfiltered and not always reliable information. As this requires a lot of time and work, it would be a valuable service for the customer to gain access to pre-filtered information of high quality around the core product with the purchase of the book.

2.4.1.1 Implementation in the Book

The idea to offer the customer further information related to the content can be realized by adding URLs or a CD containing additional content to a paper book. In this case the up-to-dateness of the material can not be guaranteed. More possibilities arise from the use of a special website.

In e-books the information can be placed directly where the related topic is mentioned. Spotting at an emphasized word offers the reader a list of available material and then leads him to the desired content. This way the user gets very topic and customer specific information with almost no loss of time and searching effort.

Access to continuative information in audio books will reasonably work via voice control as voice based commands are becoming common for many interactive systems. A simple "stop" spoken by the user interrupts the playback. Then he names a keyword for the topic he is interested in to get a list of the available material and chooses once again using a spoken command. After he has listened to the provided information, sound or piece of music he can go back to the core content just where he interrupted.

2.4.1.2   Up-to-Dateness of Information

The direct linkage to online information will be more important in the future as internet access will be commonly available. Especially users requiring information, that has to be constantly up-to-date as financial data will benefit from this service.

It is very important to make sure that the links are up-to-date, thus preventing dead links in the book. For digital and audio books this can be handled using digital object identifiers (DOIs) instead of internet pointers as the URL. A DOI name enables the identification of an intellectual property on digital networks using its meta data and so this name remains always the same, even if the location of the related content changes. For more details have a look at reference [Fou06].

This way it is possible to keep books up-to-date without changing anything directly in the users' material. At the same time it enables the publishers a better Digital Rights Management. Especially publishers in the educational field already use this new system and the e-book market is also showing increasing interest in it [DOI06].

2.4.1.3   Integration of the Content

Main players on the e-book market like eBooks.com or ciado eBooks already started to use links to references and between the chapters in their e-books, but still primarily concentrate on the content itself [wik06a]. They mostly don't make use of other media as videos, animations or audio sequences to make e-books dynamic. Interesting examples for the possibility to integrate content are e-papers like "kino livepaper" [kin06]. As fiction and non-fiction books aim at different user needs, integrated content will be used in a specific way.

Fiction books
These kinds of books mainly want to entertain the reader. Therefore they abduct him to fantasy worlds and let him sympathize with the protagonists of the story. For most users this is the main point why these books are valuable for them and additional content can extensively enhance this reading experience [Koc04]. Therefore the information is enmeshed in the story, supporting users' imagination of and compassion with the other world. This can mean to tell the reader more details about a mentioned country as well as to let him hear an occurring sound and suitable music or even to give him a virtual guide through a mentioned building.

Non-fiction books

Here the book mostly wants to deliver information or knowledge to the user and therefore additional content is used to facilitate the reader and deepen his understanding.

This is very interesting for educational books, where additional content shall support the user's learning process. He will get definitions for all mentioned technical terms, spoken explanations of particular challenging concepts as well as simulations of three dimensional objects as a human cerebric or a planet right were the related topics are described.

A good example for content enhancement in non-fiction books are travel-guides. Because of the nature of travel information, it is very likely that in the year 2020, electronic travel guides will be read using handheld e-book reading devices. These devices will have far more capabilities than they have today. By combining a GPS navigation system with the e-book reading device, the user will be able to use it as an interactive map with sightseeing information. Furthermore, this guide will also be able to adapt the content to specific user needs. The guide will be able to evaluate different criteria, such as actual weather conditions, user-preferences, a limited time-frame and special events in the city and generate the perfect tour for the occasion.

2.4.1.4 Business Models

To integrate continuative information in books, the allocation of information and material, the preparation for each new book as well as the permanent updates have to be handled.

Allocation of Information

In some cases one can use gratis content, e.g. via linking to a free encyclopedia for definitions. This is possible, if the players are in a win-win situation. Publishers can access the content and the free content providers will reach higher user rates in return. This way no further costs occur for the publisher and the user can work with these links for free after having bought the product.

Nevertheless, many times the content is not available for free. Then publishers will have a competitive advantage, if they hold the rights themselves. A publisher offering a wide range of educational books, for example, can link to mentioned passages of books, that are available in his array of products, without many circumstances. Otherwise special agreements with the relevant providers are necessary. Depending on the arising expenses for the used content, there is the possibility to demand an extra fee, when the customer uses a link.

Preparing and Updating Information

It is reasonable, that one player handles these two tasks. Publishers can expand their competences, dealing with these tasks themselves or concentrating on their core business and use subcontractors which specialized firms.

2.4.2 Theme Worlds

The book can be expanded by creating a whole world around the story. Such theme worlds go beyond the scope of the book and enable the reader a stronger identification with the content. Besides that it takes up the trend to more socialization in the virtual environment. The implementation will again clearly differ between fiction and non-fiction books.

2.4.2.1 Fiction Books

The main point is, as mentioned in section 2.4.1.3, that the user gets access to fantasy worlds and often wants to be immersed deeper in it, but usually he has to leave it with the last page of the book. Using virtual theme worlds similar to browser games like "secondlife" these worlds will not only persist but even develop a life of its own. The enormous success of such games shows the increasing customer requirements for such interactive and socializing features [wik06b].

Here the environment of the book with all its characters will be virtually reproduced and the end of the story can be the starting point for further developments. By choosing a virtual character customers can now really enter into the world of their favorite book, interact with the protagonists of the story as well as actively influence the storyline.

2.4.2.2 Non-Fiction Books

In this sector especially theme worlds for educational books are very interesting. These will be virtual learning environments that are perfectly adapted to the topics of books and the special needs of each reader. This will be a huge extension to existing services, because users will get very personalized help there. Developments in the field of distance learning show already trends to such services [odl06]. Maybe the user can walk through a virtual building with special rooms for each book offered by the publisher. After having bought a copy the reader gets access to the related classroom. There he can find other users for the discussion of problems or can join a lecture concerning his interests. Additionally he will have the possibility to order a special lesson with his personal virtual teacher who he can directly interact with.

2.4.2.3 Business Models

As the creation and permanent update of such theme worlds require an IT infrastructure and technological know-how, which does not belong to the core competences of publishers, it makes sense to use subcontracts with specialized agencies for these tasks. It is reasonable that internet agencies which are already responsible for the web appearance of publishers will add these to their service offerings. Licensing will not be used commonly, because publishers lose their influence on the content. This influence can be used to improve the customer relationship management. They can record the behavior of the users and add the results to their costumer profiles or

distribute a virtual newspaper in the theme world containing information about new releases.

Due to the fact that the value of theme worlds increases with the growing number of participants, the basic membership will be for free. Special services can be offered for an extra fee, e.g. premium areas or sessions with a virtual teacher.

2.4.3 User-Generated Content

The development of new technologies such as web 2.0 shows that user-generated content has become a very valuable service. It seems very likely, that there will be more demand for personalized and localized publications in the future [Blo05]. For this reason, it is very important to provide environments to the users, that allow them to create their own content.

This individual web-service will also provide a direct entertainment possibility. The user can upload pictures or videos related to the book, chat with his community friend who will be linked directly to the user's profile according to the same interests and book preferences. For example, if the user visits somewhere in the world and access his web-profile by means of his mobile phone, he will be able to see who's at the place he is visiting. Furthermore, through the mobile phone, he can upload the photos or comment his experience about the place and share it with the users [Vis06].

The user can add/edit information or comment about the book in the manner of wikipedia which will be sent to the author or can be seen by any other user that interested with the book's topic. Or, it can be in another way around. For example, if an author wants to send information about his new book or just want to inform his readers about something interesting, he just needs to write the simple text and send it with a one click. We will every user's profile information, which will help on decision of broadcasting process. So, by using this up-to-date user's interest, we prevent from sending the information to the users who are not interested with a topic any more. This service will also provide a direct entertainment possibility. User can upload pictures or videos related to book, chat with his community friend who will be linked directly to the user's profile according to the same interests and book preferences.

2.4.4 Interactivity with the Author

In the year 2020 the reader's interest for the author will still be an important factor as the author will still be an interesting and irreplaceable source of additional information. Furthermore, the reader's curiosity about upcoming releases and the author himself, demand an interactive platform, where both, the reader and the author will be able to exchange information. Currently, many web-sites already offer chat-sessions with the writers. As technology improves, and broadband connections become more common, the interest for interactive video-chat sessions will rise. Furthermore, it is likely that the development in the area of augmented reality will completely change the way authors and readers interact [Ric]. For the reader it will

be possible to virtually explore the writer's house or home-town, while the interaction will be provided through fire-side chats in his living room. For this purpose, intelligent virtual computer models of authors will be created. This design can even be expanded, in order to include famous dead authors which will provide interaction not imagined before.

2.4.5 Business Models

There are some tasks that have to be included into the value chain. 3D content has to be created as well as the virtual computer model for the author. In this case it will make sense to outsource these tasks to special agencies that cooperate closely with the publisher and the author.

2.5 Additional Products

2.5.1 Packages and Cross-Sellings

"Value added services" mean to lift the value of a product bundle over the accumulated value of its single components. The newest developments of customer relationship management can help to discover specific user needs to offer more customized product bundles by creating customer profiles [Bux02]. Transferred to the book market, this means that the online distributors as well as the traditional bookstores will use their knowledge of the customer behavior to offer innovative and user specific packages. Because of the fixed price system and the price transparency on the book market, packages will be an important determinant for the sales margins in the future. This may not be a new approach, but with the better quality of the knowledge of the customer and the technological progress, the resulting offers will change in the future.

2.5.1.1 Bridging the Gap between Audio and E-Book

The popularity of audio books raises and their sales increase with double-digit growth rates [pwc05]. As they are not subjected to the fixed price system, it will become a serious opportunity for distributors to improve their inflexible sales margins by offering audio books in combination with the printed or electronic version or e-book [Adl05]. In connection with an adequate device, you can think of a service that links both media. This will enable the customer to read an e-book and switch to the audio version, without an interruption of the reading flow. The reader could, for example, start reading the book at the breakfast table and when he drives to his office, he can switch to the audio version, which starts at the same point in the text. This is a very technical service, aiming especially at the Young Elite and the Experimentalists, mentioned in the report concerning reader classifications.

2.5.1.2 Enhancing the Reading Experience

As the content of a book is a homogeneous good, the distributors and publishers will focus on the reading experience. To provide the reader with content related packages that intensify the reading pleasure will be an important opportunity for distributors to differentiate themselves among each other. These packages should target at putting the reader in the right mood, appropriate to the story of the purchased book and his customer profile, by offering the packages. This service saves the customer a lot of searching effort. The package can contain your favorite wine sort, branded with the etiquette of the vineyard mentioned in the story, for example.

2.5.1.3 Gift Packages

Gift packages are very important for the distributors, as the lion's share of sales in the gift sector comes with the expensive hardcover books. The gift sector makes up almost 23 % of the yearly revenues.[Adl05] Pre-defined gift packages, attuned to the customer profile, reduce the search effort for additional products. Especially the fictional children books are predestinated to be combined with merchandise products. If you think at the Harry Potter books for example, the distributors can offer the book in combination with a magic wand, that projects three dimensional pictures of the movie, when the child says the right hex. The package can even be more specialized by offering the customer different options to combine with the core product. Online gift vouchers can also be integrated in the theme world's, mentioned in 2.4.2.2.

2.5.1.4 Cooperations and Business Models

As many distributors already offer different products besides books, most of them will not have to integrate a new step in the value chain. But the importance of the specific relevance and combination of the packages will grow. This implicates that the relationships between the industries will expand. A good example for these cooperations is the travel sector. The travel agencies, especially in the web, can link to the distributor's offer, for example the best travel guides to the customer's destination as well as fiction books, taking place there. The perfect travel package also contains a dictionary or translation program for the e-book device.

2.5.2 Give Aways

Little advertencies are often used to improve the relationship to the customer. The customers usually get them after purchasing, but the distributors can also offer them additional products when they place an advanced order. These information about these orders are very important for book stores, as they get an idea of the demand for new publications.

2.5.2.1 Give Aways in the Online Sector

There are many possibilities, to endow the customer via the web. In the educational sector, the distributors or publishers can endow their customers for example with a private session with a virtual teacher or some additional exercises and other online offers, mentioned in 2.4.2.2 In the fictional field the distributors will cooperate with browser games, like secondlife or travian, to offer special add-ons for the customer's virtual characters.

2.5.2.2 Give Aways in the Retail Sector

Traditional bookstores are heavily forced with competition against big retailers and online distributors. As the main customers of traditional bookstores are the Senior Citizens and the Middle Class, who are not very technical affine regarding books, the technical progress will not help them to create a bigger value for the customer. The only possibility for them is, to focus on the service and shopping experience and to use new technologies as supporting measures in the back office. Their advantage is, that they can interact physically with the buyer [Wip06]. In combination with a CRM database, they have many more opportunities to go into detail with the customer needs. The bookstores can use give aways to commit their customers and to increase their loyalty.

2.5.3 Coupons

The number of coupons in Germany has increased constantly to an amount of 6.5 billions in 2003 and will reach about 15 billions in 2007 [Der03]. They are mostly used as a mass communication medium. With the new technical possibilities, coupons will be much more tailored to the individual needs of the customers in the future.

2.5.3.1 Using CRM for Couponing

The couponing will reach a new level with the development of behavior related coupons. Coupons can be used in the same way as give aways, for products with a higher value, for example rebates on audio books or a cheaper delivery [bwd05]. The impact of coupons is ambivalent, on the one hand they can help distributors and publishers to generate additional revenues but on the other hand they reduce the customer's profitability and also increase the customer's willingness to change the supplier [Der03].

2.5.3.2 Development of Distribution Channels

The classical distribution channels for coupons are supplements in print media or by mail. The disadvantages of these channels are the impersonal address of the customer and the resulting leakages as well as high transaction costs for the customer, which lead to very low redemption rates between 0.06 to 0.83%, depending on the media

[Kla06].The new distribution channels use the knowledge about the customer's behavior and are directly addressed to the costumer. The advantages of new distribution channels like emails, short messages, bluetooth or RFID are the low costs, the more specific accessibility and the easy handling for the customer [aw005]. This improves the redemption rate to almost 13% [Kla06]. With the new developments, the important circumstances in which the customer receives the coupons, as the weather, the time and the distance to the shop, can also be considered in the marketing activities [Kla06]. Traditional bookstores can use these solutions as well, for example, they can print coupons depending on the recent shopping at the back of the invoices or send them via bluetooth at the point of sale [aw006]. The shopping experience can be enhanced, if the customer receives a coupon on his device when he passes a shelf containing a book, that fits to his specific customer profile.

2.5.3.3   Business Models

Coupons are mostly distributed by the publishers themselves and have to be reimbursed with the retailer afterwards. There are several business models concerning the couponing process. At first, there are full service providers like BBDO to outsource the whole couponing service. Then there are several clearing agencies, as the arcado ag, who take care of the reimbursement process as well as marketing agencies, leading the whole process in cooperation with the publishers. There are new players like blueblitz, who offer stand alone applications for broadcasting coupons via bluetooth. This enables retailers to broadcast coupons by themselves, independent from marketing agencies, which skips this step in the value chain.

2.6   Conclusion

Concerning values closely related to the core product, technological improvements will have a considerable effect on the services, that allow the user to manipulate and adapt the way, the content will be delivered. The customization of books will play a major role in the book market of 2020 and will be possible because of business models as print on demand. Providing the reader with additional information around the core content will become an important determinant to differentiate from the competitors. On the one hand, the content will be enhanced through continuative; on the other hand, theme worlds will expand the book beyond its scope, especially regarding interactive and social aspects.

The users will always be interested in additional information about the author. This it will drive the improvement of interactive platforms.

The relevance of product bundles for the customers will increase by improved customer profiles and their usage in customer relationship management processes. The service and shopping experience will become an important determinant to increase customer loyalty.

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Chapter 3

Market pull: New target groups and usage scenarios

Melanie Huang, Philipp Rösch-Schlanderer, Raphael Steinbach, Tobias Roehm

3.1 Executive summary

The book market today is due for great changes with the emergence of numerous new trends. This report seeks to analyze the book market by focusing on various trends that have been observed and are likely to continue into the year 2020. Starting by taking a closer look at changes in social demographics, the report proceeds to describe some prominent usage scenarios before moving on to identify new market segments. The report concludes with a detailed evaluation of the upcoming challenges and an outlook on the future of the book market. The book market today is undergoing great change.

3.2 General trends

Before having a closer look at the book market we want to point out some general trends in society which will in all probability occur in the next years.

3.2.1 Development of society and human beings

3.2.1.1 Population development

The change of the population in Germany will be a great challenge for society in the next years.
Two major developments can be observed easily. On one hand, triggered by a negative balance between the birth and death rate (see figure)[Bun06], the absolute number of people living in Germany will decrease.

Population development in Germany
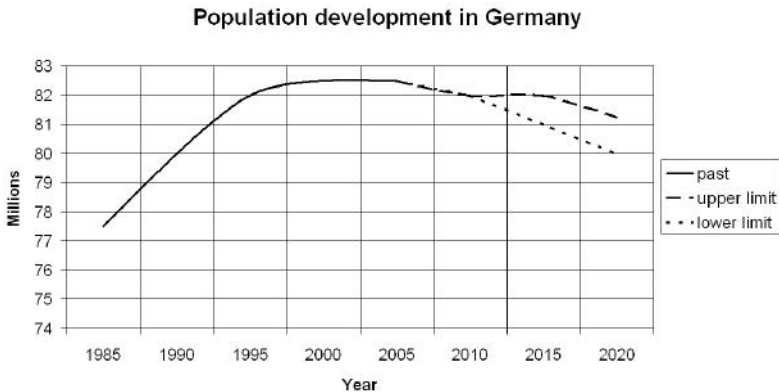
On the other hand, there will be a shift in the age structure: less younger and more elderly people will live in Germany. Companies have to keep these facts in mind when they develop strategies for the future, as there will be less customers.

3.2.1.2 Education

The level of education of the actual and potential customers is an important issue when analyzing the book market.

Naturally, a person must be able to read books or other published documents. At a first glance this seems not to be a problem in Germany but there is an intangible group of functional illiterates. In order to tailor to specific groups it is crucial for a publisher to be well informed about the educational structure.

A study conducted by the BMBF [BMB06] arrives at the conclusion that there will be more college freshmen in the next several years. We can therefore assume that the group of educated people will grow. The introduction of tuition fees in Germany will also have an important, but not yet predictable effect on the book market.

3.2.1.3   Other trends in society

How will the German society look like in 15 years?

A slight economic net growth around 1.5% can be predicted for the next years [Pri05]. This means that the social and economical climate will be stable.

One observable trend is that of the traditional 'marriage families' taking on a completely new structure, with singles, single parents or double income families (with and without children) [Bun05] being not uncommon. The result is a shrinking time budget for children and - consequently - children spend more time without adults. They mostly fill in this time with media consumption, like watching TV and playing video games, which is why children day read less. They will pass the new habits on to the next generation.

3.2.2   Trends in the media market

3.2.2.1   Market development

The situation was not a static one in the past years but rather dynamic. Established types of media like books or music got under pressure from videos and internet content. New forms of media usage like digital content will grow in size and importance [Gro06]. Some ways of media usage will be - totally or partly - replaced by ways associated with the internet like music on CD's will be partly replaced by music downloads.

The success story of the internet with its growth by total numbers and daily usage will have a huge influence on the media market.

3.2.2.2   New opportunities of media usage

The penetration of broadband connections will render bandwidth considerations obsolete (see [Gro06]).

Another trend is the emergence of mobile devices like iPods or PDAs. It enables the user to connect to the internet and consume media where he wants.

Taking these technical and infrastructural developments of the last years into account, it becomes clear that far more opportunities for media usage will exist and links between types of media will be possible.

Because many people are connected by the internet new forms of collaboration and information sharing will be possible. People with the same interests can meet virtually for discussing and exchanging experiences. This will lead to specialized groups of potential customers who will be fully independent of third parties.

The simplicity of publishing information makes a publishing company in certain areas unnecessary or enables people to publish information for the first time. The information will be spread over the internet by simply putting on a blog. As a result the role of the typical 'reader' is vanishing. People evolve from being passive consumers to active producers of information and participants in discussions (e. g.

after the disastrous tsunami in 2004 blogs were the first and more detailed source of information).

These trends became fully clear in the past 2 or 3 years but we have yet to fully comprehend the opportunities which may result from these trends.

As a direct consequence, information available over the internet and offline will grow. People will feel uncomfortable about the huge information offer and it will be very difficult to obtain an overview. This will be a niche for services like finding and preparing information for special needs e. g. short books [sho], a service which preselects and concludes books.

Recapitulating, it becomes clear that there exists strong competition among the different kinds of media (e. g. book against internet) and among different kinds of media usage (e. g. reading a book as printed paper or PDF) in the media market.

3.3 Trends of the book market 2020

3.3.1 Classification of book customers

After reviewing the general trends it is important to analyse the book market in Germany. The target groups for the future need to be identified, since the buyers and readers of varied book formats are very diverse. It is necessary to look at different customer groups to see the dynamics of a slowly growing market. The general framework of this classification will be age. This is a natural division since interests, habits, social status, education and income change with age.

3.3.1.1 Children

How will the world for children look like in 2020? The number of children will be significantly less, as shown above, e.g. in 2020 only 80% of today's births will be reached [Bun06]. The obvious problem is that this group is shrinking constantly in size. In 2020 children could be able to read earlier, because of the discussions and the awareness of that subject, derived from the PISA study [Kre03]. The education level and the performance at school of children are mainly influenced by their parents, as Kretschmann states in his study about pre-school education [Kre03]. Reading and writing skills prove to be even more important than the IQ in this age. Naturally children will enjoy fiction, fairy tales and comics, just like today. Also nonfiction is interesting to children due to their curiosity of the world, which should be supported by the parents and the publishers. So that personal development through provision of valuable content can be achieved.

3.3.1.2 Teenagers

For teenagers, reading books comes into heavy competition with internet and other media usage. Even though books might not be the number one choice of entertainment and the number of teenagers will have decreased, this will be a very important

target group for the future. The book market will need to secure this group's readership in order to help establish lifelong reading habits. Teenagers tend to swing from trend to trend extremely fast. Peer pressure, self esteem and perception tend to be linked majorly to the heroes of specific subgroups, who usually come out of entertainment. The book market, in order to maintain the interest of this target group, must be innovative, flexible and current. In 2020, due to the world wide links provided through the internet, there will be a greater diversity of groups with which teenagers can identify with, e.g. music, sports, internet communities, hobbies, etc. The challenge for publishers will be to create a multidimensional image that appeals to these different groups.

3.3.1.3 Adults

In this section, adults will be classified according to different social groups which are worthy of pursuit for the book market. At this stage in life, ones interests and values are firmly established. The target groups are characterized in dependence on a study conducted by the Börsenverein des deutschen Buchhandels [dDB05].

Conservatives are the part of the middle class which defines itself through education. They are supporters and admirers of culture and have a humanistic world view. The number of educated will have increased by 2020, through a rising number of freshmen as shown above. Due to higher education, conservatives are economically established and will be heavy book buyers.

Post-materialists are the generation which followed the movement in 1968. They are intellectuals who are against globalization and are not only money driven, because they value more intellectual pursuits. This group is extremely reliant on and selective about the content of the written word for entertainment and information. The book is a lifestyle for this group. They will remain loyal to the book market.

Young-elites are unconcerned about social norms and live intensely. Multimedia and new gadgets are important. They are the early adapters. If there is any new technology for the book market, it needs to be established in this group.

Middle-class are status oriented persons with a solid financial background. This will be the largest and most important societal group because of their economic possibilities and their political engagement. This group's acceptance and usage of the book market's innovations will be important for establishing and supporting long term trends.

Experimentalists are strong individualists who create their own unique style in society. In 2020, the book market will be fully equipped to reach this group and provide for their individual tastes and interests [WLT^{+}01], e.g. with books on demand.

3.3.1.4 Senior citizens

The number of retired people will grow dramatically in the next 15 years due to the demographic change. Therefore the market potential of this group will rise. The behavior of the seniors will change. Internet usage will become as widespread as the telephone, e.g. the usage of online services increased from 8% to 50% in all households from '98 to '03 alone [Bun06]. Furthermore there will be programs which will involve senior citizens in the consume culture and social life. This already starts today [SAN] and it will increase. The so called "silver market" is also changing, because of the increasing wish to be young. Seniors will make greater adaptions to the new trends and technology.

3.3.1.5 Conclusion

The dynamics for different customer groups are very different. As some groups are pushed by the demographic change, others are majorly influenced by the development in education and the allocation of wealth in our society. In order to assess the market for books fully it is crucial to understand the relationship of the target groups with the medium book. Therefore an in depth analysis of reading habits in respect to the target groups will be the next step.

3.3.2 Usage scenarios and customer behaviour

Some very important questions we seek to answer in this section are: *When* and *why* do people read and buy books today, and how the answers to these questions will change in the 15 years to come.

3.3.2.1 Why do people buy and read books in 2020?

Using results from studies published by Focus Verlag in the year 2004 [Gmb04] and GfK in 2006 [Gro06], we can conclude that 57.5 percent of the consumers buy books primarily for personal consumption, 11.1 percent buy books mainly for others, and 27.8 percent buy books for both themselves and others. A large part of these books for others is referring to children's literature.

Now, what do the people who buy books for themselves use the books for? Books have, until now, always been a source of entertainment for many. The contents in books provide people with topics of conversation. The figures for the fiction genre have kept steady at 10 percent according to studies conducted by the Focus Verlag.

This simple equation, however, looks set to be modified in the near future as people take to reading books for a variety of reasons in addition to the conventional ones. The information that readers seek now are more specifically related to certain topics like health, jobs and computer technology, as can be concluded from results obtained from various independent studies. The Focus Verlag study projected a potential of 4.67 million buyers for academically oriented books in the years to come.

3.3.2.2   When do people read books in 2020?

The Stiftung Lesen study [Les00] also went on to report that on an average 20 minutes per day were spent on reading reference and non-fiction books. In contrast to the 27 percent that read these books up to once per week in 1992, year 2000 saw 33 percent of the population doing the same. Using these figures and taking into account the ever increasing need for specific information in other professional fields like technology and business management, we can expect more people to read reference and non-fiction books in the years to come.

Zooming out to look at the big picture again, we determine which age group is the most active in buying books. Concluding from the various studies, the type of books that people buy tend to differ at the various stages in life. It is, however, rather obvious from the GfK study that the senior citizens spend more on books than the adults do, and the adults in turn spend more than the children and teenagers do.

3.3.2.3   The way people read in 2020

In addition, the same report also highlights to us an interesting trend in the way people read books: As compared with the results obtained in year 1992, more people are skimming through books, reading very often only relevant portions that are relevant to them. This trend holds for all age groups and is particularly characteristic of young readers 19 years and below. In comparison to the 11 percent who skimmed through books in year 1992, 31 percent of readers in this age group skimmed through the books in year 2000. Another study conducted by the Börsenverein in year 2004 [Bör06b] also revealed that 53.6% of teenagers do not read books because they cannot find time. This phenomenon could indicate the possible success of publications with more concise and specific content, or even new publication forms that allow people to multi-task while reading, for example audio books.

3.3.2.4   Willingness to pay in 2020

According to the GfK study, a steady and general drop in book price has been observed from year 2002 to 2005, with an overall 1 percent decrease in books priced for more than 20.00 euros, and a 1.9 percentage and 1.4 percentage increase in books priced from 7.51 to 10.00 euros and below 5.00 euros respectively. The average book price stood at 9.65 euros in year 2005, 0.17 euros less than that in year 2002, but 0.23 euros more than that in year 2004. The critical question would be: are the customers willing to pay more?

As a matter of fact, not all customers mind paying more, as a very comprehensive price survey conducted in year 2004 on selection bookstores revealed. More than two-thirds of the interviewees indicated that the price of the book they bought was 'normal', and two-thirds were ready to pay more. The extent of this willingness to pay depended, however, on the price of the book. For a book with a perceived normal price, almost 60 percent of those interviewed were willing to pay more; even

for a book considered expensive, 29 percent of the people are still willing to pay the additional amount.

In particular, the Sinus-Milieus 2005 also reports that two thirds of those surveyed found the price of paperbacks fair or cheap, and more value-for-money in comparison with other forms of media. Hardbacks, on the other hand, are deemed to be expensive. Audio books, though generally more expensive than hardbacks, are interestingly regarded by 40 percent of those surveyed to be fair or cheap. It seems like there is a lot more potential for growth in the market of selection stores with highly specific collections, but as with most surveys, customer behaviour might differ from that inferred from the results. In this case, the actual percentage of customers willing to pay more might be less.

3.3.2.5   Market segments 2020

Increasing demand for reference and non-fiction books

The potential for reference and non-fiction books should not be underestimated too, although these genres are still lagging behind the fiction genre in the sales figures. This is especially true of books that provide buyers with knowledge required for work purposes. Buyers will be seeking an ever widening base of knowledge that the book market will have to provide. A study by Focus Verlag indicates that more working adults, presumably falling under the post-materialists and middle-class groups, are buying books that are relevant to their work. The indices for the number of books bought is clearly the highest for working purposes, with six to ten books being the norm.

In fact, this new trend is not restricted to the working adults, but instead continues into the senior citizens customer group where the value percentage for infotainment is almost as high as that for entertainment, as the study by GfK on the book market in year 2005 shows. In addition, the Stiftung Lesen study also reports that as compared to the 31 percent of the population that read reference and non-fiction books in year 1992, 41 percent of the population read these genres in year 2000.

Potential of audio books

Although audio books have a few prominent advantages over the conventional books, it seems that the market as a whole is not readily accepting this new form of publishing, as a study by Ipsos GmbH [Gmb05] concludes. While 49 and 43 percent perceive audio books to be a good alternative to books and radio programmes respectively, and 40 percent believe they are suitable for those who do not have time, a majority of 71 percent of the interviewees (69 percent of whom uses audio books) have expressed that audio books cannot replace the enjoyment of reading books.

Research studies by the Börsenverein [Boe04] , nonetheless, managed to track a small success of this market by analysing the turnovers from 38 publishers. 48.6% percent of these publishers reported an increase in mid-year turnover rate in year

2004, and the positive trend has been observed ever since the year 2002. The GfK study, likewise, revealed a burgeoning growth in this market segment, with the basis increasing by 80 millions of euros, and with almost 6 millions more audio books sold ever since the year 1997. From the consistently improving market figures, we infer a growing market for audio books and postulate a maturing of this market in the years to come.

Importance of senior citizens as a target group

As the Börsenverein [Boe02] concludes in one of its studies on the senior citizens customer group, the population in Germany is aging with 30 percent of the population becoming older than 65 years old by year 2030. On top of that, as much as 50 percent of the population's consuming power comes from those older than 50 years old. The senior citizens group tends towards buying novels and, as we read earlier on, is strengthening its demand for information in books. In addition, senior citizens are particularly receptive of books that handy and 70 percent prefer books with legible typefaces.

Another very interesting observation is the senior citizens group's potential in the audio book market. 33.8 percent of those surveyed by the Boerseverein would eventually consider buying audio books. Furthermore, if we match the needs of the senior citizens for legible typefaces to the ease of 'reading' provided by audio books, the prediction of a growing importance of audio books to this customer group seems logical.

The continued success of paperbacks and novels for children and juvenile

Paperbacks have remained largely popular over the recent years, bringing in 14 and 13 percentage of the market turnover in the years 2001 and 2002 respectively. The GfK study even documented a trend whereby the percentage of paperbacks buyers are increasing from 16.5 to 18.5 percent from year 2000 to year 2005, and the number of books this group has bought has also risen by 4.5 percent over the same period of time. A survey by the Börseverein in the year 2004 went on to show the customers' preference for paperbacks over hardcovers, and attributed this inclination to the difference in price for the two.

Novels for children and juveniles, too, have demonstrated steady growth according to GfK. Independent of the contributions of certain successful bestsellers - for example Harry Potter - to the market, the basis for children and juvenile novels has been increasing since the year 1999. The good performance was especially distinct last year, with the basis increasing by 63.2 million euros from the 145.2 million euros in year 2004. The fiction genre, driven partly by the growth in the children and juvenile book sector and the success of the paperbacks, looks set to continue thriving in the next fifteen years.

3.3.3 Upcoming challenges:

3.3.3.1 The long tail

In the past the general strategy in the book market was to focus on bestsellers. The main reasons for that were limited sales areas in the bookstores. In the future the importance of the web for book selling will rise because of the individualization of the society . This entails cost-advantages and almost endless virtual sales areas. There will only be storing costs and even no variable costs, e.g. costs for logistics, on digital products. Thereby the publishers will lose much money by just concentrating on bestsellers. A new strategy is needed focusing on niches. There are important interceders like Google-CEO Eric Schmidt who calls this analysis of a new strategy "brilliant" [Poh06]. A successful example for that new strategy is eBay selling everything the world has ever seen in more than fifty thousand categories [And06].

As a study from the American scientist Erik Brynjolfsson shows, Amazon is yet creating 40 % of its turnovers with books which are not available in classical bookstores [Poh06].
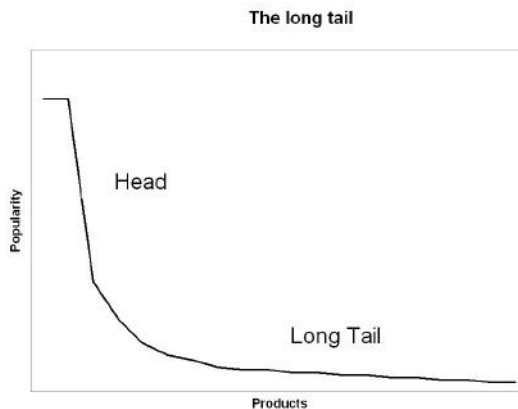
The two resulting challenges for publishers will be to identify the countless products in the long tail and to find a solution to help customers to find their way through the huge amount of information. As a first step of mastering the second challenge Amazon already invented computer-based recommendation systems.

3.3.3.2 Free Content

There are three kinds of free content in the web.

- *Business models trying to be profitable by providing free online content*:
  The strength of these business models is their ability to get a great many of customers in a short time because of their free services. The idea of making money is focused on the strength of a community. The bigger a community is

the better you can use this for commercial interests by advertisement or compiling valuable statistics.

One big driver of this development in the past was that there were not any possibilities to sell online content unbundled. Micro payment and Piko payment technologies were not practicable. Subscription was the only way to sell content. This is now changing. Technologies like 'Firstgate click& buy' are moving forward and thereby it is possible to sell unbundled content for a few cents.

The Challenge for publishers will be to offer first-class and self contained content unbundled and to market single articles. The past has shown that business models providing free content were not successful [Har05].

- *Specific web forums in which experts are answering questions for free*:
  Experts answer questions without charge to gain reputation in their fields. This is the self-sustaining asset of web forums which ensures their growth in the future. The increasing infrastructure of the web created by service providers like google will add to the value of forums. No publisher will have the resources to compete with that.

  The challenge for publishers will be to identify the most valuable web forums and trying to find forms of cooperation in order to have a closer contact to key customers.

- *For the publishers some genres are threatened by extinction* :
  Content which is used to solve standardized problems like they are solved by encyclopedias and dictionaries will be provided without charge. The reason is that the value creation simply lies in provision of access to the desired information and not in the creation of content.

Milestones of Wikipedia
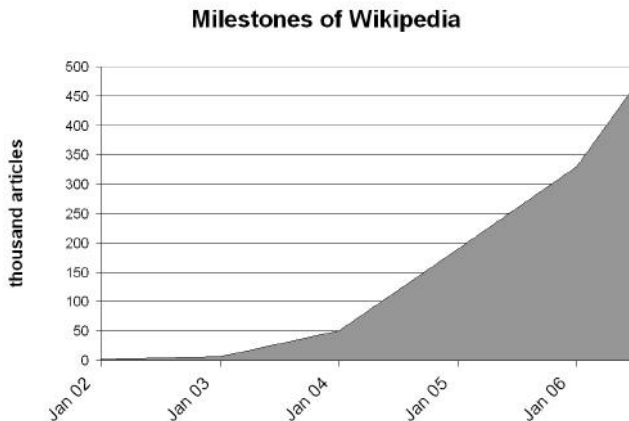
The challenges for publishers are to identify such areas and succeed by providing free content and offering additional services which have to be paid for at the same time.

3.3.3.3 Competition with other media

The increasing number and diversity of media causes a tough competition between the different media groups. Now there are mp3, Internet, DVD, CD, TV, video games, computer, radio, mobile phones and books/newspapers which all compete about the leisure time of the individuals.

Daily leisure activities
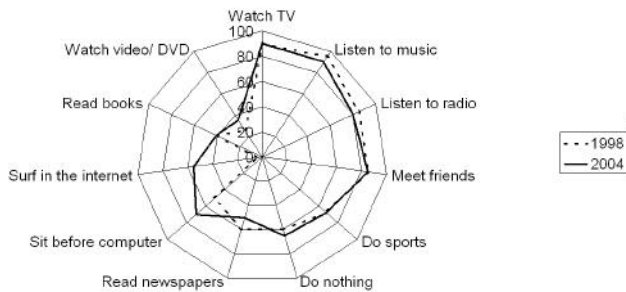
There will not be radical changes in the usage of free time, but only displacements among the existing opportunities.[Bof05]

Reading books and newspapers are already ranked low and will be diminished out further by the increasing usage of the Internet. A study from Jürgen Bofinger [Bof05] shows that approximately forty percent of young Internet users are shortening the time for reading in order to spend the time online.

Less time of internet users for ...
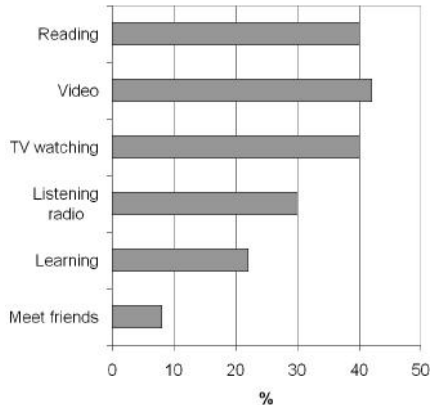
However that does not mean that they are reading less. It is just a displacement because of the advantages of the Internet. Those who were reading the Spiegel are now reading Spiegel-Online and listening to radio online at the same time. In 2020 different types of media will be used parallel instead of the exclusive usage of one type, e.g. only reading.

The challenge for the publishers will be to use the advantages of new media possibilities in order to make their products more valuable and available for the readers.

3.4 Outlook

In conclusion, despite the various challenges that will confront the book market in the next 15 years to come, growths in certain market segments can be projected. Some developments, will in fact give rise to new opportunities in the market, for example niche markets, as a result of information overow from new means of media communication. The shift in demographics brings to the foreground the importance of the senior citizens group as a targetted market segment.

Other market segments identied for the year 2020 include audio books, guidance books, children's novels and paperbacks. Strong competition from other channels of information and entertainment and the emergence of free content, however, might have a negative impact on the book market in the long run. The challenge will be for publishers to harness these new media forms to value-add and promote their business.

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Chapter 4

Impact of technology on user's information and decision process

Christian Boehm, Dominik Lembke, Florian Sauter

4.1 Introduction

In the year 2020 "information society" isn't just a buzzword anymore, it has become the state-of-the-art term to describe the German society. In particular, the book market will certainly still have a distinct share in providing information. But vice versa, book sellers are confronted with the question: How will customers get their requested information about book publishings?

The plenty of accessible information which is growing every day makes it impossible to overview the whole book market and finding the right information demands a lot of time. So booksellers have to face the challenge of providing the people with suitable information about books and other products to stimulate their buying process. Therefor, they have to match the opportunities new technologies offer with the reader's preferences for acquiring information.

In the following, we want to describe the development of the information and buying processes. Afterwards, a closer look on technological innovations will show new possibilities to influence the reader's decision process. Combining the results of these two chapters we finally identify trends and possible scenarios how sales can be stimulated both in the traditional but upgraded local book store and in online stores.

4.2 Information & buying processes of different reader groups

To answer to the question of how information technology and online offerings can influence the user's information and decision process, it is indispensable to take a closer look on the reader's preferences for information sources, the place of sale and expectations on books and services.

More than two thirds of the German population state that due to the mass of new published books (approx. 80.000 per year [8.004]) they are not able to overview the book market.[Les00] Hence, the information process becomes more and more important and the demand for meaningful information rises. On an average, the reader gets influenced by four different sources of information and the usage rate of each source will continuously increase within the next years.[Les00] Personal book recommendations of friends and family will certainly remain most important for the purchaser's decision, however, today already every second customer uses the Internet to get information about books and this tendency is increasing significantly.[AWA03]

For the further analysis of the information process it seems necessary to divide the population into different groups and examine the processes and reading habits more detailed. We decided to classify the groups according to the Sinus-Milieus of the Sinus Sociovision Group as there is a distinct correlation of the affinity to books on the one hand and social status and basic values on the other hand. Although the composition might fluctuate, the attitudes and main characteristics of people within this groups won't change a lot in the next years.[Les00] [Soc]

4.2.1 Core target groups

4.2.1.1 Conservatives

The group of conservative readers today makes up an amount of 5.0% of the population in Germany. The typical conservative reader is 63 years old and has a strong motivation to preserve established traditions and institutions. The age derivation is right-skewed.[Brs05] The lifestyle of a conservative reader is characterized by alienation to modern trends in society as well as in technological issues.

A conservative reader appreciates books a lot (53.6% own 200 books or more). [Brs05] Books are considered as documentation of the general education of its owner (e.g. in history, politics, arts). There is a strong ambition to arrange a collection of unique and valuable books. The conservative reader has an acquired taste for literature and is primarily very interested in classics, challenging literature of the presence as well as foreign authors.

The conservative reader follows book reviews in newspapers and on the radio very attentively. Further on, he reads bestseller lists and brochures of the publishers. He is therefore not very much affected by the ongoing changes concerning information technologies. At least as long as those changes don't reach the classical media. Further, he participates in lectures to get to know new books in a genuine atmosphere.

The conservative reader buys books very conscious and makes up his decision very well informed. For that, critics in newspapers or other renowned media (e.g. "Das Literarische Quartett") are taken in consideration during the decision process. He doesn't like obtrusive and offensive advertisement. Conservatives have a preference for small, clearly arranged bookstores with tradition and atmosphere. A high competence of a salesman is anticipated. This is not going to change in the future.

Due to the advanced age of the conservative readers the structure of this group is likely to change very fast. That doesn't mean that the quota on the overall population is going to decrease significantly. Rather the alienation to technology is likely to decrease. Younger people, who are using new technologies are certainly going to use them all life long. But there will be a shift of their attitude to be registered, in other words: they are going to be conservative in the future. So this change of technology affinity has to be considered.

4.2.1.2 Post-Materialists

The group of Post-Materialists contains intellectual people of the upper and middle class with a modern value system and mostly a critical attitude towards globalization and a consumption-addicted society. Lifestyle and value orientation of them could be roughly described with buzzwords like self-actualization, emancipation and tolerance.
Altogether they make up about 10% of the German population. The age of people in this group is fairly Gaussian distributed with a median of 44 years, so the group won't lose its quantitative relevance for the book market within the near future.[Brs05]

Reading is an essential part of everyday live. Books and print media are more important than TV and the Internet. The majority of two thirds of Post-Materialists read more than 9 books a year, which is the highest rate compared to the other milieus. Except popular scientific guidebooks and dime novels the diverse variety of interests covers almost the whole book market. [Brs05]

Post-Materialists use multiple sources of information. They search other media like newspapers, TV or the Internet for book recommendations and reviews. Furthermore, they are very keen to share their own reading experiences with other people. Although this group uses the Internet for purchasing books, they prefer book stores. Going to a bookstore is rather a free time activity than just a buying process as they spend a lot of time there browsing books and talking to the shop assistant. They expect the bookstore to offer a huge assortment and an appealing arrangement of books. Additionally, some features like offering an exquisite selection of music CDs, a children's play area and paying services (e.g. accepting EC-card, home-service for ordered books) attract the group of Post-Materialists and will stimulate their buying decision.

The Post-Materialists will certainly remain one of the most important customer group within the next years as the age distribution promises two trends: firstly, a sizable fraction of people in this group will be between 40 and 60 years old - an age with an above-average willingness to spend money on books.[AWA06] Secondly, the

social movement in the meritocracy guarantees a steady accrual of younger people in this group.

The affinity to new technologies will probably decrease with an age of 50+ years. That means, in order to influence the information and buying process of Post-Materialists, it is necessary to support both online and offline stores and information platforms.

4.2.2 Additional target groups with potential

4.2.2.1 Established milieu

The group of the established makes up an amount of 10.2% of the German population. The established reader is 46 years old and a very self confident and mature consumer. The age distribution is following a flattened Gaussian distribution.[Brs05] The established reader is adaptable to technological and social changes (e.g. IT-revolution, globalization). He has a high living standard and is financially independent. He has an acquired taste on various topics and has a distinct stylistic sense. Further, he is very talented in combing the traditional life with the modern age. His intensive participation in community's life is making him interesting in terms of a potential opinion leader.

An established reader's interest in books may be much diversified. He has a claim to broaden his education as well as to inform himself on topics concerning his profession. Books also have a representing character for him. Therefore the aesthetic exhibit of valuable books is often part of the furniture. Though the established reader owns numerous and valuable books due to his professional and social engagements he often doesn't have enough time to read them. Because of that he is open to technological changes if these increase the convenience of information and buying processes.

The established reader is predominantly not motivated to inform himself frequently on new book publishings. He makes up his decision pragmatically by looking up bestseller lists (e.g. Spiegel, Focus) as well as reviews in the newspaper. Furthermore, talking to friends is an important source of information. Brochures of publishers are read selectively but very alert.

At the point of buying a book the established reader has a preference for renowned stores as well as known authors and publishers. In the bookstore he wants to be consulted advertent. When he buys a book, he wants to get good quality. Due to his financial situation he is capable and willing to pay the price for that.

Because of his distinctive adaptability to technology combined with his drive to be well informed all the time the established reader is highly taking part in today's ongoing Internet revolution. Since technology is becoming more and more convenient for the consumer especially this reader group is hardly impacted by the ongoing facilities.

4.2.2.2 Middle Class

15.8% of the German population are members of this group. The meridian age is 45 years. The distribution of the age allocation is slightly shifted to the left so the already consisting broad impact on the market is going to increase in the near future.[Brs05] The aim for an equilibrium of work, spare time, personal interests and family commitments is characteristic for the middle class reader's lifestyle. Furthermore, he performs as a self confident consumer and has a "smart shopper" attitude.

People of the middle class mostly read popular guidebooks about, for instance, finance, education and health. Furthermore he reads to stay up to date in his professional life. Very popular are famous and easy novels (e.g. Dan Brown) to get entertained.

The middle class reader is no profound adept of the literature scene but he is open minded and interested. He is basically given orientation by bestseller lists as well as recommendations of the salesman. Furthermore, he has a high affinity to book series since this makes it easier to buy books that contribute to his general education.

In the middle class the consumer has a strong focus on the price. He is always looking for special offers. Known authors are preferred for fiction novels. Concerning guidebooks, an established publisher is an important issue. The atmosphere in the bookstore should be friendly and inviting. Play areas for the kids are also highly appreciated.

Since the middle class reader has no below average affinity to technology, the trend of internet usage becoming easier and more widespread in every days life will have a huge impact on his information and buying process (similar to the established milieu). Therefore, new business models must consider these readers preferences (especially since this group makes up the biggest amount of strategically relevant groups).

4.2.2.3 Modern Performers

The group of modern performers contains the elite of newcomers of the upper and middle class with a totally modern value system. They strive for self-actualization, success and adventure and object to conservative conventions. Furthermore, the modern performers approve globalization and technological progress.
They make up about 9.1% of the German population. The age of people in this group is clearly right skewed distributed with a median of 30 years, so this group has certainly a severe potential within the next years.[Soc]

From their childhood on the modern performers are used to live in a media-dominated society. They intensively use the Internet and other sources of information technology but nevertheless, they revert to books as a reliable source of information. According to this, books are rather used for information than for entertainment. However, due to their preference for new technology, they are fond of audiobooks and DVDs.[Brs05]

Besides bestseller lists and the recommendations of friends modern performers

mainly use the Internet to inform themselves. In this connection the first impression is very important and an eye-catching cover certainly attracts them.

Convenience is most important for the buying process. They expect several services at the point of sale like 24-hours delivery and the possibility to pay with credit card. Online shops might be most suitable to cover these demands.

This trend will become more and more important within the next years, because on the one hand Internet usage will steadily increase (see 4.3.2) and on the other hand the group of modern performers has an enormous potential as customer group as the people are comparatively young and there is a shift to a modern value system in the German society.

4.2.2.4 Experimentalists

The group of experimentalists contains the "lifestyle avant-garde" of the middle class who can be characterized by their disposedness to individualism and spontaneity. Instead of the traditional role allocation they are looking for an egocentric lifestyle that fulfills their needs of adventure, cross-cultural experiences and communication.

They make up about 7.8% of the German population. The age of people in this group is right skewed distributed with a median of 34 years, so this group also has a severe potential within the next years.[Brs05]

The experimentalists often prefer special authors or genres, however, they are also keen to discover new and inspiring literature. They inform themselves both via the Internet and in the bookstore. Local bookstores are expected to offer a huge assortment which is considered to be much more important than a noble arrangement of books. Moreover the shop assistant should be well informed and able to satisfy the often specific book requests. In this case the price is rather secondary.

It might be difficult for book sellers to keep up with the spontaneity of experimentalists. Probably, it won't be possible to directly influence their information process, however, offering a huge assortment and information platforms can stimulate their buying process. The group of experimentalists is comparatively small and has a distinct fluctuation. But as the willingness to pay is rather high, it will certainly become a challenge to attract this group in the next years.

4.2.3 Barely accessible reader groups

After having described six relevant reader groups in the past two sub-sections we now want to complete the analysis with the missing four sinus milieus that make up about 47% of the German population altogether. These groups are: The Traditionals, nostalgic readers of the former German Democratic Republic (GDR), consumption materialists and hedonists.

But for several reasons we decided to exclude them from further examination: On average less than 20% of them buy books at least regularly and the majority is not interested in reading which can be proofed by the low amount of reading time.[Brs05] If they read or bought a book, they would mostly prefer mainstream

novels and guidebooks, and these genres probably do not require a reasonable information process before. Furthermore, the groups of Traditionals and the nostalgic readers of the former GDR will shrink continuously in the next years and will probably have vanished until 2020.[EBP]

4.3 Identification of technological innovations and basic trends

4.3.1 Offline innovations

4.3.1.1 RFID and future store cards

Transferring today's online shop possibilities to the normal bookstore will be a main challenge of traditional booksellers. Store cards are the best opportunity to gather the information an online shop gets automatically by tracking its users' clicks and through the registration process that is necessary to buy something.

New technologies like RFID can help to improve the comfort in using the store cards, as no scanning of barcodes is needed. The customer can be tracked from the point on when he enters the store.[Ins] All the books he bought in the past and even the bookshelves in front of which he spent most of his time could be stored in a database.

The collected data then can be used for improving the service for each customer and for providing recommendations regarding his special fields of interest (see 4.4.1.1). Out of the amount of data about the customers' behaviour a whole new dimension of customer relations management (CRM) approaches can be established. Methods an online bookstore can apply easily like e.g. a click-stream analysis [SM02] can be transferred to the offline world by analyzing the route a consumer card's RFID tag takes through the salesroom. In the end both sides can benefit from, although objections of critics should be taken into consideration. Especially regarding privacy concerns, a compromise has to be found and transparency of the gathered data is essential.[hon03]

4.3.1.2 Mobile applications

One of the driving forces for new mobile applications are location based services. With a combination of existing technologies it will be possible to locate a user nearly everywhere. The challenge consists of providing exactly the information that is relevant for the user in his specific situation.

So there will be a whole new market for on-demand information in context of the user's location. This market is expected to grow more than 30% annually to at least 2010.[Fag06] Possible applications reach from providing direct on-demand

information about places of interest up to integrated shop finders that route the user directly to the next bookshop where relevant products are available.

4.3.2 Online trends

4.3.2.1 Overview

Speaking about technological innovations, the Internet is a key factor. More and more people become internet users and participate in the new possibilities technology offers. By 2008, about 49% of all Germans will have a broadband Internet access and in sum even more people access the Internet regularly.[BIT] The most frequently named reason to go online is searching for information about products and services. So over 4 million customers gathered information about books over the Internet before actually buying one - and when it comes to buying, books are the number one product sold over the web.[8.004] Enough reasons to take a closer look on what the Internet related trends are.

4.3.2.2 Technical aspects

On the technical side the further development of the internet results in providing a more direct, natural and familiar look and feel of web applications. Without going into technical detail the target of this process is to close the gap between normal applications running on the user's machine and web applications running on internet servers concerning the usability. In the near future you will hardly be able to tell the difference between working on local and internet interfaces. This fusion will bring the internet even closer to the people than it is today. Easy-to-use web applications will be able to reach new target groups and influence their information and decision processes.

4.3.2.3 Social aspects

Taking a look on the future of the web one single term appears everywhere: "Web 2.0". Indeed, this term might be one of the most misunderstood and ambiguous ones of the recent past within the internet discussion because definitions differ significantly. [Smi06]

Concentrating more on the impact than on definitions, the technical side of Web 2.0 includes the aspects already mentioned in the last paragraph. The more important aspect is the second one, the social dimension. The Internet in former times consisted of two groups: a few ones producing content and a mass consuming it. Today, we are in the middle of a huge change process, subsumed under the term Web 2.0: the division between editors and users dwindle more and more. Instead, everyone is invited to produce content within new forms of communities and platforms.[Smi06]

With reference to the user's information and decision process on the book market we identified recommendation platforms as the web service with the highest potential impact on future developments.

4.3.2.4 Recommendation platforms

Recommendation platforms occur in different forms. On the one hand there are online bookshops which give customers the possibility to write reviews and rate books. So other customers can get opinions on the books they are interested in just "one click away" from buying them.

However, there is more potential in the second form of recommendation platforms: the community based ones. They embody the idea of user participation as already mentioned above. In projects like e.g. buchpfade [Buc] users create tags for books in their personal bookshelf, can review these books, find other users with the same taste and can communicate with them. Based on the fact that recommendations from family and friends are the most important sources of information for people buying books [AWA03] this kind of social network might take great advantage of that effect in the future.

The social network in the background also makes sure that the content which is created is of high quality. Best of all the information is produced free of charge for the provider and can be perfectly used for personalized marketing. Combined with today's existing on- and offline bookstores manifold applications are imaginable.

4.4 Possible scenarios related to the information & sales process

After having discussed the diversification of the readers in the different Sinus Milieus and further the basic technological developments we now combine the identified trends of these two sections. We want to show several options how the information process can be improved and the buying process can be stimulated. Some of the following might be obvious developments in the near future, some are entirely new ideas about selling books.

4.4.1 How to stimulate sales in the book store

4.4.1.1 Consumer cards and recommendation systems

A big challenge normal bookshops have to face certainly arises from the new possibilities the internet offers to potential customers. As we have seen in the last section the web will reach more and more people even of groups who buy their books traditionally in a bookshop around the corner.

This doesn't necessarily have to be a thread to the classical booksellers, as they can adapt the concepts of the internet to improve their service significantly. With an easy-to-use storecard even less technical enthusiastic customer groups can be reached. By the gathered data a normal bookshop is able to offer all the additional services an online bookshop provides to support the users' information process. For

example, recommendation systems can be set off, based on the collaborative filtering techniques already in use within Web 2.0 online services.[MP02] Reviews of books created by the staff could be part of the database as well as the gathered customer data and possibly further content created by customers. Groups like the Modern Performers may have no problems using all the technical features such a system provides, but all the other groups surely appreciate help by an experienced guide - a strength of the classical bookshop. In the future, shop assistants and an interactive recommendation system could work together in order to support the customer with exactly the information he needs, no matter if he is searching a book for himself or a present for someone the system can classify.

As a result the classical bookshop is everything else than an obsolescent model. With future technologies working in the background on the one hand the atmosphere of the bookshop stays untouched, which might be an important argument for conservative groups who prefer quarrying for books for hours, on the other hand precise information can be provided on demand.

4.4.1.2 Premium offer for Conservatives and established milieu

Conservative readers as well as the established milieu have in common that they have a haptic claim on their books and can therefore be attracted by a "premium section" offering aesthetic and valuable books. For these readers the bookstore is the natural buying place since they like to get a physical impression of the book they are going to purchase. For this reason, especially Conservatives are not attracted by Internet offerings. Hence a "premium section" would match three of their main claims concerning the atmosphere in a bookstore; a well sorted area with demanding literature, well read personnel ("premium salesmen") and a quiet and convenient place less visited by other disturbing costumers.[Brs05]

A further option to stimulate the buying process of wealthy and old fashioned readers that are hardly reached by technological innovations is the launch of some kind of a "premium club". When a customer becomes a member of this club, his reading and buying preferences get recorded on his customer card or his account (see 4.3.1.1). Thus modern information technology can be used to stimulate his buying process. With Customer Relationship Management the client's convenience can be improved.

The following arrangements are considered reasonable to improve the amount of sold books in a book store: restructuring the assortment (33.2%), rearranging the selling space (21.9%) and improving the salesmen training (14.5%).[8.004] With all the issues above in mind these developments and changes can be supplemented and upgraded by creating a "premium section" with restricted(!) access for "premium customers" (similar to the Frequent Traveller or Senator Card of the Lufthansa). In these sections the customer gets offered valuable books in a convenient atmosphere. The staff is very well trained. The customer can be consulted very personalized based on the information which is saved on his customer card.

4.4.2   How to stimulate online sales

4.4.2.1   Impact of social web platforms on the information process

In section 4.4.1 we examined, how information technology will influence the information and decision process of customers in local bookstores. There were some trends that advantages of the Internet regarding research and recommendation platforms can be used in local bookstores as well. Now, we should think the other way around: Can main characteristics of the buying process in book stores be transferred to an online seller? The importance of this question is doubtlessly substantial as the book market will be confronted with two trends that we figured in the first to parts of the report:
On the one hand people often go to a book store just to browse through the books and actually 30% of books are purchased spontaneously.[Par] Furthermore, browsing for books in a book store is considered to be more important than any other source of information and recommendations of family or friends are ranked second.[Brs05] On the other hand the increasing Internet usage provides among others a steady growth of online sales of books. (see 4.3.2 and [8.004])

Surely, many readers would amplify their online buyings if they were provided with more information and the possibility to browse nearly randomly through books. The status quo definitely do not satisfy the customer's needs as huge online sellers like amazon offer only very limited opportunities to browse the assortment without sticking to buzzwords or genre preferences. So we can identify the trend to influence the reader's information process by cooperations between online sellers and social platforms. Target groups like the modern performers, experimentalists and some post materialists will frequently use the possibility to share their own experiences with reader fellows. Furthermore, personal recommendations of other users of these platforms and a browsing feature that enables the customers to flip through reading lists will certainly enhance the willingness to purchase a book and therefore stimulate the buying process. Buchpfade is already a terrific approach on this trend.[Buc] While the readers can enjoy the typical book store feeling at their computer the online seller only has to make sure, that the customer is always just one click away from purchasing a book and able to benefit from convenient paying and delivery services.

4.4.2.2   Media bundles for Middle Class

For most of the middle class readers there is no special reason to actually purchase books in a local store. The probability of changing the usual buying place from the normal store to an online store is above average. This shift is favored by the proceeding ease and widespread of Internet access as well as Internet purchase (see section 4.3).

The affinity for well known and offensively advertised books (e.g. Lord of the Rings, The Da Vinci Code)[Brs05] can be exploited very smart if you launch online offerings bundling books with related DVDs, board or computer games as well as promotional items. With it, the publisher could cleverly couple the increasing of the

consumer appreciation for DVDs (in the section of consumers in the age between 14 and 29 years the average daily DVD consumption has increased 90% in the last seven years [SMG05]) as well as the booming market of computer games (predicted growth rate till 2009 for this market: more than 50% [MM05]) with his book sales. Further the "smart shopping" attitude of the middle class reader can be satisfied. Beyond, the trend of creating a whole media bundle out of one product (e.g. Harry Potter book, movie, game) is matched.

4.4.2.3   Audio books platform for established milieu

Especially experimentalists are very susceptible to audio books. And further, the established milieu has the claim to be very well educated and well read. The actual problem is that they neither have enough time to read a book nor to actually go to the bookstore and take the time finding the right product.[Brs05] Therefore, audio books should be offered to them more offensively.

One shopping place that has to be created in the near future is a selling platform for audio books on the internet. The market for audio books is growing strongly. Sales have increased 5.7% and exchange even 16.7% comparing the first terms of 2005 and 2006.[GFK06] When we consider the overall development of how the Internet is attracting more and more online shoppers the launch of a platform like this is kind of a natural development. For music, there are - of course - countless examples already online (e.g. apple's itunes store).

It might be some interesting feature to have a sample mode established with which you can listen to chapters or parts of chapters the customer is interested in. That would please his demand for information about the product he is going to purchase. One issue that has to be discussed in connection to this topic is the fixed book price system.

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Chapter 5

Distribution Channels and Legal Issues

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5.1 Legal Issues and DRM

5.1.1 Changes in property rights

The first part of this report will take a closer look at the legal changes that are currently taking place in the area of intellectual property. Furthermore possible future developments until 2020 that can be deducted from current and past adaptations of the intellectual property law will be presented.

5.1.1.1 Fixed book price system

A speciality of the German book market is the law for a fixed book price. This law, which has become effective in October 2002, dictates that every shop that sells a certain book takes the same price. The law is also valid for online book shops and ebooks. As readers naturally are not willing to pay the same price for a digital copy of a book it seems foreseeable that the legislator is going to have to adapt the law accordingly, especially with the progressing digitalisation. One could think for example of a fixed ebook price in 2020 that is lower than the one of the printed original. Furthermore audio books do not fall under the fixed price system as they are only consumed acoustically, a fact that could change with a growing market share in the future.[Men04]

5.1.1.2 "Zweiter Korb"

In March 2006 the German cabinet decided upon the second amendment of the intellectual property law. This amendment, which is called the "Zweiter Korb", represents the second step of the German government to adapt the guidelines provided by the World Intellectual Property Organisation (WIPO). The focus points of the new law are a clearer distinction of the private copy, adaptations of the lump-sum payment and a way to offer more flexibility in future exploitation methods that may be unknown today. Especially interesting or worrisome will be the changes in the regulation the public reading terminals in libraries, museums and archives. [dJ06b]

Public reading terminals

The changes in article 52b that are proposed in the bill represent a quite significant change of the former law. Up until now public reading terminals were only allowed to display as many copies of a work as the owner of the terminal had available as an original. For instance, in the future libraries could display as many copies of popular works as they want - the library does not even have to own the original any more. This change could bring a trend towards freely available works, a trend that is not looked upon kindly by the "Börsenverein des Deutschen Buchhandels".

Private copy

The government has decided to adhere to the private copy with several additional regulations. Therefore private copies that override copy-protection mechanisms are deemed illegal[dJ06a], as well as private copies that are created from an illegal source, or a source that was clearly illegally publicised in the internet.[dJ06a] It therefore becomes clear that the law is going to pursuit illegal piracy of copy-righted material, that is dispersed for example over peer-to-peer file sharing, more harshly in the future. With cooperation of the ISPs that could bring an end to illegal filesharing in 2020.

Adaptations of the lump-sum payment

Additionally a flexible adaptation of the lump-sum payment to future technological developments is made possible. The position of the government on digital rights management (DRM) mechanisms becomes clear in the bill of the "Zweiter Korb": Neither shall the lump-sum payment system be abolished to enforce individual payment methods that become available with new DRM methods. Nor shall DRM methods that clearly restrict the user's possibilities in terms of private copies be suppressed. This position accommodates both the protection of the user's privacy, which could be affected by DRM, and the fact that DRM can offer more individual licensing methods. It seems that the government wants to support payment methods that are based on a fair pay-per-use system which should be in the interest of the users as well. Yet the fact remains that DRM involves the risk of detailed recordings of the

consumer behaviour - a risk that will have to be regarded by future amendments of the privacy regulations. Therefore a trend towards individual billing methods that are based on DRM systems not compromising the privacy of the user can be foreseen in terms of intellectual property rights regulations.[ii06]

Future unknown exploitation methods

Moreover the bill accommodates the need of originators to sell the rights for future exploitation methods that may be unknown today. Up until now that was not possible and resulted in long and expensive processes to gain the usage rights. The bill now not only helps the originator to get compensated for future exploitation methods but also speeds up the process for exploiters to acquire the required copy-rights. From a legal perspective this could speed up the development of future exploitation methods - as the copy-right holders now face more flexible regulations and the originator can make sure that her or his works can be distributed seamlessly on new channels while still being compensated accordingly.[dJ06a] This development could smooth the technological trends in 2020.

5.1.2 Developments and Trends in DRM

The following part of the report will focus on developments in DRM methods and future trends in the usage of DRM that are facilitated by new legal regulations. As described in 5.1.1 the amendment of the intellectual property law will specifically make room for DRM driven billing methods that can be used instead of the lump-sum payments that are used today.

5.1.2.1 DRM introduction

DRM methods deliver the means to monitor almost everything a user does with copy-protected material. For example watermarks and fingerprints can be used to store copy-right data. This information is stored inside the media data without interfering with its quality and can only be read by the respecting decrypting algorithms. Therefore the copy-right holder can stay informed what happens with her or his data and can for example cooperate with an internet service provider to bill users that download the material. Furthermore it is even possible to store usage data in the file itself - that way it will be possible to restrict the usage of a product to a certain period of time or number of uses.[Sob03]

5.1.2.2 Integration with hardware producers

Even current hardware developments are going into the same direction. With the Trusted Computing Group (TCG) some of the world's largest hardware and software developers have joined forces to "develop, define, and promote open standards for hardware-enabled trusted computing and security technologies, including hardware

building blocks and software interfaces, across multiple platforms, peripherals, and devices."[Gro06] Even if DRM is not the main goal of the organisation, the open standards can be used by DRM developers to secure their content on a hardware basis. An approach that offers much higher security than copy protection that is based solely on software. Even today there is already technology like the HDCP interface which is used to receive encrypted high definition video signals in order to prevent users from copying the material.[Pro] Considering that fact it seems logical that in 2020 both hardware and software companies as well as other content providers will work together in order to further protect their investments.

5.1.2.3 Privacy aspects

Yet there is also a very strong resistance from the user side against these mechanisms, not only out of privacy reasons but also to protect the right of the private copy. Therefore the copy-right holders will have to find a way to both guarantee the user's privacy as well as to develop DRM methods that allow a certain range of private copies. One could for example think of system where the user can specify a limited set of devices to use the content on - for example his desktop computer, laptop and ebook reader. Another idea would be to limit the use to a certain number of times that content may be duplicated before it is locked. To cover the privacy aspect one could think of trusted third party organisations that monitor the user behaviour and organise the payment while also guaranteeing to keep the collected data safe and hidden.

The development of more sophisticated and safer DRM measures will continue in the next years, yet as with all the technology that is available today, there will always be ways to circumvent these measures. Even in 2020 the weakest link in the chain will always be the content before it is secured with DRM. Therefore content providers should not only think about solely protecting the content but should also sell the fact that DRM offers the user a highly individual billing mechanism that was not available before.

5.2 New B2B Distribution Channels

This chapter enlightens the consequences of probable changes in distribution channels for publishers in the book market till 2020. On the basic level a differentiation between Business to Business (B2B) and Business to Consumer (B2C) channels has to be made. This will be considered in the following passages. One of the most important questions for publishers is, whether their business model and their distribution channels will have a chance to survive on the market.[McG] This is tightly related to the position in the value chain. At the moment publishers mostly provide all publishing related products and services from content (authors), over machines, to the distribution channels for the finished product. In 2020 there will be different possibilities of positioning likely within the publishing industry. If you consider book

publishers, they might be only production- or technical providers (printing machines, know how) or they might still be providing the whole value chain with a more technical focus. Thereby it is possible that they might even substitute parts of the value chain, such as book stores or web stores by directly selling to the end customer.[Wil] Depending on the distribution channels, different options will be discussed in the following paragraphs.

5.2.1 Distribution Channels for physical books in 2020

5.2.1.1 New Points of Sale

The Sueddeutsche Zeitung started a development in Germany, within which books were sold at low prices and distributed not in book shops only, but also in other shops, e.g. newsagents and kiosks. Bild and others caught up with an own book series, which was even sold at some gas stations. Therefore it is possible to identify a trend to new distribution locations for books can be identified. In other countries, for example Great Britain, also other locations sell books, such as gift shops or supermarkets. Another development is the rising service industry around classical business models such as transportation (e.g. airplanes, trains, metros...). Often customer magazines are published by the carriers companies (e.g. Lufthansa, Deutsche Bahn) to sell additional products. Additionally drinks and food are offered (e.g. in every Deutsche Bahn train) but also higher valued products (e.g. watches at Lufthansa Sky Shop). This could be the starting point to sell books (bigger volume) as well, especially as the trend goes to transportation vehicles with more space (e.g. Airbus 380, ICE III). Bringing those two trends together, new Points of Sale are likely to emerge till 2020. Especially planes, trains as transportation vehicles on the one hand and gas stations, small gift shops or supermarkets on the other hand will play a role in future B2B distribution.

5.2.1.2 New developments in printing

New printing techniques, like print on demand, also influence the development of book publishing in different ways.[Wil] Print on demand is correlated with much lower investment expenses for machines (40.000 Euros) in comparison to traditional printing machines. It also shrinks cost by simplifying production, especially if the content is provided digital (direct transfer). This paves the way for small series production in book publishing. Hence the development described above will change the publishing market, because it lowers the market entry barriers. Provided with the right content (e.g. special interest groups), publishers are able to produce books on demand and tailored for target groups containing only 10 persons (existing already for magazines at www.futurenet.co.uk/futureonline). Even single prints should be available at a reasonable price. This reshapes the value chain also in B2B relationships.[Sha00] Besides traditional book stores also special interest stores could offer books. Exemplary would be special interest small series books, which

are sold in shops selling these items (e.g. pipe books sold in pipe stores). Web stores like Amazon would be able to offer a big variety of special interest books, which are not printed yet. If an order comes in or enough orders are aggregated, Amazon orders the printing process at the publisher. This function could also be offered for traditional book stores. These changes implicate a shift from a more push oriented business model to a more pull orientated business model. Accordingly the focus migrates from input factors (good authors, assuring high sales) to a market focus paying tribute to customer needs.

In the following section, other possible new business customers are mentioned, who will also be important, but use the old distribution channels or those which have been described above. Examples in this context area would be mobile content and application providers, or players in the converging triple play market. They might become direct service providers for customers to buy a book and at the same time become business customers for publishers.

5.2.2 Distribution Channels for digital books in 2020

5.2.2.1 Consequences of Digitalisation

Digitalisation is reshaping the book market in many different ways. This development is always related to copy right issues. Assuming that future DRM and copyright programs make it possible to protect authors' rights, there are many ways how book content can be used. E-books are an already well known as an alternative form of printed books, but also Audiobooks are widely recognized. These sorts of books can be offered to a big variety of business customers. Especially the well known players as Amazon or bol are an interesting target group. But also the websites of traditional book shops should be used to sell these digital books. Due to marginal storage, transport and labour costs, this development is going to reduce costs enormously and maybe prices simultaneously. Furthermore the speed of the distribution channel will enhance dramatically, because delivery is possible nearly at the moment of purchase. Animation is another sector of development, which will facilitate digital forms of books. If short animations will be added to digital books, a more visual approach towards reading, listening and watching a book can be established. Animations of this kind are an attracting technology, what can be observed in the film industry, where comic heroes become sanguine. Transferring these concepts to books and the growing technical functions of future computers, mobiles, etc., will make new customer groups accessible.

5.2.2.2 New Customer Segments

A big change in the content provided by publishers will open up new business customer segments. Within the market an immense trend is going towards special interest content. This development can be verified by the rising number of special interest books, magazines and web communities (e.g. www.futureplc.com). This results in

the necessity for publishers to reorganize their content repertory and the providers for that. So even web bloggers with a small audience writing about special interest issues but providing very specific and expert knowledge could be content providers in the future (aggregators). This trend will broaden the product range of publishers and synchronously widen the potential customer base, which has to be addressed in new ways. Additional business customers for digital books in all forms could be newer players, for example web 2.0 communities such as Xing, facebook, or small special interest communities. These companies or non profit communities are not coming from a sales perspective, but will offer products matching their members needs (e.g. Open BC Premium Store). There will also be the possibility, that every popular website, who sells products or belongs to a certain special interest group, offers its members specific books concerning their issues. This is done in a small scale already (www.schwarzekarte.de), but could go much further. Digitalisation enables many other ways of sale channels, even game publishers could sell products directly out of their games for example. This development started already with advertising in games and will continue to real products.[Slo][New] The channels mentioned above all open new end customers segments, because these users are often persons, who would not buy a normal book (<-> special interest) or a physical book. In consequence a growing B2B market is pulled through B2C demand.

5.2.2.3   Possible threats

In regard to the trends descried beforehand, two threats can be deduced. First, one has to keep the danger in mind, that the B2B market is shrinking, due to the fact, that an intermediary between the publisher and the end customer is no longer needed. Exemplary might be a B2C platform operated by a publisher, which supplies books (physical or digital) via electronic orders, directly to the end customer, as it is done already at the i-tunes store. Secondly there is the menace, that publishers are reduced to simple production providers. A scenario for this threat would be copy right problems accompanied by price reductions or the integration of parts of the value chain by intermediaries like Amazon.

5.3   New B2C Distribution Channels

This chapter identifies three emerging distribution channels for B2C applications. Besides the well known online retail business for physical books, they include the less mature sale of pure digital content and the upcoming opportunities due to print on demand. The objective is to present both the potential and the limitations of these new distribution approaches and give an idea of how the purchase of books or - in a more general sense - literary content may look like in the near future.

5.3.1 Online Retail of Physical Books

5.3.1.1 Market Outline

Since the foundation of amazon.com in 1995, the online retail business for books exhibited vast growth rates for many years; sales in Germany rose from 13 million euros in 1997 to 438 million euros in 2002. First indications for a flattening of this trend cropped up in 2003. Nevertheless, with an increase of about 25% in 2005 it still gains substantial shares of the book market, which grew only 0.9% in the same year[dDB06b]. Today this distribution channel constitutes revenues of 633 million euros or 6.9% of the total market. Thereby it is placed third, after retail in book stores (share 55.8% in 2004) and direct sales (17.7%, 2004).[dDB06a]

5.3.1.2 Benefits of Online Retail

The advantages of this business model are obvious: Online retailers provide their clients with a database of available books which they can browse via the internet. The products are usually stored in a single warehouse only, whereas a conventional retailer needs to set up shops with an extensive, yet deliberate supply of books. Furthermore these sales areas should be at some well frequented location to ensure that potential customers can reach it easily. Considering the costs of the latter distribution model, i.e. logistics, salaries, rent of premises - to name just a few - selling online seems to be a very promising approach. The books are shipped to their purchaser within a few days and the delivery can be outsourced and handled by a specialized parcel service. Given the fact that books bought are still subject to the German fixed price system, the reduced costs of distribution result in considerably higher profits for the retailer.[Pri04]

5.3.1.3 Prospects

Purchasing online requires consumers to have both the necessary equipment for internet access and - as there is no salesperson giving advice - the ability to identify the books sought-after. This hurdle is reflected in the socio demographic profile of the typical online customer, which was investigated by a survey of the magazine Focus[Foc04]. Besides an above average income and high formal education, he or she is rather young. The segment of individuals aged between 20 and 39 years constitutes 55% of the online shoppers. This is mainly due to the higher affinity of the young generations to the medium internet. As its usage becomes more and more a matter of course, the market share is expected to outperform the other distribution channels in the long run. For the next years, however, experts of the union Börsenverein des deutschen Buchhandels e.V. claim that its share will not exceed the 10% bound.

5.3.2 Digital Content and e-Books

5.3.2.1 Introduction

In contrast to the online book shops discussed in the previous section, the distribution of e-books requires no shipments, no storage capacities, not even any printing. Their digital content is simply transferred via the internet, as it is common practice for several years now to purchase music online. But while convenient players for mp3 and wma files are commercially available, there is yet no moderately priced viewer for written content that offers the look and feel of a physical book. Today e-books are usually read on a computer display, which is rather inappropriate for that use. Accordingly, the market for this kind of digital content is small but growing. In 2005, the market leader ciando.com, offering about 6000 e-books, had about 0.5 million downloads. For the near future it expects the market size to double every year.[cG05]

5.3.2.2 Features of e-Book Distribution

A key advantage of an e-book is the possibility to enhance it with metadata and multimedia content. Additionally modern DRM algorithms allow a more individual product discrimination. Therefore in 2020 it may be possible to buy not only a whole book, but pay for single chapters, for usage times, different kinds of languages etc. For instance in cooperation with Internet Service Providers the DRM System could automatically perform the billing mechanisms. The ongoing convergence with audio books - both are pure digital content - may result in a combination of the respective distribution channels. First indications are the deepened cooperation between vendors of e-books and online retailers of physical books. For example, since 2003 the product line of ciando.com is also available at buch.de and bol.de, extending their own portfolios [cG05]. Furthermore, an important characteristic of the e-book business is its suitability for value chain integration: setting up an online platform for selling of digital content is a limited investment. Therefore publishers can skip the retailers and open up their own direct distribution channel to the consumers. Again, low sales and production costs permit higher profits for the retailers.

5.3.2.3 Outlook

Currently there are two main reasons which cause consumers not to buy e-books. The first one is the price: They refuse to pay for a file as much as for a physical book. Until 2002, it was unclear if e-books are subject to the fixed price system; then a federal law established certainty. The retailers of e-books are bound to fixed prices, although they might be slightly lower than for a printed copy of it [cG05][Men04].

The second reason is the lack of suitable viewers for mobile use; still the versatility of such devices is way behind the one of a traditional book. However, one can expect that this drawback will diminish within the next 10 to 15 years and the e-book market becomes as vivid as the market for digital music. Nevertheless, experts believe that e-book will supplement the supply of traditional book and not substitute them completely. [www06]

5.3.3 Print on Demand

5.3.3.1 New Developments in Printing

In traditional publishing a print run suffers from substantial fixed costs, demanding for high volumes. Usually a few thousand copies have to be produced in order to lower the unit price to an acceptable level. However, recent developments in digital printing, referred to as print on demand (abbrev. PoD), allow now to fabricate a single copy at a price comparable to a mass production item. This has extensive implications on the supply and distribution of books: First of all, it permits less famous authors to get their work published in small volumes. Secondly, books need not to be produced by a single print run and stored afterwards for several years. Instead, they are printed after reception of an order. Finally, no huge inventories of the book have to be kept in stock and the risk of unsold items is eliminated.[www06]

5.3.3.2 Distribution of PoD Books

Print on demand does not only affect the way books are produced and shipped to the retailers. It also allows for an entirely new B2C distribution model: If retailers can afford to operate a PoD printing machine in each of their stores, they do not need to have such a huge variety of books in stock. In 2020, customers wishing to purchase less common literature will not depend on the large book shops any more. Instead the retailer orders the book in digital format from the publisher, prints and binds it right away at the store. Since the whole process requires no shipping, the buyer can take along his or her individual copy after a few minutes. Like for almost every kind of digital equipment, the costs of PoD printing hardware can be expected to further decrease in the future thus permitting their use even in smallest book shops. It is also possible to offer print on demand services at other locations, e.g. gas stations, cruise ships, etc. The choice of the customer will be based on a huge database of available books, comparable to the online retail business. PoD's key advantage is that after ordering one does not have to wait several days for the shipment to arrive. A similar business model is already in use for the delivery of newspapers and magazines to readers in foreign countries[Deu]. The production of books, however, is a more extensive task and will certainly require some more years to become well-established. The potential market share of this distribution channel will be limited since it is competing with both online retail and e-books.

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Part II

Trend Report

Chapter 6

Fiction for young people in 2020

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6.1 Abstract

This trend report gives a conceptual idea of how the book, the services, the market, the customers and the business model for publishers in the segment of fiction for younger (20-30 years) people in the year 2020 will look like. The idea of a product called Virtual Interactive Book (VIB) forms the centre around which the services and value added services are described out of the perspective of an end customer. In the following paragraphs a reasoning towards the fit between the segment mentioned above and the VIB is done by a market and customer segmentation. The characterization of the new business model for publishers shows new revenue sources and predicts even higher profits than today. In the last paragraph the developed VIB concept undergoes a critical risk analysis. In the end the authors come to the conclusion, that the VIB is an entrance medium for a big part of the media consumption in 2020.

6.2 Introduction

When dealing with the book and media market of the upcoming years one fact becomes clear: the book market will probably stagnate while the media market will grow [MM05]. It seems that there is a demand for entertainment which cannot be satisfied by the book in its traditional form.

With this fact in mind the idea to combine the book with other media came up. Result was the VIB as described in this report.

Currently there are many activities and innovative approaches coming up in this area. With virtuality and interactivity enriched online books are discussed to be a way of teaching and education in the future (see e.g. [DH07]). And there are many approaches to enrich the book with other media, e.g. augmented reality (MagicBook, see [BK01]).

Interestingly, most of those approaches only make use of some possible features. This perception fostered the idea to develop the VIB which covers many possibilities and is very flexible to be able to integrate content or more features easily. While thinking about VIB it became obvious that VIB enables new ways of delivering services to the customer and generating revenues. For this reason a business model was established which makes it possible to generate revenues not only from sales but from partner cooperation and advertisement, too.

Although the traditional printed book will exists further it will be important for publishers to turn into content managers. Reason behind that is the fact that most growth in users and revenue will come from the other areas than printed books. The approach of VIB is interesting for that because it provides a platform for selling content in various forms and it opens new ways of creating revenues for publishers.

6.3 The VIB - Virtual Interactive Book

6.3.1 Mockup

Figure 6.1: Mockup of the VIB in a home environment

It's the evening of January, 23rd 2020. Outside a cold wind is blowing and it's raining.

You are in your house in the warm living room and you want to read the recently published crime story of your favourite author. So you pick your e-book device and lean back into your chair. While you are reading the environment adopts to the new situation: Your stereo turns off automatically, the lights and the heating in the dining room switches off. The lights in the living room dim to a comfortable brightness, only the light above your head stays on in a perfect read-light manner.

After a short time of reading you approach a key scene in the story: the detective is going to examine the scene of the crime - an antique, dusty chamber in an old farm house. The detective walks up the stairs - and you can hear his steps through your stereo. You can hear the squeak of the door and smell the dusty and wooden aroma of the chamber as the detective enters the room. A mouse runs from the left to the right and vanishes in a little hidden hole in the wall - and you can realize it through your surround speakers. You look up from your e-book device - and the light in your living room has adjusted to an obscure, dark light which you would expect in an old chamber. On your TV screen you can see an image of the crime site. Looking back at your e-book device you have the choice to examine the scene on several ways: simply continue reading, suggest the detective which part of the chamber he should examine (which influences the course of the story) or explore the site of the crime yourself in virtual reality. Or if you want to get an overview first you can watch a short film sequence showing the surroundings of the farm house from a bird's point of view.

You choose one of the possibilities and the adventure goes on.

6.3.2 Overview: What's VIB?

The product that will be described in this trend report is called VIB 'Virtual Interactive Book'.

The VIB is a new type of media bundling based on the text of a (fiction) book. It enables the user to dive into the world of a book by stimulating all senses through multimedia applications. With his e-book device the user controls the multimedia environment, can influence the storyline and can interact with other users.

The e-book device acts as a type of cockpit: the user can adjust the environment (activating or deactivating of features) and by eye tracking the e-book device determines at which point of the story the user has approached and adopts the environment accordingly. The user can control the course of the story and communicate with other users. Of course, managing a digital library and buying new VIBs over the Internet is one of the features of the e-book device, too. When being on the way the e-book device forms a mini environment for mobile consumption of VIB. For more details about the e-book device see chapter 6.4.1.

There are several levels of VIB and the user can choose which one he likes: A basic version contains only the text of the book. Text, sounds, pictures and films form the next, more content including package. A full package additionally contains

fragrances, light and memberships in exclusive communities. Alternatively the user can choose which features he wants to have and can compile his own VIB. More ideas about packages and sales forms can be found in chapter 6.6.

Primary target group of VIB are young people (this trend report focuses on people aged 20- 30) because many of them are very open-minded towards innovations and technology (more information about the target group see chapter 6.5.1). But of course, VIB is not limited to this group at all.

The VIB concept is applicable not for all but for many fiction genres. Of course an adoption to each genre must take place and not every feature makes sense for every genre. But overall there are many genres like crime, fantasy or science fiction which benefit from the multimedia features of the VIB.

Below the VIB is described from an end customer's perspective, so there will be no differentiation between components and services provided by the publisher or by one of the various partners. The core of VIB is an enriched text which is the starting point for all applications and services.

6.3.3 Virtuality - The user dives into the world of the book

The VIB creates the world described in the book and let the user dive into it.

To achieve this goal VIB uses light, fragrances and virtual reality additionally to today's state of the art media music, film and (computer) games. The number of new required technologies is rather low, but a key factor will be the wide spread of these technologies. In 2020 this will probably be the case. For more details about technology needed see chapter 6.4.

One thing is very important when describing VIB: the user has the total control of the virtuality VIB creates. He can define which parts of virtuality he wants to use, to which level he wants them and at which time. E.g., the user can choose if he wants sound effects or not, at which time (when reading the corresponding scene or only when looking up) and to which level (all the time, only at important scenes and so on). Because of this fact the VIB is able to adapt to different preferences (which sometimes change daily) of one user and to different consumption behaviours of many users.

Sound

Sound effects support and emphasize impressions in the VIB stories. By using surround speakers spatial effects become possible. Some interesting impressions will be possible for scenes in which visual input is not available like scenes in the night. For example you can hear an army attacking in the night which you can't see.

Pictures

The rich projection facilities an intelligent home offers through using walls, ceiling and floor as screen (or simply a huge TV screen) can be exploited in two ways.

First one is generating an environment the actual scene takes part in, like being in a clearing in a deep forest by projecting trees in the whole room. Second way is to show specific visual information like heroes and warriors of the story.

Films

Films can be used to visualize the whole story or parts of it and to give the user additional information (like dreams or things happened before the story begins).

Light

Because most users will live in intelligent homes 2020 VIB uses this environment for creating a virtual world.

By adjusting the color and the brightness of the user's environment (mostly rooms) the imagination of being on a bright battle ground, for example, is supported.

Fragrances

Fragrances form another dimension of creating a virtual world: to deliver fragrances and odours corresponding to the progress of the story. You can smell grass and horses, for example, when you read about a battle at a sunny countryside.

Tactile sensation

Feeling the rain drops hitting you or feeling the warm sun shining on you - such tactile impressions are enabled by controlling intelligent clothes. This type of clothing can give feedback and stimuli to human beings through using its built in detectors and actuators to produce warmth, coldness or vibration.

6.3.4 Interactivity - The user takes an active role while consuming a book

When consuming a VIB the user doesn't have take to a passive role and just read what author and publisher delivered to him. In contrast, the user can take an active role and influence what is presented to him and in which way.

Because many possibilities for interactivity (see below) are accessible from only one device, usage is very easy and convenient (e.g. you can communicate with others without changing the medium or device).

Interactivity by controlling multimedia applications

The manifold virtuality possibilities of VIB require the user to choose which parts of virtuality he wants.

Interactivity by choosing the perspective

The user can choose a character and view the plot in the perspective of this character. It can be very interesting, for example, to look at a crime story one time with the detective's eyes and another time with the eyes of the criminal. It becomes possible that one story can be read several times without getting boring, as more and more details could be discovered that would stay hidden when taking only one perspective.

Interactivity by influencing the plot

Another aspect of interactivity is to influence the course of the story actively. At some crucial points in the story VIB offers (of course only if the user has chosen this feature) a list of different alternatives. For example if the detective examines the scene of the crime the user can make suggestions what to examine (the floor, the wardrobe, ...). This influences the plot. Either the detective is put off the scent and has to come back later or it leads to a totally different end like another person will be arrested or the crime cannot be solved.

Secondary stories

Authors usually produce much more material and ideas as they finally include into their stories. VIB uses this material and makes it accessible for the user.

This brings along secondary stories which aren't directly connected with the main story of the book. E.g., if a friend of the detective enters the plot the user can choose if he wants to read how the friendship began and what both experienced together.

Interactivity with other users

The internet integration of the e-book device provides the potential for communication with other users worldwide. Many types of interactivity can take place: discussion about story and characters, exchanging recommendations for other VIBs or authors, competitions for pictures of characters or alternative endings and so on. The exchange with other users can take place in the 'open' Internet or in exclusive communities.

One interesting scenario would be to publish a piece of the story every day and the users can speculate and discuss about the further plot. Or the users can cooperate: every user takes another person's perspective and together they can solve the criminal case.

Interactivity with the author

Communication is not only possible with other users but with the author, too.

Direct communication like feedback, questions, suggestions or discussions are integrated into or easy accessible from VIB (if the author is willing to have it).

6.3.5 Virtuality and Interactivity come together

The most interesting features of VIB are those which integrate virtuality and inter-activity.

Well-known areas in this context are 'virtual reality' or 'augmented reality'. Here 'virtual reality' is examined in more detail because this trend report focuses on fiction literature. But 'augmented reality' can be imagined as a component of VIB in other genres.

Virtual worlds around a story can be categorized in two types. The first type is the virtual world of the book, that means the world and events of the story can be experienced. The second type is a virtual world after reading. The world constructed by the story exists further (beyond the story) and the user can influence the course of that world e.g. by taking the role of one person in that world. First examples of such virtual worlds are available today like 'second life' [Res] or 'The arena' [Jus].

To make a virtual world touchable and authentic head mounted displays and devices for arms and legs (which monitor the position and can give tactile feedback) can be used. With the help of these tools the user can enter the virtual world more intensive. He can move around, grab and observe objects or participate in the story (e.g. as an archer in a battle). Especially remarkable in this context are projections onto mirrors. The virtual world is projected on mirrors and the user is able to move and act in this world and see himself as part of it.

6.3.6 More features

Virtuality and Interactivity are the key features of VIB. But there are other interesting features and benefits for customers.

Story to go

VIB makes it possible to have a seamless consume. When you are reading and must leave VIB can synchronize with your portable player or car system and the story goes on as an audio book while you are on your way. Of course, this change causes the loss of most virtuality and interactivity features.

Mobile VIB

The e-book device makes mobile and parallel VIB consumption possible. It is not only a cockpit when enjoying VIB at home it is also a mini environment for enjoying VIB on the way. The e-book device takes thereby the role of projection screens, sound speakers and further features and roles. Of course, it is not the same experience as at home but some features can be substituted or adapted for mobile use (e.g. augmented reality like in the MagicBook [BK01]).

VIB as a starting point

VIB is not only a book but context specific, bundled media content. As human beings always memorize information in context VIB is a starting point for many activities. For example, if the hero played a computer game in the story you can play the same game by following a link. Links to shops with an offer suitable to the story context or links to travel agencies which offer trips to the story location are more examples for that.

6.3.7 Customer Value - Why should a customer buy VIB?

VIB can provide experiences and adventures the user can not get from another type of media.

Reading experience becomes an adventure with the VIB because it combines the best parts of books (text), films (virtual world) and computer games (virtuality, interactivity).

Because all senses are involved the user can dive into the virtual world of the story very intensively. He can have adventures in this virtual world, act as an individual and explore his environment. Or he can just relax, look around a bit and be passive - just as he likes.

This shows another value of VIB: the user has the control and can choose explicitly what he wants. And he can use the components of VIB separately from each other which brings along a high flexibility. A story can be read out to him as VIB turns into an audio- book, if he wants to see the story the VIB turns into a film.

Furthermore VIB enables new ways of experiencing a story, even a known story, through parallel story lines and secondary stories.

The integrated communities provide the user with the opportunity to have interesting discussions and get to know people with the same interests.

As starting point VIB eases the access to related and interesting content.

6.4 Technological aspects

6.4.1 E-book devices

VIB will herald the mass penetration of e-books and displace printed books more and more. Microsoft predicts in 2020 90% of all book titles will be sold in both, paper *and* electronic form. Estimations of Pricewaterhouse Coopers are even more optimistic. [Gre01]

The multimedia features of the VIB require a lot of functionality of the e-book device. First of all, the e-book device will be connected wireless to the Internet to download the VIB edition of a book title and later on, to receive the media information during the use of the VIB. Secondly, the e-book device has to be able to communicate with other media devices in the user's environment. In this regard, "communicate" means transmitting media files to other devices like a sound system,

video projector etc. as well as controlling and adjusting the play. Third, concerning interactivity, the user has to be able to set a lot of preferences and options. Therefore, the e-book device should be equipped with an easy-to-use interface to ensure the convenient handling of the VIB. This could either be implemented by a graphical user interface and touch screen or a voice driven control menu. With an integrated camera the movement of the reader's eyes can be recognized. Eye-tracking could either be used to scroll automatically down the text or to start some media applications if a certain text-passage is entered (more details in chapter 6.4.3).

Last but not least the e-book device should be comfortable to use and satisfy haptic properties of an ordinary book. That means, it should have same size and weight like a paperback and the user should get the impression of looking on a printed paper and not on a display. Moreover, a long duration of the battery is sufficient for a convenient handling of the device. The actual technological development promises the proper realization of these features within the next years.[SR07]

6.4.2   Multilayer content

Basic idea of the VIB is enriching the content of an ordinary book by providing additional media features. Beside the required media devices (which will be described the next chapter) the respective media files have to be integrated into the VIB. Similar to today's DVDs and the separation of audio and video traces, media content could be stored in a multi-layer format, where each media is separated in its own layer. According to the different packages of the VIB, the customer is free to choose which layers he wants to buy. The media content could therefore either be stored on the book device or the layers just contain the media information and links to a server, where the files can be downloaded directly. This would also support a pay-per-use or pay-on-demand sales model (described in Business Model, see chapter 6.6).

Additionally, the separation of the layers ensures, that the use of the VIB is not limited to sophisticated households, but less equipped people could become customers as well. This will certainly ease the market launch of the VIB as it might take longer until huge customer groups like the Middle Class own all supported technical devices (see chapter 6.5.1). Furthermore, with this separation it becomes easier to transfer the content to other devices e.g. if the customer wants to continue the story using an audio book or portable reading device on his way to work. So, text and audio part can be transmitted to the device and enables the story-to-go feature of the VIB.

Another aspect of content storage in several layers addresses legal issues. VIB is offered in different packages (see also chapter 6.6) and the user is free to choose which media parts he wants to purchase. Hence, it is necessary to ensure, that only links to paid content are accessible. Providing each purchased layer with an own identification number, the e-book device will automatically download the right media files.

6.4.3 Intelligent homes

VIB requires a lot of technical equipment beside the e-book device to enable all the multimedia applications. Up to the year 2020, a wide range penetration of so-called intelligent home systems is assumed.[Pun03]

6.4.3.1 What does "intelligent home" mean?

In the course of ubiquitous computing and home automation more and more technical systems are developed that could contribute to every day's work in a household, either self-controlled or remotely controlled by the user. Electronic devices and electrical equipment should automate ordinary tasks within the home environment in order to enhance home comfort, save energy and support existing security systems.[SBB04]

The combination of an image-based interface and a voice driven menu and additionally, the possibility to access the system via the Internet or a mobile facilitate an user-friendly handling. Furthermore, regarding comfort and convenience, the implementation of neural networks is necessary. The intelligent home devices surely become more useful if they adapt to the resident's behaviour and work independently without permanently requiring instructions of the user.[Moz98] For instance, the system notices via sensors the presence of a person and automatically adapt light and climate control according to the learned person's preferences. Another example would be a device which self-controlled order goods, e.g. a refrigerator if some food is eaten up.

6.4.3.2 Media devices integrated in an intelligent home

Concerning the VIB, media devices in an intelligent home environment are of special interest. They have to be accessible by instructions of the e-book device (see next section).

First pillar of enriched content is the integration of sounds and music during the consumption of the VIB. Either the whole data is send from the e-book device to the sound system or solely the information which sound or music is required and then the player downloads the file from the Internet itself. Additional required information contains loudness, equalizer settings and duration. That means, the e-book device recognizes by eye tracking or a textmark that the user just entered a section in the book, where the text is enriched with a sound file. Then, this information is send to the sound system and music starts to play in the correct setting. While the user continues reading the e-book again recognizes if the user is leaving the marked section and instructs the music player to stop.

Second pillar is the adjustment of light and projection of images and films according to the textmarks. The communication between the e-book device and a projector or lamp works similar as with the sound system mentioned above. Until 2020 video projectors are expected to be achievable for the majority of customers. Different scenarios for the illumination are possible. As there won't be a silver screen or

at least a blank white wall in every room, innovative solutions are required. With a combination of video projectors and mirrors it is possible to create large pictures or video sequences at the ceiling of a room.[GK] As books are often read in the evening in the bed customers do not have to change their reading habits as the could further on use the VIB lying in bed and see the visualization on the ceiling. Besides the ceiling projection, the images and videos could also be displayed on thin plastic films or with mirror monitoring systems. Both offer different advantages. As the plastic film could be clamped nearly everywhere a realistic surround feeling will be created by projecting images in all directions. By displaying content in a mirror, the user literally dives into the virtual world as he could see the projected picture or video and himself merged into one scene at the same time.

Third pillar is providing fragrances. This is probably the most innovative feature of the VIB that should really influence all senses. In 2006, the biggest initial public offer was a company that synthesizes flavours and fragrances.[WEL] This shows the expanding development of the market in this sector. Further on is assumed, that until 2020 there will be small devices for the mass market that mix fragrances out of some basic synthetic ingredients and provide them. These devices could be an add-on of an ordinary air condition and would also be integrated in an intelligent home environment.

Further innovations to influence the user's perception could be intelligent textiles that adapt colour, temperature or texture [FG03] or head mounted displays which create a virtual reality where true life is mixed with a fiction world. [SB06]

6.4.3.3 Compatibility

Talking about an intelligent home environment and the innovative features of the VIB may cause one question: Does the customer have to update his house just to read a new purchased book? This question is initially warrantable and leads to the claim of compatibility. Although it is not implicitly necessary that the media devices are connected with the Internet (as the e-book device could send the media files directly to the related systems), it seems to be an obvious assumption. Already today, media players try to connect with the Internet to look for updates and information as well as for media files. In an intelligent home environment this should be state-of-the-art, especially because a wireless broadband access to the Internet is required anyway.

Nevertheless, the question of how the e-book device is compatible with already installed media devices in a household still remains. Concerning the media files, there are no problems expected. Today there are media files standards like mp3, mov, mpeg or jpg and certainly there will be similar standards in 2020, so the media devices will be able to play or present the distributed content. The integration of the e-book device into the intelligent home will work as today "plug-and-play" enables the fast connection of two electronic devices. Furthermore, there are significant trends of converging of different standards. The EIB-KNX protocol (European Installation Bus, Konnex Association) enables the parallel use of different devices in a large number with only one control system according to an European

norm.[SG02][BHP00] Therefore, it can be assumed that in 2020 there will be a standard which facilitate the integration of new electronic devices into an intelligent home system and the VIB can be used without updating the house.

6.4.4 Internet Trends

One of the basic pre-conditions for the success of the VIB is a broadband Internet access to transmit the huge amount of data and information. Because this was already examined during the Basic Report, at this time only the key findings should be repeated.

In 2008, already 49% of the German population will have broadband Internet access and with the significant growing rates an entire penetration can be assumed for 2020. [BI]

Social aspects of the Internet become more important. Web 2.0 applications close the former gap between editors and readers. The amount of user-generated content steadily increases and more users participate in online platforms and share interests and opinions with other members. Besides blogs and communities, virtual worlds have a distinct impact on the media usage. This has to be considered for value added services for the VIB as well as regarding interactivity (see chapter 6.3.4) and the analysis of competitors within the media market (see chapter 6.5.3).

6.5 Market & Competition

6.5.1 Customer segmentation

Due to a strengthened technology affinity of young people, the VIB mainly focus on readers between 20 and 30 years. Of course, the VIB is not limited to this age group.

Figure 6.2 shows the expectations on the development of the German population by the Federal Statistical Office of Germany. Obviously, the fraction of the group of people between 20 and 30 years is decreasing until 2020. Additionally, assuming a stable birthrate of 1.4 children per women and a moderate number of immigrants, the German population will stagnate or even decline.[BAS03] Hence, the competition for the media market in this group will be hard. Nevertheless, with an increasing usage of technologies mentioned in chapter 6.4 people older than 30 years will become important customer groups in the following years.
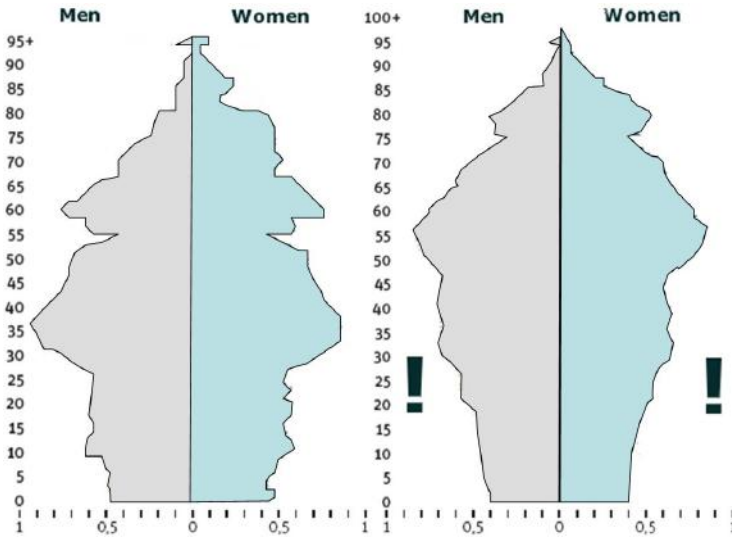
Figure 6.2: Germany's age pyramid in the years 2005 and 2020

To get a more detailed insight into the preferences of different customer groups, the Sinus Milieus will be extrapolated into the year 2020. The Sinus Milieus categorize the German population according to their social status on the one hand and their basic value orientation on the other hand. Within these groups, characteristics of the people regarding reading habits, media usage, technology affinity and lifestyle are examined.
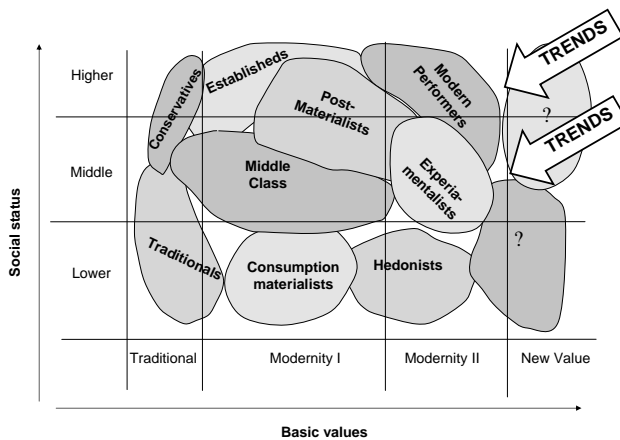
Figure 6.3: Extrapolated Sinus Milieus 2020

Up to the year 2020 a shift to modern values can be expected, former milieus like Conservatives, Traditionals, or GDR-Nostalgics will surely have a decreasing impact on the population, or even have vanished. Especially in the core age-group, these milieus can be taken out from further consideration. Moreover, new milieus probably occur at the right hand side of the value axes. Figure 6.3 shows, how the separation of the German population into the Sinus Milieus might look in 2020.

Innovative products which require new technologies and reshape traditional user habits usually enter the society top right on the Milieu chart. Hence, the groups of Modern Performers and Experimentalists are expected to be the most relevant customer groups for the VIB. Later on, the group of Post-Materialists, Hedonists and the Middle Class could be attracted by the VIB.

Using the results of scientific surveys and the research work done during the Basic Report some facts about the genre preferences of the target groups can be mentioned.

The group of Modern Performers is very keen to stay up-to-date with modern media systems and technology in general. They read quite a lot and are interested in almost all genres. Today, the average age in this group is about 30 years. Because of a continuous flow of young people who join and elder people that leave this group, the fraction of people between 20 and 30 years in this milieu is expected to be very relevant in 2020. So this group will certainly be a proper target group to establish the VIB in the book and media market.

The group of Experimentalists is also interested in books and new technologies. But concerning book genres, they rather prefer special authors and literature in smaller editions. Although they might not be attracted by mainstream literature, they will like the features of the VIB as they will have access to information about author and setting and get a deeper insight into the world behind the book.

Later on, establishing the VIB within the Middle Class will be one of the most important strategic goals. Even though, the share of the Middle Class in the German population will slightly decrease from today's 15.8%, this milieu will remain the biggest and most important one for the media market. Books for this group should be exciting and easy to read as most bestsellers are. Multimedia applications support the demand for entertainment, which is more important than sophisticated literature. The preference for criminal stories and fantasy novels is very suitable to the core genres of the VIB. It might take some more time for a sufficient penetration of the required technology within this milieu. But actually, the Middle Class is already today core target group for publishing houses[Has06] and with a shift into the media market even more important.

6.5.2 Market segmentation

6.5.2.1 Prospects of the book market

In 2005, Germany's book market had a total revenue of EUR 8.47 billions. For the upcoming years a moderate growth rate of 1.3% per year is expected. [MM05] Obviously, it is difficult to forecast the situation of the book market in 2020. Nevertheless, some assumptions for the target group of people between 20 and 30 years can be made. In the last six years the average reading time rose by 13% in the group of teenagers. [SMG05] This promises an increasing demand for books in 2020 within the core target group. Although the growth rate of the whole book market is rather low, the increase in the segment of fiction literature - which is the segment of VIB's market entry - is almost twice as much. Furthermore, there is a significant push in the sector of audio books, with growing rates up to 15%. Similar tendencies are expected for the e-book market. It is assumed, that in 2020 the number of book titles sold in electronic form almost equals the number of paper books. [Gre01]

By distributing the content in electronic form it will be possible to spread the offer. Without the huge amount of additional costs for printing which require a large number of purchasers, special interests can be served easily.

6.5.2.2 Prospects of the media market

The VIB is not comparable to a traditional book. Reading the VIB means experience a multimedia spectacle which influences all senses. Therefore, taking a look on the book market 2020 is not sufficient to describe the relevant market for the VIB. Instead, probably all media providers will be in competition with the publisher of the VIB in a certain way. A closer look on the media market 2020 is essential:

The German market for entertainment and media had a total revenue of EUR 57.1 billions in 2005. Until 2009 the market is expected to expand with an average growth rate of 4.1% up to EUR 67.7 billions. [MM05] For further extrapolation into the year 2020, there are two opposed trends which should be taken into consideration. On the one hand, the increasing demand for information and entertainment won't stop until 2020, but on the other hand, the core target group of people between 20 and 30 years will decrease due to demographic tendencies. Summing up, the media market probably increases continuously until 2020 but possibly with a lower growth rate.

Within the media market there are distinct varieties between the development of different media segments. The Internet, video games and music (distributed via the Internet) will prosper significantly, while TV/radio, books and magazines might stagnate until 2020.

6.5.2.3 Conclusion of market's development

The market for printed books will still have a distinct share in the media market 2020. Nevertheless, the growing rates for e-books and the rest of the media market will outperform the classical book market and therefore, publishers have to adapt

their offers by providing a product which appeals the whole media market. Hence, offering the VIB as a bundle of different media sources certainly attracts the relevant user groups in 2020. VIB actually fulfills the customers' wishes for media entertainment and preserves the haptic feeling of reading a book at the same time. This way, the sideward movement of the book market can be compensated by profiting from the positive development of the media market in other segments.

6.5.3 Competition

As mentioned before, the relevant market for the VIB is rather the whole media market than just the book market itself.

Summing up, there will be more competitors for a traditional publishing house in 2020. This is just the result of entering a wider market and acquiring new customers. Concerning traditional book readers the competition will be nearly the same as today among the publishing houses and probably some discount offers. But in 2020 with the launch of the VIB, new customers, especially people that are rather interested in other media like videos or computer games could be attracted. Therefore, all other media providers have to be considered as competitors in the market of the VIB. In addition, all kinds of user generated content - even though this could also be used as value added service for the VIB - could probably cannibalize the classical sender-recipient structure of media. Therefore, a publishing house as content provider has to compete with content that is created by former users themselves.
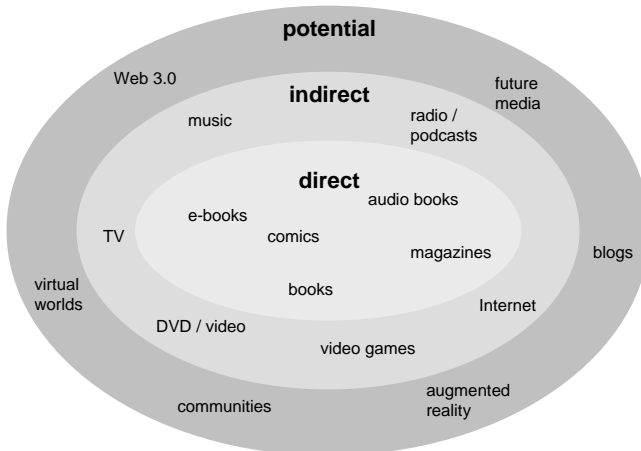
Figure 6.4: Competitors analysis

To illustrate the analysis of competitors in 2020, one has to differentiate between direct, indirect and potential competitors regarding the media output. Direct com-

petition will be between providers of books in all kinds. Additionally, there is an indirect competition with all other classical media providers and furthermore potential competitors may occur in the course of user-generated content.

Another aspect of the market 2020 is the competition about the time budget. Today, the target age-group use different media on average 464 minutes per day (Note: parallel use of different media, e.g. radio and newspaper, is counted twice in this statistic).[SMG05] The development of the past years shows an increasing media usage in all segments. However, this trend is limited and so a severe competition between the media segments about the time budget in 2020 could be expected. Nevertheless, the VIB will take a strong position within the competition about the time budget for two reasons. On the one hand, there is a distinct trend to the parallel use of different types of media and offering the VIB as a multimedia bundle certainly satisfies the customer's preference. On the other hand, the growth rate of different types of media varies a lot, so only a well-balanced product will be successful in 2020. As the involved media devices during the use of the VIB completely depend on the user's liking, all media preferences could be served.

The competition about the media market will be tough, but the competitive advantage of a publishing house is the high quality content. The huge number of contracts with authors certainly fosters the position as best content provider within the media market. Offering the most challenging stories integrated in a media bundling a publishing house can easily compete with the rest of the media market - on condition that the are flexible enough to acquire some technical know-how and strong partners.

6.6   Business Model

In the following section, the Business Model of VIB publishers in 2020 will be described via different variables.

The publishers in 2020 follow a platform strategy. This means, that not only end customer are the main customer group in the focus of the publishers. Partner companies out of the different areas, described in chapter 6.6.4, also generate revenues and even higher margins for publishers. If a customer uses especially the offered VAS integrated in the VIB, the publisher's partner companies providing this service will make a reimbursement to the publisher. This is why a new customer segmentation in users and business partners makes sense. The revenue division will shift to a two column structure.

6.6.1   Value chain

Despite the still existing possibility of buying a physical book through the classical distribution channels such as book shops or Internet shops, the value chain for book publishers in 2020 will have dramatically changed.

In the following graphic, the classic value chain is shown in comparison with the one in 2020

Classical Value Chain

| Author | Publisher | Retail | Customer |

Value Chain 2020

| Author | Publisher | Retail | Customer |
| Partner |
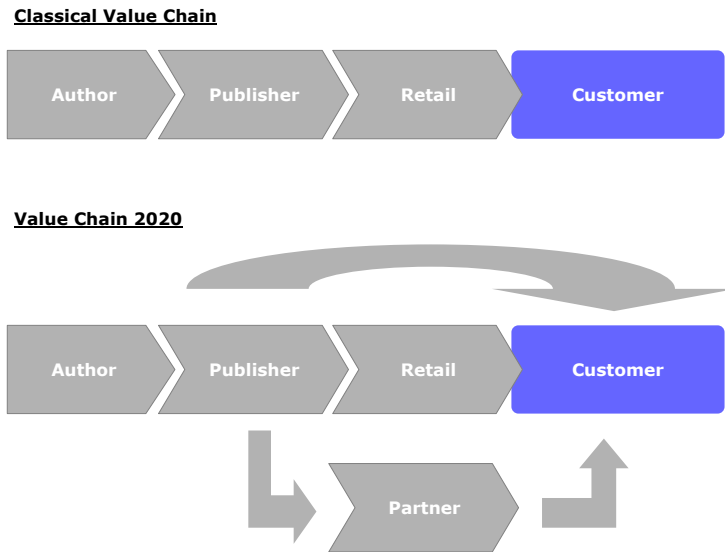
Figure 6.5: value chains

The new value chain shows new distribution channels for publishers. They can provide their product or content direct to the end customer or distribute it through partners. There are especially two changes on the content creation side, that have to be mentioned here, because they will reshape publishing, but do not harm the product or service ideas of a VIB. The first is media convergence [PRW03] which will generate new competitors on the content side. This will be e.g. film producers or game producers, because the work both with screenwriters. Those stories can be the basis for publishing in other media channels and formats. The second essential change is, that more and more user generated content will occur [LS06] and this again creates more competition and new utilization methods and formats will gain more importance. [BVN+]

Through digitalisation single distribution channels lose importance, due to the bigger variety of distribution channels which is provided to the customer. In contrast content and content creation gain more importance for publishers. Publisher in 2020 move clearly in the direction of not only providing content, but also to administrate the exploitation of content, together with their authors. This is especially crucial for user generated content. The publisher can provide a new platform for content utilization and partners by introducing the VIB.

As there are much more cooperation partners needed to provide the costumer with the full service of a VIB, long term relationships with partners from different industries are essential for the success of a publisher in 2020.

6.6.2   Packages and customer segmentation

An important question in 2020 will be, which content will be included, when customers buy a VIB. Through different packages and correlated content deepness a differentiation not only in prices, but also in customer segments and even user groups can be achieved. Therefore publishers will provide different packages to their customers. This is also done by services and value added services. For the VIB services are e.g. a short information about a historic buildings, included directly beforehand from the publisher. In comparison VAS are non core services [gab04] provided by partners, which distinguishes e.g. the community function from a normal service. In general the VIB can be sold with or without a reading device.

In the basic package only the classical written text is included. This is effectively nearly the same as a normal e-book, despite the eye tracking function (see chapter 6.4.1). A more integrated package includes already a variety of links, where additional information can be found. Also audio functions, such as contextual fitting music, are part of this package. In the full package also fragrances are included and additional to links and audio, also light adjustments and virtual worlds (see chapter 6.3.3 - 6.3.5) are part of the functionality. This is endorsed by further services and value added services operated by partners. These allow an integrated direct put through to communities concerning the book, the special chapter, theme, place or whatever. Also value added services such as directly linked travel services to e.g. the site of the crime are possible in this package. So the full package provides the complete functionality of the VIB. As mentioned above, through this content and functionality graduation a differentiation in prices and customer segments is quite easy and opens new possibilities for publisher concerning their sales strategy. These graduations make it feasible for publishers to meet the very unequal needs of diverse customer segments.

6.6.3   Sales strategy

New sales possibilities rise through the usage of VIBs. One example, known from short stories in newspapers, could be that publishers provide their customers a book in parts as long as the customer wishes. This is especially attracting when considering the possibility of content influenced and developed further on by the readers (see chapter 6.3.4).

Basically, the purchase of a book or a VIB can be done in different forms. Apart from the traditionally known purchase in a book store, which is also possible for a VIB (via download or stick), VIBs can be purchased in the Internet and immediately downloaded to the reading device. In 2020 this can surely be done wireless, wherever the customers are in the moment of purchase. Beside the differentiation

by content, prices and purchase formalities different sales forms provide another distinction. The classical single buy is the simplest form. Set up around this are concepts, which are based on customer interest information. An example for this would be a genre subscription, where the customer is provided with one e.g. crime book per month. As there might not be enough books from the customer's favourite author, the publisher would suggest a book. These reference system works with the recommendations of other readers, benchmarking, a rating based on the customers interest and books read before. The system is quite similar to today's recommendation systems of Amazon [AEK00][SKR99] or last fm [LD06][KHN05]. In combination with the possibility to provide only sections of a book (mentioned above), the customer can reject a book from his subscription and directly get another suggestion. Through this method the customer's satisfaction will rise, as it can be seen today with e.g. radio streaming.[SACH06] Also the publisher's revenues will increase, due to a higher sales number (selling parts to higher margins), because of the subscriptions and the fact that customers do not have to search for a book fitting their taste.

Another sales form will be the sequel, bounded to an author, a publisher, a certain hero or series. In 2020 the customer will automatically not only be informed about a book, but it will be automatically distributed to him at the date of publication.

6.6.4 Revenue generators

In 2020 one of the VIB's most important revenue generators still will be pure content (text) selling. But additionally to that VIBs offer the chance to generate more revenues and profits. Publishers will provide some basic additional services to the reader (see chapter 6.3.3), such as audio or fragrance support. For these services the customer has to pay additionally. The service sector has higher margins than the classical book sector (compare higher prices of audio books, e-books today). As some of the provided information will repeat through the different books , e.g. basic information about scenes as New York, also economies of scale and scope can be realised.

Another revenue source for publishers in 2020 will be a big variety of value added services offered with the VIB. These VAS are mostly provided by partners of the publisher, who have to remit back payments. Through this, publisher in 2020 have the possibility to generate more profits via a portfolio strategy [BH05] for the different revenue sources to optimize margins and therefore ensure higher profits.

Selling rights will play a quite important role in the future for publishers. Especially for the profits, as selling rights nearly generates 100 % pure profits, apart from transaction costs. To realize this big potential, it is important, that publishers cooperate stronger with their content providers, so that they also have e.g. the rights for merchandising articles and additional media types (films, games, ...). As postulated in the paragraph above, publisher move more in the direction of a content exploiter. For user generated content this plays an important role, as it generates a win win situation between the non professional author and the publisher. Without a clear focus on the exploitation of user generated content to a small degree in the book market,

but to a high degree in magazine and Internet market, publishers in 2020 will not have the chance for profitable growth.

Another new revenue stream publisher could not access so far in the book genre, comes from advertising in the VIB. Ads play the most important role (ca. 40% for newspapers in Germany)[Sch06b] in financing the classical media (magazines, etc.)[Sch06a] and also in the business models of the new media, which can be strikingly shown by google's revenues consisting of 99% (2006) advertising incomes. [Dom07] The business model behind the advertising revenues is called pay per click.[Tim98] The payment is falling due, when the customer clicks on the ad link. Hence in the VIB ads come to use from the second layer on. This means, that the links shown in the VIB can be sponsored and (or) there can be additional ads (labeled). Accordingly the publisher gets back payments, if the user clicks on one of the offered continuative websites.

There are two good reasons to integrate ads not in the main text. Seen from a customers perspective, the normal book reader does not want to be disturbed by ads and is used to a completely ad free medium. The second reason is seen from a business point of view. By clicking on a link, the reader shows concrete interest in an issue. Thus a natural selection takes place and advertising companies get interested customers. Recapitulating the second layer as starting point for advertisement makes sense for both sides.

Summarizing it can be said, that the publishers in 2020 have three main revenue sources integrated in the VIB - content selling, VAS and ads. These streams come from two segments, end- and business customers.

6.6.5   Distribution Channels

VIBs will change the classical value chain (see in 6.6.1) dramatically. Still a normal book can be bought at a book shop. Also a VIB can be bought there, either through download or on a stick. But most of the VIBs will be sold through the Internet channel. Publishers will provide a service somehow similar to the i-tunes shop for VIB downloading. As wireless access is worldwide available, customers can purchase it directly from the publisher, whenever and wherever they want to. Another new distribution channel will be the possibility for publishers in 2020 to use an effect, that they could not use before, due to unity of content and device. This separation effect allows publishers to sell their products as complementary extras for reading devices, mobiles, and even intelligent home equipment. A distribution channel, that is opening up just at the moment, is the selling of products in virtual worlds or games and communities (e.g. second life, facebook, world of warcraft, etc.). This will be a very important distribution channel for VIBs, especially under the assumption of a growing importance of user generated content.[BVN+][Cra06] The clear segmentation that is possible by using communities as distribution channel, allows publishers a more interest focused selling.

6.6.6 Partner

A crucial part of the new Business Model for publisher will be the partnering with many companies from different branches. A matrix, showing a segmentation and these groups, which differentiates between different stages of value creation, can be found below.

A categorization can be done be the following division:

product partners	content partners	service partners	technical partners
intelligent homes	wikipedia	travel agencies	server providers
reading device producers	countries	community platforms	visual-, audio, smell-, colour- or sound specialists
fragrances manufacturers	states, cities	online games	game developers
entertainment device producers	tourist informations	fan article shops	internet providers

Figure 6.6: partner categories

The product partners are the provider of the equipment the customers need for their usage of the VIB. In this area sales and R & D partnerships are useful. The content partners provide content for the services or information, which the VIB offers the customer on different layers. The service partners are companies, who offer their products as value added services on the VIB platform. These two partners transfer back payments to the publishers and have mostly sales partnerships and content utilization contracts with the publishers in 2020. The technical partners sell their products or services to the publisher to enable VIB. Publishers are their customers and there are some R & D partnerships for new VIBs or modules. Due to the technological complexity, the different contents (text, audio, video, etc.) and the big variety of services provided with the VIB, a business model without many partners in different fields would not work.

6.7 Risk analysis

This section gives an overview about possible threats for the VIB concept.

To give a first impression of the big variety of risks that can occur, e.g. one has to consider the area of conflict for the VIB between a game and a printed book, which is nearly totally integrated in the VIB concept. Hence a categorization makes sense to give a clear picture, although not every single risk can be mentioned. This is why only the main risks are considered further on. The risks for publishers and the VIB till 2020 can be categorized in four main areas: technology risks, content risks, acceptance risks and substitute risks.

6.7.1 Technology risks

These risks bear on the technological development until 2020. Depending on the market penetration of a technology, standardization levels and fit to the VIB, the possibility of a VIB increases. These are the most important issues, that should be fulfilled from the technology side:

- intelligent homes should have reached a high penetration

- special methods (e.g. authentication, etc.) are developed

- convergence between different media and devices works

- compatibility (formats) is guaranteed through universally accepted standards

- handling VIB - uniform control is possible (see chapter 6.4.3.3)

6.7.2 Content risks

These risks rely on the development in the area of content creation. The check on content and the disposability are the key success factors in this field. These are the most relevant issues, that should be fulfilled from the content side:

- copyright issues, Digital rights management is working

- user generated content is mostly disposed by publishers

- other content players (films, games) do not gain much more importance through a reverse of the exploitation chain (becoming story content providers)

6.7.3 Acceptance risks

These risks are due to the acceptance of technology and correlated devices in society. Customer acceptance of the techniques used in the VIB and the usability are the decisive elements. These are the most significant issues, that should be fulfilled from the acceptance side:

- e-book, audio book and virtual reality games penetration rates are high

- strong intelligent home penetration rates

- habituation to use multi-device controls is grand (usability is high because of easy handling)

- all these factors must be affordable for the customer (price)

6.7.4 Substitute risks

These risks are based upon the development of substitute products for the VIB. To meet customers needs and the usability are the determining criterions. These are the most crucial issues, that should be fulfilled from the substitute side:

- correlated with all the factors named above there should not be a product that meets better customers needs in the book market (including e-books, audio books or similar VIB concepts)

- other product categories such as virtual and interactive role games or role films do not reach very high market penetration

- time and media budget of the people do not shrink in the areas relevant for the VIB

Overall the number of customers is the most essential figure for the success of the VIB due to high development cost and high first copy costs for the production of the first unique unit.

6.8 Conclusion

Taking actual products into account, some of the described technologies are already in use. Some more are in the development stage. Surely considering the fact, that there are many risks (chapter 6.7), which could prevent the needed technology penetration, there is a strong reasoning towards a success of the VIB. This is mainly based on customer behaviour trends, such as the increasing share of the media budget, taken by online games, virtual worlds, communities and other interactive media. Also the growing market for audio and e-books indicates in the same direction. Additionally, the technical and content convergence trend above all media segments is also an important trend supporting the idea of the VIB. Through the compulsory increased partnering between all players in the media market, the VIB offers a good basis for such interaction. As mentioned in chapter 6.5.1 especially our target group of 20-30 years old ones are a good market entry customer group to start with. Addressing people from the fitting Sinus Milieus with fiction literature will ensure high revenues for the publishers. These revenues simultaneously guarantee higher profits for the publishers in 2020, due to the higher margins in the new revenue sources - VAS and ads - as described in the business model.

The authors of this trend report believe, that the Virtual Interactive Book will not only be a new sort of book, but a completely new medium. The VIB allows the user to dive into a story (always the base for nearly every media entertainment product) and being an active part of it. In combination with the big variety of nuances VIBs are offered to the customer, the VIB is a multi channel product, which does not lock the customer to a certain world or community as e.g. online games do. The complete

freedom of choice regarding the involved media the user obtains is a crucial success factor for the VIB in a 2020 world oversaturated with stimuli.

Therefore it is not a stand alone product, but the entrance medium for a big part of the media consumption in 2020.

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Chapter 7

The Health Guidebook for Women in 2020

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7.1 Executive Summary

The Health Guidebook for Women of 2020 consists of centrally stored content, which does not depend on a specific visualization device for its use. Furthermore, the high quality of this content is one of the most important keys to success, as the guidebook's overall acceptance among the target group will be determined by the trust the readers will develop to the information presented within it. Therefore, a close network of specialists who will be responsible for the content of the guidebook, and customer relationship management will play an important role. In addition to this, people will tend to gather more information about health relevant aspects by themselves before directly consulting a doctor or health professional.

Due to relatively low start-up costs for online platforms, a vertical integration of the retail business to the tasks of the publishers seems very likely. One of the biggest threats for the Health Guidebook will be free accessible user generated content.

7.2   Introduction

Health, besides of being "a state of complete physical, mental and social well-being" [WHO46] has become a life-style of its own in recent decades. In industrialized nations, life-expectancy and the population's demand for high-quality health-care are constantly increasing. Moreover, people are asking for more and more health-related information as they are willing to take an active role concerning their health-care [ROJ06]. Books and magazines are still the most used source to access health-related information [Gon99], but with the technology development of the next years, an improved multimedia access to this content seems at hand. The Health Guidebook for Women of 2020 will address this growing demand for high quality and trustworthy information and will assist the woman of the future in leading a healthy life.

7.3   Concept

The following section will present a description of the Women's Health Guidebook of 2020.

7.3.1   Product Description

As mentioned in the Basic Report concerning Technology Push for the bookmarket, it is feasible, that in the next 10 to 15 years, overall internet access will be available. Together with this development, a convergence of book and website seems likely. Therefore the Women's Health Guidebook of 2020 will be limited to its content. Users will be able to read the book by accessing centrally stored information. By centrally storing the book, the task of keeping its content up-to-date will be eased.

The content of the Health Guidebook is based on five pillars: Nutrition, Fitness & Wellness, Partnership & Sexuality, Mental Condition and Medical Conditions. They will be described in more detail in section 7.3.2. Basic content that is relevant to women of all ages will be expanded by using the following life-stage modules: childhood, puberty, pregnancy, menopause and old age. This modularity eases marketing and distribution of the guidebook.

Moreover, the content of the guidebook will not depend on the device which is used to access and process it. This means that the information will remain the same, whether the user decides printing her book on paper in a printing terminal or reading it through an electronic device, which is constantly connected to the internet. Certainly, visualization and interacting features available to the reader will vastly depend on the accessing device. Through special interfaces, information from external input devices, like values from an eye scanner or a blood pressure monitor will then be used to customize the guidebook.

7.3.2 Composition of the Health Guidebook

Our product consists of the five pillars elaborated below. Among with the information available in each pillar come the experiences of other users which will be kept up-to-date for the use of others.

Figure 7.1: The 5 Content Pillars

7.3.2.1 Nutrition

The human body needs the right food among with the regular maintenance (exercise, lifestyle and mental attitude) to achieve its true health potential. However, eating healthy differs from eating healthy foods. The order of what we eat can be even more important than what we actually eat. The Nutrition part in our Health Guidebook is based not only on general facts, but also on the person, her case history and eating habits. It helps the users maintain a balanced diet according to their profiles and is kept up-to-date according to their needs.

7.3.2.2 Fitness & Wellness

The Fitness and Wellness part contains all the information which the users need to know about exercising and physical activities to stay healthy. The difference between this part and the information presented in the current Fitness & Wellness guidebooks is its recommendation to the user according to user's profile and training schedules. Moreover, Fitness and Wellness is closely related to the Nutrition part and they both have a mutual effect on each other. The body condition after doing physical exer-

cise can also be measured with an external medical device and the corresponding feedback can be incorporated into the guidebook.

7.3.2.3 Partnership & Sexuality

"Sex usually is a source of great pleasure, it can also be the cause of significant stress between partners"[Osb06]. Many people might wonder how their usual sex life can have a strong impact on their health. Thus, it is very necessary to have a separate part about the general information one needs to know about partnership and sexual behavior. Like other modules, the information is based on the ordinary data as well as the profile of one or both of the sexual partners.

7.3.2.4 Mental Condition

Mental diseases are very common nowadays according to the hectic modern life and will be probably even more ubiquitous in 2020. The users can use this tool to make psychiatric diagnoses, keep a private mental-condition-based diary (to document, graph and statistically analyze your week-by-week progress), and test their brain (memory, concentration, verbal fluency, orientation, and thinking speed or executive functioning). For diagnosis, standard systems like "DSM-IV" (Diagnostic and Statistical Manual, Fourth Revision, by the American Psychiatric Association)[DSM00] can be used. The reason to use standard systems like "DSM-IV" (or its identical twin, the European ICD-10 system) is that they have proven validity and reliability. Psychiatric diagnoses can be generated afterward by using some computerized diagnosis program, like decision-based program or the similar ones [myT05].

7.3.2.5 Medical Conditions

Medical Condition contains all the information about diseases and the corresponding treatment options. Again like the other parts, it saves the medical record of each user, tracks and analyzes it. The medicines taken by a sick user, or simply the condition of a user, have a direct effect on all the other parts. For example they might change the nutrition plan as well as the recommended activities for fitness or for the sexual behavior.

7.3.3 Customer Segmentation

We differentiate the target groups into five segments. We use the phases of life as the segmentation criteria and describe the particular user needs and challenges that occur. The most important challenge for all segments is that the content has to be tailored and designed for the particular class. Besides this categorization, we deliver information that is related to all ages in our core product.

7.3.3.1   Babies and Children

Girls from one to ten classify the first group, but of course we have to address their parents. It is the phase of life, where the parents mostly have a permanent fear about their children, regarding their health and the right way of education, as well. Our guidebook will be the first source of information for them, as it covers both needs. The biggest challenge regarding this group is that it is mostly only relevant for the first child of a family, as lack of experience will make information gathering through a guidebook more likely.

7.3.3.2   Teenager

With about 11 years the next phase of life for girls starts with the puberty. The target group divides into two, as our content is helpful, for girls as well as for their parents, but both groups have a different motivation. The parents want support for the education, while the girls want to understand the current changes of their bodies. The difficulty is, that the content and the design should in both cases be tailored to the different user needs and to be authentic for them.

7.3.3.3   Pregnancy

Women are hypersensitive in the phase of pregnancy. Besides the medical guidance through the childbearing period, it is also very important to cover the social factors with the content, like their new role in the family and society. The exchange with others is very important in this segment. The challenge is the reader's high level of insecurity that leads to a high demand of information. For our guidebook, this means that the content has to cover a very broad scope.

7.3.3.4   Women in the Menopause

Between the age of 45 and 55, women live through the climacteric period. The user's needs of this segment are the demand for medical information and social aspects during the changes in her body.

7.3.3.5   Old Age

Due to changes in the age structure, there will be much more old people in the society of 2020 [MES06]. The whole health care sector will expand over the years. The target group divides into two, the senior citizens themselves and their children and relatives. The readers have the possibility to get information about the needs of old people and are able buy the particular health care products.

7.3.4 Content Creation

In the Health Guidebook for Women of 2020, highly customized and interactive content will be available to the reader. Information by skilled professionals, such as doctors and psychologists, will certainly be enhanced by users, who will be able to provide their first-hand experience about a specific topic. The following section will describe how these two different sources will provide the framework for the Health Guidebook of the future.

7.3.4.1 Authors

Professional Authoring   One success-determining factor for the health guidebook of the future is the trust the users will have in the information they read. This means, that a close relationship between health professionals and publishers during the content generation process will be of extreme importance. By wisely choosing their authors, publishers will have to ensure the reader, that the information they are currently accessing is reviewed by a specialized group and of very high quality. This way, they will be able to differentiate their offer from the free information that the internet is currently making accessible to everyone. The modularity of the content will allow each professional to author and update the information of the field that he is specialized in. Thus, physicists, pharmacists, physical trainers, nutritionists and psychologists among others, will all be involved in the authoring phase and the reader will benefit from specialized, high quality reading material.

At the same time, similar as done today, a close collaboration between these professionals will be necessary, as the judgement of an interdisciplinary authoring-team will better satisfy the rather complex and specialized user needs for health related information.

User generated content   On the other hand, another very important trend that will influence the content of the Women's Health Guidebook in 2020 is the fact, that users are authoring content by themselves. Even though this information is not usually reviewed by professionals, as it is mostly based on personal experience, its importance to the women reader cannot be underestimated. The health guidebook of the future will have to provide a space where readers can post their own recommendations and benefit from the experience of other women. Many health-related web-pages already offer forums allowing users to post and retrieve information about specific health topics. As mentioned in 7.3.7.5 similar platforms, where the users gain access to material on alternative treatment options and unknown side-effects and where at the same time a community of people with similar interests and worries is built, will definitely enhance the content of the guidebook of 2020.

As this user generated content will be easily accessible along with the professionally reviewed content, the publishers will need to clearly differentiate between professionally-reviewed, professional input and content based on user-experience.

7.3.4.2 Customizing content

As mentioned in the report "Value Added Services in the bookmarket of 2020", content customization will play a major role in the future years. It allows for very interesting and useful developments for the reader. Electronic Health Records described in section 7.3.4.3, besides of having some basic information about the user such as gender, age and address, will also include complete information about a person's medical history. With this information and the technology developments in the next years, women will be able to access health-relevant content that is totally customized to their specific needs and environment. The following examples give an idea of content personalization for the Health Guidebook.

Considering the aspect of Fitness and Wellness, the woman of 2020 will have access to a work-out plan that is not only perfectly matched to her age and weight, but also to her current diet and her medical conditions.

Customization can even go further, as a person who likes to go running and is currently on a business trip or vacationing in a foreign city, will be delivered with a map of a running trail that suits this person's ability and schedule.

Furthermore, by having access to a woman's health history through Electronic Health Records, the guidebook will present information that is relevant to the specific condition the person is now in. During pregnancy, for example, a woman will be provided with medical content, sport plans and diet plans that are matched to her current pregnancy stage and to her previous medical history. Known facts, such as previous pregnancies, preconception methods used, allergies and chronic diseases among others, will help in determining the relevant information for each individual case.

Certainly, content customization and personalization in a health guidebook requires high interactivity between authors and readers. Many innovative interaction methods, already described in the report "Value Added Services for the bookmarket of 2020" will certainly ease communication between authors and readers, thus enhancing the content delivered through the guidebook.

7.3.4.3 Supporting Technologies

Besides of the various technological developments already mentioned in the report "Technology as driver for product and service innovations", Electronic Health Records (EHR) is one technology that will certainly shape the content generating process for health guidebooks in the future. An EHR can be seen as a repository, where provider-independent medical information is stored in an electronic format. It can be shared among stakeholders and follows the patient through various modalities of care from different providers [Tho06].

Many companies are already investing considerable amounts of money to set up EHR platforms for their employees. These will not only benefit from more accurate diagnosis and treatments, but also from lower health care costs, as medical errors can be minimized this way and double testing can be avoided [Hav06].

Besides of providing the basic medical history of a patient, it is very likely, that in the future, the information contained in this record will be expanded. Different health values such as bodyweight, blood pressure, pulse rate and cholesterol levels that where obtained through self-diagnosis, can be automatically uploaded to the EHR, thus allowing a reliable image of a person's actual health condition. Nevertheless, some legal issues, especially regarding information disclosure and medical ID thefts, remain to be solved before this technology can be thoroughly and successfully implemented.

7.3.5   Accessing and Filtering the relevant Content

Because of the vast information available in our Health Guidebook, efficient search and user input methods have to be implemented. These methods are listed below.

7.3.5.1   Access according to Age and Life Stage

Users can access the content according to their age and life stage, which is differentiated in children, puberty, pregnancy, menopause and old age. This information will be given first to the system and all the information asked by the user will be filtered according to these facts afterwards.
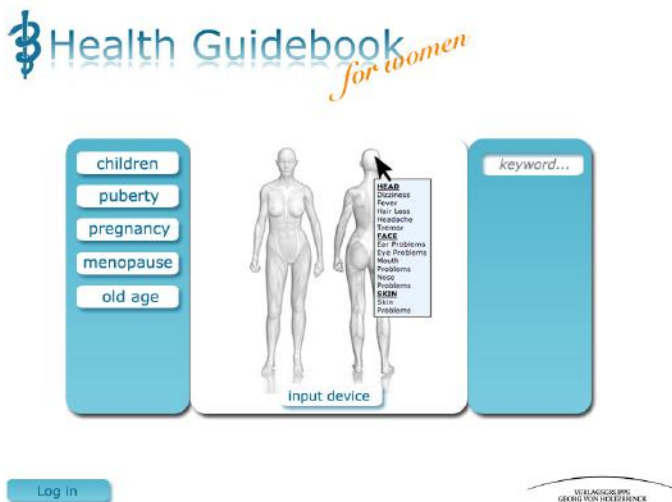

Figure 7.2: Starting page of the Health Guidebook for Women showing the different access options

The information about age and life stage can also be kept in the user profile, so that they don't have to enter it every time they are using the system. For example

as soon as a woman enters the time of her pregnancy in her profile, not only all the information she requires will be filtered according to her condition, but it will also change her nutrition plan and recommended fitness activities and taken medicine automatically as time goes on.

7.3.5.2 Self Diagnosis

In this case, we consider that a user has some problems like feeling pain in some part of her body and wants to get the relevant information and treatment. Subsequently, she should submit the important information about her body condition like the location of pain, blood pressure, body temperature and other considerable data to get the relevant content.

The entry of body condition can be eased with some additional tools. For example, the location of pain can be given by clicking on the matching location on a body image. Moreover, there can be additional plug-in devices for doing a pre-diagnosis at home, like devices for measuring blood pressure, scanning the eyes, taking picture of the tongue and even taking blood or urine sample.

7.3.5.3 Detail Search

Searching for content can also be done by keyword-search or an alphabetical categorization of the content. Keyword-Search will be a searching feature similar to what is provided by search-engines nowadays. Another option is to provide the user with an A-Z of diseases and important terms according to the pillar they are currently accessing. This will be like a currently existing normal or advanced search of some content.

7.3.5.4 Supporting Technology

The supporting technologies are in fact the devices, which are used to determine body specific values. There are two possibilities of getting the data from these devices. The information can either be transferred to the system by attaching the corresponding input device to the system or it can simply be read by an input port. Considering the second way, the users don't have to buy the required scanning or sampling device. Some technologies for this purpose are mentioned below.

Ultrasonic Device   Ultrasonic devices have progressively become an indispensable obstetric tool and play an important role in the care of every pregnant woman. There has been a lot of progress in ultrasonic tools recently. 3-D ultrasound, which can furnish us with a 3 dimensional image of what we are scanning by using computer controls, is quickly moving out of the research and development stages and is now widely employed in a clinical setting.

More recently, 4-D or dynamic 3-D scanners are in the market and the attraction of being able to look at the face and movements of your baby before birth was also

enthusiastically reported in parenting and health magazines.[Woo05] These devices among with the system can give the firsthand medical condition of pregnant women and their fetus.

Blood and Urine Analysis   Currently, blood analysis is a costly and labor-intensive task. However, this will not last very long because of the new sampling technologies which are on the way. For example a team of researchers from Caltech (California Institute of Technology) have developed a micro-sized laboratory capable of analyzing minute blood samples to determine the exact levels of red and white blood cells as well as other blood components.

Future development of the device might lead to cheap, micro-sized, automatic blood analyzers that could rapidly perform DNA and even cancer tests, as well as use in neonatal units. This information is of great importance for the diagnosis process of all the users.

It might also be interesting to know that a new device with a semi-permeable membrane that fits into a catheter allows blood analysis without the need to take samples [blo06].

Eye and voice Scan   A helmet-like apparatus with small screens in front of the eyes, each giving a slightly different view so as to mimic stereoscopic vision, can be used to analyze the eyes. Moreover, a voice scan tool can be used to notice voice problem via comparing it with the normal voice of the user.

Other Measuring Tools

Other tools for audiometry or analyzing the body values like verifying skin or tongue condition via image recognition can also be added to the system to improve its measuring capability.

7.3.6   Presentation of the Core Content

The core content consists of the general description, the treatment possibilities and the experience of other users. The information can be displayed by using any reading device like an e-book reader or a simple PC. They can also be printed out as a hard-copy, following the Print on Demand model. The desired information can be enhanced with related image, audio or video. It is also possible to have extra an apparatus to have a 3d visualization of some information, for example a 3d image of some injured body part.

7.3.6.1   General Description

The content will first be shown with a general description, followed by some links to view more detailed information.

Figure 7.3: Visualizing the Results

7.3.6.2 Treatment Possibilities

Among with all the problems come usual and alternative treatments, which are customized to the user's specific needs and are filtered according to the user medical record and profile. The newest developments of medical research will be available in combination with a customized newsletter and the experiences of other users.

7.3.6.3 Visualization

Nowadays the content of e-books can be displayed by using the screen of an e-book reader or a PC. In the future, however, it might be viable to visualize 3d images with normal screens or as hologram images. 3d projections of some activities like the demonstration of an operation to anticipate fears can be very useful for the readers. By using extra devices, it will also be possible to have a virtual 3d mirror image of the body of the users to give them a better view about their diseases and the corresponding treatments.

7.3.6.4 Supporting Technology

Visualization Devices   Visualization technologies have emerged as a powerful tool in the evaluation of the data or content to be more specific in our case. By recreating an object in virtual space, we can much better see how it will work inside. New hologram technologies can produce some of the most accurate and realistic 3D images ever made, making them potentially useful for many applications involving medical

treatments. Some holograms are computer-generated views produced from 2D digital images. This will be very useful to show the 3D model of some images by taking several pictures from different angles. A model of the body of a patient can be a very good example. [Hol06]

A new flat-screen projection 3-D display, for example, can be used to create photo realistic imagery floating in front of the monitor. This can result in hologram-like medical diagnoses or 3-D operation room projection technologies.[3D-05]

Head mounted devices are a good tool to have a 3D vision of some information or operation as well. These can be used to give detailed and visualized information about a disease, its effects on some parts of the body or the simulation of an operation.

7.3.7 Value Added Services

By offering additional services around the core product, value added services increase its intrinsic value [MD01]. A women's health guidebook allows for the incorporation of a wide variety of services which are not easy to compare to each other. In order to achieve comparability between them, all the value added services mentioned in this section were evaluated and described using the analysis scheme defined below.

7.3.7.1 Analysis Scheme

At the beginning of each subsection, the idea and concept behind each value added service will be described. After this introduction, a qualitative analysis of how much it costs to set up this service and the requirements for special skills and technologies will be presented. Following that, the actual added value implied by using a particular service shall be discussed. A description of the unique selling proposition, meaning the specific and differentiating benefit associated with the value added service will follow. Finally, the role of the publisher and his importance in delivering this service to the users shall be presented along with possible pricing strategies.

7.3.7.2 Ask a Specialist

"Ask a Specialist" is a service that already has been implemented in some health related web pages like mayoclinic.com. Here, readers have the option of browsing through an extensive Q&A database sorted by specialty or submitting specific questions that haven't been answered yet. In most sites, only a selection of questions gets answered by health professionals each month and these sites abstain from diagnosing conditions, giving second opinions or evaluating treatment options through this service. Furthermore, current available internet applications are not greatly contributing to the interpersonal relationship between patients and doctors [Den01]. For the Health Guidebook of the future, "Ask a Specialist" can be developed into a system, where patients will be able to contact specialists or other health professionals

at any time. High quality video-conferences will allow appointments with your family doctor from anywhere and by transmitting the values of your pre-diagnosis from the medical devices, doctors will be able to accurately diagnose and recommend treatment options. Furthermore, this mobile and direct contact with health professionals will allow the user to directly schedule an appointment for a required face to face meeting with the physician, therefore reducing waiting times and administrative spending.

Concerning the cost aspect, most of the technologies required to offer this service are already available. Nevertheless, a fully integrated, interactive health communication platform that benefits the doctor-patient relationship remains to be set up. Furthermore, a big cost factor will be forming and maintaining a group of health professionals that will provide this service.

The value of this service is reflected by the reduced amount of time spent with finding and contacting the appropriate specialist. Moreover, this also implies lower search and travel costs.

The unique selling proposition of this service is achieved by increasing the contact between patients and physicians. In order to differentiate his offer from the competitors', the publisher and his brand will guarantee contact to high-quality health professionals. Furthermore, his role will be setting up and maintaining the communication platform.

This service allows for very different pricing models. Similar offers, that are already available through certain websites like kasamba.com or myphysician.com, rely on a fixed rate for each question posed by e-mail. This fee tends to be between EUR 10 and EUR 50 depending on the question. For direct voice or video contact a price per minute can be established. The fees range between EUR 0.5 and EUR 3 per minute depending on the specialist contacted. One of the models that seem likely considers the user paying the health professional directly, while the publisher earns a commission for each transaction.

7.3.7.3   Prophylaxes Warning

"Preventing disease is cheaper and smarter than treating it." [Lew06]. This statement by Howard Lewine, a renowned clinical instructor of medicine at Harvard Medical School, shows the importance of prophylaxis for patients and doctors. This service can be seen as an additional system that provides the women reading the Health Guidebook, updated prophylactic information relevant to her current situation. In Germany, warning systems like Real Flu by Roche already support users by providing a Flu-Report for each state. As the importance of these services grow, it is very likely, that in 2020 more accurate information about various contagious diseases will be gathered, thus making it possible for example, to inform the reader that there is a high risk of flu-infection in the street she is living in. Furthermore, these systems can be enhanced by providing travel-relevant information about diseases. So, if the reader books a trip to a tropical region with high risk of Malaria infection, the system will be able to remind her of taking the malaria prophylaxis in time.

As some early warning systems for diseases have already been implemented, the cost for setting up this service is not very high. Through the EHR, described in section 7.3.4.3 and the collaboration with institutions like the European Centre for Disease Prevention and Control, it will be possible to offer this service without incurring any large costs.

In addition of supporting the diagnosis process of health professionals, adaptive disease preventive information will reduce the risk posed by communicable diseases.

By filtering and customizing the available information for each user, the publisher will be able to provide a unique content-enhancing service, which health-aware women will appreciate. Although a fee could be charged for this service, the overall availability of this information makes it likely that it will be delivered at no additional cost to the end-user.

7.3.7.4   First Aid Service

First Aid Information could be available in the Women's Health Guidebook of 2020 as an additional module. Women will be able to quickly find instructions on delivering first aid in an emergency situation. By integrating this module with information provided by the medical diagnosis tools described in 7.3.5.4, video or audio recordings could help the reader perform the aiding task accurately, either on herself or on another person. Furthermore, by merging this service with "Ask a Specialist" described in 7.3.7.2, a health professional could immediately assist the aiding process while an ambulance is automatically contacted.

By easily providing customized instructions and interactive support through this service, the user will be able to better provide first-aid care in case of an emergency. The service itself, and the high-quality, reliable and quick information delivered through it, are the unique selling proposition in this case. The publisher's role in implementing this service is to gather the information and keep it up to date. Moreover, he has to integrate this additional content to the guidebook in order to provide an easy and quick access to it. Because of the modularity aspect of this service two pricing models seem likely: a single fee for the complete module or subscription based pricing.

7.3.7.5   Communities and Forums

Social collaboration is a feature that has shaped the use of internet based services, as can be seen with the development of Web 2.0. Moreover, the evolution of online forums and communities greatly eases the information exchange among peers [Eck05]. As has already been mentioned in section 7.3.4.1, the Women's Health Guidebook context provides an interesting environment, where the reader can benefit from the experiences and knowledge of other women. This information exchange can be implemented with online communities and forums which will enhance the content and value of the women's health guidebook of the future.

Many publishers already provide websites for their readers, in which they can freely exchange their ideas about topics treated in a certain book. Compared to the cost and the technology needed to establish other value added services, the cost of providing communities and forums for information exchange is rather low. Nevertheless, these communication platforms have to be constantly adapted to the new technologies available in order to integrate them with the visualization features described in section 7.3.6.4. For the female reader, the perceived value is that she can now benefit from the experience of many other women that suffered from a similar disease or had the same question. Rather than remaining a value added service, in the future this feature will be completely incorporated in the actual guidebook. Besides of offering this communication platform, the publisher will have to constantly adapt his platform to new visualization and communication technologies in order to create a unique selling proposition. An access-fee for highly specialized communities and forums can be considered, but in general this is a service that will remain free of charge.

7.3.7.6 Customized Guides and Plans to a Healthy Life

The idea of this service is to provide the woman with a perfect plan for a healthy life. By considering various aspects like her diet, her physical activities, her current health status, the gym she goes to and her schedule among others, a personalized guide to a healthy life could be integrated into the guidebook. For instance, these guides could provide recommendations for a pregnant woman on what food she should eat and what physical exercises are beneficial in her current pregnancy status. Automatic ingredient shopping for a diet plan and a training program that has been adapted to the gym of choice are some of the features that can be further implemented to this offer.

Certainly the cost of providing these customized plans is high, as besides of the amount of information needed, constant supervision by health professionals is required to successfully implement this service. Nevertheless, it will be a very valuable addition to the guidebook, as women will receive highly personalized plans that will not only benefit her health status but will also mean a gain of time. In this case, the unique selling proposition is the service itself. In collaboration with health professionals, publishers or an external partner will have to combine content from different sources in order to generate these customized plans. The constantly changing factors determining an up-to-date and customized plan, make subscription based pricing model for this service very likely. As a comparison, a-personaldietitian.com currently offers supervised and customized diet plans that cost around EUR 15 per month.

7.3.7.7 Cross-Selling as a Value Added Service

In addition to the information provided by the Electronic Health Records, customer relationship management will help to identify the specific reader's needs [Bux02].

These needs can then be addressed by product bundles or cross-selling. In combination with a health guidebook, various offers can be implemented; a prescription stored in the Electronic Health Record could be directed to a pharmacy of choice. At the same time, the ingredients needed for a specific menu on the diet plan could be immediately ordered and delivered to the customer via online grocery stores. Gym-memberships and fitness gear matched to the reader's demands could also be offered.

For the publisher, the cost for providing user relevant cross-selling is basically the cost of maintaining a customer relationship management database. Furthermore, this cost can then be shared among the relevant business partners. The service saves the reader time and searching effort. At the same time, the products and partnerships chosen by distributors and publishers will determine the unique selling proposition. By merging information from the CRM database and the EHR, the publisher will ensure that the products offered are relevant to the customer. As many different business partners are involved in this process, it is likely that commission based pricing will continue being relevant for cross-selling.

7.4   Market Analysis

In the following market analysis we want to describe the relevant market for our product. We start with a definition of our relevant market and a qualitative estimation of the market size, before we go over to describing the different drivers of the market in more detail.

7.4.1   Defining the Relevant Market

The book market of 2020 can be split into the two sectors Infotainment and Entertainment, as there will be a convergence between audio, e- and traditional books ([med07], [App07]). In the following section we will take a closer look at the Infotainment sector of the book market. Infotainment includes reference books and guidebooks. As our guidebook competes with both sectors, we will not break it down deeper.

7.4.2   Market Development

In 2005, the market volume for Infotainment was about 858 million EUR [Adl06]. There are several indices that the market volume will grow in the next 15 years. A main driver in the health sector, which is relevant for our product, will be the population development. The population in Germany decreases from 82.4 million people in 2005 to 80.1 million people in 2020[MES06]. At the same time there is a big shift in the age structure, as the share of people older than 60 grows from 20.5 percent in 2005 to 24.5 percent in 2020. This shows that people are getting older and the importance of health related topics increases. If we just project today's user habits to the year 2020 by taking the numbers from the infotainment sector of

2005 and multiply them with the population developments and the share of women of the population, we already come to a market volume of about 864 million EUR in 2020. Additional effects, like the shift in the patient's information habits towards print media, TV, radio and the internet [Gon99] or the willingness to pay for content in the internet [Onl07] lead to the conclusion that this growth will be boosted.

7.4.3 Market Environment

In the next subsection we describe the relevant market top-down, from a blurred macro view to a concrete description of the business environment of our product.
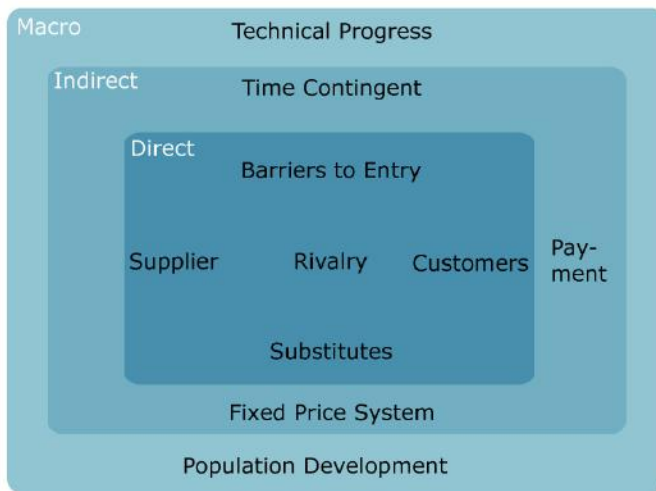
Figure 7.4: Market Environment

7.4.3.1 Macro Environment

The main driver in the macro environment of 2020 will be the technological progress. The convergence of internet, telephone, mobile devices and TV will redefine the traditional understanding of books. As a consequence, the content will be detached from its medium. In this context, the developments of XML are very important for our product. In connection with the assumption, that all mobile devices will have permanent internet access, the border between e-books and websites will blur.

The next important issue regarding the macro environment is the population development. As mentioned in 7.4.2, there will be a shift in the age structure to a bigger amount of old people. With an increased purchasing power of this target group, this will lead to large-scale changes that affect the whole society and health sector. One should not underestimate this development especially regarding their purchasing power.

7.4.3.2 Indirect Environment

In the indirect environment it is important to discuss the rare resource that everybody has to handle: time. With the mentioned convergence of media, many competitors are wooing the user's time. Even though the time spent on books today is quite constant, despite the influence of the internet, it will be a great challenge to compete with other media like the internet or TV.([for04])

Focussing more at the book market, the next important topic is the fixed price system. Especially in connection with the reduced publishing costs, it is very interesting to discuss, if the fixed price system will still exist in 2020. As this discussion goes too far, we decided to act on the assumption, that it will still exist.

If we assume that in 2020 we will deal with content and not with books anymore, we will be forced with the question of payment. Up to now, the willingness to pay for content in the internet is very low, but it develops above average. ([Onl07]) As almost all content in 2020 will be digital, the customer will be used to pay for digital content.

7.4.3.3 Direct Environment

This section describes the direct environment of our business. We discuss it, using the model of Porter's five forces as illustrated below.
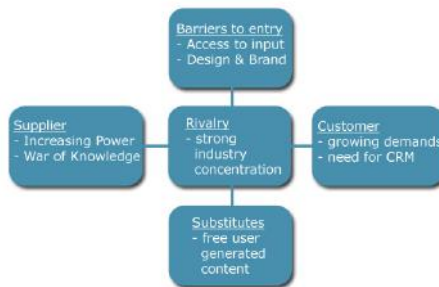
Figure 7.5: Porter's Five Forces

Barriers to Entry   In our segment, the entry barriers for new players will decrease. A part of the publisher's fixed costs vanish, when they offer their content digitally. The actual costs for printing the book will be irrelevant in 2020, as well as the capital requirements for printing machines.

The advantage of existing players is the access to input. In our case this means, that the importance of the existing network of specialists and authors will increase. It is very important to strengthen this relationship management for example through exclusive long-term contracts with medical specialists or research institutes. Through the low differentiation of content in our sector, the brand identity will be an important determinant in 2020 for the customer's buying decision. The design of the cover,

for example, influences especially but not only the older people. ([dDBe03]) Therefore it is very helpful, to have a strong and positive perceived brand to facilitate the buyer's decision. To create such a brand it is very important, to permanently deliver a high level quality. Other advantages are the existing access to distribution channels as well as the existing customer base. The publishers can use their knowledge about the customer structure for a more efficient customer relationship management.

The advantages of new players are the often flat hierarchies of new companies and their flexibility to react on market shifts in general. They can easily focus at several market niches, but it will be difficult for them to offer a guidebook in such a scope and complexity as we do.

Suppliers   In our case, the suppliers are the authors and specialists that deliver the content. With the rising importance content quality, the power of the supplier increases.([SV99]) Publishers will woo specialists much more offensively in 2020, which leads to a "war of knowledge"([Bro06]). This might not fit to the unknown authors, but especially when the reputation of a single specialist receives a level, where the name of the specialist becomes a brand itself, it will weaken the publisher's negotiation position. This effect is almost inevitable, as the sources of your content will become very important to prove its quality. To collaborate with free lancers instead, would be an idle threat too. Especially new players without a strong brand will be vulnerable regarding this pressure from the supplier's side.

Customers   The customer's needs permanently grow and needs that cause verve today will become standards tomorrow. Publishers are also forced with a growing product and price transparency through the internet, thereby the customers become more price sensitive. It will be a great challenge to price the guidebook in a moderate way. This question will be discussed in section 7.5.3. Because of these challenges it will be very important to have an efficient customer relationship marketing. Through the composition of our product, with the core content on the one hand and the different modules on the other hand, we already bind the customer to our product. When she purchases the book once, it has to be much cheaper for her to buy the upcoming updates, than a competitor's product. This way, we can reduce the switching rate and create a barrier to entry. The offered value added services, as discussed in section 7.3.7 will intensify this effect and increase the customer satisfaction.

Substitutes   There are different substitutes for every pillar of our product. In the following section we want to focus at the most reasonable ones. The biggest threat for the whole Health Guidebook for women is that it could be substituted by the internet. Many websites offer the customer relevant content for free. These websites have to be differentiated in the way the content is created, either author or user generated. In this distinction, communities and forums also count to the user generated content. Their disadvantages are the lack of reliability and protection mechanism to

ensure the quality of the content. Additionally, the user's search effort for the specific topics is very high, as only a few try to cover the whole spectrum of health and wellness. The advantage of our product is that it reduces the user's search costs as the content is filtered and well composed and all information come from one source. The nutrition pillar can also be substituted by nutritional consultings. But the costs for the consulting as well as the personal effort for the user are very high, compared to our product.

The biggest threat for the fitness and wellness pillar of our product are fitness and wellness studios, as well as personal coaches. Their advantage is the one-to-one communication with the client and the better equipment. But it is not ensured, that the employees knowledge is always state of the art.

There are also possibilities to replace our product concerning the medical condition pillar. Although we do not want to substitute the specialist's advice, our product can also be replaced by doctors in the field of providing information. The contact to the doctor will be much easier in 2020, e.g. through video conferences, so that the inhibition threshold to consult a doctor will decline.

Special substitutes for the sexual & partnership as well as for the mental condition can be all kind of consultancies, e.g. psychologists and telephone services. But the inhibition thresholds in this sectors are very high, as it starts with committing the problem to oneself. With our product they can find out more about a special problem anonymously and afterwards establish contact to a specialist.

Rivalry Focusing on the fixed costs, the exit barriers decline as well, as the production can easily be stopped. It is difficult to create a unique selling proposition for our product, if we compare it to competitors, offering the same broad scope of topics, as we do. In combination with the high effort to create our product, this leads to the conclusion, that there will be a strong industry concentration. But on the other hand, we will be faced with many niche providers, who are specialized on different topics. Nevertheless, we aim at a two-digit market share, with the right marketing strategy, a strong brand and the value added services of our product.

7.4.3.4 SWOT Analysis

In the following section we want to illustrate and sum up the results of the market analysis. Therefore we want to use a SWOT (Strength-Weaknesses-Opportunities-Threats) analysis from the view of an existing publisher.

Strengths The strengths of an existing publisher can be his good working network of authors and customers. The relations among these interest groups are an important determinant to compete with others. Another strength is the publisher's market knowledge. Traditional publishers already have a lot experience in all five pillars, as they have often published guidebooks in all of them before. They are in the comfortable position, in which they can supply both, the whole market with the complete

guidebook and the niches with topic related releases. There are several possibilities to use synergies between the guidebook and the single releases, for example concerning the updates or the creation of the content. Another competitive advantage can be the strong brand of the publishing house as a security for quality.

Weaknesses One of the main weaknesses is the high cost structure of our product. The publisher needs several specialists in every pillar, in contrast to niche providers. To ensure a long term quality, they have to sign several specialists which create current costs and dependencies.

Opportunities The most important opportunity is the market development. As described in 7.4.2, the market structure changes. These changes are always a good possibility, to reposition the own brand and to achieve new market shares. The market development also leads to planning reliability, but nevertheless the product is flexible enough to integrate short run trends as well. With our product, we can use the unfilled customer need, to have all relevant information bundled in one product. And after the basic content has once been composed, you will only have to update it afterwards.

Threats The biggest threat is the user generated content development. If a community like wikipedia achieves to be accepted as a reliable source from the view of the customer, it will become a real competitor. Another threat is the product life cycle. After having bought the guidebook once, the customer will only need updates afterwards. This is a threat, as the biggest margins are realized by purchasing the core content. The challenge will be to generate continuative demand afterwards.

Strengths	Weaknesses
Existing Network High Market Coverage Market Knowledge	High Cost Structure Dependency from Authors
Opportunities	Threats
Changing Market Structure Brand Repositioning Two-Side Market	User Generated Content Market Saturation
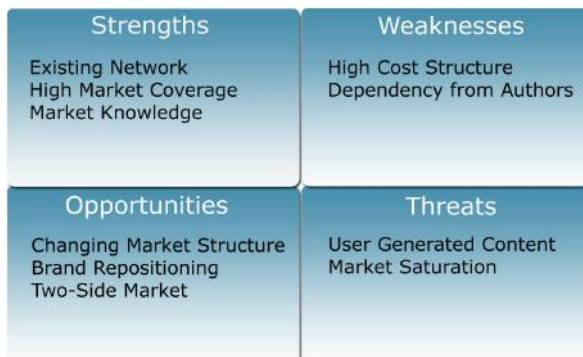
Figure 7.6: SWOT Analysis

7.4.3.5 Keys of Success

The most important factor of success will be the quality and the composition of the content. These determinants can be communicated and emphasized through effective marketing strategies. The branding and design of the content will get into the focus. But all marketing channels have to be used to succeed. Especially the importance of viral marketing will increase dramatically in the next 15 years. The user's validation of the guidebook e.g. in forums and blogs should be permanently monitored. Consequent trend research and the fast implication of trends into the product are necessary to generate additional revenues. Another important issue is the relationship management towards customers as well as suppliers like authors or specialists.

7.5 Business Model

In our business model, we receive revenues from two sides. On the one hand, the customers pay for the content and several valued added services and on the other hand we profit from business partners through advertisement or commissions from cross-sellings. In the following section we want to describe this business model.

7.5.1 Value Chain and Players

In the subsequent value chain from the publisher's view, we distinguish between Pre-Sales (delivering and preparing the content), Sales (the distribution of the content) and After-Sales (updating the content, handling b2b cooperations). The publisher's tasks are highlighted in the ellipse.
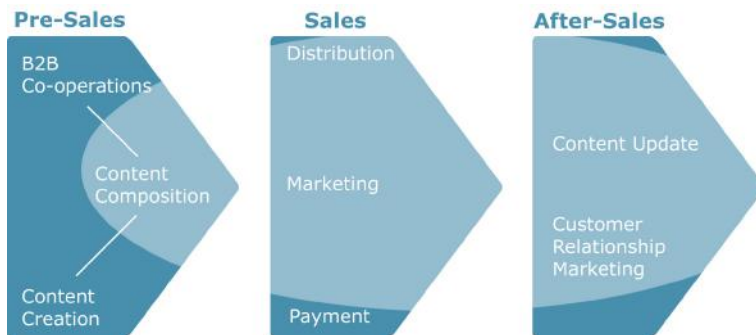
Figure 7.7: Publisher's Value Chain

7.5.1.1 Pre-Sales

The three elements of the Pre-Sales step are the content creation, the b2b cooperations and the content composition.

Content Creation　The exclusiveness and quality of the content will be the most important determinants in our business model. To ensure this, the publishing house will have long-term contracts with the best authors and specialists. The publishers need trend scouts, who pro-actively search for specialists for arising trends. A new player in this step will be agencies, who work close with the authors and specialists for the visualization of their content.

B-2-B Co-operations　Business co-operations lead to the effect, that we are acting on a double sales market and that we can offer the customer a lower price. We can differentiate them into advertisement and cross-sellings. We will offer advertisement place in our product. The advertisement can be content related and has to be well proven, not to damage our image. Therefore, the handling of the advertisements should not be outsourced. This way, the publishers concerns will be protected best. Regarding the cross-sellings partners, there will be a much higher commitment. The products can be classified into "guidebook certified products" for VIP partners and other cross selling products. The most reasonable relations are with producers of health care products and internet pharmacies.

Content Composition　The composition of the content is still the core competence of a publishing house. This step of the value chain merges the two former steps and combines them to the product. The publishers will have to expand their technological knowledge, because of the digital content and all the embedded 3D visualizations.

7.5.1.2 Sales

The three elements of Sales are Distribution, Marketing and Payment.

Distribution　The publishers can skip a step of the former value chain and become a retailer themselves. This vertical integration is reasonable, as the effort to gain the margin of the next step is very low.

Marketing　Compared to today, this step has to be expanded in 2020, due to the vertical integration of the retail business. The challenge will be, to create a convincing and authentic brand. The publisher can use the gained information about the customer for an effective marketing.

Payment   The payment process can easily be outsourced, as it does not deliver very relevant data about the customer. There are already several payment methods, that can easily be adopted.

7.5.1.3   After-sales

The after-sales consist of the Content Update and the Customer Relationship Management (CRM).

Content Update   This step will be closely connected to the content creation, as the processes inside this step are very similar. There will be a permanent scouting for new insights that replace the existing knowledge in the health guidebook. These scouts will contact the authors and specialists pro-actively, as well as doing research on their own. This needs well educated employees and should not be outsourced, as it influences the quality of the content.

Customer Relationship Management   The health guidebook already integrates forums and a user community, so that there are already direct interfaces to the customer. In connection with the gained information of the retail sales, this builds a perfect platform for CRM.

7.5.2   Product and Positioning

Our product consists of core content, which can be expanded by different modules. It is also important to point out that each package will have a specific version and the consumers usually have access to the data updated up to that specified version. This feature will be used in pricing.
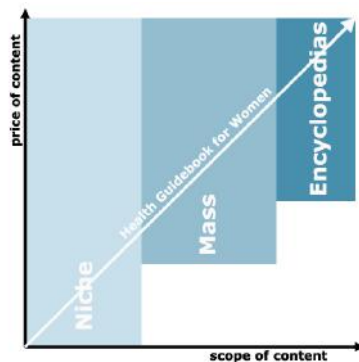
Figure 7.8: Product Positioning

The question of security will be a serious issue for our product. In order to prevent an unauthorized access to the medical information contained in the Health Guidebook securing the content will play an important role. As elaborated in the technology push part of the Basic Reports, securing the content would be viable in 2020 by using the right coming technologies.

There are two dimensions in positioning this product: price and scope of the content. The publisher can supply products with different designs in all segments through different compositions of the core content and the modules.

7.5.3 Pricing

About pricing there is an overall decision which should be made by the customer and that is whether she wants to access the information with or without advertisement. This would influence all the possible pricing models that will be mentioned later in this section.

There are three main pricing models considered for this product: flat fee in combination with a time restriction, regular purchasing and pay per usage. For all the possible models, the core content is separated from the modules. Thus, all the pricing models actually apply to the core content and for each extra module the price will increase according to the size of the module or its importance. Moreover, users can change their already bought modules by only paying a transfer fee which is much less compared to the module itself. For example, supposing that a user has bought the puberty-related content, it will be then much cheaper to change it to pregnancy-related content, compared with the other users who want to buy that content for the first time.
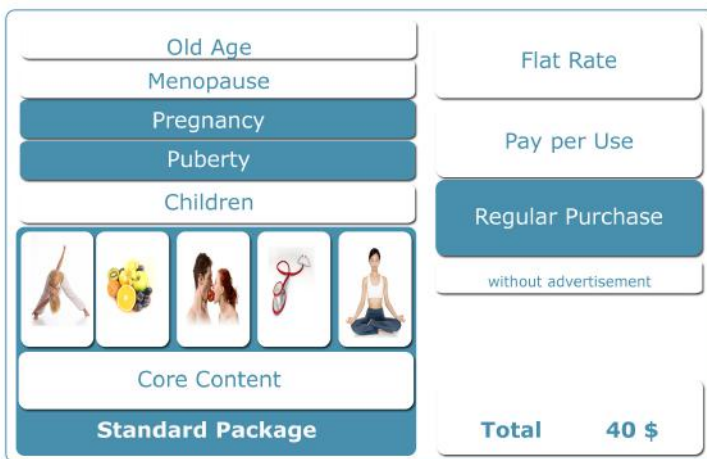
Figure 7.9: Pricing Model

7.5.3.1 Flat fee

One model for offering the product to the users is defining a flat fee for the core content and additional modules on demand. The usage of the content underlies a time restriction. For some people who want to have access to the health guidebook for a short time, e.g. when they are pregnant, this would be a fair offer.

7.5.3.2 Regular purchasing

Regular purchasing is comparable to buying an encyclopedia. The user buys the whole product and there will be no time restriction. This model is quite expensive and is suitable for the premium customers. The only thing which makes the users willing to pay some fee every now and then after purchasing the product is to have access to the most up-to-date data. Every package has its own time-stamp and is versioned. Therefore the users have access to the up-to-date data until a specified date and after that they only have access to the relatively old data.

7.5.3.3 Pay per usage

One other useful pricing model is the pay per usage one. In this model, the amount of money the users pay is proportional to how much or how often they use the product. This can be for example pay per view or pay per result. In pay per view the users will be charged according to how many pages they have been through. In pay per result, they have to pay whenever they search for something. In the latter case, users have access only to a small part of the content or result and they are required to pay the corresponding fee to be able to see the whole content.

7.5.4 Distribution Channels

Distribution is all about getting the product to the right people at the right time with special consideration for profit and effectiveness.[dis06] As mentioned in the value chain and players part, publishers will be able to become one of the retailers for this product themselves. The publisher can increase sales by using different distribution channels. Some of them will be explained below.

7.5.4.1 Traditional Distribution Channels

Bookstores are the most traditional place for selling books. Despite the new technology and ubiquity of the internet, many people still go to traditional places to find what they want. Therefore, usual bookstores will still be a good choice for selling or advertising this product. Furthermore, online-retailers like amazon.com will continue to play an important role as a distribution channel.

7.5.4.2 Own online stores

The publisher can act as a retailer by using its own online stores. In this case, the publisher has one or more websites for his products and can sell this content directly to the customer. To set up such a business, it is very important to create a strong brand and a high public awareness.

7.5.4.3 Relevant places

Relevant places like pharmacies, waiting rooms of hospitals and fitness studios can also be used for selling the product, because they are the most likely places for our potential customers to come by. The purchasing process will be done via terminals, for example. Users only need to define and pay for their required modules through these terminals and they will subsequently receive the permission to access the content.

7.5.5 Business Cooperation

7.5.5.1 Cross-Selling

As already mentioned in section 7.3.7.7, a women's health guidebook allows for the delivery of product bundles and cross-selling. Besides of branding and the delivery of high-quality content, cross-selling will play an important role in increasing customer's loyalty towards the publisher. By providing these additional products and services through cross-selling, the publisher will increase his relationship with the reader and therefore make it less likely for the customer to switch to a competitor [KWdRM03]. Nevertheless, due to the vast amount of very different products and services that can be used for cross-selling, business cooperation between publishers and other partners seem imminent. While the publisher will mostly focus on content generation and delivery, business partners will take care of providing the female reader with additional products that satisfy her actual needs. Furthermore, the publisher will also benefit from the commission based pricing model that is widely used for cross-sale products.

7.5.5.2 Health Professional Directory

Health professionals, such as doctors for example, play a very important role in the health guidebook value chain, as besides of being responsible for generating the content, their input is fundamental for value added services like "Ask a Specialist" described in section 7.3.7.2. Therefore business directories based on the concept of the "yellow pages", where health care providers pay to get listed, will continue creating a positive network effect between publishers, readers and health professionals. The female reader will benefit from spending less time looking for the appropriate doctor, while health professionals and other businesses will more easily reach potential clients through this customized listing. In addition to the listing fee charged to

health professionals, the publisher will also benefit from an increasing willingness to pay for advertisement in a directory [Rys04].

7.5.5.3 Advertisement Policy

Depending on the information and the pricing model, the publisher will have the option of accepting incorporating advertisements into the guidebook. As the publisher will strive to deliver high quality content, he also has to worry about a strict advertising and sponsorship policy, which doesn't affect its credibility as a health information provider nor its reputation. While banning advertising of health-harming products such as tobacco and alcohol may seem obvious in this policy, the publisher also has to ensure its neutrality and objectivity by not endorsing any specific product or company.

7.6 Conclusion

Looking into the year of 2020, it is important to use the developments of the society to generate competitive advantages. At the same time, our product fulfills the upcoming demands for more simplicity with increasing functionality. As the guidebook is very dependent on technological improvements, it is important to provide the necessary interfaces to integrate them. From an economical perspective, the publishers will have to expand their competences regarding marketing and sales, as the importance of branding and the communicating of the content's quality increases. Keeping this in mind, the Health Guidebook will be a great success for the publisher and a great convenience for the readers.

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Chapter 8

Don't Panic - The Future of the Encyclopedia

Anselm Bauer, Fatma Celik, Alexander Kalb, Max-Joseph Meier

8.1 Executive Summary

"People who are really serious about software should make their own hardware."

- Alan C. Kay (American computer scientist)

The traditional encyclopedia in the form of a set of printed volumes was an untroubled yet profitable business for decades. Due to technical innovation - mass storage devices and broadband communication - the situation changed: Free reference books and free encyclopedias like Wikipedia became the preferred source of information of many people; knowledge is shared among the online community. The market for printed encyclopedias diminishes. The publisher's question "Panic?" seems appropriate. This work shows that there is no need to panic. Further technical development will allow the implementation of new added value services to address existing or evolving user needs. Thereby new products that offer evident advantages over free encyclopedias can be positioned in the market. The trends will be driven mainly by two issues: the acceptance of dedicated reading devices and the userst' readiness to pay for content. Depending on these two drivers, different scenarios can take place. If users resists both dedicated readers and fees for content, this worst case scenario will force the publishers of encyclopedias to leave the market. However, all other scenarios offer opportunities for generating revenues and profit. One option is to provide content for standard electronic devices on a pay-per-view basis or a subscription model; if accepted by the market, a better solution would be to offer a very sophisticated reading device that is only compatible with genuine content of

the publisher. In this case it is also possible to finance the content by advertisements. Anyway, a strong brand and added value services allow defending such a business model not only against free content but also against competitors with similar products.

8.2   Introduction

The history of encyclopedias dates back to the ancient world. The term is derived from the classical Greek and literally means "a rounded education". The word itself was first used in the 16th century; however, the earliest works comprehensively combining all human knowledge were written by scholars like Aristotle (384 - 322 BC) or Pliny the Elder (24 - 79 AD). [encb] Throughout the centuries, almost every culture and ethnic group established an encyclopedia of its own. Two of the most well-known among them are the Encyclopaedia Britannica and the German Brockhaus, both founded in the second half of the 18th century. The contemplative world of encyclopedias was then rocked in the late 20th century by the progress of microelectronics and communication technology. The vast amount of articles - several ten thousands, many of them with thousands of words - could be delivered on inexpensive digital storage devices for the first time. Several encyclopedias were published on CD-ROM in the 1990s, some of them were digitized versions of printed works, others were completely new ones. The most popular one among them is Microsoft's Encarta, published 1993. The pricing of those new products was moderate compared to printed encyclopedias, since there was no need to account for the substantial printing costs. Only a few years later, another trend emerged: The steadily increasing bandwidth of internet connections allowed keeping the content on dedicated servers of the publisher, where it could be updated continually. Some publishers tried to establish a business model based on subscription fees rather than a one time purchase - with limited success: The non-commercial internet project Wikipedia (founded 2000, originally under the name Nupedia) animated users to compose articles in their field of expertise and publish them under a free content license. Soon the amount and quality of content was comparable to a commercially sold encyclopedia. The fears of the traditional publishers to loose their business with encyclopedias are understandable: More and more of their potential customers get used to free content; thereby the market volume is steadily decimated. The following chapters aim at giving a detailed analysis of the emerging trends in the market, the anticipated situation in 2020 and a set of the most likely scenarios.

8.3 User needs and Enabling Technologies

8.3.1 Quality of Content

"For many years encyclopedias have provided summaries of information and introductions to many knowledge domains. Historically, encyclopedias had a much broader significance: to define the scope and systematize the shape of knowledge." [Ale02] For centuries encyclopedias have been published as a set of books, but with the development of multimedia technologies, the encyclopedia takes a new shape. And in the late 20th century, the encyclopedias were not only in a printed format but also they have appeared in new digital formats with alternative values, such as better search capabilities, portability and entertaining media features [Ale02]. Moreover, this will be not the end of the encyclopedia's evolution. Everyday, multimedia and network technologies are developing tremendously which provokes further needs of encyclopedia users.

8.3.1.1 Description of the Need

"Encyclopedias have been transformed from bulky repositories of knowledge to inexpensive CD-ROMs or free Internet services." [Ale02] By means of this transformation the new type of encyclopedias arisen, and for some reasons all have some problems today.

In the early 21st century a new type of online encyclopedias which are based on wiki platform, a type of website that allows users to add, remove or edit the content arisen. Nowadays most popular wiki is Wikipedia which offers a free encyclopedia content that anyone can edit. At this point the most important question pops up: How reliable is this free information? Can we trust something that is written by just anyone? According to Paul McNamara "The self-proclaimed "free encyclopedia that anyone can edit" cannot be trusted to have its facts straight. Wikipedia can't be trusted expressly because anyone can edit it; worse yet, anyone can edit it under the cloak of anonymity. And anyone too often includes vandals and pranksters." [McN06] And what about the accuracy? The topics are not created by the experts, so there is no guarantee of accuracy, or of errors being corrected regularly.

The content of the electronic encyclopedias is not satisfying neither. The CD-ROM version of encyclopedias came up with new interactive multimedia environments which was a big advantage over print encyclopedia, but one can not say that they still satisfy learning and research goals. "There are some serious problems with Encarta. My own analysis shows four areas that are quite deficient: conceptual, linguistic, factual, and political." [HLGA99] Moreover, the CD-ROM version of the Encyclopedia of World Biography does not have an accurate content neither. "I would not unreservedly recommend the product because of its obvious errors and shortcomings." [Lit99]

But nowadays not only digital encyclopedia's contents are full of errors, but also professionally-edited encyclopedia's contents have some accuracy problem either.

In December 2005, the scientific journal Nature's experts had looked at comparable 42 scientific articles from Wikipedia and the Encyclopedia Britannica and found 162 factual errors in Wikipedia, 123 errors in Britannica [jus06].

The encyclopedia's content is one of the important features what makes it valuable. However, none of the today's encyclopedias get around the issue of trust [McN06]. So, to be able to survive in encyclopedia market in 2020, the encyclopedia's content should be improved in quality.

8.3.1.2 Enabling Technologies

The scope of the encyclopedia's topics is huge. Even for a specific encyclopedia collection, e.g. natural science, creating a high quality content requires enormous editorial effort. So it is not surprising that it is unlikely to provide a specialized author for every specific topic. In this case, digital libraries are the best solution.

"An increasing number of libraries - public and private - putting up Web pages and making text and research materials available online." [Fox] By using text mining, these libraries support not only catalog, or abstracts, but also the full text of the books as well [Wit00]. The encyclopedia can take the advantage of these digital libraries content to provide a reliable content to their users. As Ian H. Witten says "If information is the currency of the knowledge economy, digital libraries will be the banks where it is invested." [Wit00]

8.3.2 Amount of Content

8.3.2.1 Description of the Need

Due to the developing technology the amount of provided encyclopedia content has increased. In the 1980s, Microsoft introduced a new CD-ROM encyclopedia format with a different content which had integrated sound, pictures, animation, and text. After a while, this complex multimedia content had been published in the DVD format, which has a bigger information storage capacity that CD-ROMs [enca].

Obviously, CD-ROM or DVD format encyclopedias had included more comprehensive content than old generation's multivolume book sets. Moreover, the new network technologies and the popularization of the World Wide Web brought the encyclopedia's content to the Internet. Some online encyclopedias started to serve free access to the encyclopedia content. But, was this kind of encyclopedia's content good enough to satisfy today's user needs? It became feasible to access to the information for free, but the problem is to find the sufficient one, especially finding scientific information. If anyone needs such information, he can not find it in these online free encyclopedias; he must either search an index or browse a large number of individual web sites. However, both of these ways are problematic because of extremely inefficient browsing: most of the time search engines returns false results or links to the nonauthorative sites [Ten03]. So, it is clear that there is a demand of encyclopedias those with a wide topic context.

8.3.2.2 Enabling Technologies

The large amount of content can be brought to the encyclopedias in two ways: integrating the encyclopedias with digital libraries and digital scientific portals.

The encyclopedia's content can be provided by digital libraries in the same way described in section 8.3.1. Digital libraries include millions of full-text documents, newspaper and magazine collections, papers of different fields, dictionaries, maps etc. which all would be a good source for the encyclopedia content. The encyclopedias can be linked with the open-access digital libraries for being able to use their huge amount of sources. "They will be large, giving access to your personal book collection, your town's public library, your university library. Not only this, but they will ultimately be seamlessly integrated with national and international sources of information-inter-library loan at your fingertips. " [Smi06] Moreover, the digital scientific portals can be used as a source for scientific information. They provide a large amount of scientific information in every specialized area. So, they would support in providing the scientific data in case the digital libraries are not sufficient enough.

8.3.3 Up-To-Dateness of Content

8.3.3.1 Description of the Need

Supporting dynamic information is another issue which will make the encyclopedia more valuable in 2020. Since the information changes so rapidly, there is a significant requirement for the supporting dynamic information. The content of encyclopedia is not informative and accurate if it is not updated frequently.

8.3.3.2 Scenario for Up-To-Dateness of Content

Consider a user who is searching for a scientific paper and starts to tedious web searching process. If he endures all confusing hierarchical menus and manages to find the content, as a next step he has to pay for it, which is another time consuming process. And this process will go around every time he wants to find the latest paper that he needs. To avoid all these difficulties, the future's encyclopedias will allow the users to obtain the latest paper automatically, without launching additional application. The encyclopedia would keep the track of the recently downloaded content's details (publisher, topic etc.) and check for its current state, if there is further publications related with this topic or not, and notify the user. With this value added service, the user will not only get up to date results but also he will not loose any more time for searching for the information.

8.3.3.3 Enabling Technologies

New technology, like web 2.0 [Duh06], enable editors to update their contents much more frequently than they could with printed encyclopedia. Most encyclopedia publishers employ a staff of specialist. So, these specialists will collect knowledge for

their own special topics and will update regularly and upload this updated content to the publisher database system. Moreover, this upload will trigger another notification system. All the tracked users, who previously got that content, will be notified with that update and if the user demands, he will get the latest version of this topic. By means of this service, the encyclopedia's content will be kept accurate and updated.

8.3.4 Location-Based Content

8.3.4.1 Description of the Need

The importance of the location-based applications and services for mobile user of the future will increase significantly. Location-awareness will be one of the most important information of the future mobile computing environments. These applications generate a location-dependent output containing both physical as well as semantic information according to a mobile user's current location. Most of the time, they are dealing with location data of specific positioning systems and performing additional tasks to get an applicable representation [Rot].

Adding location-based applications to the future's encyclopedia will change the common usage way of today's encyclopedia. In 2020, by using these applications, the encyclopedia can take advantage of contextual information, such as position, to provide a location specific content to the user. If we throw a glance at today's paper based encyclopedia, it is not so difficult to see that they have already become commonplace. Today, the paper based encyclopedias have become just a decoration of the living rooms. Furthermore, most of the time, exploring the internet is also not providing the information that the user is exactly looking for. Most of the people are getting frustrated at the end of their internet search when they get very low quality information or even worse, after a long time search they get huge amount of unrelated results; and at the end give up searching. But the peskier situation is when someone does not know what he is looking for. Let us consider that someone is on a vacation and visits very nice places. And once, he stands in front of the very nice historical building and want to know what it is. But unfortunately, without having any idea about this building, he has no chance to find any information about it, or it will really take a long time to find out what that place is. At this point, location-based content provides an amazing solution to this problem: "Upload my encyclopedia's content according to my current location".

8.3.4.2 Scenario for a Location-Based Application

Determining a mobile user's current location can be used especially in tourism. Knowing the tourist current location will provide him a location-based content, which will overcome many of the limitations of the traditional tours.

Getting the necessary information just that the tourist needs, will not only redound him plenty of time but also will bring sufficient flexibility to enable him to explore a city in his own way. Moreover the museums can serve "get the location-

based content" service to their visitors. Today, the bothersome thing about the group-based museum tours is their fixed starting times and fixed durations. However, if they provide to their visitors such special devices (cp. chapters 8.5 and 8.6) which support context-awareness, so the visitors will be able to take personalized tours seeing any exhibit in any order. Actually, most of the museums now provide such portable tour-guide devices, but they are not supporting context-awareness.

8.3.4.3   Enabling Technologies

It is important to get his exact position in order to deliver accurate information where it is needed. In that case, the context-aware devices should support two services: position measurement systems such as Global Positioning System to locate the user, and an inertial navigation system to find user orientation.

Positioning Information   To be able to support the information and navigation needs of encyclopedia user, the context-aware device should integrate distributed computing technologies, wireless communications, context-awareness and adaptive hypermedia. It would use a cell-based wireless communications to broadcast dynamic information and positioning information to context-aware device units [KC00]. So that, both location and dynamic information would be broadcasted to a context-aware device by means of WLAN cells. Moreover, the context-aware device could get the positioning information by receiving location messages that are transmitted from base stations. In that case, Differential Global Positioning System (DGPS) techniques provide good services for two reasons: firstly, there are no additional hardware requirements and secondly most of the time it is not possible to gain a sufficient number of satellites for achieving accurate positioning. On the other hand, this solution will result in a lower positioning information [KC00].

8.3.5   Global Access of Content

8.3.5.1   Description of the Need

Development of the technology promises that the future computing environments will use the benefit of the mobility and free the user from the constraints of the fixed lines [GDA]. Especially adapting the new mobile technology to the encyclopedia can bring a radical revolution in its usage. In another words, the future's encyclopedia user can benefit from the use of emerging mobile and ubiquitous computing technologies.

There are different uses for future mobile context-aware applications in encyclopedia area (cp. section 8.3.4). Since the idea behind the context-aware application is getting the mobile encyclopedia user's current location and provide a location-dependent output, there should not be a problem where he/she is. In this approach, "wherever, whenever to be able to access to the data" is the most important point which have to be considered in usage of encyclopedia's context-aware application.

8.3.5.2 Enabling Technologies

"The rapidly evolving field of mobile computing has massive potential for providing dynamic multimedia information to people on the move. Indeed, it has been predicted that in a few years time a large proportion of web browsing will be carried out via mobile devices. However, restricting the use of mobile devices to such tasks greatly underestimates their potential." [GDA] Fast development of ubiquitous computer applications provide us a vision to predict how the future's encyclopedias will look like in 2020. As it is already discussed in section 8.3.4, one of the important encyclopedia's features will be support of location based content, which requires another additional service: to be able to get the encyclopedia's content anywhere, anytime.

There are different methods for sensing the user location; some of them developed for outdoors, e.g. the satellite navigation GPS, and indoors, e.g. RF, use. Today, GPS is inexpensive and it offers accurate corresponding location output. However, since the receiver must be positioned directly with at least four GPS satellites, it only works outdoors [Rot]. On the other hand, RF for indoors position measurement is too expensive [GDA]. So, today's technology is not providing so sufficient solutions for global access of the content as far as we can not determine the user's exact position, no matter indoor or outdoor.

However, it is not weird to claim that there will be no such limitations in 2020. An article in Mangkok Post describes the initiative, a plan to achieve "ubiquitous communications" across the country. "Among the planned ubiquitous services are internet telephony, digital multimedia broadcasting, and enhanced wireless broadband coverage that can be enjoyed at speeds of up to 60 kilometers per hour." [kor05]

8.3.6 Personalized Content

8.3.6.1 Description of the Need

In the future, the user could be able to set up the encyclopedia preferences with some personal details, such as his age, interests, his technical background and preferred reading language. So that, when the encyclopedia user is searching for any information he would not have to deal with a mass of unrelated content. The search results would be generated according to his preferences, so he would get the information exactly that he would be looking for.

In 2020, the encyclopedia would change its usage from the way just searching for an information, as its today's common usage, to the way of entertaining. By providing an up-to-date and personalized content, the encyclopedia would not only be used as a research source but also as a monthly magazine with a personal content that the user is exactly interested.

8.3.6.2 Scenarios for a Personal Content Application

During the personal content generation, the background of the user would be taken into account. For example, the search results of "Object Oriented Programming" topic should not be presented with the same content for a computer scientist and an architect. The content for a computer scientist should be more detailed and technical on the other hand the content for an architect should be a brief overview without any technical detailed information. Of course, for some reasons an architect can also need more detail out of his background, and in this case there would be a possibility of switching to detailed technical content display mode.

Moreover, the encyclopedia user would be able to attach his own thoughts and reactions about what he reads or sees to his personal account which would be provided by hyperlinks. Adding relevant information to the encyclopedia content would be useful service for an encyclopedia user. In another words, this would be a kind of "building your own encyclopedia". The user would be able to store some additional data that is relevant with his needs.

8.3.6.3 Enabling Technologies

By enabling encyclopedia users to edit the content or attach some additional files, will introduce an additional data storage requirement. Every user will need a storage space for their additional content which is attached to the encyclopedia. The encyclopedia would be linked to the user's personal database, provided by encyclopedia publishers. So that, they will be able to upload their text, videos, pictures etc. and create their personal encyclopedia.

8.4 Drivers for Future Development

This chapter presents the two most important drivers that determine the future of the encyclopedia. Depending on the intensity of the two issues, four different scenarios can be identified. Due to such a coarse mapping these scenarios are indented to serve as archetypes rather than a precise prediction of products and business opportunities in 2020. Nevertheless, they delimit the field of possible developments. In particular the upcoming incisive changes of the product "encyclopedia" and the business models aiming at it will become apparent.

8.4.1 Acceptance of Specialized Reading Devices

History shows an unbroken trend of convergence in almost all electronic appliances. A modern cell phone is probably the best example: Its original purpose - enabling the user to initiate and receive calls - became only one of many functions. Besides that, modern devices offer short message service (SMS), a calendar, a high-resolution digital camera and entertainment of various kinds, reaching from simple games to displaying complete movies. A similar process took place some years earlier with

laptop computers. There is hardly any doubt that the process of convergence will continue and provide us with even more versatile electronic devices in the future. Even the integration of personal computers and mobile phones does not seem unlikely to take place until 2020. On the other hand there are a few applications which resist to be integrated into multi-purpose electronic devices. The most popular nowadays is definitely the replay of MP3 music files: Most people possess a cell phone capable of this task, nevertheless Apple managed to sell millions of iPods. Obviously there is a market for specialized electronic utilities, given that they offer some kind of added value. In the case of the iPod, this added value is mainly generated by a strong brand, which is associated with youth, progressiveness and quality. Purchasing an iPod means acquiring an exclusive life-style product.

The crucial question is if the market accepts specialized hardware for written content - and in particular for encyclopedias - as well. In the late 1990s a company called Gemstar offered a mobile device for reading e-books [Har03]. Since it was not accepted by customers, its production was ceased after a few years: people preferred the look and feel of a traditional book rather than the inflexible and energy consuming display of the digital book. Although there was and is a growing market for electronic books, they are still read on laptop or desktop computers. The availability of flexible high-definition display or even hardware for augmented reality will stimulate the demand for portable electronic reading hardware. This is especially true for encyclopedias, which are most appropriate to move onto such devices. Due to their tremendous amount of content - often up to 50 volumes if printed - and the fact that only a small fraction of their content is actually requested by the user makes them suitable for digitization, as already demonstrated by Microsoft Encarta or the free online encyclopedia Wikipedia. Similar to the iPod mentioned in the previous paragraph, a specialized electronic device might offer an added value in 2020. One of the scenarios in this work describes how such a product, the encyclopedian content and the respective business model may look like. However, for this vision to become reality, the customers must accept to purchase a reading device like that. Today it is almost impossible to anticipate if this will be the case in the future. The acceptance of specialized reading devices shall therefore be considered as the first of the two drivers.

8.4.2   Readiness to Pay for Content

Pricing content - including, but not limited to books, CDs and DVDs - is a more sophisticated task than the pricing of standard industrial goods. The value of content is a lot more subject to the endless interactions of supply and demand, whereas the price of the latter is at least somewhat determined by the cost of their production. Probably the most important factor of influence on the pricing of content is the readiness of the consumers to pay for it. For different categories of content the willingness to pay varies widely. Many people spend a substantial amount of money for watching live coverage of premier league football on TV or for purchasing fiction books. On the other hand, hardly anybody accepts noticeable fees for up-to-date

news. After decades of free coverage in radio and TV, the people got used to the free availability of news. A similar trend emerged in the music industry: With more and more potential customers copying - legally or illegally - music tracks, the readiness to pay 20 Euro or more for an album dramatically decreased.

The situation for publishers in the market for encyclopedias is even more critical. The articles of Wikipedia are available for free and, in contrast to music downloading, also legally. Their quality approaches the level of professionally edited products like the Encyclopedia Britannica. It can therefore be expected that the willingness to pay for content will further decrease until 2020. Enriching the content with additional features, such as extended formats of presentation or augmented reality might be a way to counter the latest developments. It is justified to assume that a not negligible part of the users will accept small fees if provided with some kind of added value compared to freely available content. No matter if this will actually be the case, the readiness of the potential customers to pay for encyclopedian content highly influences the business model of the publisher. Therefore it is the second driver determining the future of encyclopedias.

8.4.3 Drivers and Scenarios

The two drivers introduced in the previous section build up a 2 x 2 matrix, shown in Fig. 8.1. Every field represents one possible scenario; three of the four are described in detail in the following chapters.
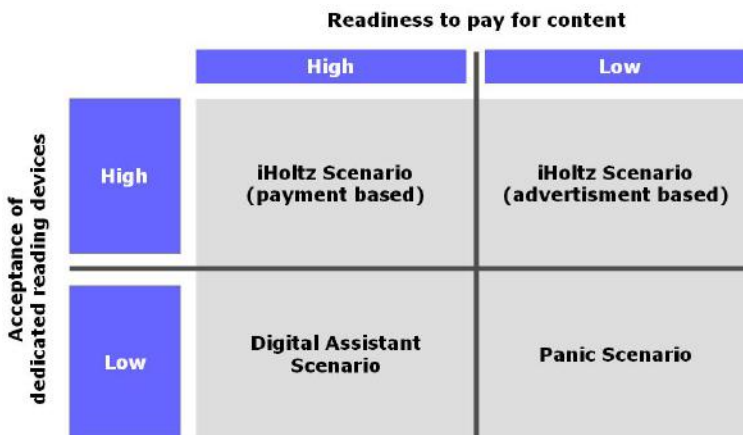

Figure 8.1: Scenario matrix

The optimal scenario for a publisher would be if the market accepts specialized reading devices on the one hand and users are willing to pay for content on the other

hand. But even if the customers are not ready to pay for content, which shall be considered as a second scenario, a change in the business model can still generate profits for the publisher. These two shall be referred to as the iHoltz scenarios and are analyzed in-depth in chapter 6. A third scenario covered by this work takes place if the market refuses specialized readers but accepts a fee for some form of value added content. Referred to as the Digital Assistant Scenario, it will be addressed in chapter 5. Finally, if the potential customers both reject specialized reading devices and expect to be provided with content free of charge, there is no option to generate revenues. From the publisher's point of view this is the worst case and therefore named the panic scenario. Since the publisher avoids the market in that case, it is not further considered within this work.

8.5 Digital Assistant Scenario

8.5.1 Executive Summary

> "Bits co-mingle effortlessly. They start to get mixed up and can be used and re-used separately or together. The mixing of audio, video, and data is called multimedia. It sounds complicated, but it's nothing more than co-mingled bits."[Con05]

With this definition, Nicholas Negroponte describes the digital convergence, which is the main driver of the following scenario analysis. Starting from the fact, that every kind of data will be digitized, there will be just one single device, that combines all digital gadgets, the publisher has to offer his product "Encyclopedia" as a high-quality content product. In competition with free encyclopedias (e.g. Wikipedia) the following chapter identifies the features of content and hardware, future market trends and target groups, as well as pricing models and distribution channels of the encyclopedia 2020.

8.5.2 Product Description

8.5.2.1 Hardware Features

Features   One of the big developments of the last few years is the growing level of convergence between different electronic gadgets leading to generic devices, that serve a lot of needs and channels of reception. Examples are mobiles with features of a digital camera, personal organizer and a music player. The user in 2020 will just have one single device, in this scenario it will be designated as the "Digital Assistant". The device combines the functions of a personal computer, a PDA, a camera, a mobile, multimedia player, TV and many more (cf. Fig. 8.2). To provide all the features of these devices, the Digital Assistant has manifold hardware features, that will be described in this paragraph.

Figure 8.2: Digital Convergence[Con05]

First of all, it has to provide a perfect way of displaying content of any kind. Therefor it needs a display, that e.g. is convenient to read books on or to watch a movie. Manifold technologies are imaginable, even virtual or augmented reality glasses. The device also has to provide an audio input and output and, imaginable in the further future, olfactory or haptical features.

The trend of a high mobility and ubiquitous computing leads to a device that complies with those requirements in its design and features. Global, wireless broadband access to the internet, as well as ad-hoc networking will be mandatory in 2020.

With new technologies, described in 8.3.5, it will be possible to provide location-based services. Therefor the Digital Assistant must have the hardware capacity to be positioned, which is very interesting for the content of an encyclopedia, explicated in the next closure.

Development and Production   The publisher's product in the Digital Assistant Scenario, is, contrary to the iHoltz scenario, the content, why the development and production of the Digital Assistant will remain to hardware manufactures. However, cooperations and alliances with the producers of devices offer new marketing strategies and pricing models.

8.5.2.2   Content Features

The encyclopedia in 2020 will be more than just a reference book, it will be a high quality multimedia product with the claim of a resource of scientific information. In the Digital Assistant Scenario, the product "Encyclopedia" is seen as content, delivered by the publisher, independent from hardware. As described in the hardware

paragraph, the content will displayed using manifold technologies. The publisher has to face this, with providing the content for displays of any size, projection technologies and augmented reality devices. The content in 2020 is profoundly multimedia-based, i.e. beneath the normal text, there will be high-quality video animations, audio features like speeches and 3D models. With a text-to-speech software, the convergence leads to an audio encyclopedia, that provides absolute obstacle free features.

It will be possible to provide a totally specific and personalized product, by analyzing the users' interests, profession, age, gender, intellectual level, behavior etc. The content can be tailored to the particular user in e.g. its length, language, amount of graphical content or scientific level. E.g. a university professor needs a whole other description of a fuel pump than a ten year old child, so the content including images etc. has to be customized to the current user. Moreover the encyclopedia will be highly interactive with e.g. cross references and the possibility of giving feedback.

Using new technologies as described in 8.3.5, the trend leads to location-based services. The possibility to assign the user's position with a high precision, enables the publisher to distribute the content in a more effective and comfortable way. As a concrete example, a tourist, visiting a sight, e.g. the Frauenkirche can be automatically provided with information about the building, can see his position on a map and be supplied with other nearby points of interests or suggestions. The process to get to the content can be shortened and simplified, as the user doesn't have to know the name of the object he requires information, it is generated out of his position.

A big advantage of user generated content based encyclopedias is being up-to-date on a high level. The encyclopedia of the future has to face this with a high amount of topical content, avoiding ephemeral news.

8.5.2.3   Content Creation

To assure the high quality and the manifold features of the content, it is inevitable to base the content creation process on an editorial fundament of professional authors and editors instead of a user generated content model. As described in the next paragraph, this will be the competitive edge of the encyclopedia and will enable it to stand out from free content providers. Moreover, features like location-based services or the high amount of multimedia-based content, can only be produced with a background of computer and graphic specialists.

A promising possibility to assure these requirements is the cooperation with other publishers of encyclopedias like Brockhaus to create the amount of content and to generate a strong brand.

8.5.2.4   Competitive Comparison

Comparison to free content providers   The most dangerous threat to publishers of encyclopedias in the next years will be, without question, free content providers in the internet, based on user generated content. The amount and up-to-dateness

of the content provided by e.g. Wikipedia will be hard to compete because of the short creation process. Even the correctness of the articles and the error rate of free encyclopedias converge to those of traditional ones. According to an article in the scientific journal "Nature" the number of mistakes averages out to 2.92 mistakes per article for Britannica and 3.86 for Wikipedia [Gra06]. Consequently, the unique selling proposition of the encyclopedia will be the quality of the content, as well as personalized and location-based features. Whereas the quality includes not only the absolutely scientific correctness, but the high degree of technological support and the big amount of value added services. Another big competitive advantage is the fact, that user generated content will never be reputable in the academic society as a legitimate source of information.

Comparison to traditional printed encyclopedias Of course the advantages of a digital encyclopedia over a traditional printed one are manifold, but the products will not be in direct competition. On the one hand there will be a group, which is not technologically interested at all, especially seniors. They will not use a device like the Digital Assistant, following not be interested in digital content and used to get information from a printed encyclopedia. The other group possesses a printed encyclopedia more as a status symbol or furniture instead of a source of information. So the use of the encyclopedia is a total different one and especially in the second group absolutely not mutually exclusive.

8.5.3   Market Development and Future Competitors

8.5.3.1   Market Trends

As described in the introduction of this scenario analysis, one of the major drivers of the market will be the total digital convergence, which is again driven by the rapid digitization of any kind of content, availability of broadband networking, increasing processing power and the internet.

The business and pricing model of the Digital Assistant scenario is based on the forecast, that the user will be willing to pay for high quality content in the future. According to a survey by the news magazine "stern" the willingness to pay has increased from 3.2 mill. to 5.7 mill. out of 27.4 mill. users (from 2003 till 2005) [Ste05]. This development is, to a great extend, driven by the information and entertainment sector and will further increase according to surveys through managers [ST05]and a study by "Deutsche Telekom".

On the other hand, the traditional printed encyclopedia will still be important for a small target group, not as a fast access to information, but as a kind of status symbol and furnishing.

As a matter of fact, the most important development on the information and encyclopedian sector is Web 2.0, which leads to free, user generated content. Encyclopedias like Wikipedia compete with a massively growing amount of content and a high up-to-dateness, which publishers have to face with features described above.

Aside the information market is driven by trends like a high demand of mobility, personalization and context-aware services.

8.5.3.2 Target Groups

As a digital device is required to access the content of the encyclopedia, the group of potential customers has to be technologically affine to a certain amount and has to obtain most of their information digitally, which will be standard in 2020. On the other hand, the user has to be willing to pay for the provided content, which comminutes the target group to users with a demand of reputable, high quality content. One of these target groups is the whole academic society, which needs citeable, reliable sources of information and can be served with own pricing models (8.5.4.2). Another group of potential customers is characterized by their high demand on global access to the content and location-based services, e.g. business people and of course tourists, which will use the encyclopedia as addendum or alternative to their guidebook.

8.5.3.3 Competitors

As aforementioned, the biggest competitors to the encyclopedia will be free content providers as the amount of user generated content will grow and the "for free" mentality will persist. This development could make the publisher panic, but the through the features, explained in the competitive comparison, a unique selling proposition can be created to avoid this scenario.

Other competitors are providers of digital encyclopedias with costs, both online or on data medium like DVD or as an addendum to a printed encyclopedia like the Brockhaus. The traditional printed encyclopedia is not in direct competition with the content, provided for the Digital Assistant, because it is a totally different perspective and not mutually exclusive, as described in the competitive comparison.

8.5.4 Marketing and Distribution

8.5.4.1 Branding and Positioning

As the encyclopedia is an experience good, so the quality can be just ascertained upon consumption, branding is very important to convince the user to pay for the content. Therefor it is vital to be sharply silhouetted against user generated content with features described in the competitive comparison and to position the product in a high quality sector. Moreover it will be important to cooperate with well-known encyclopedian brands, like Brockhaus or Britannica to use the strong brand. The provided encyclopedia should appear as a modern source of information, with a high technological support but with a scientific claim to its content.

Types of Price Discrimination				
Direct Segmentation		Indirect Segmentation		
Discrimination by Location	Discrimination by Customer Segment	Time-referenced	Quantitative (e.g. Discounts)	Versioning

Figure 8.3: Types of price discrimination, cp. [Ski00]

8.5.4.2 Pricing Models

According to survey through Paid-Content experts pricing models and price discrimination is one of the most important fields of research to use the willingness to pay for high quality information content to full capacity.

The chart above (cf Fig. 8.3) shows the different types of price discrimination, that are interesting for the publisher. First of all is the discrimination by direct segmentation, which defines customer classes, that have a different willingness to pay as the average user (e.g. students, seniors) or regional groups. Moreover institutions like schools or universities should be considered and be supplied with interesting offers like campus-licenses. In the second type of pricing models, the price varies according to the quality or quantity sold. Already widely-used and also interesting for the encyclopedia are Pay-per-View models, where the user pays per requested article or definition. But also flatrate and subscription models, with a monthly fee can be interesting for ambitious users. But not just the quantity can discriminate the price, also the quality of the provided content, which leads to versioning. The user can choose between different levels of quality, which reaches from a general conspectus of a certain topic without multimedia-based content to the premium product with profound content and lot of added services.

8.5.4.3 Distribution Channels

One perspective of the question how to get the product encyclopedia to the customer is the physical one. The publisher can use the technologies described in chapter 8.3.5 to provide the customer a fast, direct channel to the content, without retailers or distributors. Thanks to global, wireless internet access, the distribution will completely focus on online access instead of selling the encyclopedia on some kind of data storage. This enables the publisher to control every segment of the value chain, producing the content, bundling the content and distributing the content, whereas the distribution will overlap with the network operators. The other perspective on the distribution is the marketing oriented point of view. The publisher has to enter alliances with hardware producers to get the product to the customers over preloaded software as well as free previews and teasers.

8.6 iHoltz Scenario

8.6.1 Executive Summary

All providers of encyclopedias face the same, big problem: free encyclopedias like Wikipedia offer already more amount of content and the quality is getting better and better [Gil05]. So more and more people do not see the point, why they should pay a couple of thousand Euros to get some printed books, which make the information seeking even harder. The providers of encyclopedias must answer to this danger as discussed the chapter before with high quality of content. But to generate a real benefit for the consumers, they need to be more creative. They need a product, which is considered as a life-style product and offers all the possibilities a traditional encyclopedia has. So we need high quality content combined with a lot of value added services integrated in a sensational product.

In this chapter I will present you the solution: the iHoltz, cool-looking (sun-)glasses which have integrated a whole encyclopedia. So you can access to every imaginable information where- and whenever you want to.

Observant readers could now ask the question, what is the product? Is it the content or the hardware? The answer is: both. You can use such a cool and useful hardware to sell your content. The iHoltz is only a part of our strategy to generate a Unique Selling Proposition and therefore to sell encyclopedian content: On the one hand, free content respectively other content than content coming from the iHoltz-providing company is not readable. On the other only on the iHoltz you can access to this exciting, new kind of high-quality content. That generates a huge demand and consequently tremendous revenue. However, the different pricing models will be explained later on in the scenario analysis.

8.6.2 Product Description

8.6.2.1 Hardware Features

In the following the iHoltz and its hardware features will be presented, beginning with a short overview of the basic construction. However, the specific technological details shall not be addressed, as it would be pure speculation whether technology A or B will eventually succeed (e.g. GPS vs. Galileo).

Basic Construction The iHoltz is a pair of glasses including an encyclopedia. You can access to encyclopedian information wherever and whenever you want to. Thanks to the technical development it will not be a problem to integrate all required hardware (processor, microdisplays, wireless connections, etc.) in a normal pair of glasses. To view the content of the demanded information in a very comfortable way, the lenses are made up of high-definition microdisplays. Moreover, the content can not only be displayed in written form, but also in the shape of videos and sound animations. Integrated earplugs in the iHoltz also let you listen to sound and music

Figure 8.4: Futuristic Design of the iHoltz

files. Thanks to LCD technology, the iHoltz provides yet another cool feature: the lenses can change their transparency. So the iHoltz can switch from regular glasses to sunglasses, when needed. On top of that, the iHoltz comes with additional features like being able to track the environment and a positioning system, which will be explained in detail in the following chapters.

Design For most people, traditional encyclopedias carry a certain image: They are rather boring and conservative. The iHoltz will not be any of this. It will serve as an encyclopedia but it could also call it a very cool, must-have gadget. Due to the fact that it is possible to integrate the iHoltz in nearly every frame, there are no limits to the imagination of the designers. On the one hand, it is imaginable to produce an iHoltz with a very technical or futuristic look which will immediately be recognized as the iHoltz for people who are really proud of possessing the iHoltz and who want to show it (Fig. 8.4).

On the other hand, it would be possible to produce an iHoltz that at first sight appears to be a pair of regular but high-quality (sun)glasses (Fig. 8.5). One would only be able to tell it is an iHoltz by the earplugs and the small iHoltz button on both sides of the frame. This version could be for people not wanting to attract attention in wearing the iHoltz. At the end of the day, consumers will decide how the iHoltz will look. But there will be hardly any limits for designers.

Figure 8.5: Conservative Design of the iHoltz

Comfort   As the look will not differ from normal glasses, the comfort won't either. And of course, you do not have to use the earplugs. Thanks to the ongoing miniaturization, only few grams of high-tech must be added to wear not just a pair of stylish spectacles but also have a complete encyclopedia just right in front of your eyes.

Pleasant Presentation of the Content   One of the most important and coolest features the iHoltz provides is the presentation of the content: As the lenses are made of high-definition microdisplays, they can project any kind of information you may ask for directly in your field of view. But not only plain text can be projected, also video animations and even 3-D animations will become feasible. Another very important feature of its pleasant presentation is the already mentioned capability of the lenses to change transparency. It is either possible to project content while you still can see your environment (augmented reality) or to show a short movie without getting disturbed by your ambience (virtual reality).

Positioning   Another hardware feature is the very exact positioning system. The iHoltz can exactly detect where you are, how fast you are walking or driving, and even tell you how fast you climbed a hill.

A nice side effect of the positioning capability is that it there is no point for criminals to steal someone's iHoltz, as you can always locate your iHoltz. This is the reason why biometrical iris detection becomes redundant.

Tracking the Environment   The feature of tracking the environment comes with two very nice options which allow you to interact with your environment in an extremely intuitional and useful way:

The first one is that the iHoltz can detect the structure of your environment. It identifies every kind of objects all around you like buildings, streets or cars. This is the base for the option of presenting augmented reality. The iHoltz can exactly determine what is around you.

The second option of tracking the environment is that the iHoltz not only can detect objects, but also your gestures. So you can ask for information about an object close to you by just in pointing at it.

Global Access of the Content   In 2020 the speed of the internet will have reached a level which has become too fast for the common user to stand up to. Moreover, you will have access to the internet wherever you are [Pie01]. This is the reason why the iHoltz does not need to hold a huge amount of memory space. All the information presented to you by the iHoltz is downloaded on-demand and directly from the servers of the content provider - at a speed that you won't notice that you are actually downloading the content instead of having it stored in your glasses.

Usability   The first option to control the iHoltz is by voice entry. Due to the fact, that it is "only" an encyclopedia, single words are enough to control the device. Users

only need to say the keyword of the object they want to have information about, and the iHoltz will provide the demanded information (Fig. 8.6). To guarantee that the iHoltz is only active when users have asked for it - and not during a normal conversation - they only need to push the iHoltz button to signal that the words that are currently spoken are relevant information for the iHoltz.

Figure 8.6: Control by Voice Entry

Figure 8.7: Control by Pointing on the Object

The feature of tracking the environment allows iHoltz to track the environment and to follow your gestures. Consequently, the alternative way to ask the iHoltz for certain information is a combination of touching the iHoltz button and just pointing at the object of interest (Fig. 8.7).

8.6.2.2 Development and Production of the Hardware

This chapter has been written assuming a common publisher wants to provide the iHoltz. Obviously electronic giants such as Sony or Apple won't face the problems of a publisher that has no experience at all in providing hardware products. Apparently, a publishing house will need to outsource the development and the production of the iHoltz. In the following, two possible solutions of outsourcing this task have been illustrated.

One possible solution is to cooperate with a single big electronic company. They all have the expertise needed and could build the iHoltz easily until 2020. In return the publisher needs to have the exclusive rights to deliver the content and must gain a fixed share of the profit that the iHoltz hardware generates. The big disadvantage of this solution would be the total dependency on this electronic giant. After a while - no contract lasts forever - the publishing house would have to face the same disastrous development the music industry does nowadays [Bla04]. Electronic companies producing the hardware would demand very high prices for their hardware and dictate low prices for the content, as they want to maximize their profit.

A chance to get out of this dilemma is not to give the whole development and production of the hardware to one single company, but to separate the development and the production in different steps and in handing out these steps to different companies. Hence none of these companies would have either the control of the whole production process or a market power which allows them to dictate prices. However, this second solution needs more effort and investment of the publisher, as they need to keep track of the whole development and production chain.

After all, the publishing house must decide whether they like to have full control over the production of the iHoltz facing high investments or to risk losing their independence.

8.6.2.3 Content Features

As already mentioned in the beginning of this chapter, the iHoltz device does not only consist of the hardware but also of the content. Moreover, hardware and content work together in a symbiosis and therefore can provide an extremely smooth and consistent access to encyclopedian content.

In the following, only content features particularly designed for the iHoltz shall be illustrated. Features like a plethora of high quality and up-to-date content, multimedia content and personalized content are of course elementary, and have already been explained in subsection 8.6.2.1. Therefore, these features will not be examined in this chapter.

Augmented Reality   The exact definition of Augmented Reality is "overlaying the real world with one or more layers of additional information that may or may not be interactive" [Uni01]. In our case it means that the lenses of the iHoltz can switch to full transparency and the microdisplays can project additional information in the user's field of view. Adding the feature of tracking the environment lets you interact with your ambience like you never have done before.

This paragraph shall explain to you the beauty of true augmented reality integrated in your ordinary pair of glasses with a short story. Imagine you are visiting the city of Munich and you start your tour on Odeonsplatz wearing your new iHoltz. Once you have arrived, you find yourself in front of the Feldherrenhalle and you probably reckon that this must be an important building with some history. If you would know that the building is called Feldherrenhalle, you would only need to push the iHoltz button and pronounce it. But unfortunately you do not know. At this point augmented reality can help you out. As described in subsection 8.6.2.1, you only need to point at it, and the iHoltz will recognize both your gesture and the building, and then can deliver the requested information. But that is not all. Say, you are particularly interested in the statue placed on its right side, you just need to say "statue, right" or point your finger at this specific statue, and the iHoltz will add this specific information overlaying the reality (Fig. 8.8).

Figure 8.8: Augmented Reality in Action

There are plenty of examples how you could use augmented reality in your everyday life. But to present every detailed opportunity would go beyond the scope of this report. The importance of this chapter is that the key feature of the iHoltz is augmented reality, as providing augmented reality can't be done any better than by deploying iHoltz specs.

Virtual Reality   By switching off the transparency of the lenses, the user can enjoy content in the form of video animations or movies without getting disturbed by the environment. To give an example let us return to the little story of your visit to Munich: After the iHoltz has illustrated that it is a statue of Fürst Wrede - a Bavarian field-marshal who led the Bavarian corps that aided Napoleon's victory, you a interested in his vita and the iHoltz can show a little movie about him.

8.6.2.4   Creation of the Content

Please refer to the creation of encyclopedian content in subsection 8.5.2.3.

8.6.2.5   Content Policy

It is essential to pursue a strict content policy to guarantee that on the one hand only content coming directly from the iHoltz provider is readable on the iHoltz. Otherwise, very tough competition against other content would be generated without any need for it.

On the other hand, it is important to market the iHoltz content as unique. Only on the iHoltz the user can access this exciting, new type of high-quality content. Of course, you could find some articles in traditional encyclopedias too, but nowhere else will you have access to this high-quality content with all its features like augmented and virtual reality. Sticking to this policy, the iHoltz provider can generate a great demand for both the hardware and the content without having any competition against free content on the iHoltz.

8.6.2.6   Competitive Comparison

In the following we want to examine that there is no real competition to the iHoltz, as it is a gadget you can use next to your traditional encyclopedia at home or any common mobile device. The only real competition would be a copy of the iHoltz.

Against Free Content   One of the biggest challenges for the iHoltz will be that it may have to compete against free content. It is not necessary and realistic to eliminate free content totally, but it is important that what the user sees in the iHoltz and its exclusive content is real added value over free content. In the following, the competition against free content is separated in two parts:

First there is the competition "on" the iHoltz. As the publisher wants to sell their own content, the possibility to receive free content on iHoltz would be disastrous. However, this problem can be resolved by simply not allowing free content on the iHoltz (cp. subsection 8.6.2.5). Only content coming from the publishing house will be readable on the iHoltz.

The second field of competition takes place "outside" of the iHoltz. It is the question what amount of free content can reduce the demand for the iHoltz. The answer is simple. Free content will not affect the demand for the iHoltz at all. The

iHoltz is a lifestyle product, offering much higher quality of content and inimitable features like augmented reality. The combination of these attributes in one product is absolutely unique. The iHoltz consequently generates added value users will want to have.

Against the Traditional Encyclopedia   Of course, the iHoltz is still an encyclopedia. However, the traditional encyclopedia is not a direct competitor. Although the content will be the same in many areas, the usage of these two products is too different. Someone who already owns a traditional encyclopedia may not be interested in purchasing an iHoltz. But in contrast there will be owners of traditional encyclopedias who will be attracted by the iHoltz, as the iHoltz offers a great opportunity to take all the knowledge of the world with you at any time.

Against Common Mobile Devices   First of all, "Common Mobile Devices" shall be defined. This includes all devices that are not specifically designed to include an encyclopedia and which are generally referred to "candy bar" or clamshell devices (cell phones, PDAs, smart phones, etc.). For a couple of reasons they are just not appropriate for presenting a mobile encyclopedia. If the user wants to get some specific information with a common mobile device he will has to follow a rather complicated procedure:

First of all, he has to pull a common device out of his pocket every time he wants to get some information. Then he has to unlock the device, open the software of his favourite encyclopedia, wait a little bit and finally he can type in his request. Compared to the usability of the iHoltz, this procedure appears not at all smart. The iHoltz instead can be carried like a regular pair of glasses, and by just pointing at an object or uttering the key words he will get the results. Also, it is enough to just touch a button on the iHoltz once, and it will determine where the user is, which interests he has and so can serve perfectly his needs. This is obviously much easier and faster than any other device not specifically designed to include an encyclopedia could ever be.

In addition to that, the iHoltz is a cool extra gadget besides other mobile devices you may have. Consequently, common mobile devices cannot really compete with the iHoltz.

Against iHoltz Copies   As mentioned already, the only real threat to the iHoltz would be a copy of it. However, the company introducing the iHoltz first, creating a strong brand in offering high quality content and hardware will have a strong lead of its rivals in both technological progress and market penetration.

8.6.3 Market Development and Future Competitors

Assuming that a product like the iHoltz is developed and offered to consumers, it will have a strong effect on the market. That is not only due to the new technology, but also due to competitors entering the market. Besides, the target group for the encyclopedia might change over the years. All these issues will be addressed in this section.

8.6.3.1 Market Trends

The iHoltz will dominate the market for at least several months after its introduction. However, the further development will also be influenced by substitutes. The demand for added value content could trigger the consumer electronics industry to extend production and intensify further development of the underlying hardware components. Thereby the players in the market for digital encyclopedias would be forced to constantly enhance the hardware features as well as the quality and versatility of the content, in order to justify the substantial prices and fees. Most likely the concept of an encyclopedia implemented in form of a life-style object will not be limited to a pair of glasses. In times of ubiquitous computing, other objects offer similar opportunities to combine the knowledge of an encyclopedia with the attractiveness of a stylish accessory, e.g. a wrist-watch or a pen. This trend of a limited set of "carrier" devices for the encyclopedia together with increasingly powerful methods of presentation will not only emerge for dedicated devices and content: It will be accompanied by a similar trend for multi-purpose digital assistants and free content. Of course this trend will be a few years delayed, mainly due to lower expenses of this customer segment and the requirement for a high degree of compatibility.

8.6.3.2 Target Groups

As always with innovations, a group of open-minded and curious people will be the first to buy the iHoltz. These early adapters will be followed by a far larger group soon. Due to the innovative and life-style image of the product, it is justified to assume that the typical user group are the young urban professionals. They combine a number of properties which makes the iHoltz in particular attractive to them: First of all, they appreciate the availability of information and want to broaden their horizon. The iHoltz provides ubiquitous and up-to-date encyclopedian content to serve that need. Secondly, they like to express their life-style and distinguish themselves from others; therefore they decline traditional main-stream products. The exclusive and progressive design of the iHoltz together with its remarkable usefulness suits their taste. Lastly, most of the young urban professionals earn a substantial salary, so they can without any problems afford the iHoltz. Other groups will develop demand for such products as well. However, this demand will probably emerge a few years later, after the iHoltz became a more common application and the prices for the hardware were further reduced.

8.6.3.3 Competitors

If the iHoltz proofs to be successful, other players will enter the market. In principle they have three options: Providing encyclopedian content only, building a dedicated reading device similar to the iHoltz of their own or offering both the hardware and the content. Assuming that the supplier of the iHoltz holds the first mover advantage and gained a significant market share already, the first and second option are less problematic. If a competitor provides only content, it has to be targeted at general-purpose electronic devices since the iHoltz is designed for compatibility with genuine content of its producer only. On the other hand, if the competitor only provides hardware, it has to be compatible with standard formats of the encyclopedian content. In both cases the necessary compatibility is the bottleneck of the competitor's business. The history shows us that proprietary systems are a lot more powerful than industry standards, where a trade-off between innovation and compatibility is unavoidable. The third option of the competitors - providing hardware and content - is more challenging. The business model itself can not be protected by patents; therefore the producer of the iHoltz would need other assets to protect his market share. In the given the scenario the two advantages would be an advance of a few years and a powerful brand. The latter one is the key to defend the high margin and market share, even if competitors bring hardware and content of comparable quality to the market. The first mover advantage in contrast allows establishing a market entry barrier by flexibly adapting the pricing strategy. Altogether it should be possible to stay profitable even if a number of serious competitors enter the market.

8.6.4 Marketing and Distribution

8.6.4.1 Branding and Positioning

As the product in the iHoltz scenario is both the hardware and the content, a comprehensive branding strategy has to be defined to position the iHoltz. First of all, the glasses of the iHoltz have to become a lifestyle product, similar to e.g. the iPod. This can be achieved by a characteristic design, as described in subsection 8.6.2, an intuitional handling and a widespread marketing strategy. In comparison with e.g. a music player it will be impossible to define just one design for the iHoltz, as glasses have to fit exactly to the customer and the target groups of the iHoltz are very varying. The hardware has to be provided in a few different designs, e.g. a young trendy design or a more sophisticated looking one for, e.g. the academics. But the positioning strategy of the designs has to make sure, that the iHoltz appears as a high-quality, must-have and lifestyle gadget, comparable with the iPod branding. On the other hand the encyclopedian content has to be positioned in combination with the lifestyle-product branding of the hardware. As described in section 8.6.3.3 there will be a lot of competitors, starting from free content providers. To convince the customer to pay for the content and the hardware, the content must be branded and positioned in a way that it is exactly silhouetted against user generated providers. First of all is the quality of content as a reputable source of information, which can

be achieved through alliances with eminently respectable brands like Britannica, to carry over their brand awareness. Moreover, the iHoltz has to provide totally new features of the content, which position the encyclopedia as a high-tech product. This contains the manifold multimedia-based features, but also the personalizing and positioning features.

8.6.4.2 Pricing Models

Advertisement Based Content   As described above the for free-mentality is still prevalent for digital content and the biggest thread to the encyclopedia are free content providers like Wikipedia. Using the prediction, that the willingness to pay for content will increase slowly, a pricing model with an advertisement financed content is another possibility to generate proceeds. In the year 2004 every third website was financed by advertisements, only three percent made their revenues by paid content and paid services. Furthermore the advertising revenues in the information and entertainment sector will, contrary to the classical types of advertising (print etc.), grow in the next years. Following, the iHoltz pricing model will consist of a hardware with costs and free encyclopedian content with ads. As the iHoltz will be branded as a lifestyle product, there will be a high demand for the hardware and the free content. Moreover there will be a new dimension of advertising using the features of personalization and positioning. As the publisher has information about the user, the advertisements can be personalized and tailored to the customer. The first possibility is to choose the ads by analyzing the users' hard facts, like gender, age, region etc.. The next level will be to generate them out of the user's behaviour, search items and most viewed locations. Using the position of the user, it will be possible to point out e.g. nearby restaurants, shops or events. Moreover there is a direct way of feedback, as the publisher can analyze immediately, if the user reacts to the advertisement or if he moves to the suggested shop or restaurant over the positioning system. This high quality of personalized ads leads to high advertising revenues, as companies are willing to pay high prices for ads with high chances of success

Payment Based Content   In this chapter it will be illustrated how charging fees for iHoltz content can not only maximize profits but also keep damage to the revenue as low as possible. Pricing the content will certainly be a very difficult and important challenge as costumers are very sensitive to high prices of digital content as they already got used to receiving free content. Because of the fact that there is such a breakthrough device like the iHoltz in combination with very high-quality content and all these unique features that comes with it, you can be confident and set adequate prices for the delivered content. In the following, it shall be presented what is the best way of pricing the content.

Purchasing the entire iHoltz content at once, as you have done when you bought your traditional encyclopedia, is certainly not the way to go since information keeps changing and content is being updated on a daily basis. Moreover, the consumer would not even like to buy the whole encyclopedia at a single blow, as it would be

very expensive (e.g. the latest edition of the entire Brockhaus encyclopedia comes to around 2500 euros). Furthermore, selling the whole content at once is not a very clever solution for the iHoltz providing company either. In the long term, the publisher can charge more for their content by selling the encyclopedia bit by bit. At the same time it makes the consumer feel it is even cheaper. In this pay-per-view model multimedia content, personalized or location-based content may be slightly more expensive than just common text-based content.

To assure that consumers won't worry too much about losing control over their expenditures on iHoltz content, limiting monthly expenses to a certain amount or providing a monthly or yearly-based flatrate can be an option. Once the bills are paid, the user can access as much content as desired and would not have to worry anymore.

However, the toughest and most important question in pricing the content will certainly be whether you should price the iHoltz hardware high and the content cheap or vice versa. Both solutions are imaginable and these scenarios shall be examined in more detail in the rest of this chapter.

Expensive Hardware Pricing Model　With this model, the iHoltz hardware is rather expensive, whereas the content is quite cheap. As this cheap content is only accessible on the iHoltz, a big demand for the iHoltz hardware will be created, although it is considered to be overpriced. By the way, this is exactly how the iPod model works [Rep06]. But the big difference between the iPod and the iHoltz is that Apple is not creating the content and earning money out of it. Consequently, they are not affected by the fact that the content-providing companies - the music industry - is struggling under the big pressure on the prices. Due to the fact that the iHoltz providing company is mainly interested in making money out of the content, this model is not suitable for the specific requirements of the iHoltz scenario.

Expensive Content Pricing Model　In contrast to the previous model, this time the iHoltz content is expensive and the hardware cheap. Hence the iHoltz hardware can work as bait: A breakthrough product at a real cheap price will generate a great demand for it - even people who could not have imagined using a mobile encyclopedia integrated in their glasses just want to have the iHoltz, as it is an affordable lifestyle product. After they have bought the hardware they have a limited amount of content they can access for free. Consequently, they can experience all the amazing features of the iHoltz and can be convinced of its exciting and very useful functions. After a while, the free amount of content will expire and they have to pay for it. But as they are thrilled by the possibilities of the iHoltz, they will become attracted to buy more content. This pricing model is certainly the best for the iHoltz provider as both profit and revenue can be maximized.

8.6.4.3   Distribution Channels

Distribution of the Hardware   "Distribution is all about getting your product / service to the right people at the right time with special consideration for profit and effectiveness." [Dis06]

In section 8.6.2 two different ways of producing the iHoltz are explained, either giving the whole process to a single electronic company, or to separate the development and the production in different steps and producers to have full control over the production. After having defined the production process and the branding and marketing strategy, the iHoltz has to be distributed. As the iHoltz combines a life-style, fashion product with a high-tech, electronic device, a multi-channel distribution strategy should be embarked on, to reach all the aimed target groups (cp. subsection 8.6.3.2). Hence the iHoltz will be sold on the one hand over retailers, to reach a high geographical range of customers. Because of its combination of an encyclopedia, glasses and an electronic device, the iHoltz can be sold in bookshops, opticians, fashion stores and electronics stores, just to name a few. But as e-commerce is growing, other distribution channels will be direct selling over the internet or via agents.

Distribution of the Content   The other part of the product iHoltz is the encyclopedian content, whereas the whole supply chain will be under control of the publisher, from producing and bundling to the distribution. On a physical level, the content will be transmitted to the iHoltz, using broadband technologies, described in subsection 8.3.5.2. Independent from the pricing model, the publisher delivers the content by direct digital distribution. Subsequently, now retailer, agent or wholesaler is integrated in the distribution chain.

8.7   Conclusion

Given the success of Wikipedia, the question if today's encyclopedia publishers have reason to panic seems justified. However, this work showed that there is no need to panic - provided that they are innovative and open-minded enough to leave behind the conventional concept of a printed encyclopedia. This work gave a detailed analysis of the present or evolving user needs and the drivers for the future development of encyclopedias. Two scenarios were discussed in-depth and it was shown how in both cases a profitable business model can be established. Only in a third, more unlikely, scenario the publishers would be forced to leave the market to free encyclopedias like Wikipedia. Which scenario will finally take place is not determined by external effects only; the publishers have a limited but absolutely existent influence on the market's development. Therefore, however, publishers should set the issues discussed in this work on their agenda as soon as possible: The threat is not the trend itself, but to miss the trend.

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Chapter 9

Stuff that Matters - The Reference Book of the Future

Tobias Pfaffelmoser, Philipp Rösch-Schlanderer, Florian Sauter, Daniela Selch

9.1   Abstract

Upcoming developments in the reference book market, caused by new customer needs and technologies, will present content as a dynamic and coherent construct. This trend report shows up a solution of how publishers are able to implement these developments in their future products. Starting with an explanation of the evaluation process and the customers' profiles - the basic idea of the compilations - this report proceeds with the description of the business model. After explaining the economical needs and risks, the market for the compilations in the year 2020 is analyzed. Before the report concludes with a detailed evaluation of the value added services and a conclusion, the impact of upcoming technological trends to the compilations is elaborated.

9.2   Introduction

In the last years the media market was confronted with drastic changes. Especially new technologies changed the way media is used. Music industry, as a prominent example of an overwhelming fast development, failed in providing attractive download services for mp3 audio tracks and had to leave the field of digital music distribution to new competitors.

As a part of the media industry the classical book publishers are in permanent danger to share the same fate. New products and innovative services should be introduced before the revolution takes place from the bottom, as it happened within the

music sector. So the question we face is, how reference books can be redesigned so they can still be sold in the year 2020.

If we take a look at the development of society up to the year 2020 we notice a shift that makes information as a whole more and more important. Of course, this information has to be stored and published. In this regard it gets clear how crucial the role of reference books containing distilled knowledge will be.

But not all books labeled as reference books meet these requirements. This is the reason why we concentrated our research on scientific literature, so we subsume classical scientific reference books as well as journals or research papers under this term.

The target groups for this kind of literature consist of all people working within the educational or scientific environment, especially students as well as researchers and professionals.

So what does a student need when it comes to buying reference literature? In most of the cases the lecturer of a course will release a list of dozens of books, of which just some chapters out of each book are relevant. The student then has the possibility to either buy the books or not, always knowing that only small parts of his investment will pay off. The same fate overtakes any other person who is interested in some special topic. Time consuming investigations have to be carried out and no one can tell whether the found material is suitable concerning the reader's academic level and his specific needs or not. For example, an experienced mathematician does need a totally different approach to a mathematical theory than an economist does.

In the following chapters we present a possible solution for the upcoming challenges, and how reference books could look like in the year 2020. First, we will address the product itself as well as the business model behind and the market for reference books in the future. In the following section technological aspects are covered, value added services are introduced and a further outlook is provided.

9.3 Product & Service

9.3.1 Main Features

The primary purpose of reference books is to impart knowledge to the reader, but especially in the scientific environment the user needs are mostly not satisfied with one book. As mentioned in section 9.2, Scientists, Students or Professors who work on a very special topic are reliant on highly specific information and therefore need plenty of actual papers and parts of books. So the difficulty is not only to get just parts of reference books instead of complete versions, but especially to find all interesting texts whether they are contained in books, papers, scientific magazines or journals and to collect them as a reasonable compilation that is highly adapted to the relevant problem and the user himself.

To fulfill these two customer needs - access to relevant parts of texts and easy finding of the right sources for a certain issue - it is necessary to collect a huge

range of reference books inclusively scientific papers, magazines, journals and even online content, of any author and date of issue, commercially used or available for free. Then these texts are splitted up in sub-parts and offered to the customer on the one hand in the single article business and on the other hand bundled in reasonable compilations of essays to his individual topic of interest. To be in the position to support each customer to find the right sources for his special purpose we will collect plenty of customer data to create a dynamic customer profile. Additionally, each available text will be classified using evaluations of our customers together with the information provided by the related customer profile. These data are used in the following dynamic ranking process that creates reasonable and very up-to-date compilations for all topics and all possible preferences. During the matching process between a customer and all the compilations, the user can define his special needs and gets offered the perfect compilation of essays for his topic in accordance with his profile and with almost no expenditure of time. Furthermore, each customer can also define his own compilation making use of the data collected by the system. Finally he can become a member of the integrated community to discuss special problems with people who have a very similar background and state of knowledge or even with experts who can help with continuative questions.

9.3.2 Basic Businesses

Some customers already know which parts of texts they want and therefore do not need support to find the right sources. These customers can get their special essays in our text pool directly. The pool covers digitalized books and journals as well as papers and free content. Additionally, we can integrate online content, e.g. publications on internet pages of professors, using the technology of semantic web as described in section 9.6.1.3. These businesses will be the basis for the dynamic creation of compilations, as it provides us in the beginning with necessary data for the system and will help to keep this system up-to-date.

9.3.2.1 Single Article Business

In many reference books the reader finds references to other books, e.g. for a proof of a sentence or the origin of business data. If he wants to have a look at these continuative information he will mostly have to buy the complete books. The same situation will occur for students, if the professor of a lecture refers to many different books, but uses just some chapters of each of them.

In such cases, the customer can find the complete book in the textpool and simply choose the relevant chapters of the outline. If he knows exactly the relevant pages, he will even be able to select only these.

9.3.2.2 Fixed Compilations

As mentioned before most students are confronted with a long list of literature for each of their courses. This list often contains several relevant books, each interesting just for one part of the course, as well as a couple of papers and essays. Next to the fact, that a normal student will not consider to buy all the books, he has to gather all the papers and essays on his own.

Therefore it is highly interesting for a student to get a compilation of all relevant text passages for his course, exactly the essential chapters of books as well as all the other recommended sources. These compilations can be created in cooperation with universities. For each existing course the lecturer can define the list of necessary texts and also include not commonly available publications, that students normally can only get at the chair of the lecturer himself. Then this compilation is realized and offered to the students as one fixed unit.

All the compilations created in this way get collected and classified by the university, the lecturer, the course as well as the semester of publication, so the students can easily find their own courses. If the universities and the lecturers agree, these compilations will be purchasable for any costumer. In the case that they include own work or just don't want to make their data publicly available, access can be restricted to the participants of the respective lecture.

This business will not be limited to compilations for special courses. We can even work together with professors who enjoy a good reputation to create compilations about their special field. This will be highly interesting for users who work in the same field and therefore know about a professor's leading position in the scientific environment.

Later on cooperations are also possible with schools for special projects, with companies for the specific informing of employees or even with non-professional seminars and workshops.

9.3.3 Customer Profile

In the following we will concentrate on customers who need specific information for a special topic and do not yet exactly know which sources could be useful for them. Normally, such customers have to make time-expensive researches in libraries or search engines and skim over several texts until they find suitable content. The problem is not only to find thematically adequate essays for a topic but especially content that is presented in a way that meets the customers' individual requirements. This covers the degree of difficulty, the balance between theory and application or the integration of other media and examples. Therefore we first have to get to know each customer, his individual needs and expectations, and generate a profile of him that includes the development of his knowledge.

9.3.3.1   Registration Data

The first customer data will be collected at the first-time registration for our system. There he will be asked about his age, his professional position or field of study, his former education, language skills or special scientific interests. The questions cover the fundamental data that enable later a fast understanding of the customer's queries. That way the user's state of knowledge in different areas is clarified, so we can already gather for his first searches which level of difficulty is adequate for him concerning a special topic. Additionally, his background tells us about the form of article that could be useful, because a professor for computer science will need totally different content than a student of English philology even if they search for a similar topic.

Of course, the data confidentiality has to be guaranteed, so the customer can be sure that the very personal information is used only within the system and not by third parties. As these data are necessary to offer a good service it will even be in the customer's interest to provide us with these information.

However, this registration data are just a first step to get to know the customer.

9.3.3.2   Dynamic Refinement

In the following time his searches and purchases together with the relevant evaluations that are described in section 9.2 will help to sharpen a customer's profile and to notice changes in his state of knowledge or field of interest. The system learns which articles the customer already read and therefore can automatically offer continuative content for the next time with a degree of difficulty that fits to the former learnings. If a customer is not satisfied with an article e.g. concerning the detailedness or level of abstraction he will express this in his evaluations and the system will take it into account from then on. So the system learns not only more and more about the customer's individual taste, his interests and level of education, but especially registers any changes and thus can act accordingly.

Another important source of information to classify a customer will be his behavior in the community. The details about this service are described in section 9.3.6. His membership in special groups of the community allows interesting conclusions about his individual profile. If a customer is part of a group of experts in the field of partial differential equations and has serious discussions about the newest research results with other members, knowledge of an export can be assumed in this field for next offerings. Also his comments in blogs or forums can give information about his satisfaction or dissatisfaction with special articles, his interests or opinions.

Finally, special approaches are thinkable e.g. for a professor we can continuously search for his newest publications and find out which references he uses there. That way we get to know his research interests in even more detail and especially see which texts he already read, so these will not be offered to him in the future and additionally the knowledge provided by these texts can be assumed from then on.

9.3.3.3 Comparison of Profiles

The profile of a customer will always be compared with that of other users. If two profiles are very similar, the corresponding customers very likely will have comparable backgrounds, needs and expectations. Thus it is useful to transfer evaluation data between such customers and offer content to the one user that was already very helpful for the other one and vice versa.

The following figure 9.1 shows an overview over all sources of information used to create a detailed and developing profile of each customer.
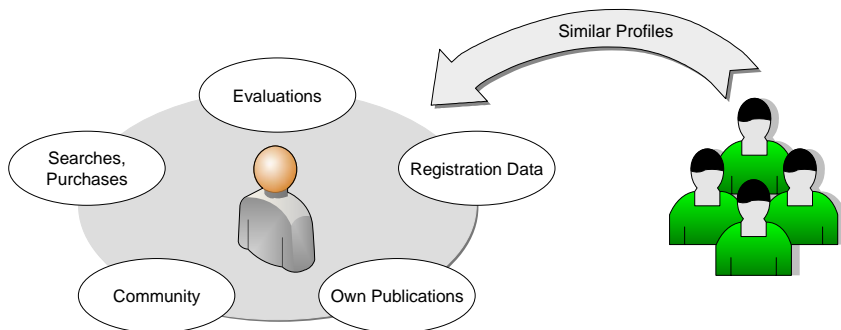
Figure 9.1: Customer profile

9.3.4 The Evaluation System

To get to know the customer's individual taste and requirements as described before can be just one pillar of our system as it does not always depend on the customer's taste what he needs information about and which way these information have to be presented. A student of business administration who used to work in the marketing field with very practical oriented texts can get the task to become acquainted with a technical topic in a very theoretical way because it is interesting for the chair he is working at. Additionally, as the user has to pay for each bought article, we need a good basis for the system to offer each customer very high quality already for his first purchases when the customer profile is not jet very detailed. Therefore, to give the system the capacity to support a customer in each situation adequately, we must additionally learn more about the articles itself for example if they are very detailed or provide a good overview.

This classification of the available text fragments is mainly based on customer evaluations in combination with their individual customer profiles. For each sold essay the buyer gets a dynamically adapting evaluation sheet. On the one hand this sheet must be easy and fast to do, but on the other hand it must provide us with useful

information for the ranking and matching process. To find an efficient balance the evaluation sheet shall be adapted to the relevant essay and user and, of course, there will be some incentives for the customer.

9.3.4.1 The Evaluation Sheet

The evaluation sheet will work on a "just-one-click" basis and only ask for binary decisions to make the use comfortable for customers. To support a very time-saving approach it makes sense to design the sheet in an intuitive way, e.g. using symbols for the questions that enable a fast orientation. The amount of required decisions for one article should be restricted to a few questions, as it shall not become an annoyance for the customer.

To cover the relevant points of an essay it is necessary to adapt the assessment criteria of each sheet to the particular topic e.g. for a mathematical article it would be interesting if it delivers more a theoretical approach or a practical application and if it is very detailed or provides a good overview, whereas for an interpretation of a lyrical text it could be more relevant to ask for the quality of used references. Additionally, it makes sense to take the users' former search criteria and individual profile into account. If he wanted a lot of examples or prefers the integration of other media, he would be asked for his satisfaction with the article concerning these criteria. Another interesting question is, if the degree of difficulty was adequate. That enables an adaption of the degree of difficulty for his following purchases and helps to find out which users an article is adequate for.

A possible realization of such an evaluation sheet is illustrated in figure 9.2.

Figure 9.2: Evaluation sheet

For compilations not only the assessment of each article but also of the compilation as one unit is highly interesting. Thus it could be useful to let the customer tag articles that were not useful for his purpose or tag the most helpful ones.

All the information provided by the evaluations will only become valuable if it is used together with the profile of the relevant user. A text that is evaluated as very easy from a professor would not be easy at all for a student in the first semester or a technical text that meets the expectations of a mechanical engineer would not do so for a student of business administration. Later we will just compare the evaluations of people with similar profiles to find out the best texts for their individual situation.

The delivery of evaluation sheets depends on the way the customer orders his articles or compilations. He has the possibility to get the selected content as printed or digital version. The details are described in section 9.4.4. If the customer wants the printed version, the evaluation sheets will be available at his shopping account. He gets reminded with each log in and additionally via email. The same applies to customers who bought a digital version, but the evaluation sheets are additionally included in the ebook or epaper. That makes the completion of the sheet even more comfortable and time-efficient. For a single article the evaluation sheet is attached at the end of the article and remains in sight until the user has completed it. For compilations each sheet follows directly the relevant article. The sending of the completed evaluation works automatically - provided that the user has access to the internet that should be no problem in the nearer future [BIT06a].

9.3.4.2   Incentives for the Customer

Due to the importance of customers' evaluations for the business it is essential to make sure that the evaluation sheets really get completed. The easy and fast handling of the sheets as an indispensable requirement was already discussed in the section before. Furthermore, it must be kept in mind, that the evaluation of articles is one important factor to sharpen the customer profiles and therefore helps to make them offerings that are more adapted to their specific needs. This rises the customers' willingness to complete the evaluations as it is directly for their own benefit.

However, to make the system successful it is reasonable to provide customers an additional incentive. One possibility is to offer for a certain amount of completed evaluations one essay for free. Another idea could be to define different price classes. Then each customer belongs to one of the price classes depending on the percent of his evaluated purchases. If a customer has rated no one of his bought articles he will belong to the last price class and therefore has to pay the normal price. If customer's percentage of evaluations becomes higher he will belong to a better price class and then get some percent of the normal prices off for his next purchases. To make this system attractive for customers everyone starts with the best price class after the first registration. This way the users will be motivated not to loose some of their percentage. To make sure, that a customer does not change his account again and again to stay always in this highest category without evaluating any article, the registration will be based on a clear identification.

This pricing strategy will additionally support a fast penetration of the market that is essential for the working of the compilation business as it is highly dependent on a huge amount of evaluation data. For more details, please refer to section 9.4.3.

9.3.4.3 The Evaluation Process

At the beginning of the evaluation process there is just the textpool that contains all the fragments of texts without any rating data. This way we can not start with the creation of custom-made compilations based on the ranking system. Therefore classifications concerning the specific topic and category - theory, proof, application, newest development, exercise etc. - of each text part have to be done by the relevant authors and publishers themselves as well as a first assessment concerning the available criteria. These assessment data will loose in influence with the growing amount of customer evaluations. Additionally, the single article business and the business with fixed compilations, that were discussed in section 9.3.2, provide us with the necessary first data.

Now the basis for the ranking process is established and we can start to offer custom-made compilations in the way described in section 9.3.5. These businesses will generate a huge amount of evaluation data themselves and so the system becomes continuously better.

Any new articles, that have to be integrated in the textpool, will run through the same procedure as mentioned above. That way the pool is always up-to-date and becomes evaluated in more detail by the time. The whole evaluation process is shown in figure 9.3.
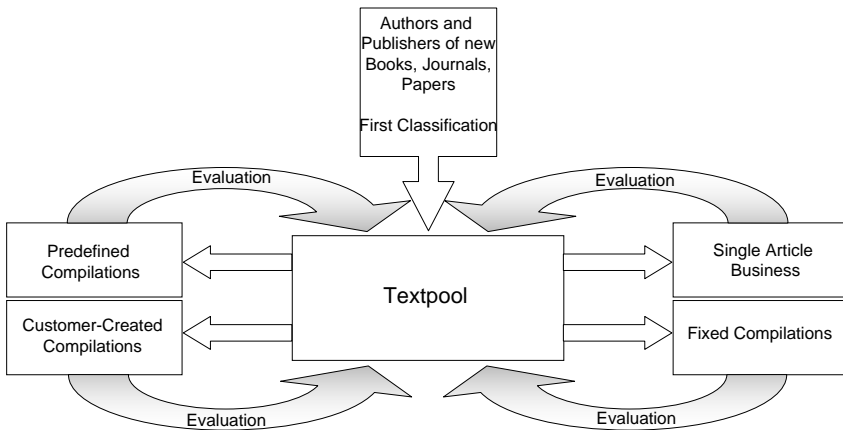

Figure 9.3: The evaluation process

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9.3.5 Custom-made compilations via Ranking System

Now we want to offer the customers very specific compilations that are perfectly adapted to their special topics of interest as well as their individual needs and expectations. For this purpose we use a ranking process that is based on the data collected in the evaluation process together with the corresponding customer profiles.

9.3.5.1 Predefined Compilations

According to the categories where data about customers and articles are available there will be created a huge amount of predefined compilations. Such compilations are defined for all possible topics, degrees of difficulty and categories, for a brief introduction in a new topic or a very detailed description of an issue, including a lot of exercises or using supportive other media and according to many more criteria. Furthermore, compilations are made especially for electrical engineers or computer scientists, for researchers or users and available in different sizes and languages. For example there will be one compilation about the application of copula functions in the financial sector, for beginners with a mathematical background, providing a good overview and containing a lot of examples, one for advanced users that is more detailed and includes theoretical derivations, one for beginners from business administration concentrating on the practical usage etc. Additionally, compilations can cover some proximate topics or include exercises as well as theoretical fundamentals. Also defined is the number of included articles, e.g. small compilations contain 10 articles, huge compilations 50 articles. For all these compilations just once upfront the classification and assessment criteria have to be specified. Then the compilations get automatically adapted to the availability of new articles and the growing amount of available evaluation data using a dynamic ranking system that is based on a ranking process for each defined compilation.

The Ranking Process   A compilation's ranking process is illustrated in figure 9.4.

As mentioned before, as a first step the characteristics of a compilation have to be specified. Then the pool of available articles is filtered concerning the defined topic and category. This can be automated using technologies as ontology languages and topic maps that find logical structures between texts based on specifications by the authors. The details are described in section 9.6.1. The results get arranged in a ranked list according to the predefined assessment criteria as detailedness or clearness. For this ranking the costumer evaluations are used, but only those of users whose profile corresponds to the desired target group of the compilation. For example, if the compilation is intended for students of computer science in the basic study period primarily the evaluations of such customers will be relevant for the ranking. Then according to the specified size of the compilation the first ranked results are bundled and offered to our customers as compilation.

If now new articles are integrated in the textpool or additional evaluation data is available this will automatically change the filtered results as well as the ranked list
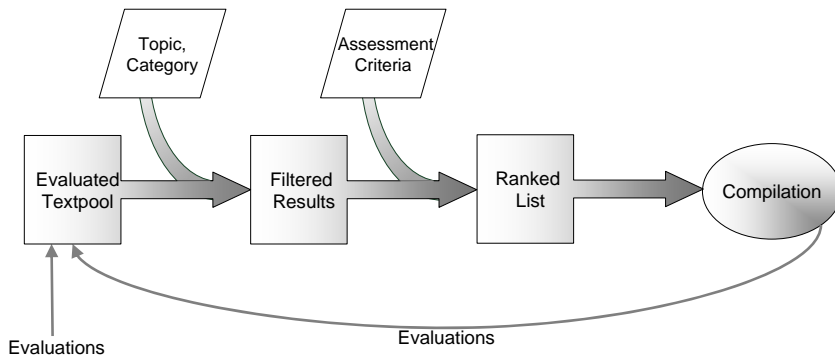
Figure 9.4: The ranking process

and that way the articles included in the compilation. Furthermore, the evaluations of the compilation itself change the ranking, e.g. if one article is often tagged as useless its position in the ranked list will decline and so it finally will be removed from the compilation. That way the compilations are always up-to-date and meet more and more the requirements of the target group.

The Matching Process   Now we have generated an automatically updating pool of predefined compilations. This pool can also include compilations created in cooperation with universities. Next we need a perfect matching between the searching customer and all the available compilations. This process is illustrated in figure 9.5.

The customer can define as many search parameters from the pool of available criteria as he wants to and these criteria are used preferentially in the matching process, but he can even limit the specifications to very few essential ones. Then the system automatically integrates all the data of the customer profile, his former readings and evaluations, his preferences and especially his state of knowledge. Additionally, information of users with similar profiles is included, which compilations and articles they used and how they evaluated them. According to all these data the best matching compilation can be found and then is offered to the customer. To give him the chance to find out if he really wants to buy it he can for all articles included in the compilation as well as the compilation itself read through the available commentaries and blogs created by members of the community with a similar customer profile.

The primary advantage for the customer is, of course, to get automatically the best sources for his special needs with almost no time and effort and directly bundled in one reasonable compilation, but additionally the price of the compilation will be lower than the sum of the prices of all the included single articles. More details about this pricing strategy can be found in section 9.4.3.
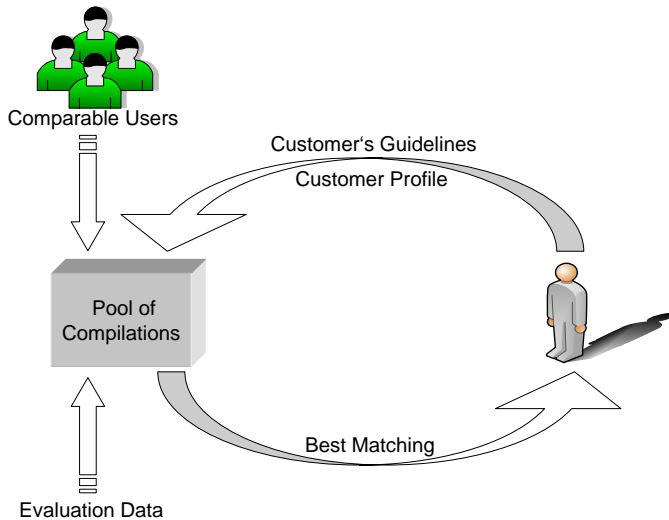
Figure 9.5: The matching process

9.3.5.2 Customer-created Compilations

The customer will be able to use the available data even if he does not want to buy a predefined compilation. Then he just defines his special needs as mentioned above, but this time his request together with all data of his customer profile is not compared with the pool of compilations, but a ranking process as described for the predefining of compilations starts and he gets the ranked list of articles as result for his request. Using this list he can choose articles to create his own compilation, again supported through information provided by blogs and commentaries of similar users.

This approach enables the customer to include particular articles in the compilation that are not perfectly adapted to his individual preferences but maybe demanded for a specific course. In exchange he will lose some of the advantages concerning expenditure of time and ease of use. Additionally, he has no longer a price advantage in comparison to the single article business, that means he has to pay the normal price for each article he includes in his compilation. Details follow again in section 9.4.3.

9.3.6 Integrated Community

Improving the communication among customers will be a central aspect in order to gain a competitive advantage. People reading reference books often have the need to get information to a very specific topic, either through professional or scientific reasons. Through our compilations many different viewing angles of a topic will

be covered, but there might be questions and problems that are not covered by the available literature. For those people and for the ones who simply want to get into a discussion about things, an easy platform has to be provided - the community behind the compilation system.

9.3.6.1   Customer needs and solutions

From the customer's point of view it is crucial that there is not just another community where he can do all the things already offered by countless providers. So what does a reader expect of such a platform: on top there must be the easy access to relevant discussion groups and to people who are interested in the same topics with a similar state of knowledge and on a similar academic level. All these things can be perfectly covered by bringing users together who bought the same compilations and rated the included articles in similar ways. A close connection to the evaluation system explained above can provide this information, because all the necessary data is already stored in the customer profile. Provided that the reader has got the compilation on any kind of digital device, that surely will have Internet connectivity in the future, access to the matching discussion platform could be integrated, so convenience is guaranteed.

Another critical point is the profoundness and quality of user generated content. Here the concept has a major advantage over stand alone websites on a specific content:

Firstly, everyone participating in the system has already bought some of our compilations and therefore shown at least a fundamental interest to deal with the topic in a serious way.

Secondly, the social network ensures high quality of user generated content. If the community system enables the users to set up member profiles that are visible to the other members no one wants to be seen in a bad light. This social pressure will force all members to think twice of what they contribute, especially when social relations between the community members grow. So this growth of relations is a great advantage, for the customer as well as for the provider.

9.3.6.2   Positive side effects

Besides offering an additional value for the customer, the setup of a communication platform brings some interesting possibilities for the publishers.

Obviously there will be a closer contact between end customers and publisher than it ever existed before. This makes new ways of customer relationship management (CRM) possible. For example the communication among the readers within the platform can be analyzed in order to discover weak spots in the own products. At this point even a direct feedback to the author could make sense in order to improve the quality of the articles in terms of content, graphics or other criteria. For example attentive readers surely find most of the incorrect printed formulas inside a technical

reference book. Offering some extra credits in the community in order to incite discovering mistakes or giving relevant hints, they might report them quick and best of all for free.

Of course the community can also be seen as a new advertising channel. Through the detailed information about every customer that can be recorded in the evaluation process, e.g. which topics he is interested in or if he's a beginner or a professional, personalized product advices can be given. These product advices cause only low costs and are additionally perceived much better than classical advertisements, because the reader is really interested in the topic.

9.3.6.3   Synergies with the evaluation system

The community system is a huge source of information about the single members. This information could be used to help to classify and weight evaluations the members send in and to sharpen the customer profile like mentioned in section (9.3.3.2). For example there might be correlations between the user's special interests and the messages he posted on some community board or blog. The evaluation of a user who is classified as an expert in some field might be weighted higher than the evaluation of one who does not regularly deal with the respective topic. Of course legal issues concerning privacy have to be considered if you make use of such detailed information.

9.4   Business Model

9.4.1   Value Chain, players & cooperation

In the year 2020 we expect the value chain of the book market like it is shown in figure 9.6.

There will be authors who will concentrate on writing single essays which are self-contained. This will improve the chance to be a part of a compilation on condition that the readers evaluate the essay as good. Customers will buy books as well as single articles but the trend to single articles will go on. We want to give each reader the possibility to evaluate the bought product. The composition of the compilations will base on the quantified evaluations from the customers together with the customers' profiles. To give the customers an incentive to evaluate, there has to be a rewarding system. In order to offer the best possible quality there is a need for cooperation with other publishers. There are three possibilities: Firstly the publisher can buy licenses of the intellectual property rights all in one from the other publishers or secondly every publisher gets his money depending on the share of his intellectual property rights of the sold compilation. Thirdly there is the possibility of a joint venture of all important publishers in the scientific book market segment. The compilations will be sold on a direct way to the customers as an E-Book and on an indirect way in every form through retailers. Especially for reference book com-

pilations, online-based retailers will be very important because of their advantages concerning the search for the right one out of the many of compilations. The most important point is that the online-based retailers are in close contact to the customers and because of this the publisher will depend on the help of the retailer to get into close contact to the customers. The close contact is the condition to get information about the customers' profiles and to organize the evaluation process. The publishers have to build a running infrastructure for the evaluation process and to define which kinds of predefined compilations have to be offered to each topic.

Online content and also the importance of it is growing. With the claim of offering an ideal solution we also plan to add online content out of the web to the compilation. Also the free online content has to be added at the compilation. The price for that can be seen as a charge for the Internet search and not for the intellectual property rights. An important point here will be the management of the intellectual property rights and what possibilities are given to sell free online content in form of a compilation.
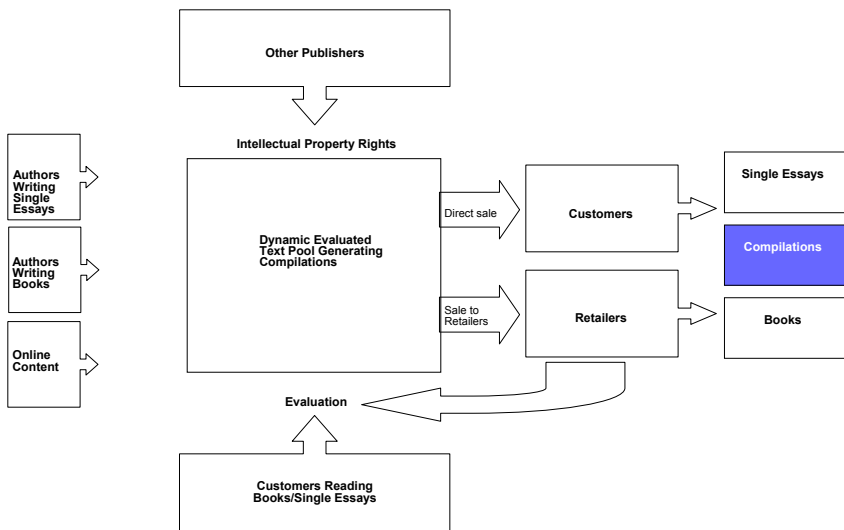
Figure 9.6: Valuechain

9.4.2   Benefits of the publishers

The benefits of the publishers will be the replacement of some kinds of Internet investigations and some free online content fields, because of the good quality of the compilation content. For example with the compilations the publishers are able to sell parts of encyclopedias as a part of the compilation. Those free content sources, which are of a high quality, will be included in the compilation. The compilations

will also partly replace investigations on literature like it is practiced at the moment in the daily routine of every university chair. The universities will save money and time because there is less need to make investigations on literature and thus they will be likely to pay for those special services. This coherence can also be transferred to the students. Another benefit of the publishers will be that they will sell more articles integrated into compilations than they would by selling each of the articles separately.

9.4.3 Pricing

The first market segment in which the compilations will be available will be the scientific content. In that segment it is important for the pricing strategy to understand that the customers are not always the payers. Because of that fact we have to differ two target groups: Private users like students and institutional users like university staff. The difference here is that the first target group pays the articles by their own and the second target group gets the articles free of charge from the library of the university. For the first group we assume to follow a price penetration strategy. The second group, as mentioned above, is not as price sensitive as the private users because they do not have to pay for the articles themselves. There are just a few articles for which they have to pay by their own.

At first we will discuss the pricing model for the private users and follow up with a short analysis of the pricing model for university staff.

9.4.3.1 Pricing model for private users

It makes a good economic sense to choose a price penetration strategy because at the beginning it is very important to place the standard in the evaluation process and the compilation generating process. With the introduction of the new evaluation process and the dynamic generated compilations a big amount of standing expenses will arise. The variable costs to run the evaluation process and the dynamic generated compilations will be insignificant. Because of this it is very important to get very soon a huge number of users. There will be a massive competition between the publishers which will be the first mover to run such a system. The first mover advantage will be significant. The first mover will have the best chance to run that system alone and the others will just play a role of a supplier. Although the standing expenses are dominating the variable costs the market entrance barriers are not very high. Because of this the penetration strategy is a tried and tested way in order to get early a big market share and give with that a signal to the other publishers. It makes a good economic sense to offer the compilation cheaper than the price for the sum of single articles. That supports the aims of publishers, like selling more articles, getting soon a huge number of users and replacing some kinds of free content in the Internet (see chapter 9.4.2 Benefits of publishers).
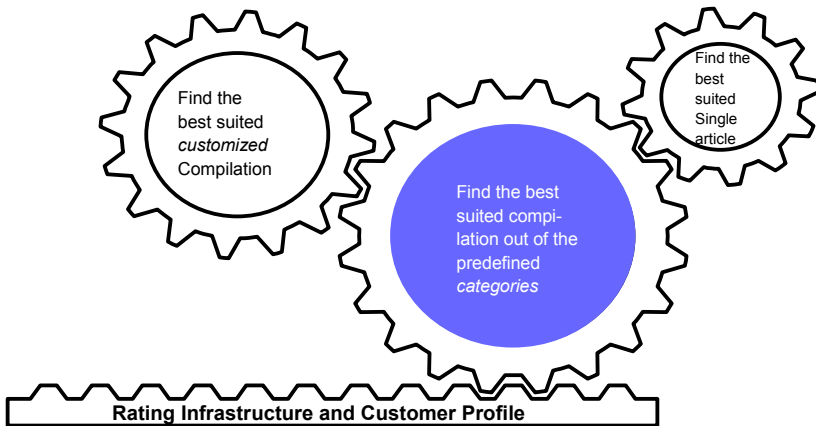
Figure 9.7: Pricing

9.4.3.2 Pricing model for university staff

In this target group the users do not pay by their own for the articles. The customers are not the payers. Because of that we do not see the possibility to influence the customers with a pricing mechanism. For this target group it will be more important to get in a close contact to the university staff at the beginning. The first point of contact will be the offer of special services for lecturers, for example the possibility of creating an own "literature compilation" for each of their courses. To get a second point of contact, we assume to offer information events for the most important faculties in which the added value and the adaptability of the new technology will be explained. In our opinion this target group is very important because they can be the driving force of the new development in the scientific content market segment.

9.4.4 Distribution of content

The online retail business is getting more and more important for the book market with a growth rate of 25% in 2005[Bör06b]. The dynamically generated compilations exactly need the advantages of this business model. The buyers of the compilations are searching for a very special information and do not want to get general

impressions in a physical book store. Also the growing number of offered products especially caused by compilations and single articles are no longer to handle in a physical book store. E-Books are also a trend which has to be used for compilations. University staff and students can now make their notes, which are important for the understanding, also on digital versions by the touch screen of the computer. Especially at reference-books it is very important to integrate multimedia possibilities for example by using graphical analysis with one by one drawn curves to explain a mathematical problem. There will be some very special compilations of which only a few will be sold. With new possibilities like print on demand that should be no problem, because the fixed costs at print on demand are very small. Developments like E-books and print on demand will make the possibility of direct sale more attractive. That fact is very crucial because that means that publishers will go on competition with the retailers also with their own customers. Find a detailed analysis of that problem in chapter 9.4.6 "Make or buy - Competition with customers?".

9.4.5 Risk of cannibalizing the single articles business

It is very important to understand that the categories of the dynamically generated compilations have to be pre-defined. That is necessary because otherwise the customers can, when they want special single articles, search as long as they find exactly the single articles they want for a cheaper price in form of a compilation. The compilations should not be in competition with the single article business because there are very high margins. So the compilations should not provide a better search infrastructure in order to buy the single articles for a cheaper price. Another advantage of the predefined categories for the compilations is the fact that in that case there is a control of the quality and all the offered predefined compilations fulfill a certain quality standard. The rating infrastructure we need for the compilations has to complement and support the single article business. The customers who want to buy a special kind of article can use the rating-infrastructure in order to find the best suited single article or to construct his own customized compilation. Therefore, he has to pay the single article price.

9.4.6 Make or buy - Competition with customers?

Retailers will still generate most of the revenues of the book market in the future. Because of that they are very important customers of the publishers. Nevertheless it makes a good economic sense to go in competition with the retailers on selected areas. Compilations in shape of E-books will be a field on which the publishers should compete with the retailers. Printed versions will only be available on the retail market. The sale will be very easy via Internet and the compilations generating process will be done on the side of the publishers. That does not mean that compilations in shape of E-books should only be available on direct sale, rather a double-tracked sales strategy will be an optimal answer to that issue. There are three main reasons for that sales strategy: Firstly compilations are a very dynamic construct, which is

depending highly on the demand of the market. Retailers are the link to the market. It is very important to have the possibility to get statistics of changes in the market very fast and trustworthy. For the further development of the compilations it is also necessary to know the customers behavior very detailed in order to stay consequently at the demand side with the compilations. Secondly in the long term it is important to be not completely dependent on retailers for the necessary information of the readers. At a construct like the compilations which needs the close contact to the readers in order to deliver a high quality, the risk would be too high running such a system while being completely dependent on the retailers. Thirdly the direct sale will raise the profit by having higher margins. The prices should be equal to the prices of the retailers. It does not matter if there will be still a fixed price system. On the other side the risk by making the retailers angry with cheaper prices at the direct sale is too high. An important issue here will be that the retailers have at least to tolerate the evaluation process and it has to be tried out to get the customers' data from the retailers. If they will obstruct it, that would be a massive market entrance barrier for the compilations.

Although printed versions of the compilations will only be available in the retail market, it is to assume that the physical bookstores will not be big supporters of the compilations. It is impossible for them to show the many of compilations in their book stores. With showing it on a computer system they have no advantage towards the online retailers. But there will be no cause for them to be against the compilations. They will just sell only the most important ones.

9.4.7 Scientific content as success factor of the market entry

Although the compilation and its rating infrastructure is principally easy applicable to every market segment of the book market, there is an economic sense to launch the compilation at first just with one segment. In the following section we analyze why we assume to launch the compilation with just one market segment and why we choose the scientific content segment as the first one.

9.4.7.1 Start with one market segment

As mentioned above we want to follow a market penetration strategy. The compilation is a network asset and because of that the value of it is growing with the number of users. Thus it is a success factor to start the compilation with just one market segment. Being successful at this segment and well known in the book market will make it easy to enter more segments. To start with many segments would have the risk of the users getting lost in the many of segments and the publisher would not be able to react on teething troubles at the beginning in a necessary way.

9.4.7.2 Scientific content as the first segment

The profile of the market segment sought-after for the first market segment looks as follows:

- Readiness to try out new technologies
- Generally interested in new technologies for saving a lot of work
- A must of working with content very much
- High usage intensity of content
- A cluster as homogeneous in working with content and large as possible

The best suitable segment of the book market is the scientific content. Researchers have to work very much with content and have to do the search for suitable contents very often, which qualifies that segment for being the first. Because of reading, searching and producing content in their daily routine, the readiness to evaluate and try out the new technology is the highest at researchers.

9.5 Market

9.5.1 Target Groups

9.5.1.1 Students and scientists

The first and most important target group consists of the people studying and working in the university field. For both, research and learning purposes, there is a very high demand for specialized literature. The low average age and the distinct affinity to technology make this target group very flexible for the adoption of new products.

The compilation and evaluation system fits perfectly to their needs, as it offers an easy search system that allows finding the relevant literature in no time, ranked by the expectations the user has towards the text. There will be no time consuming search anymore, and the ranking makes it possible to tell whether the own expectations in terms of academic level, didactics and practical relevance are met or not. Especially students and people who want to learn about a certain topic profit from the connected community as they can get answers to their further questions in an easy way.

9.5.1.2 Professionals

Taking a look at professionals and their needs concerning reference books the time factor gets even more important. Today lots of working hours are wasted on the search for information. With the compilation system the user only gets the relevant parts of the literature which is much easier to handle and will help to reduce this inefficiency. The willingness to pay is rather high within this group as the one who uses the information won't be the one who has to pay for it in most cases, instead the company will do.

9.5.2 Potential and Volume

Concerning the market volume in the year 2020 of course no concrete figures can be provided. Instead we will take a look at the influencing factors in order to give an estimation of the development which from our point of view will be a slight increase in volume at best.

9.5.2.1 Social and economic influences

Information and knowledge plays a decisive role in today's modern societies. The number of scientific publications rises every year and the total amount of worldwide knowledge is exploding[Mar02]. Taking a look at the year 2020 even more people will study or work in knowledge-based jobs and therefore have an increased necessity for reference literature. Additionally the half-life period of knowledge gets lower and lower and creates and additional need to renew ones literature more often.

Keeping in the age structure and low birth rates in mind, this means the demand in the reference book sector will at least be on a constant level.

9.5.2.2 Technological influences

On the technological side new challenges will arise, especially through electronic reading devices and digital delivery of content. This could change the usage of reference books and therefore influence the market in the year 2020. With all the advantages and new features integrated into the digital compilations there might be a further shift in media usage time, this time towards the book.

Technology also creates the possibility for new competitors to enter the market (see next chapter). This might transform the market and thus change the total volume significantly.

9.5.3 Competitors

We can divide our competitors in 2020 in two parts. The first part is about the actors which are in competition with the publishers by now, the second part discusses actors which will go in competition to publishers in 2020. At first we analyze the competitors which are in the market by now and follow then with an analysis of competitors which might enter the market.

9.5.3.1 Current competitors

Other publishers: The most important questions here are: Will the publishers find new ways of cooperation especially concerning intellectual property rights management? And who will be the first mover to run the evaluation infrastructure? The first mover can constitute the standard of the evaluation process and has got good chances to overtake the role of the leader of a cooperation of the publishers. One

thing is clear: it has to be found a construct in which every essay which will be written takes part in such a system, because the quality of the infrastructure rises with the number of publishers. Success factors here are, to be the first mover and to involve the other publishers in a very early point of time. For sure, that is a trade-off which has to be solved.

Retailers: We plan to offer the E-Book versions of the compilations both by retailers and by the publishers themselves. Because of that we go in direct competition with the retailers. The idea of that is to higher the margins and to get into a closer contact to the customers. A closer contact to the customers is the condition of the success of the new evaluation infrastructure. Hence it is dangerous to alienate the retailers with their close contact to the customers. Success factors here will be going in competition with the retailers but offer them other business areas in order to confirm the business connection.

9.5.3.2 New competitors
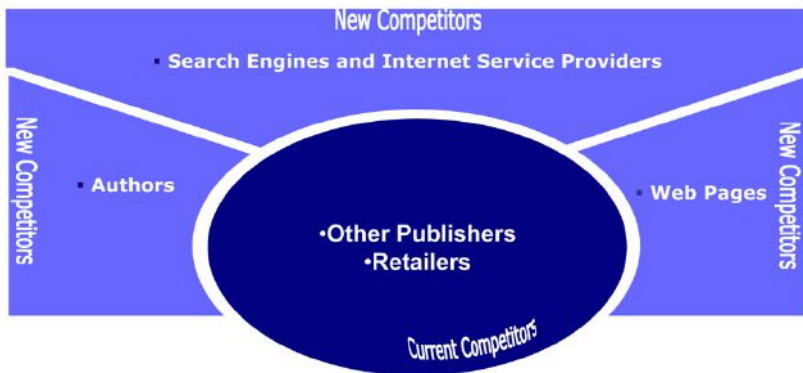
Figure 9.8: Competitors

Authors: The upcoming developments in the internet will allow authors to publish their articles and books by their own. It is imaginable that some authors will try to go together and try to descend the traditional publishers and sell their articles either direct or by retailers. The danger out of this development is not very high because authors in a scientific content do not write their articles and books in order to earn much money. Reputation is here more important and because of that the publisher should mind their reputation and keep some special business units with their reputation in a special field. So a success factor here will be the reputation of the publishers in the authors view.

Search engines and other internet service providers: A search engine is by now working at another main pillar. At the moment the stocks of big libraries are scanned. The plan is to set up a huge E-Book store in which the customers will also have the opportunity to buy just the chapters in which they are interested.[Dom07] Although, situation of the property rights is not clear at the moment [Bör06a], some publishers cooperate already with the search engine. With 380m users per month [Dom07], the search engine has got possibilities to make this idea a great success. There is one big difference concerning the idea of the compilations: The rating process and the customer profile. That is the difference and cause why we see the idea of compilations in the year 2020 and that is the competitive advantage to current developments. Nevertheless this development has to be observed, because in principle search engines have great possibilities and great experience in getting to know more about the users and has the possibility to introduce new technologies into the market. A success factor here will be to decide very soon if cooperation makes sense. Waiting would certainly be the wrong way because the possibilities of a big search engine are huge. If the decision is to cooperate it makes a good economic sense to start very soon with the idea of the compilations in order to earn the money and having the possibility to construct actively at that new form of cooperation as soon as possible. If the decision is not to cooperate the best reaction will be in setting up the new system as soon as possible and refusing every property rights to the search engines.

Web pages: In the year 2020 there will a great number of topic-based web pages in which everything concerning one topic can be found. The quality will be very well and the web pages will be structured into chapters like a book of a special theme so that it is manageable as a reference book. It is to assume that many of these web pages will be free of charge. The best way to react on these developments will be integrating them into the compilations. Hence, on the one hand the web pages of the year 2020 can be seen as an input factor of the compilations. On the other hand those web pages have to be seen as competitors because each of them offers customized solutions for a special topic. Respecting to this meaning of web pages, there the two advantages of the compilations have to be communicated:

1. Compilations are able to solve every problem, not just for a special topic

2. Compilations are evaluated and customized and offer the best quality

9.6   Technological Aspects

Printing and writing can be seen as technologies. As such they have always had ties to other technical developments. In the following we want to take a closer look at new technological aspects like digitalization, networking and wirelessness and which impact they will have on the concept of "Digital Reference Compilations" (DRC) in particular. The following chapter only will concentrate on the DRC, as they are most interesting for technical improvements.
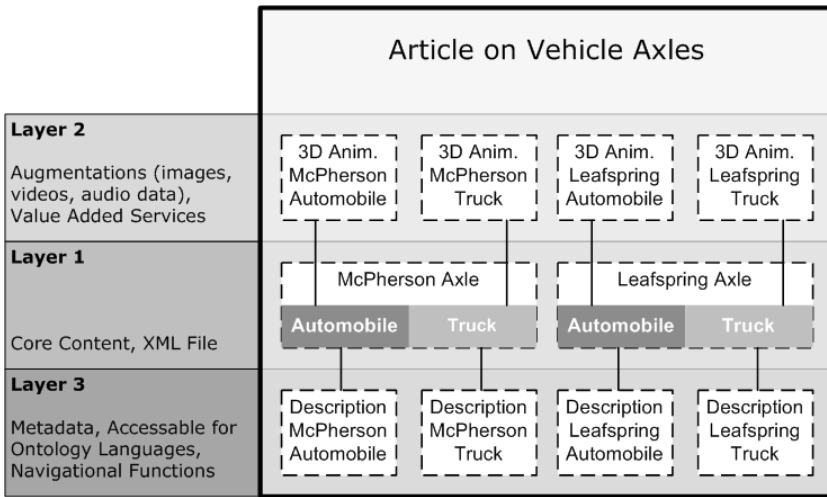
Figure 9.9: Compilation Container Format

9.6.1 Access to Content

9.6.1.1 Flexible File Formats

If we want to develop a system, that makes perfectly customer adjusted dynamic generation of reference books possible in the near future, the digitalization of content of any kind is obviously the basic requirement for all additional continuative features. In the recent years the PDF format has proven itself as de-facto standard for text files and digital books. Contemplating reference compilation as assortment of various articles augmented with different file formats like animations, graphics or movies with improved usability for the customer makes new methods of digitalization seem advisable. In the following we want to present file formats which are necessary in particular for the implementation of Digital Reference Compilations. We also would like to point out new developments and technologies using those file formats as foundation for augmented features.

First of all we want to introduce and explain a three layer concept with a specific container format catering to reference compilations. Today there are already diverse container formats available which can contain various types of data, compressed by means of standardized codecs, e.g. AVI (MPEG4 video + MP3) or PDF, but no adequate solution to integrate audio, video and text data into a well structured file. According to our concept, the buyer of a Digital Reference Book will in the future receive a single file with maximum content and functionality. Delivering the content in one piece is especially advantageous as the compilation can not be segmented by the customer. Illegal distribution of single file content can therefore be anticipated. The associated format consists of three layers.

On the first layer for which the author is in charge and which is removed from the customer's ascendancy, the digitalized text is encoded and contains for example definitions, additive explanations, examples or questions for exercises the author contributed additionally. In this section the user gets access to the traditional content of a reference book. As the content can be integrated in multiple compilations and equipped with arbitrary augmentations, it would be expedient to encode this part in a flexible format like XML. Therefore a flexible integration of charts, images and animations which are encoded on Layer 2 in according formats, can be carried out. XML as structural framing concept does not determine, in which way data like text and visual augmentations can be automated in the near future. To be able to apply new technologies in this field, we recommend focusing on the use of so called metadata consisting of data describing other data. Following the concept of DRC this information is stored on Layer 3 and is therefore able to hold information concerning the compilation, the respective article, single chapters or concrete text passages. At this the so called Dublin Core Standard for cross-domain information description, which provides a simple and standardised set of conventions for describing text passages, videos, composite media or images to make them easier to find, has established itself. At the moment only 15 core elements are used for this purpose. There are categories like "identifier" to identify the document, "format" where the reproduction program is specified or other groups like "title", "subject", "description", "creator" or "publisher" (based on [Dia05]) . They suit the aim of classifying documents and provide the basis for automated processing of information.

9.6.1.2 Efficient Indexing with Topic Maps

"A book without an index is like a country without a map." [Ste] Starting from this guideline we are now going to explain in the following how metadata can be used for efficient indexing and intelligent search algorithms. Thereby a relatively new approach, the so called Topic Maps, discussed in [Ste], can play a decisive role and will be described as possible solution in the following. A Topic Map is an XML based file format employed to formulate structures of knowledge using ontologies, which are formally defined systems of terms and relations resting upon interference and rules of integrity. Ontologies net terms and thereby knowledge logically. This process is exemplified by the chart below with an Ontology Map on arts.

The articles of the DRC are organized by detailed metadata, structured and classified. The Topic Maps act as links between the content of an article and other information not enclosed in the same article therefore building a cross-border network. Basically three domains can be distinguished: The domain TOPIC contains concrete topics, which means subjects described by a Topic Map, for example metadata in DRC-articles. TOPICs can be terms like "Fenster", "Fenêtre" and "Window" and belong to the TOPIC "Window". An umbrella term, the "Scope", determines which name is valid. "English" as Scope validates for example "Window", "French" validates "Fenêtre". Furthermore there exist OCCURENCES linking single topics with other documents, which in case of the DRC means articles. ASSOCIATIONS

represent the last domain of Topic Maps connecting the TOPICS with each other. Applying Topic Maps, very complex systems of classification can be created. That will in the future make it possible for computers to read and process these structures of knowledge following the concept of the Semantic Web. Employing modern algorithms and artificial intelligence, the customer can very efficiently find the information he is looking for. For our concept of the DRC this technology is especially interesting, as it makes a very dynamic and customized generation of compilations possible. For this reason it is particularly important for publishers to enlarge the metadata-system to allow the use of such technologies in the future.
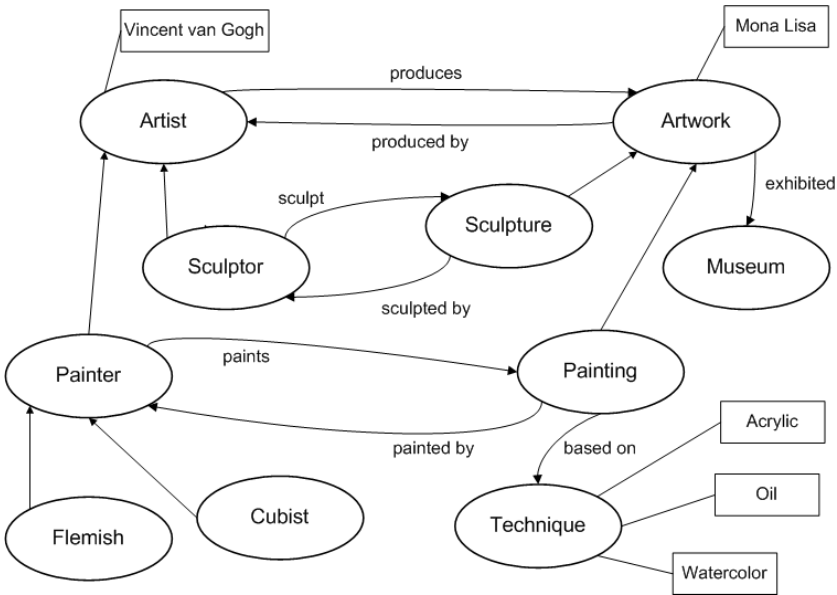
Figure 9.10: Ontology for Art Topics

9.6.1.3 Internet as Driver for New Features

A further advantage evolving from digitalization is the possibility to increasingly use the Internet as information, communication, ordering and distribution channel. It can be taken into account, that the Internet accessibility will grow considerably during the next years. Especially the wireless broadband Internet will allow instant access at any time and any place. This development presents concrete advantages particularly for DRC. First of all the potential reader is offered the possibility to get extensive information on online community platforms, where users can exchange their experiences and recommendations. Furthermore features can be integrated in single articles, which enable the reader to contact the author to talk about the content, potential changes for the better, amendments and mistakes. On the other hand

this presents an efficient, fast and inexpensive way for the author to publish updates and revisions of his articles. As the reader obtains access to the Internet at a moment's notice using his mobile end device, he can permanently acquire the actual version of his compilation. So the enduring quality and actuality of the articles can be guaranteed.

As we have already taken a closer look at the importance of metadata and according file formats, we now want to discuss how the Internet is involved in the process of metadata and which advantages the earlier mentioned Semantic Web contains for the concept of DRC. The technology of the Semantic Web is based on the idea of making information presented in the Internet machine-processable, in order to find, combine and share information more easily. While structuring documents and especially Internet pages, an environment where certain search algorithms or programs can carry out sophisticated tasks for the user automatically based on metadata information can be created. The goal is to provide information in a way to make it understandable for machines. The information is expected to be able to execute well-defined operations like searching, combining, sharing, etc on well-defined data.

Hereby so called "agents" obtain a special relevance. They consist of intelligent computer programs, able to process metadata and to detect interrelations between different sources with the aid of ontologies as well as to issue more precise queries. In that way machines will in the future be able to recognize knowledge, to structure it and to make it accessible to the human user according to his wishes. Unfortunately these methods have not come very far yet in development and distribution. "Today there are shop bots and auction bots abound on the Web, but these are essentially handcrafted for particular tasks; they have little ability to interact with heterogeneous data and information types." [Nig06] But especially the access to heterogeneous data and its networking is of major importance. It is particularly necessary for scientific publications and reference books to be understandable interdisciplinarily. "Hereby, the Semantic Web will facilitate the development of automated methods for helping users to understand content produced by other disciplines." [Tim] To grant this, various new technologies will be needed.

The use of so called Universal Resource Identifiers (URI), which can assign an ID to a certain publication, for example is being considered. The identifiers facilitate the process of linking, referring and retrieving a representation of a certain article for other authors by only needing to associate the adequate URI. Furthermore "Web Ontology Languages (OWL)" which are makeup languages for publishing and sharing data using ontologies on the World Wide Web will play a bigger role. "OWLs are designed to be used by applications that need to process the content of information instead of just presenting certain information to customers. They facilitate greater machine interpretability of web content than the content supported by XML, RDF and RDF Schema (RDF-S) by providing additional vocabulary along with formal semantics." [Wik] The languages are intended to be read by computer applications instead of human beings. The Semantic Web and the presented technologies will likely change the way how scientific content and knowledge will be produced, presented and shared in the future. [Tim] Particularly for Digital Reference Compilations and

scientific articles the developments offer numerous advantages: Besides ameliorated intelligent search algorithms the user will also have a pool of linked and structured knowledge at his disposal. Content of all kind and format can logically and traceably be linked. This will also help to raze the walls erected by lack of communication, especially between different scientific disciplines.

9.6.1.4 Data Rights Management

The digitalization of content and the increased use of the Internet do not only entail advantages. If reference compilations with included articles of different authors shall be available over the Internet in the near future an adequate system to protect intellectual property rights needs to be established. "The author has the exclusive right to his work. If the author does not display his work himself in public or get it published, nobody else has the right to do it, and the economic exploitation of the work is not possible. The work is made public when permission is given to make it available to the public. The work is published when copies of it have been delivered to a shop or otherwise distributed to the public, for example by using the Internet." [Lau03] Therefore ways to prohibit illegal duplication, distribution and piracy of digital content in the Internet have to be found. Concerning the compilation model the rights of all involved authors need to be protected as efficiently and well as possible. In the following we want to introduce three different concepts and discuss their strengths and shortcomings. The already mentioned restriction to one file format and one unit for several articles and augmentations guards the compilations from dissection and spreading of single articles.

The first possibility that goes completely without key and password authentication is based on the Digital-Watermark-System. Each time a customer places an order, a hidden, not reconstructable ID code is tagged to the delivered file. This code is dependent on the purchaser's user data which can only be deciphered by the publisher himself. The user is neither able to change the code, nor to see it. Thus every consigned compilation and all included articles are personalized and can be traced definitely to their user. In case of piracy of files in the Internet the potential perpetrator can be tracked down and made convictable by persecuting the watermark of the illegally distributed file. This method certainly redounds to the user's advantage as no key has to be created and administered and access to the compilation without need of the Internet is granted whenever the user pleases. On the other hand the user's personal data is processed and can only be reconstructed by the publisher. Furthermore the effort to find illegal copies and trace them back to their origin is relatively big. Therefore the watermark system can only be seen as a kind of passive copyright protection.

The Login-Protection-System is based upon another approach. At this the user ordering a compilation on the internet merely receives a user ID and a password which is specific to the accordant compilation. Via the suitable software on his portable end device (ePaper, eBook) he can access the analogical data base and temporarily retrieve the authorized compilation. A download must not be carried out

in this case. This technique provides the publisher with more control over the content. Updates can be actualized easier as the content always remains on the same server. A circulation of original files is impossible as these are not transferred with the package. The downside of this solution consists in the need of a working internet connection to access the compilation and therefore in a decrease of the user's flexibility. In exchange he is rewarded with possibility of always getting the most actual version of the product. Nor is it necessary to reveal a lot of personal data.

The Key Protection System integrates the first two concepts, which is based on the utilization of personalized keys. The reader, who is interested in a reference book, decides to order a compilation from a publishing company online. By signing up at an online platform the customer receives a personalized key, which is needed everytime a compilation is generated. This proceeding ensures, that the file can only be decoded by its rightful user. Illegal distribution would make little sense as the content is coded and not legible. Furthermore the reader can enlarge his compilation with more articles anytime he wants as all encoded files using the same key will match. This system is relatively secure, as it is based on the use of encryption software and therefore eliminates illegal dispersion by annexing the personal key. On the other hand the user is obligated to divulge his personal data which is saved in every file. In conclusion this system combines the flexibility of the Digital-Watermark-System with the password security of the Login-Protection-System.
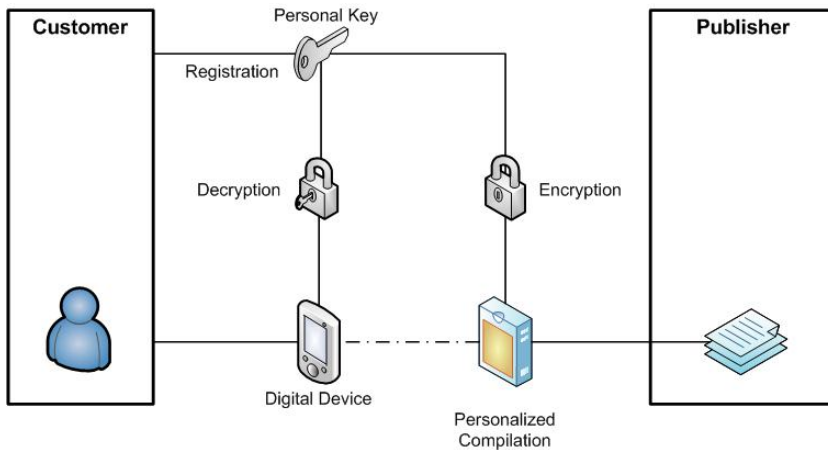

Figure 9.11: Key Protection System

9.6.2 Visualization of Content

9.6.2.1 Importance of Electronic Devices

After discussing the access to content we do now want to address the issue in which way the compilations are edited visually for the customer and which electronic end devices therefore play a prominent role. Besides the delivery of compilations as books we will also provide electronic versions. We will confine ourselves in the following to give attention only to ePapers and eBooks. Particularly with regard to the compilation concept the use of ePaper entails several advantages. In case the introduction of compilations is restricted to the normal book sector it will be easy to augment them with additional electronic and dynamic ePaper pages. This offers the opportunity to introduce the reader slowly to electronic material while leaving him the impression of buying a real book. It is also possible to place a compilation with a certain core content containing for example the most important issues concerning a given topic to the customer's disposal and therefore providing the user also with dynamic content like additional articles, images, videos etc. he can appreciate through the medium of his ePaper. At the same time electronic navigational features can be integrated and the user is enabled to control his compilation interactively for example over an On-Touch-Screen. Further information concerning that issue can be found in the following chapter. It is to admit that regarding the Book-ePaper-Hybrid model these features are still somewhat restricted. The full range of functionality is only guaranteed by the eBook itself. Here the reader has all-embracing control over the entire content of his compilation. Furthermore he has other operating elements like buttons and ports at his command which are not intended for the ePaper. Consequently additional features like voice control and direct communication with community members as well as authors are possible. The further utilization of eBook hardware as PDA or mobile communication device is not excluded. It has to be mentioned that the shape of a concrete electronic product for the year 2020 can not be predicted with certainty, although it might be possible that integrated solutions come up, where the flexibility of an ePaper is combined with the functionality of an eBook.

9.6.2.2 Augmentation of Electronic Devices

The already discussed viewing media ePaper and eBook are based on display technologies which process and depict text-based content as well as images and animations two-dimensionally. This method is not imperatively advantageous when visualization of three-dimensional objects is requested: a 2D display makes loss of data inevitable. That would be the case with medical reference books where anatomical structures could be made more intelligible by allowing the reader a three dimensional view at objects. This kind of visualization would also be of interest for technical compilations in the engineering branch, where component parts could be rendered visually and more precisely. On this account it would be reasonable to provide future electronic devices for DRC with additional features which are for example based on AR-Technology and Head-Mounted-Displays to enable the reader to view 3D ani-

mations and pictures, that were added to the articles at certain points within the text, with virtual reality glasses in real time to receive a better impression of three dimensional aspects and information of the treated content. A further step in this direction takes the method of holographic projection which is able to generate an image directly into the three dimensional space with the aid of laser video projectors. In this case according AR-glasses would be dispensable whereas the user would gain more flexibility in handling. So the user could also present the visualization to other viewers and discuss it with them. This would be great advantage for professors, who would be able to augment their lectures directly with holographic projections, which every student can perceive easily. Unfortunately this technology can merely show basic research success, although a Japanese university was able to present the first prototype of this kind projecting static holographic images in three dimensional space in 2006. With these technologies we will provide fully augmented reference compilations, which are especially valuable for students to get easier access to complex topics while using adequate visualizations.

9.6.3   Usability of content

After talking about technologies enabling the customer to visualize the compilation's content, it is now necessary to discuss the issue of navigation within the compilation, among the articles and control of content and structure. The trisection of data within one container format was already mentioned in chapter 9.6.1 and shall now be examined in detail. Every article in a compilation is segmented into different subsections on "Layer 1". The content of a scientific article or textbook could for example be divided into the following categories: overview, introduction, definition, explanations etc. These descriptions of content are encoded in the metadata on "Layer 3". Thereby not only every article but also every subsection within one article can be specifically addressed and processed. This is supported by special navigational software on the electronic device, so the user can arrange and prioritize the content of his compilation very dynamically. In case he is only interested in examples and questions for exercising, all interesting material within one compilation can be assembled automatically with one click not bothering the reader with time-consuming searches. Furthermore, additional information like comments by the author, cross-references or links to continuative articles can be saved to every subsection and recalled directly on prescribed position. There are also links to matching additive material from "Layer 2" like images, videos, animations or AR-files. This system makes it possible for the user to decide when, where and how he wants to query additional information and augmentations guided by the publisher's recommendations. Besides navigation between subsections the according software should also offer search and access options on hierarchical structures. The reader should be able to search for terms in superscriptions as well as in texts and footnotes. Fast navigation between these structures should go without saying. Talking about Usability of Content it is necessary to take a look at the range of the reader's interactive operating. In schoolbooks exercises can be integrated which can be done on screen. Via the appropriate
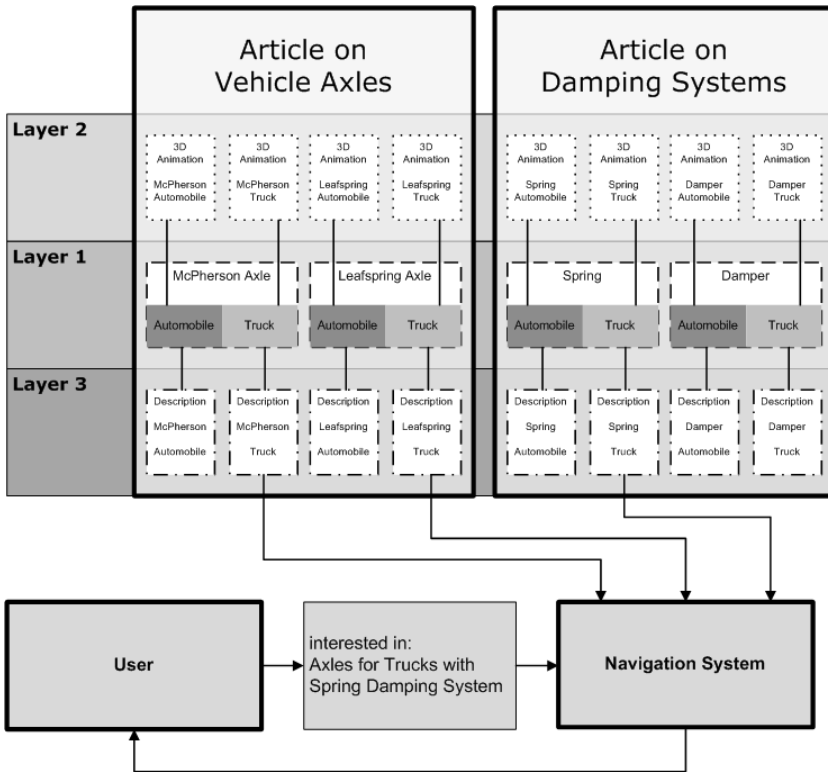
Figure 9.12: Dynamic Navigation Functions

text recognition program, for example an adequate OCR program, the compilation can judge and correct the answers on the spot and deliver respective explanations from the subsections if needed. To render this possible every single exercise has to contain accordant key words on "Layer 3" that match with certain subsections. The compilation's advantage lies in the specifically tailored answers in form of suitable text passages to individual gaps in the reader's knowledge.

9.7 Value Added Services

Books can be seen as a rather homogeneous good. So the reference book of the future needs to bring some extra value for the customer in order to compete successful. Within this paragraph new possibilities of enhancing the core product as it was introduced in chapter 9.3 are presented. The focus lies on additional services that make the compilations even more attractive for the reader.

9.7.1 Interactive training scenarios and advanced visualization

9.7.1.1 Visualization

Making use of digital technologies to display reference books opens new possibilities to visualize complex content. As we have seen in chapter 6 the technical implementation of such services will be possible.

As a first major area of application there is the education of engineers, medical students and every other field where the third dimension plays an important role. In the technical field there are countless situations where sketches on a plain paper are unclear or much time and imagination is needed to understand the layout of e.g. machines or robots. A three dimensional, animated model of the subject would make things clear on the first glance. Difficult technical processes could be followed step by step without having to change the medium - a great advantage for the reader and thus a service that may generate additional revenue.

Nevertheless visualization is just a first step in improving the reference book. In the next paragraph more advanced features are discussed.

9.7.1.2 Interactive training

Asking for the customer's needs we find that an expressive representation of knowledge is important. However, for the learning process it is even more important to practice the learning matters. This leads to a demand for interactivity that can be perfectly met by digitally compiled reference books.

For example, the three dimensional visualized contents for the medical students could be enhanced by virtual step-by-step guides that show different surgeries. Different viewing modes would allow a different amount of interaction. In the learning mode the surgery is shown at the three dimensional model, in the training mode the user can manipulate the model through a suitable interaction device, for example the touch screen of the ebook reader. Models for the simulation of medical operations are already topic of today's research[Sou00], but building virtual worlds that allow the user to receive realistic feedbacks (e.g. force feedback) are expensive. So students will barely be able to use these devices regularly. This makes it even more interesting to implement similar models within the reference books. Though the interactivity is restricted to the available input device, e.g. the touch screen, they can be an ideal source for recapitulation.

Of course, this applies to much more areas. Simulations of experiments for chemists or physicists, for example, can be presented in an interactive style, as well as examples beyond the university environment like a craftsman who wants to assemble something. He could take a look at the necessary steps beforehand or look at the instructions on the mobile reading device while he's working. For hazardous or critical procedures this could be an essential help. This kind of articles could also be integrated and made available through the compilation and rating system.

9.7.2   Individual Teaching and knowledge management

9.7.2.1   Central learning platform

Among the customers, buying our compiled reference books, there will be many people who are interested in learning about different topics in a structured way. This applies to students as well as to professionals who have to become acquainted with complex techniques.

For these people we want to offer a central platform based on a web service in order to supply them with everything they need in order to be successful. This means all of the documents they have already bought and hints for further interesting literature filtered by the evaluation system are collected there, sorted by the different topics and with a clear structure. Anytime the user will be just one click away from a matching step by step example, different exercises or deeper explanations. Through the implementation as an online service the platform can be reached from wherever the reader is. Especially for students who have to commute between their home and university there is an advantage because they can use their time much more efficiently if the necessary information for the next learning steps is stored in a central way and always held ready.

Thinking of a further development the cooperation with universities and professors could even be extended. An frequently observed problem concerning today's course Internet sites is the lack of updates, e.g. the students have to wait for weeks in order to get the right answers to given exercises. With little modifications a learning platform as it is introduced above can be used to substitute the university course websites. So the courses will base on literature provided through the compilation system and the examples (that might of course still be chosen by the professor) are released by a defined time scheme. All of this will be very easy to use, fully automated and integrated within the learning platform system.

An additional service could be an "ask the expert" option. In case of an university cooperation this surely would be a professor's assistant. In case of professionals there will be potential to set up a chargeable service where the platform acts as an agency that brings an expert and the customer together, so he can get a well-founded advice.

9.7.2.2   Control of learning targets

In order to bind the customers in the long run to our service a motivation for learning and coming back to the platform should be provided. For this reason the learning platform has to be enhanced by a module that allows the user to control his own learning process. The targets and the time line in terms of learning matters could be saved in the system, allowing the customer to view what he has already learned and whether he is in time or not. Packaged with appealing graphics this should be a great motivator and will make sure that the users come back regularly. So this option increases customer loyalty with minimal efforts.

9.7.2.3   Support for research papers and knowledge management

As a further component of the learning platform there is the field of persons that want to write research papers, for students e.g. diploma or master thesis. In the process of writing these papers there is often a huge demand for the latest publications in the according field of research. As the work on this studies often lasts over at least half a year it is important to keep an overview about recently published literature on the topic the student is working on. Fortunately, it is not necessary to read all the magazines and browse the web every day to look for what's new - because our system has already classified all new publications and will present the latest news to the user in a concise way. That might be links to articles in magazines, newspapers and online resources as well as new chapters in books which can be bought - alone or as a compilation with all the other new articles - with just one more click. As the information overload becomes more and more a problem within the scientific world today the evaluation and filtering of content will play an increasing role and will satisfy the customers' needs directly. The evaluation system, that has been established for the compilations, can be used as a filter which outperforms every machine-based filtering system due to the human input.

Another application besides the university environment is the knowledge management for professionals. Especially in technical professions it is a consensus that there is a need for life long learning. But of course not everyone is interested in every new scientific discovery. Most interesting for a professional working in a technical environment is a mix of very specialized information on the topic he is currently working on combined with more general overview articles on the whole field. Again one could read all the journals hoping to find something relevant, but this is very time consuming and might even frustrate the reader, if he doesn't find what he is looking for. Employees who are not motivated for further educational development are of course less useful in a high-tech environment. So from the company's point of view there is also a strong interest to keep their employees up-to-date in a time efficient way. All of that can be solved by providing a platform where only the relevant information is presented in a clearly arranged way. This can be achieved by the adapting the methods described above, i.e. by using the evaluation system as filter and by visualizing the so far collected knowledge, which also works as a kind of motivator because the passion to collect things is addressed.

Looking at the advantages on both sides, the professionals using the system and the companies profiting from the well informed employees, there should be a large market with growing demand in the future. The closest competitors there will be external training companies who might as well offer integrated concepts. However, further training becomes more and more a private concern [Arb99], so the costs will play a decisive role. By using already existent infrastructure like the rating and evaluation system we can cut costs to a minimum.

9.7.2.4 Outlook

As a further stage of development it could be thought of transforming the system from an individual knowledge management to a collective one for whole companies. The seamless integration of knowledge from the compiled literature and existing knowledge in a company provides easy and fast access to all the information that is needed at a modern workplace. Through our system this gets affordable even for mid-sized companies and will help them to save a lot of the today's 35% of work time that is wasted on searching for the right information [Dr.06].

9.7.3 Audiobook versions

9.7.4 Potential

The number of portable audio players increased dramatically in the past few years. In Germany 37 million mp3 players were sold in 2006 [BIT06b] and worldwide a number of 286 million units sold is expected for 2010 [In-06]. Additionally a growing number of cell phones will be able to play any kind of audio content. Through the ipod[App07] and the invention of pod-casts it has become more and more natural to not only listen to music with these digital devices but also get any other kind of audible content, of course this could be audio books, too. So we analyzed how this development will affect the field of reference books in the future and how additional services beyond our compilations could be provided in this area.

9.7.5 Content for audible reference books and customer group

Making the content available as an audio version will be no big challenge in the future. Maybe in 2020 it won't even be necessary to have a human read out the whole text but a speech synthesizer that can be adjusted to every favored pitch. Thus the question is not how to transform the content but rather for which content this makes sense.

Reference books in technical and mathematical matters with lots of equations surely are not as well suited for audio versions as more text based books are. But all fields of study where text plays the dominating role a spoken version will find grateful customers. Thinking from the customer's point of view there is and will be the wish to use time more and more efficiently. Combined with the wellness aspects of modern life the audio reference book product should be placed near the modern lifestyle people who want to use the time they spend in the fitness gym not just for listening music anymore but for learning purposes. So they can combine two activities that both satisfy their need to get in shape - in a physical and mental way.

As a second group the audible access to compiled reference literature will be a great help for handicapped persons. They will profit from the scaling effects that will it make affordable to buy such audio material because it is not produced exclusively for this audience anymore.

9.8 Conclusion

Concluding we would once again like to have a look at the in the beginning described situation presenting itself to a potential buyer of reference books - but this time in the year 2020.

A student of mechanical engineering for example, who is interested in a reference book about "undercarriages" and thereby especially in "axles", is offered a multitude of advantages and facilities by the compilation concept. To find adequate material he registers now on the Internet platform of a compilation vendor. He enters his name, field of study, state of knowledge and further information necessary for a successful matching and will then be able to search in the text database for valuable information following his defined criteria. After the entry of "undercarriage" and "axle", intelligent computer systems using ontology based algorithms recognize immediately, that the "axle" is part of the "undercarriage", which is part of the "vehicle" of which different types like "passenger cars" and "trucks" exist. That way the system can quickly pick out matching articles and visual augmentations if desired, structure them logically and add cross-references to continuative material or actual information in the Internet. After expedient material has been assembled, the compilation will be built based on the customer's profile and other customer's evaluations concerning the retrieved articles. Thereby the customer can profit from additional information related to the requested texts and provided by the community. As last step the student downloads the compilation on his electronic end device and is now able to use the structured, commented and easily navigated text, add own annotations, solve training tasks interactively and view three dimensional animations of vehicle axles of passenger cars as well as trucks. But also his professor can integrate these augmentations dynamically in his lectures to make them more descriptive. The user of reference books has a multitude of new possibilities, primarily based on the flexibility, quality and interactivity of the system, at his command.

The efficient implementation and the success of the compilation concept are dependent on several factors. First of all a versatile range of products is of importance, which means, that the first step, besides the digitalization of already existing reference books, should be the engagement of authors and scientists who support this concept and are willing to provide adequate texts. Thereby they obtain in return the opportunity to make their ideas quickly and easily accessible to a broad public. Furthermore digital content has to be converted into suitable file formats and provided with metadata in order to be able to use new technologies and the advantages of the Semantic Web. The build-up of a simple and clear evaluation system increases the consumer's satisfaction considerably and makes a direct feedback to the authors possible. This will in the end also contribute to the most important goal the publisher should pursue. To ensure the long term success of compilations, the quality and demand of the content is of major significance: Only if the consumer's needs can be answered quickly, extensively and on a high level, the user will be willing to make his contribution in form of evaluations to the success of the concept.

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Chapter 10

Lifestyle Magazine for Yuppies in 2020

Melanie Huang, Dominik Lembke, Raphael Steinbach, Julian Sußmann

10.1 Executive Summary

The Young Urban Professionals, in short Yuppies, form a market segment with a highly disposable income, which they have a proclivity to lavishly spend on their lifestyles. The demand for information on lifestyle has, so far, been met by a whole array of lifestyle magazines on the market, many of which still appear in the traditional paper form. This trend report puts forward the concept of a digital magazine, one that breaks through the boundaries of convention using cutting-edge technology and one that will fit the bill of the luxurious lifestyle product that Yuppies are looking for.

Looking forward to 2020, we question ourselves, what is the one item people will not go anywhere without? The house keys? No, the household in 2020 will no longer be guarded by lock and key, but by digital security systems. The wallet? No, one will most probably be paying with wireless technology wherever one goes in the year 2020. The mobile phone? Plausible, if we consider the rigorous research efforts in new technologies to be incorporated into mobile phones. These phones, with their plethora of applications, can indicate that in the year 2020, the mobile phone will be the one item everyone cannot do without. Furthermore, we observe the trend of converging end devices. It thus seems likely that in year 2020, yuppies will possess an end device that will enable all the technologies allowing them to interact with and function in their surroundings.

As a result of yuppies' increasing demand for highly individualized content and services, as well as a new form of representation of information, the traditional lifestyle magazine looks set to be rendered outdated. This report thus proposes a

new lifestyle magazine for the year 2020 called the yPlanet. The yPlanet is essentially a magazine that is presented in digital form on a high quality flexible screen display provided by the converged end devices. This end device is equipped with technologies that allow the yPlanet to provide services a traditional lifestyle magazine cannot. The content on yPlanet is completely individualised for each and every reader, depending on reading behaviour and location.

The report then moves on to propose a viable business model by mapping out a value chain that focuses on content generation, content bundling, promotion, content distribution and value added services. The contents of yPlanet will be editorial, user and externally generated, and will cover both the local and global scenes. Scenarios are included in this report to further illustrate this classification of content generated. For yPlanet, editorial generated content will be essential to set itself apart from its many competitors, whereas user generated content will serve the function of bonding the community of readers or users, and externally generated content must be acquired in order to respond to readers' demands on various topics. The yPlanet will be a lifestyle magazine that delivers exclusivity, individuality, actuality, reliability and quality.

In 2020, readers will leave behind the manual selection of reading preferences and instead, automatically receive a lifestyle magazine that is catered to his interests. This can be achieved via a strong uplink from the electronic magazine to the publisher, which is in turn realized by an in-built algorithm that tracks reader behaviour. Details on this technique will be discussed in the section 'Content Bundling'. The customization of advertisements and strategic placement of advertisements will also be enabled by yPlanet.

Apart from customized advertisements, readers will also have access to premium services like digital coupons. Using the algorithm talked about in the last paragraph, yPlanet will also be able to connect people with a good match in hobbies and professional interests, while keeping out those who the real yuppies are not so keen on networking with. yPlanet will also provide many other services, which are described in depth in the section 'Value Added Services'.

These value-added services, together with a slick design and high quality content, will play a very significant role in enticing the Yuppies to purchase the yPlanet. The yPlanet, designed to be a luxury item owned by a 'privileged' class, will also be marketed at a price that reflects the exclusiveness of this item, and in due time, personify lifestyle just as the iPOD defines portable music today.

Part I: Premises

10.2   The Young Urban Professional and his needs

The term 'yuppie' was first introduced in the USA in the 1970s, and is used to define a young city or suburban resident with a well-paid professional job and an affluent lifestyle. In the German context, the yuppies are characterized as a group of singles who are success-, performance- and advancement-oriented. They engage in exclusive pastimes, and are often touted to be materialistic or even hedonistic. [HOR01] These consumers fall in the age group 20 to 39, have received education up to at least the Abitur level, and the group is projected to have a population size of 1.23 million Europe-wide in year 2025. [HP05]

10.2.1   Characteristics of the yuppie

With their large disposable income and willingness to spend, the yuppies are definitely a popular target group for many businesses. BMW, for instance, has recognized the significance of this prestige -oriented group and has been manufacturing automobiles that specifically appeal to this group – speedy limousines, convertibles, roadsters and sport-utility vehicles. The white-and-blue BMW logo, above all, has become a symbol of the status and lifestyle that the yuppies strive towards. [Bou] Other luxury items like branded apparel and the latest electronic gadgets for example the iPod are also looked upon as essentials by the yuppies – essentials that personify a desirable lifestyle. The yuppie in 2020 will also like to see himself as a connoisseur who can appreciate cuisine and the arts, and can be expected to be willing to fork out large amounts of money to upkeep this image.

Other than by their compulsive spending on a luxurious lifestyle, the Yuppie is also characterized by his capability as an 'early adapter' to the latest technologies and concepts. Being young and well-educated, there is much more impetus for the Yuppie to pick up the latest technological trends than in other market segments, not forgetting that it is in fact his motto to be close in touch with the latest trends. The convergence of electronic devices in the world tomorrow and the Yuppie's affinity to new technologies both speak for the possible success of a portable digital magazine. At this point of time, it is also appropriate to stress that the Yuppie, more often than not, makes very well-informed decisions when purchasing. Therefore, it is important that the lifestyle magazine in 2020 becomes an exclusive and valuable source of information for comparison between various consumer products.

10.2.2   The needs of the yuppie in the year 2020

Applying Maslow's theory of the hierarchy of needs, we further identify the key demands of the Yuppie in 2020 – a need for self-actualization and sense of belonging.

Having fulfilled his physiological, safety and self-esteem needs, the yuppie in 2020 is expected to seek a channel for guidance and advice, as well as for interaction and networking. Therefore, the lifestyle magazine in year 2020 for the yuppie will not only provide information on the latest trends, but also be an avenue for the yuppie to obtain information on how to improve his personal well-being, as well as to build up a supportive network comprising of people with similar outlooks in life.

In short, the yuppie wants to be seen as an icon for affluence and style, and to be kept in the loop at all times with precise information on the 'hottest' lifestyle topics at his fingertips. In year 2020, the yuppie will be a very much more mobile group of consumers. He needs information quick and handy, even while moving within and outside the city. He wants to be informed of the best hang-outs in a foreign city, to live out the best in life wherever he is. Last but not least, he wants a lifestyle magazine that can widen his social circle, a lifestyle magazine that can cater to not only his materialistic needs, but can also guide him on non-materialistic issues in life.

10.2.3   The inadequacies of the lifestyle magazines today

As discussed in the previous subsections, the yuppies form a very homogeneous market segment demographically. However, their very diversified interests in the many different lifestyle topics, such as automobiles, interior design, technology and fashion, make it extremely difficult to capture the entire market with in-depth content, especially with the paper editions we have today. Instead of trying to focus on any particular subgroup, we recommend that publishers celebrate this diversity by devising a new magazine that can reallocate highly customized content to cater to the specific interests of this highly individualistic market segment. The need for integrated services, such as location-based and mobile services, requires publishers to take the revolution of the lifestyle magazine further, beyond the online versions that we have today. The technology we have tomorrow will facilitate this individualisation of content, as shall be further discussed in section 10.4.1.

We should also not forget to take into consideration that the yuppie has rather limited time outside his work commitments, and will most probably not want to squander his precious time sifting through information that is not of interest to him. The yuppie 2020 wants a condensed layout of information available, and wherever possible, a clever algorithm that generates content catered to his taste.

The yuppie expects to be in possession of the latest technology and needs to keep up his image of being technology savvy. Unlike the paper and online editions we have today, the yPlanet- with the 'hip' factor and high functionality rolled into one- fits the bill of a revolutionary electronic luxury item that the yuppie will be proud to possess.

10.3   Introduction to the yPlanet

Due to the inadequacies in the traditional lifestyle magazine we have today, we propose the concept of a revolutionary lifestyle magazine named the yPlanet.

To explain the origin of this name, we shall break the name into 'y' and 'Planet'. The yuppies in 2020 would fall in the age group from twenty to thirty-five. They thus belong to the generation Y, a generation which is also taglined 'echo boomers', as they are the children of the post-world war two baby boomers. The 'y' is also the abbreviated form for 'your', and therefore serves to highlight the specificity of the target audience for this magazine- a highly individualistic yuppie from generation Y. The lifestyle magazine, built onto an electronic end device, should be an updated reading material that informs on both local and global lifestyle news, and is the underlying reason why the term 'planet' was chosen.

The yPlanet can be described as follow:

- The magazine is essentially a flexible display screen small enough to be integrated into a mobile end device.

- The flexible display screen should be able to be unrolled or unfolded into an A4-size display for reading.

- Functionality of the flexible display screen should be reliable and of good quality in both light and dark conditions.

- The flexible display screen should be able to transmit videos and other moving pictures, and should be a user-friendly and interactive touch-screen.

- It might also be worthwhile to consider the construction of a flexible display screen that can be read independent of the end device. To achieve this, one can imagine having an unobtrusive data storage unit built into the flexible screen display. This storage unit will store content for the readers' perusal while the display is detached from the end device. This feature can enhance the attractive design of yPlanet, as it will be unnecessary to have the electronic end device hanging on to the display while reading.

In short, the lifestyle magazine 2020 is a flexible display that can be integrated into a mobile electronic end device. Through the various technologies enabled on this electronic end device, the magazine will provide many services to its readers.

The technical features should not be the focus of our new magazine. The true value of this new magazine lies in the bundle of services that can be offered as a result of the magazine's integration with the end device and the newest technologies available on it.

10.4 Technological Requirements for yPlanet

As mentioned earlier in the executive summary, this chapter will discuss in much detail how the desired features of yPlanet can be achieved. Building on the background knowledge gathered on the technologies that should be available by the year 2020, this section describes how these technologies will enable us to create a bundle of services that will characterize the revolutionary lifestyle magazine in the year 2020. Before we move on to greater details in describing some of these technologies that yPlanet can function upon, it is necessary to reiterate that the value of yPlanet is not created solely by the advanced technologies it uses, but is generated predominantly from the various services enabled by these technologies.

10.4.1 Communication with the surroundings

Using yPlanet mounted on an end device, readers are expected to be able to interact with their surroundings. There should be an exchange of information possible. For instance, a reader should expect to be able to access information from the magazine about a famous restaurant while he drives past it. He could then attempt to make a reservation at this restaurant using his end device. There is technology out there that can realize this yPlanet service in the year 2020. One of the techniques that has very high potential is, no doubt, radio frequency identification (RFID).

RFID is "an identification method that relies on storing and retrieving data using devices called RFID tags or transponders". The use of active RFID is growing rapidly, with several of its applications rising above \$100 million. Unlike the passive RFID operation which has been widely used so far, the active RFID operation, being driven from its internal power source, enables the tag to receive very low-level signals, as well as to generate high-level signals back to the reader. This new technology has revolutionary impacts on the distance for communication, ability to multi-tag, and to "add sensors and perform data logging". With the emergence of active RFID technology, the communication range between tag and reader has increased from 3 to 100 meters and more. Active RFID also makes it possible to accurately and reliably collect information from thousands of tags on a single reader, with the tags being in motion at more than 100mph (think about the prospects of using this technology while being on the move!). Date and time stamps are also possible for sensor events, and a large read/write data storage of 128kB with sophisticated data search and access capabilities will also be enabled by this new technology. [Aut02]

In fact, New IDTechEx research has also determined that the value of sales of active systems including the tags will now grow very rapidly from \$0.55 billion in 2006 to \$6.78 billion 2016. Demands for this new technology have been accumulating for some time, but two new drivers will make active RFID a much more practicable solution for application tomorrow – a reduction in cost and size of active tags and systems, as well as the availability of standardizations like the ISO 18000 EPC and IEEE 802.15.4. In future, miniature fuel cells, printed photovoltaics, improved batteries and printed transistor circuits will help overcome constraints in frequency

acceptance, tag lifetime, cost, performance and size. [ITE06a]

Using technologies like RFID on end devices in year 2020, we can expect to interact both locally and globally in ways we did not think possible just some years ago.

10.4.2 Real time determination of location

yPlanet shall be a lifestyle magazine that provides location-based services while the reader is on the move. This is a function that the paper magazines today have not been able to serve. Online magazines might enable its customers to access a limited pool of information at specific locations with a few clicks on the mouse. Such attempts to search for location-specific information are, however, often very time-consuming and fruitless. New methods of delivering location-relevant information thus have to be devised in order to keep up with the pace at which yuppies are moving, as well as to meet their demand for precise information at hand. The vision is as such: The yPlanet, in-built into an end device that has the ability to determine the location of its user, will provide the solution to this problem: With an automatic and effortless update on the location of the reader, the reader shall be able to receive information that he really needs within split seconds.

Real Time Locating Systems (RTLS) are electronic systems for determining the location of electronic devices, both in mobile and stationary conditions. It is one of the technologies whose rapid development will be driven by the exponential development active RFID technology mentioned previously. [ITE06b]

As claimed in [ITE06c], RTLS has consisted of very short range infra-red systems and complex, multiple antenna, multiple beam long range RFID. As a result of this highly specific market, merely 900 such systems have been sold. However, with the new portability and affordability of RTLS in various forms, RTLS is forecasted to become a $2.71 billion business in year 2016. With "improvements in the technology using new devices like parasitic WiFi locators and zonal RFID, which are effectively arrays of interrogators to ensure that a tag is always kept in range", we can expect that RTLS is ready for real time location of end devices in the year 2020. [ITE06c]. In fact, the company Ekahau has already developed a "positioning engine" which requires only the use of the common WiFi access points. WiFi networks can now be used to support a real time location system. [wwwa]

10.4.3 Peer-to-peer communication

In the year 2020, we can envision the yuppies to be digital bubbles moving around. Having predicted that the yuppies will place a strengthened emphasis on networking and interaction by the year 2020, there has to be means for these bubbles to communicate with each other. One of these means could be the Near Field Communication (NFC). The NFC is a RFID technology based peer-to-peer communication protocol that directly links devices to each other without the intervention of any intermediary

device or system. A NFC chip embedded in a phone can "act as an RFID reader when the phone is on, and then as a RFID tag when the phone is off". [Swe04]

In fact, Samsung and Philips have revealed their plans to go public with prototype NFC phones in the near future. The technology at first glance, seems to bare little differences to the widely used blue-tooth technology. However, with the strong influence of RFID technology in the daily life by the year 2020, NFC technology looks set to become an essential function on end devices.

In the years to come, we expect the communication range of the NFC technology to constantly increase, such that users can establish contact with others within an ever increasing radius. The yPlanet will make use of this technology in conjunction with a UserID unique to each yPlanet reader. This special identification number will enable them to identify themselves as yPlanet readers, hence giving them access to an exclusive channel for communication with other yPlanet readers. In this way, a mobile and dynamic social network between yPlanet readers can be constructed.

10.4.4 Rapid wireless connection

In the first phase of UMTS, the download speed was limited at 144 kbit/s, and the bandwidth was largely insufficient for the playing video clips on mobile phones. With the emergence of a new technique for data transfer called High Speed Downlink Packet Access, however, the transfer of large volumes of data (films, games and videos) at a maximal downlink data transfer rate of 14.4 Mbit/s has now been made possible. The transfer of data using HSDPA is now even faster than that of ADSL. Therefore, with intensive research committed to this development of this technology, the consumer market can look forward to even more amazing transfer rates that will enable yPlanet customers to perpetually receive updates and to view moving content on this new lifestyle magazine. [Man]

10.4.5 Flexible screen displays

Moving away from the conventional hard screen and paper display, we encroach on the era of flexible, big and colourful displays. The yPlanet has to have a screen that can be folded or rolled into a size that can be integrated into a portable end device. Its functionality should be consistent, and of high quality under all reading light conditions. The transmission of videos and other moving pictures should be enabled. Last but not least, the magazine should be an interactive human-machine interface.

Already in year 2004, square displays measuring 12 centimetres diagonally, consisting of 80,000 pixels with a roll-up diameter of 2 cm were created. They produced a greyscale image and refreshed every one second - a rate that is unfortunately way too slow to display moving images.

Just at the start of this year, Philips Electronics has given a boost to the outlook on the potential of this technology by announcing that the "first spinoff from its technology incubator group will be a company focusing on products for the rollable display

market". [Ric07]The same report disclosed that volume production of Polymer Vision's 5-inch monochrome rollable display will start as early as this year. Polymer Vision's prototype can even be integrated into a hand-held mobile device, and can be rolled out to a greater size than the actual device itself. The display can also be "read in bright sunlight and has lower power requirements than an LCD display with backlight". [Ric07]

If this technology is mature enough to be mass produced economically by the year 2020, it will definitely appeal to the yuppies being the sophisticated product it is. The trend towards increasingly interactive man-machine interfaces highlights the potential of a user-friendly touch-screen display.

10.5   Players

10.5.1   Technology

As we have seen in the description of the product and the features it offers, upcoming technology plays an important role in the development and success of yPlanet. That is why the publisher has to take into account cooperations with technology companies as early in the project as possible. The publisher has to make sure that all the standard interfaces that are needed will be implemented in future mobile devices and that they are compatible with the magazines software structure. The end devices have to offer interfaces to important services to enable the yPlanet to offer features that involve location awareness and communication with the devices environment. Furthermore the end device has to offer the possibility to track the reading behaviour and provide a seamless up- and downlink channel for yPlanet. Thus the publisher should try to get involved in standardisation panels and work together with the different hardware and mobile OS developers to ascertain access to these vital services.

10.5.2   Syndicated content

In the media section the ongoing digitalisation of content has an effect of very high impact on classical value chains in the business. In the classical few we are considering media content as a unit of content and its carrier. With the digitalisation of media this classical connection has been disintegrated. In the future, content is being offered without a carrier being necessary. This has once also been called the principle of "selling wine without bottles".[Pro01] Furthermore, in the media section an ongoing process of merging and acquisition is taking place.[And03] This is conditioned by the high costs of creating a media product in contrast to the money you have to pay for a copy - the first copy cost effect. These media players are acting on huge, globalized markets. And, as Adam Smith has already mentioned 230 years ago, the size of a market correlates directly with the degree of specialization, since the volume of sales are increasing.[Pro01]

Therefore, in 2020 the yPlanet can rely on big media distributors. These media distributors are going to offer highly specialised content for any demand. They are acting globally, hence a coverage of global content can be acquired as easy as coverage of regional topics. These content syndicates are going to play a major role in the media market of 2020. Besides upcoming technologies, syndicated content has to be considered as the enabling factor of creating a highly individualised as well as fairly well investigated media product.

10.5.3 Distribution

When we take a closer look on the distribution mechanisms of yPlanet it becomes obvious that there are new players in 2020 the publisher has to deal with.

First of all there are the data service companies. Due to the huge amount of content as well as the reader profiles the magazine has to provide and organize, data distribution and storage become vital to the success of the company. Therefore, the publisher has to very carefully pick the service companies that host the data and negotiate contracts that guarantee both a very high level of availability as well as a high standard for privacy. These cooperations have to take place with several companies that are located all over the world to provide the best possible connection for our worldwide readers.

The second new player the publisher has to face are telecommunication companies (TELCO). Not only does the publisher need them to provide for the physical distribution of content to the end device but they also pose a threat as potential competitors. As we can see already today the TELCOs more and more try to get into the market for content and information distribution. Companies like T-Online have huge internet portals offering information about a wide range of topics. A development that will most certainly continue in the future. As the publisher needs these companies to bring the content to the readers we face a possible dilemma. This can probably be overcome with cooperations that result in a mutually beneficial situation. The publisher needs access to the customer and the TELCO needs quality content. Thus yPlanet can for example provide some parts of the content for the TELCOs portal while readers of the yPlanet gain special conditions on their mobile internet access. Yet the bargaining power of TELCOs is not necessarily that high. If the development of communication technologies takes a slightly different turn in next years it could become possible that packet based connections completely replace circuit-switched connections and the TELCOs no longer have a real control over the traffic of the users.

Part II: Value Chain (Business Model)

Up to this point, we have had a look at all relevant premises concerning the yPlanet in 2020, its economical environment as well as enabling technologies. We have had a look at the yuppies, the customer group we are focusing on. We also discussed necessary technological aspects that will enable us to create the yPlanet. Further, we talked about all players that are going to have an impact on yPlanet's business. Now, we are changing our point of view. With the so far gathered information about the situation in 2020 we want to shape out a successfully running business model for our lifestyle magazine. In the following subsections, we take a detailed look at all parts of yPlanet's value chain. In this manner, we are going to discuss all necessary aspects of content creation, content bundling, promotion and distribution. Since the value added services are a very important part of our business, we include them in the description of our business model. By giving a precise description and examples (if necessary) the reader soon gets a distinctive impression of yPlanet's set up.

10.6   Content creation

10.6.1   Introduction

The discussion about the content of yPlanet is dedicated to the following core issues:

- What kind of content is it that we want to integrate (audio, video, text)?

- How does the set up of yPlanet's content generation look like?

- What are the major trends with impact on topics covered by yPlanet?

The question of what media is the content consisting is going to be discussed in the next subsection. While the convergence of media content such as text, video and audio has become more and more apparent over the last years, we are going to have a look on what is going to be possible with a more sophisticated three dimensional content. Since yPlanet is going to address a highly demanding customer group, this kind of content is going to tip the scale when it comes to competing in the lifestyle magazine market.

The next problem - how does the set up of the generation process look like - we have given a further consideration in the thereon following subsections. As a result we have developed a concept of generating content for yPlanet. With the three pillars of creating content to be described soon, we can meet the various interests of the yuppies in the most effective way. In order to preserve a maximum of flexibility, it is first and foremost a "construction kit" that gives the editorial department the freedom of content generation they need to sustain in the market in the year 2020.

Last but not least we allude to a very important topic in this context. Discussing what the major influences on lifestyle topics are going to be in the upcoming decade

demands a broad and highly speculative discussion. However, we are able to have a look in the future of the content of a lifestyle magazine - as it is provided in the last subsection of this chapter. But it is profoundly difficult to say: "In 2020 yPlanet will be covering the following topics...!", although it is possible to give important indications of macro trends with high impact on society and lifestyle (such as e.g. the convergence of nano-, bio- and information technology)[Ian].

10.6.2 Multimedia content - as good as it gets?

It is our first task to shape an authentic picture of what content we are talking about when we are describing the content generation process of yPlanet. An obvious development in the last years has been the convergence of media content. This is an ongoing process that will be completed in a few years[And03]. Further, it is not specifically related to the content of a lifestyle magazine but to all products related to future journalism. The core assignment of journalism has not changed by new possibilities upcoming through merging print, audio, video and online/multimedia. "Journalists collect, filter, weight, produce and distribute content - yesterday, today as well as tomorrow."[Ber06] In 2020 the content of yPlanet will be made up by text, video as well as audio. All these elements are going to have been converged to a multimedia content. So as we talk about content in the following sections, keep in mind that it is the multimedia content we are talking about.

Besides the so far discussed multimedia content another kind of interesting content is going to be available. This last important kind of the content takes a new way in spicing up the articles and advertisings shown in yPlanet. As already described earlier the end devices of 2020 will be able to show much richer content than an ordinary paper magazine of today. The ability to show videos and animations inside the yPlanet therefore opens new ways to include the reader into the content creation. Since yPlanet is focusing on lifestyle issues, the product is predestined for including individualized three dimensional content.

The idea is to incorporate the reader's visual avatar into the magazine itself. When the customer first starts the yPlanet application he is asked if he wants to enable the 3D avatar mode. If the customer chooses to do so the end device has to be connected wirelessly to a 3D scanning unit. These scanning units will be available in first-class fashion stores. These scanners that normally are used to measure up customers to get data for tailored suits then communicate this data to the yPlanet's end device. Afterwards the user is asked to provide some face shots and photos shot from certain angles - which can be taken without too much effort. Together with these shots the application then automatically creates a 3D representation of the reader.

This 3D avatar afterwards can be used on several different ways. First off the reader can use the so-called wardrobe feature. This feature enables the yPlanet's reader to choose fashion articles that he either scanned into the device earlier or that are shown in some of the articles or advertisements of the magazine. This database is of course individualised for each of the magazines readers to deepen the individual

character of yPlanet. The avatar can then be shown in these fashion articles to help the reader envision wearing these articles. A feature that can both be an incentive to buy fashion articles and can simply help the female Yuppie to choose the evening gown on the way home from work. She therefore no longer has to face the hurdle of trying on different gowns herself.

Next to this rather interactive feature which exists next to the magazines articles, there is the so-called 3D avatar mode which was already mentioned. If the magazine is in this mode it actively includes the user's avatar automatically inside the magazines articles and advertisements. Reading about the newest Armani fashion show in New York the reader can see himself posing on the catwalk wearing the up-to-date Armani collection and smiling into the cameras. The same becomes true for advertisements to further immerse the reader into the magazine. Just imagine the look on the readers face when he first skims through this new magazine and suddenly his own face smiles back at him sitting at the bar of the hip new restaurant yPlanet is testing.

The interaction of yPlanet with the reader will be greatly increased, which is another step into the direction that the life style magazine of the future will be an integral part of life. It will be possible to also look at how a diet might work or a certain work-out, if it keeps what it is promising. The unique shopping experience will be somewhat carried over into using yPlanet. That also makes advertisements much more attractive to partners in fashion and other branches which rely on a visual impression.

Clearly this 3D feature is not limited to showing the user. It will also greatly affect the other content. Where we see pictures today in 2020 we will see 3D animations. The latest gadget, car celebrity it does not matter. The challenge will be in the value chain. Who will create those 3D animations or the digital model of the new jacket, pants etc.?

If yPlanet creates these models it will be a serious cost factor and that has to be taken into account. The value to present that feature to the customers has to increase the yuppies willingness to pay. An advantage is that those models will not be used uniquely by yPlanet. So either yPlanet can sell licenses or it can buy them. The demand for these features has to surpass the cost. Since the 3D modelling will be automated cheaply like described above it will not be as costly as it might seem from today's perspective. For more complicated and far reaching objects (like technical gadgets) those models even exist today, since they are planned and constructed that way.

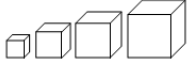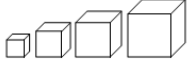### 10.6.3   The three pillars of content creation in 2020

Concerning the issue of generating content we have to take partially contrary objectives into consideration. The issues below have to be overcome to outperform competition of the lifestyle magazines' market in 2020 (compare section 10.2):

- In order to cover the yuppies' interests the magazine must have a wide-spread coverage of topics (even if yPlanet's content is concentrating on lifestyle).

- To meet the customer need for up-to-dateness, yPlanet has to be capable of reacting quickly on new demands. This includes the integration of content that might not be part of the core expertise of the editorial department.

- For the purpose of satisfying the need for highly customized content, an instrument has to be implemented that makes it possible to keep track of the demand of the magazine's readers.

- The yuppies are showing a distinct need for a sense of belonging. yPlanet has to integrate a community shaping instrument.

- The content generation process has to be - as a business matter of course - as cost-effectively produced and flexible as possible.

In order to create a working model of generating yPlanet's content we have to prioritize this long list of "nice-to-have" features. So what are the most crucial topics of yPlanet's content? It is essential to create specifically individual content to please the various interests of yPlanet's customers. Further, due to the yuppies' fast changing lifestyle, yPlanet must react quickly to changes in the demand. On the other hand the typical yuppie is very well educated, and therefore demands content of high quality. We thus derived the list of attributes that are going to make yPlanet firstly unique, and secondly, successful:

- Individuality

- Up-to-dateness

- Reliability and quality

The following figure shows the basic set up to meet these various requirements the most effective way. We found that the content generating process must be split up in the following sections.

	editorial generated	syndicated	user generated
global	▪international fashion ▪People (movie stars)	▪automotive ▪complex content (e.g. nutrition)	▪account of a journey ▪forum discussion (e.g. about arts)
regional	▪gastronomy in Munich ▪nightlife in Berlin	▪local trend sport ▪local events	▪review on restaurant ▪review on hotel

For each section examples are given. The cubes are indicating the approximated relative amount of content. It is important to understand that this is the basis for a "construction kit" principle so that our content can be adapted efficiently to the actual demand.

The subsections below are following a certain intrinsic structure. First we try to shape out which specific demand of the young urban professional is to be met. Secondly, we point out why this is going to be the state of the art in the year 2020. In the end we give examples of possible scenarios of how the concept is working in practice. In particular, the user generated content is going to create a big difference from the lifestyle magazines today.

10.6.4 Editorial generated content

The challenge concerning this part of the content is to create a specific perception of the magazine on the market. For the yuppies it is very important to be addressed explicitly differently from possible competitors (compare section 10.2). This section has to be considered as the "core factory" of content generation. The editorial department takes the leading role in detecting new trends and setting new foci. The content this section is producing has to cover all areas with a strong link to the classical lifestyle topics such as gastronomy, shopping, night-life etc. yPlanet has to meet the demand for an individual and unique product. The articles are informing about a unique lifestyle that, due to the concentration on better situated customers, not everybody is willing to and capable of affording. This individuality is generated by professional journalists specialized on lifestyle topics. They are organized in "competence clusters" in order to guarantee a maximum of flexibility. The section therefore has to have a distinct communication infrastructure ("networking") to create a unique appearance on the magazine market.

To give some more detailed indication on what the content is relating to, it is necessary to execute the split up between regional and global content explicitly (the following list can be extended if necessary).

A possible set up concerning regional content might cover the following topics:

- Gastronomy

- Shopping

- Nightlife

The global content might be related to topics such as the following:

- People and lifestyle news

- Travelling

- Fashion

- Music, Movies, Culture and Arts

Regional Scenario "Hype on computer games is reaching the yuppies in Munich"
The new trend sport playing computer games in public gaming zones has just reached the magazine's customer community in Munich. Concerning the online logs tracking the hits on articles (compare section 10.7) it is evident that the communities in Hamburg and Berlin are not influenced by that trend at the moment. The yPlanet board comes to the conclusion that the new demand in Munich is not just a temporary phenomenon. Therefore, an editorial group is put in place to report about the new computer gaming club scene in Munich.

Global scenario "Outsourcing the fashion section"
The fashion section, which has been written in-house since the magazine's establishment in the year 2007, is the most costly section. The main cost drivers are the travel and communication costs. Even though the German fashion scene has become more and more important in the last two decades, the most important fashion centres of the world are Hong Kong, Beijing and New York. Ever since ten years, the Bertelsmann Group has been successfully running a "fashion news" agency that has offered all needed fashion content. Now yPlanet has to decide either to keep the fashion section as a part of the editorial department or to outsource it.

10.6.5   Syndicated content

To meet the yuppies' demand for highly individualized content is actually the "war-decisive" challenge. The interests of the yuppies are very wide-spread. Also, due to the yuppies' fast changing lifestyle, the interests underlie a fast change as well.

Therefore, since yPlanet represents the role as the number one lifestyle advisor, the content has to be adapted very quickly. Furthermore the target customer is very well educated and informed about up-to-date topics. It is necessary to meet the demand for fairly in-depth investigated content (compare section 10.2).

Taking into consideration that the ongoing consolidation on the media market will have created big and efficiently working media companies (intermediary distributors) that are capable of serving as information providers, we can assume that in 2020 a lot of information and content can be purchased externally (compare section 10.5.2). The frequently changing demand can be met by yPlanet's competence of registering the customers demand and preparing the content individually. Since the reading behavior can be tracked down by the technology implemented in the end devices this is happening in real-time (compare section 10.7). Also, the syndication of content is managed on-demand and electronically (compare e.g. http://www.perooz.com). With new content management systems available in 2020 this process is taking place automatically to a very high degree.

Combining the possibilities of yPlanet to partially act as a content distributor and the ability to react on readers demands in a just-in-time fashion, the yPlanet is going to be a widely read adviser on all areas of lifestyle. The thus achieved flexibility is creating high value for the reader. The syndicated content is covering subjects of high complexity that are not being covered by the competence of the editorial department - covering all subjects concerning lifestyle.

Regional Scenario "Munich wind surfer community"
The wind surfer community in Munich has grown steadily in the past two decades. One might wonder how this could happen since Munich is located in the middle of the continent. But with climatic changes and an increasing number of autumn and spring storms, Munich, which is surrounded by various lakes, has become the wind surfer capital of Germany - even more than Hamburg. The demanded content is being covered by purchasing content of appropriate scene magazines. The cooperation with e.g. "Surfer Magazine" also enables the integration of wave surfing content and related travel reports that are read very frequently by yuppies from Munich.

Global Scenario "Automotive? No problem!"
All automotive topics are successfully covered by syndicated content. This content is mainly produced by the Axel Springer group and its partners. By integrating content of Springer's Auto Bild magazine, the readers of yPlanet get well investigated information about cars. The Auto Bild magazine profits as well since it can increase its revenues.

10.6.6 User generated content

The magazine includes a lot of interactive and community creating services (see section 10.4.5), and thus meets the yuppies' demand for a community shaping offer. The yuppies want to be part of a special, unique community that takes on a leading

role in lifestyle issues. They are also willing to share their acquired knowledge with like-minded people since they have a strong sense of mission. Furthermore, the yuppies have a strong demand on being kept up to date. And since they are adapting new trends extraordinarily fast by themselves, it is a challenge to create content that is giving them a real benefit (compare section 10.2).

The interaction of the reader with the platform of the magazine should be used in order to encourage the customer to take part in creating additional content for yPlanet. Having user generated content as a part of the magazine helps to improve the up-to-dateness and informational value. The possibility that an upcoming trend is registered and covered in-time is increased. Since we are trying to create a very trendy magazine, the customer who is actually paying to be better informed than others, would hardly excuse a lack of up-to-dateness.

The user generated content covers all topics of the magazines articles. It is possible to comment on articles of the editorial or syndicated content. Furthermore, the reader can post comments, articles or discussion distributions related to subjects the community is interested in. The content is - if necessary - revised by special editors supported by modern content management systems.

Regional Scenario "Al Pincio is running out of business"
The "Al Pincio" is a tremendously well running scene restaurant in Hamburg. The Italian owner is known for his Machiavellian behavior. When "lucylu", one of the leading female bloggers of the yPlanet community begins to write about her bad experiences with the restaurant's owner, the restaurant's gainings begin to decrease. Since the Italian owner refuses to apologize, the restaurant runs out of business.

Global Scenario "Saxony's art scene"
After an article about the new art scene in Saxony and one of its leading protagonists Michael Schwill the yuppies are having lively discussion about modern arts on yPlanet's platform. As a result of this attention the artist becomes the new star in Germany and later on even in the international art scene. One and a half year after the article has been published, Michael Schwills painting "Zwei Selben - Drei Gleichen" is beating the sales record of Jackson Pollocks "No. 5, 1948" (which has been sold for 140 million dollar 14 years ago) during an eBay art auction.

10.6.7   Important Trends with impact on lifestyle topics

It is difficult to give an exact forecast on which lifestyle topics will be covered in 2020. However, there are some major developments that do not go unnoticed. Closing this section on content, we go beyond the explicit level of generating content in 2020. The following developments cause major shifts of lifestyle topics in the next 15 years. We think that it is very important to give this brief overview to give an implicit impression of how life will change over the next fifteen years. So the reader can have a better imagination of what yPlanet is going to report about.

Asianisation of lifestyle topics In the last century our lifestyle topics have been dominated by North American influences (e.g. Hollywood, American music and the like). In future we have to be aware of the shift that comes along with increasing customer power in Asia. China and India will succeed in meeting all the challenges of their fast economic expansion. After Beijing and New Delhi have taken over a leading role in the world, they will influence global competition in various ways.[Mar06] Related to lifestyle we can await increasing influences on movies (e.g. Bollywood), fashion (tremendously different fashion style in Asia) as well as technology (just think about how the rise of Japan's economy has influenced our technology) and tourism (Asians travelling Europe as well as the other way around). These developments are not going to be finished than rather have reached their peak of dynamics in 2020.

Society O.k., society is changing till 2020, no doubt about it. And it is changing in so many ways, all related to lifestyle issues, that we could produce another trend report about this topic. But still, one issue is tremendously important and must be seen as a strong justification of implementing user generated content. The case of obtrusive surveillance by public authorities, especially in the form of security cameras in public places, is an increasing worry to privacy advocates. Nevertheless, some sociologists and technology watchers are saying that self surveillance - or people creating media and then publicizing it - is having a much greater influence on life in the future. Even privacy advocates would agree that if one wants to give up his own privacy for a specific purpose, that's as a matter of course ones right to do, end a lot of people do it very often. "The voluntary loss of Privatness is definitely on the rise. People are becoming very willing to disclose things for a number of reasons - for 15 minutes fame on television, for convenience, for coupons and special marketing incentives, and so on".[Pat06] By having an intelligent incentivation system encouraging the user generating content, yPlanet may fully exhauste this easy way of integrating content.

Entertainment Technology "Digital TV, DVD players/recorders, wireless hubs, large flat screens, and other innovations are converging toward the creation of a linked up digital home. Great obstacles remain, but the inexorable advance of IT makes this huge application almost inevitable. It is said, that once customer try online entertainment, they'll never go back."[Wil06]

On the streets of our cities you can see many people carrying around cell phones, laptop computers, PDAs, and the like. At home it is similar, the people have to deal with a whole bunch of unlinked electronic appliances - stereos, MP3 players, televisions, telephones, computers and peripherals, and so on. "Networking many of these devices wirelessly has helped overcome the problem, but full, seamless convergence of operations will vastly improve usability and digital transformation."[Rob06]

All this has a huge impact on lifestyle. Technology becomes more and more the essential lifestyle topic since it is going to influence our lives massively in 2020. This is also due to the fact that to implement a new gadget on the market as first line

of attack a trendy setup is chosen. New technology is most often a lifestyle product. The yuppies are going to look on technological appliances as they look on say jewellery or fashion today. Up-to-date technology is going to be a status symbol in future societies and therefore has to be covered by yPlanet's content.

Medicine and Biotechnology In 2020 in medicine a new epoch is going to begin. An amazing number of body parts can now be replaced with artificial equivalents: skin, bone, blood vessels, heart valves, and so on. Bionic parts are going to be purchasable to a broad stratum in future. Soon it is going to be possible for solvent customers to replace virtually any part of the human body. Discussions about this development are highly controversial, but the probability is increasing that human life extension is possible. New knowledge on this field is being gathered all the time. It is enabling an extension of the life of cells, the replacement of more and more organs and the improvement of lifestyles. "As a result, the trends suggest that human lifespans could approach what seems the natural limit of 120 years."[Wil06] The impacts and consequences on society and lifestyle are enormous. This is even going to effect our definition of a Yuppie. Who exactly is part of this target group if the lifespan is going to average 100 years by about 2030?[Wil06] The peak of this process is the so called transhumanism. This century mankind is going to be able to radically change what makes up a human being, and this fact alone gives a very special significance to the just started century. Transhumansim will be highly controversial since it raises major moral and ethical arguments. "It will lead to fundamental advances in what humans are capable of but will create extreme differences between the haves and have-nots."[Jam07] And at this point the yuppies take over a leading role concerning this development. Due to their high affinity to technology, their financial independence and rootage in urban subcultures the early adapters of transhumanism will be recruited among their ranks. This is a highly speculative discussion. However, it should be surprising if changing one's skin colour becomes a lifestyle trend in the year 2020.

10.7 Content Bundling

10.7.1 Introduction

The following part of the trend report shall deal with the content bundling aspects of the new lifestyle magazine in 2020. First of all: Why is content bundling especially important when talking about a lifestyle magazine for yuppies in 2020? The topic was already addressed briefly in the analysis of the needs and characteristics of the target group. Information and content today already are available at such an immense amount that most people simply can not cope with it. This development will continue in the future as more and more users will participate in the content creation process. Moreover public information portals like digital posters will become part of the daily life and further increase the information input people are facing. This phenomenon of

information overload can be addressed by implementing a highly individual style of content bundling. The yuppies as highly busy people that are always on the run have a strong need for a condensation of the existing content according to their interests. In 2020 the progression from content bundling for whole target groups to individual content bundling will finally become possible. The problem nowadays is that the digitalisation is still an ongoing process. Not until the digitalisation is complete and reaches the end devices of the reader, can individual content bundling become reality. That is when yPlanet becomes possible.

10.7.2 Digitization as an enabler

In 2020, as was already stated in the technology part of this report, the digitalisation that began today will have reached an even higher penetration of society. With the ability to take digital content anywhere you like and update it at the same time over a wireless broadband connection new possibilities for individual content bundling arise. Moreover not only the penetration of digitalisation will reach higher levels than today, but above all the acceptance of digital content in all areas of peoples life will reach new heights. The yuppies of 2020 are the children and teenagers of today, they will have grown up with digital products and will welcome it into their every-day life way more easily than today's yuppies.

What exists nowadays in the area of internet portals is a rather plumb and not very user-friendly approach to individualise content. The users have to choose from a range of topics they are interested in and then are provided with that content. When their interests change they have to manually choose different topics. In the area of print magazine publications not even that individualisation is possible. Even with print-on-demand individual content still can not fully deploy its potential. That is due to the fact of a missing uplink from the user or reader to the publisher. With the digitalisation of end devices in 2020 and the availability of highly flexible and high quality displays, as well as a wireless broadband infrastructure in urban areas, that will change dramatically.
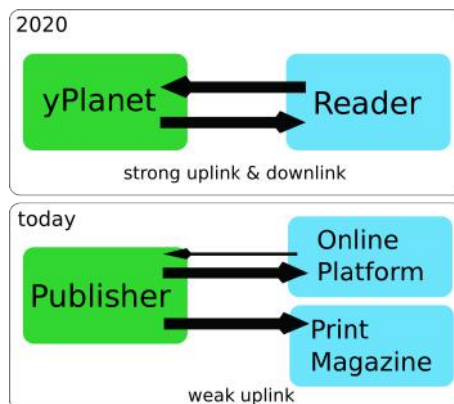
Individualisation   What the yPlanet of 2020 will offer its readers is a completely individual magazine custom-made to the needs of the reader. Based on a subscription service the publisher is always connected to the readers. It now becomes possible to measure the reading activities of the reader and use the results of the measurements to constantly adjust the content of the magazine.

When the user for example is in the habit of just skimming through the sport pages of the magazine, yet reads articles about the latest fashion trends quite thoroughly, the algorithms of the electronic reading device will recognise that behaviour and report it to the central system. This central content distribution system will then react accordingly and cut back on the sport articles and in the future it will only present the reader with short outlines of the sport events the reader was interested in the past. Furthermore it will extend the coverage of fashion events and trends in the magazine of the reader, to provide him with more in-depth content he is interested in.

Therefore, the reader no longer has to decide upfront which topic he is interested in but is automatically catered the content according to his needs. This fact is especially important for the target group of the yuppies that this lifestyle magazine is aiming for. The yuppies in 2020 will neither have the time to manually fine-tune their magazine nor will they feel like doing so. They expect a high quality content provision that fits their needs and interests. That is why they are willing to pay a premium price and expect a premium service in return.

Another fine example for the need of individualisation is the effect of great events on the interests of readers. If the European football championship in 2020 will have an impact that only slightly matches the one we had in the world championship of 2006, this becomes a fairly interesting point. Many readers that before had only a slight interest in football may now want to know everything about it. These readers can than individually be provided with the newest football facts, beginning with the upcoming games and past results up to the fashion hints of the spouses of the national team. Other readers may already be irritated by all the football content that they are confronted with. Our yPlanet can therefore provide this other target group with a content free of all football topics. The magazine thus is able to provide the appropriate content and easily cater to temporary changes in the reading behaviour of the target group.

Technical realisation   From a technical perspective the analysis of the reading behaviour and the recommendation of content should be carried out twofold.

The first part, the so called collaborative filtering, is mainly used to narrow the target group and find general interests. For instance collaborative filtering would recommend generally different content to female readers than it would recommend to male readers. Furthermore this technique is used to find readers that have similar interests and uses that knowledge to recommend articles that some readers of that group like to other members of that interest group. Collaborative filtering heavily relies on similar reading behaviour and lifestyles of a certain group. That is way it

can only take the individualisation of content so far. (compare [GSK$^+$99])

The second part of the algorithms to really individualise the magazines content should be based on personal information agents. These agents are based on two techniques: Information retrieval and information filtering. First of all, these automatic agents gather information about the available content of the magazine. This information is used to categorize the articles. The algorithms would for example differentiate between meta-information like sport articles, fashion articles, authors, text-length et cetera. Moreover, they analyse the syntax end semantic of the existing articles to find out about the style the text is written in, as some readers prefer rather formal articles while others might especially like humorous articles. After the agents retrieved that information - which does not happen on demand but rather when a new article is uploaded into the database - the filtering process starts. That is where the strong uplink mentioned before comes into focus: the agent collects data about the reading behaviour of the user and creates a profile accordingly. This profile than is compared to the gathered information of the magazines articles to find out the best matches. (compare [GSK$^+$99])

Regionalisation Another important factor of lifestyle magazines is the regional content. Articles about interesting and hip locations in town, like the newest sushi restaurant or the most exclusive cocktail bar, bring the day-to-day life to the yPlanet. The yuppies do not only want to stay informed about general trends fashionwise et cetera but they also are interested in the where-to-go places of their city. Nowadays lifestyle magazines cover these regional aspects either by varying columns or publishing different versions of the magazine for major cities.

With the new dimension of the digitalisation of the end devices a new kind of regionalisation becomes possible. The readers no longer are bound to buy a special city version of the magazine, or hope for a feature article that covers the region he lives in. With the strong uplink capacity of the end devices in 2020 our central content distribution system knows where the subscribers of the magazine are at the moment. Therefore, the system will automatically provide the reader with the appropriate content. For instance if a young business executive lives in Munich he is generally interested in the bar scene there. Yet as a young hotshot executive he is on the road a lot and visits lots of different cities on business trips. The magazines system recognises that fact and always displays articles about the "IN" places of the city the reader is just visiting. That way it no longer becomes necessary for the executive to either manually search old magazines about articles over the city he is going to visit or even buy a new, maybe different lifestyle magazine that covers that city.

10.7.3   Advertising benefits

The next important question we have to ask is what can future content bundling do for the publisher? Up until now we offered high quality content to the readers, yet in 2020 as well as today the bulk of a magazines income will origin from the advertising and not from direct sales.

Due to the nature of the advertising business lifestyle magazines for yuppies have quite an exclusive range of advertisers that are willing to pay according to their status - if the magazine can promise to reach the target group. The yuppies as a target group are very interesting for advertisers as they are still young enough to be influenced by advertisements and additionally they already have a high income which they are willing to spend on all kinds of things that match their lifestyle.

With our modern individualised approach to content bundling we not only cater towards the needs of the readers but also to the needs of advertisers. The more exactly the content of a magazine is customised for the reader the better and more effective advertisers can place ads. We therefore use a system of mutual benefits. On the one hand the readers want specialised content to minimise the time they need to find interesting articles, on the other hand the advertising companies want to know what content they are placing ads next to and want confirmation that the reader really is interested in that topic. Another positive side effect could be that the reader really enjoys certain advertisements and does not see them as an annoying part of the magazine but rather as interesting additional information enriching his reading experience.

Custom fitting of ads   Thanks to the new system with an uplink from the user to our central content distribution system it becomes possible to not only custom fit the content but also the corresponding ads. The systems algorithms for example can collect information about the reading behaviour and thus create a profile of the reader to find the most effective and interesting ads. To use again the aforementioned example of the reader that skims through sport articles and is heavily interested in fashion: The system can now place small clickable advertisements that mostly cover sport fashion inside the sport section of the reader's magazine. Additionally the system will place large and expensive ads of fashion labels and local fashion stores in the fashion part of the magazine. Of course the whole process is constantly being measured and reconfigured - if for example the system registers a high feedback for jogging accessories it will react accordingly and increase these advertisements.

Cooperation with advertisers   Here is where another technology comes in handy. Thanks to the wireless communication possibilities of the yPlanet and its end devices it becomes possible to not only track the reading behaviour but together with industry partners it will also become possible to track the shopping or at least browsing behaviour. Establishing close cooperations with local fashion stores, bars, discos et cetera our system will be able to know what kind of places the reader likes to shop or party in. Therefore we can provide advertisements of these stores or ones located nearby to encourage certain shopping behaviours - or motivate the reader to visit the newest and hippest disco, which conveniently lies directly next to his favorite cocktail bar...

Due to the fact that we can provide almost direct access to the user and therefore place the ads more efficiently than ever before, the prices of these advertisements

should be higher than today. Moreover a system that is already used today in internet advertisements will become possible to use: Via the uplink of the end device the user can directly access advertised stores online and the magazine gets paid accordingly. A fact that is also thinkable for the wireless communication part of the end device. For instance let us take a look at a user that just read the review about a new gourmet restaurant in his neighbourhood and afterwards decides to visit that restaurant. With the wireless communication technology it could become possible to recognise that fact and according to a cooperation with that restaurant a small fee would be transferred to yPlanet. Yet this scenario is probably more realistic when thinking about larger cooperations like fashion brands or car brands and similar companies - depending on how far the micropayment systems will develop until 2020.

10.7.4 Privacy aspects

Having seen the different aspects of individual content bundling that become possible in 2020, a very important question arises. How to handle privacy aspects of this new technology? As we have seen in the previous sections, other than today, a strong uplink connection from the magazines reader to the publisher is established. The publisher thus gains an in-depth view of the reader's personal life. The risk that arises is that the readers may get the feeling that the publisher pries into their personal life and sells that information to others.

Due to this fact a very strong and clear privacy policy has to be kept at all times. The magazine has to guarantee the reader that the information gathered by the system is kept not only confidential but also anonymous. The reader has to have control about all the information he wants the magazine to know and at all times has to have the opportunity to change these privacy settings. Even when a large part of the yuppies is quite outgoing and maybe even want parts of their lives published, the other part that wants to keep their private life private has to be taken care of first. It is always possible for the user of the magazine to declassify certain aspects, which is necessary to provide him with certain features of yPlanet.

Even if the magazine keeps all the information anonymous and confidential all the above mentioned features of individualisation and regionalisation are still possible. The readers will simply be a number in the content and advertisement distribution system. The connection between that number and the real name of the user will only be known to the system. Therefore the readers can enjoy the luxury of this modern and individual lifestyle magazine without worrying about editorial staff prying into their personal life. Additionally if the reader is fairly privacy conscious he can always opt for the option to deactivate most of the uplink functionalities of the magazine, but then has to live with a fairly general and sparsely individualised version of the yPlanet.

10.8 Branding and Advertisement of yPlanet

10.8.1 Introduction

Advertisement is a tool to establish a brand effectively in the market. It is essential to the success of yPlanet to develop an intriguing brand for the yuppies. There must be a twofold strategy. One important dimension is the topicality of the magazine. It has to be in people's minds in order to effect them and to ultimately provoke a buying decision. It is important to mention that advertisement and brand development, as parts of marketing, go beyond the supposed effect on the target group. Corporate culture is the other dimension and the framework in which all other activities have to be evaluated and developed. The past shows that an image which is not reflected in the corporate culture and the organizational structure does not work to sell a product. This challenge will have to be attended to in an evolutionary process. The required organizational structure in 2020 will probably be completely different from today's. For example, today newspapers already start to restructure their content creation; online publication is becoming a priority and the feel of the paper has a local flare. Naturally the device on which content is displayed influences the layout and content style. An effective advertisement and brand development strategy for yPlanet will be presented in this section.

10.8.2 Branding

Brands are more than names. A brand is a message which is sent by the publisher. The potential readers receive it and judge it by their own values and interests. A brand becomes a meta product, a "product for the product" [Kap04] with its own value. The reason is the additional emotional utility. This additional value will be a pillar to the success. The image of the magazine is the main driver of sales. The goal is to capture and communicate the style of the yuppies, so they relate to, understand and accept the product. The brand is a bundle of emotional and functional attributes whose quality is ensured by the name of the magazine. The reader does not analyze the bundle in detail, but the right mix has to be implemented by the publisher to create the right feel and style.

Positioning in the Market 2020 The yuppies always had a strong affinity for reliable luxurious brands, e.g. in the 80s a Rolex was the mark of a typical yuppie. Every successful product for yuppies has to have high quality and a superior, prestigious brand. This can be achieved through a multitude of instruments. Two of the main instruments have been presented in the chapters above. It is important to provide high quality, up-to-date content because only excellent articles can catch the attention of yuppies. This will not change over time, so this report will not elaborate on this aspect.

The second instrument already described are value added services. This is a new dimension to life style magazines which will be major responsible for the success

of a brand in 2020. Simply, the presence of the magazine and its influence on the life of the yuppie will increase dramatically through the slue of services provided. These services are not dominant in today's marketing, because they lack the right form. The form and design of a product cannot be overestimated. For example the cell phone, before it became small and a gadget with lots of different new functions - it was not successful in the mass market. Today everyone has a cellphone and it became a prestigious object for teenagers and adults as well. The same is true for the value added services. Yuppies are interested in gadgets, which look nice and work smoothly in amazing ways. The more the magazine provides a platform for the usage of future technological possibilities, the higher is the chance of success.

Another important aspect which the brand will convey is a call to action, being a major part of branding [Nol05]. The brand must be life changing. This can be achieved through the individualized content and services. An action oriented brand will convince people to make readership in this magazine a part of their new life style.

Corporate Brand　The sense is to create a psychological coherence to the entirety of the company's operations. Before, marketing stressed the importance of quality, creativity and the image. There are two more important key factors which drive success and those are company spirit and constant reinvention of the business itself.[GC01] Especially when creating a life style magazine, the company spirit of the publisher cannot be neglected. It is important to be able to get across the message of innovation and creativity. The magazine cannot succeed with a publishing house which lacks those attributes. On the contrary, the magazine has to be supported by the corporate image and should not be misused to renew it. The publisher should also be mindful to keep the publishing section organic. The values of the corporate brand influence the magazine and vice versa. They should not hinder, but support each other. The trend is that every company is seen and judged as an entirety, this will continue and increase as the future becomes more connected and mobile, since *every* brand will compete globally.

10.8.3　Advertisement

Effective communication consists of advertisement, public relations, sponsoring and many other forms. In this section a strategic plan is developed for the marketing mix of yPlanet and specific differences to state of the art communication will be shown.

Different Forms of Advertisement in 2020　Advertisements will be animated everywhere. Plastic screens will become extremely cheap, allowing them to be hung on the wall like a poster, or ads will be displayed by projectors on any wall in the city.

Additionally, there will be personalized advertisements on the displays of cell phones, papers people buy and of course on the Internet. The basic difference is

these personalized advertisements will spread onto most electronic devices, instead of being only online, e.g. cell phones and even TV.

Strategy   As mentioned above, there are two main goals. The first one is topicality and the second branding.

Topicality is important, because only people who know the product can buy it. Furthermore it is impossible to establish a strong brand that nobody knows... To achieve the first goal, the magazine has to be promoted in individualized ads. The target group is comparably small in numbers. The full range of advertisement possibilities can be used. The future advertisement possibilities will make it easier to reach smaller target groups.

To reach a favorable magazine image with the yuppie group, strategic alliances with other companies must be established. Those partners have to stand for style and cater to the needs of yuppies as well. The goal is to promote each others prestige. Those partners can be small, like exclusive restaurants, but they can also be of considerable size, like technology companies.

In summary, appropriate advertisement opportunities will be easier to find in the future, since it will be possible to individualize ads effectively "offline". The core of building a successful brand will stay the same, but the tools will change.

10.9   Content Distribution

The distribution of the main product, which is the individualised digital version of Y-Magazine, has already been brought up. Due to the nature of the product, distribution is rather simple. The digital content lies on central databases that administer the categorisation of both the content and reading profiles of magazine subscribers. When a subscriber activates the reading device the content on the device is automatically synchronised online with the central portfolio. New available content that matches the reader's interests gets downloaded onto the reading device while articles that are out of date or no longer match the profile of the reader are being pushed into the archive of the system. This whole process takes place automatically without the user having to do anything. This fact caters towards the Yuppies wish for condensed information, as they simply do not have the time nor the wish to loose time for customisation.

The archived articles are still available for readers that search for them, yet to simplify the reading and browsing process they are not included in the up-to-date version of the magazine. For instance a subscriber may like to read the review of the newest gourmet restaurant in town the day it is published, yet after reading it, it is no longer of immediate interest. Therefore it becomes pushed into the archive again after the user has read it. Afterwards, there are several ways the article might become part of the reader's magazine again. The reader could for example visit the restaurant and, thanks to location awareness, the magazine automatically shows the review and asks for a comment on the restaurant to inform other Yuppies about your

personal opinion. Another scenario one could think of is simply the reader searching for restaurant reviews because he wants to take the spouse out for dinner.

Of course advertisements are synchronised as well, as soon as the reading device activates. Therefore pricing and placing of advertisement can happen almost in real time and thanks to location awareness, ads are even updated to the current location profile of the user. Thus advertisement is treated quite similarly as the content itself and thanks to the individualisation may be a real enrichment to the reader. Reading an advertisement about a retail store no longer triggers the thought of consuming there which is afterwards crushed by the realisation of a one hour drive. With the individualised and location aware ads the consumer is made aware of shops that are just a few minutes away - the incentive to consume therefore becomes more effective.

10.10 Value Added Services

10.10.1 Introduction

In addition to the provision of content, it is necessary to provide services. For yuppies the life style issue is of great importance and is the binding thread in their lives. It connects their demanding jobs to their hobbies and social activities. The provision of services beyond the mere content of a life style magazine is therefore inescapable. Only through this can the possibility arises to satisfy the yuppie's desire to live a life style consistent with their self perception. Thus value added services beyond the articles are a core pillar for a life style magazine in 2020. As described before, stores, restaurants, all kinds of commercial facilities and also people will have a digital bubble around them. This "bubble" created through communication technology will enable people and stores to interact with each other digitally, by sending and receiving data. The enabler for many services will be the active content provision process. The individual interests of the reader will be known by her reading patterns. A great deal of information about hobbies, interests and the individual's personality will be revealed. This information can be used to cater to the reader through many personalized services for all aspects of life.

An important issue in this context is the security of data. Especially when information is not only gathered but shared, which will be required for some of the services. It is clear that the data has to be secure from intruders. However, there is more to it. There has to be a guarantee that the information will not be sold or exploited. On the other hand, the user must have full control: when he wants to share the information and under what conditions. The timing might also be important for location based services. Only through highly, trustworthy security and maintenance can the following services be a valuable supplement to the reader.
There are several services which come to mind, these can enrich the life of a yuppie. These services will be described in detail in the following section.

10.10.2   Coupons

This service builds on the data which is provided by retail stores or restaurants. There will be the possibility to incorporate digital coupons into the magazine for physical stores. This service is mainly for subscribers, since they will use a reading device which is able to send and receive data, in opposition to buyers of the magazine at a local bookstore. However it is cogitable that also the occasional buyer can download a version on such a device and enjoy the same premium services. The basic functions of this service are very easy. The owner of yPlanet can go into a store and look for an item she wants to purchase. Then she can scan in the RFID price tag and see if she gets a discount. Or she can enter the store and the device can tell her which items are discounted through a coupon. The customer can see that on demand while being in the described digital bubble around the store. In that way the customer can see if coupons are available and if a bargain can be made.

The new quality of shopping is clear. It is unnecessary to carry around little paper coupons as of today, which always get lost or thrown away. The digital coupons will just pop up when requested or available. There are also benefits for the stores. They can change their discount programs faster and therefore level the sales of different items, e.g. if a shirt use to be discounted through a coupon, but the store runs low in stock, that coupon can be canceled and put on a different item etc. Flexibility in sales system will increase. The old marketing functions will not be lost, since a coupon still calls attention to the store and a sophisticated discount program can increase customer retention. This system seems to be especially attractive to win over Yuppies, since yuppies neither have the time nor the willingness to sort coupons and write down all the latest specials.

By the provision of these services to the retail stores etc. additional income can be generated, since the coupons are distributed through yPlanet. In addition, the value of yPlanet increases for the user. Depending on the value of the coupons either the readers or the retailers can be charged, e.g. if the value of the coupons is very high, more readers will be inclined to buy the magazine and the willingness to pay will also increase.

10.10.3   Community

Taking a closer look at the yuppie above, it became clear that yuppies are networkers and live in a strong social context. They need contacts to advance professionally, but also to manifest their social status. There is little worse than not being recognized or being ignored for a yuppie. That is also a reason for his gadget and style affinity. A life style magazine in 2020 will have to support that need, because the "who is who" is part of the yuppie life style.

The first challenge is to find the right form, to make community building a part of the yuppie life style and avoid all "nerd" connotations. On top of that, yuppies do not want to spend valuable time to communicate with VUPs (very unimportant persons). So the second challenge is to create a quality or an exclusiveness of the

community over a long period of time. In this chapter four ways will be presented in which these challenges will be solved.

Create Valuable Contacts

It is important to bear in mind that all the people who can enter the community are subscribers to yPlanet. As described in the chapter about content bundling, there will be information collected about the reading habits of the user in order to provide the most interesting content. This information can also be used to build effective communities. The target group is highly diversified and consists of strong individuals. So it is a challenge to find a good match in interests or profession. The information about reading habits and interests in various parts of the magazine can be a great supplement to the information which is entered actively by the member. The advantage is obvious- it is much harder to cheat on your reading habits verses a few lines of your self-assessment punched in at the beginning of the subscription (like dating service nowadays). Thus the usage of that information bundle can help to increase the matching quality. It can help sort out imposters, establishing trust with other users. Therefore it will be easier to enter existing groups and to get to know interesting people.

Categories of contacts are also imaginable. There can be categories of party, job, dating and many more. The concept of categories allows people to meet others with the same goals. However categories are subject to strategic actions and camouflage.

High Quality through High Pricing Strategy and User Control

Yuppies have money and they are interested in spending it - on luxury and status. This aura needs to be affiliated with the magazine. Branding is a big issue and of the utmost importance. This topic will be covered in the next chapter. The discussion here is about the quality issue. Quality in this context is the composure of the community. The quality is high when the target group finds a lot of interesting people in the community. For the yuppies those people are other yuppies, of course, but also important or successful people and "worshipers" who want to be like yuppies. Businesses and singles will want to tap into this pool of high potential. That is a great opportunity for advertisement. This opportunity may also involve a threat. The community could be crowded by people who want to take advantage of the high quota of young successful people, may it be for business or private purposes. That is the reason for a higher price. That does not mean that there has to be a high price for entering the community. It can be for free to join - if the member is a subscriber.

These propositions will prove to be too restrictive. That is why a model like google-mail can be put in place. Non subscribers could be invited to join the community in order to enrich it. This way a high quality could be maintained, but friends who are not subscribers can join and increase the importance of this platform. The main interest of the magazine is to host a cool community which will cater to the need of style, career and fun.

Even though technology exists today to provide such platforms, it is just the beginning. Just chatting does not satisfy the multidimensional needs of yuppies. The involvement in a community needs to be carried over to mobile devices, so that the user can be connected in a casual talk with friends, while in the metro or driving through town. As long as people require the computer screen at home to participate in online communities, then these current services do not even scratch their potential. The new quality of communication reached in 2020 will make this service a success for the life oriented yuppie.

Local Connection

In this section location based services will be described. Just like mentioned in the section about coupons there will be a digital bubble around every store and every person. This can be used to establish contact among people who enter into each other's digital sphere. Today already almost every cell phone and many notebooks have bluetooth. With this feature it would be possible to communicate with others in the same room. However not many services exist which use that feature in order to connect people in ad hoc networks nowadays, which are actually used. The reason is obvious. People can just talk when they are physically close to each other e.g. within 10 meters distance.

So why should yuppies be interested in ad hoc networks in 2020? Will people in 2020 be interested in getting to know and talking to random people more than today-not really. But there is some potential which has not been tapped yet. By entering the digital bubble of someone else, certain information can be made available and other information can remain disclosed. The subscriber of the magazine will have the possibility to show her hobbies or other information wanted exclusively by other subscribers. By entering certain criteria of whom the reader wants to talk to, the device can screen the room if any person fitting this criteria is nearby. Then the reader can engage in an exciting face to face conversation instead of an impersonal online chat. This feature can add to the exclusive feel of the magazine. This service is for a casual setting. Most yuppies are singles and networkers, so they are not afraid of new contacts. This service would be a tool to get to know new people with the same take on life. It can be a fun game.

The new quality of controlled information which is sent to others will help ad hoc networks in this setting to gain importance. Digital keys could be implemented, which allows people to contact another person or to access information. Just like in a normal conversation the individual does not lose control over the conversation and to whom she talks. This service is just an example of many possibilities to push forward the strategy to incorporate the life style magazine more and more into the life of the yuppie. The life style magazine should not only talk about style, it should be style.

Party Connection

The life of yuppies also consists of social events and parties. This is important for networking and recreation. Which party you go to, the location of the party and the attendants are important to the individual prestige. This dimension of life should not be underestimated. Especially in the after hours, money does not matter - having fun is most important. In this setting a life style magazine can work at its best. It can provide information about the local or national party scene as described in the chapter about content creation. This already happens somewhat today. yPlanet will do much more. It will help people to connect.

One example of this superior connectivity can be found in a typical visit to a club. The person (e.g. Jack), while entering the club, will be registered electronically, e.g. through RFID tags which are scanned. The data will be sent to a server of the magazine. The magazine can now display which club Jack is in, add other information or even post a picture. Now everyone in the community, or in the whole world, can see where Jack is having fun. He can gain prestige and popularity by simply making known his location. This will be helpful and fun for joining up with friends, or avoiding certain places etc. In short, it is a good, useful feature for the users of that community. Added features can include livestreams from certain clubs online, a step up from today's in-house cameras and screens on which the guests are displayed. yPlanet can report on the best parties with the most subscribers present or the places most frequented. Games can also be initiated. For example, hopping around to different clubs at different times in the evening. The website can keep track of the movements and for extra incentive a prize could be offered by the sponsoring clubs to the one who attended the most parties in the evening. This would be perfect for the yuppie since, in general, they are very competitive, but also want to have fun.

The RFID tag can be part of the device or implanted, like it is already practiced today in some clubs, e.g. to enter the VIP section. As explained above it will be natural to have the device with you at all times. Just like it will be state of the art to have RFID readers at the entrance of entertainment facilities.

10.11 Outlook

The new approach of yPlanet depends heavily on future technology. The integration of these technologies will add many new dimensions to the idea of a lifestyle magazine. The question is whether yuppies will be willing to pay for it. As substantiated throughout the whole report, the magazine does not only depend on the affinity for technology of the yuppie. The highly individualized content, 3D content applications and value added services will create a high willingness to pay. Therefore high revenue can be generated through subscription services. yPlanet can also create revenue from advertising partners through strategic placement of advertisements.

However, as yPlanet is a product integrating many services and features that require the cooperation of many players, it is crucial to establish strategic alliances as early as possible. It is, therefore, necessary to identify key performers in the respective fields early and aligning them in the realization of this visionary product. Failing which, the publisher risks being overtaken by its competitors and facing a high market entrance barrier. High profits awaits the publisher of yPlanet if he grasps the window of opportunity that yPlanet provides.

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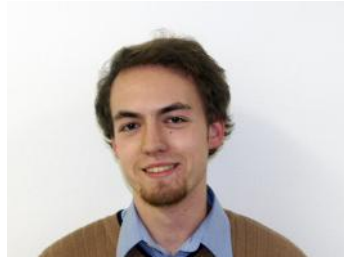
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