PAID CONTENT - PAID SERVICES

Analysis of the German Market and Success Factors of 280 Business Models

Florian Stahl - Fabian Siegel - Wolfgang Maass
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Preface

Between 1995 and March 2000 many people seemed to believe that the digital economy - at that time celebrated as "the new economy" - implied new economic laws. Such thinking was nonsense. After the "bust" and subsequent hangover, people claimed that information and communication technologies would not change much, and one only had to revitalize a few old financial bosses to restore the world to its old track. That was nonsense, too!

This =mcm-Study by Florian Stahl and Fabian Siegel shows that in ten market segments and by means of 280 business models that the market for "Paid Content" and "Paid Services" displays a high growth rate almost everywhere.

For the first time, this phenomenon is not described via vague consumer interviews, but on the basis of realized revenue with paid content and paid services. Consequently a change becomes apparent. So far, bad experiences in different categories, for example the Internet presence of a daily newspaper, have been extrapolated. Because an Internet reader has many alternatives for free, a turn-around from the "for-free" culture to paid content is difficult. By contrast, this study shows a growing willingness to pay regarding different types of “Paid Content” and “Paid Services” e.g. travel information, medical advice, weather information or product tests. This implies certain premises, such as adequate price differentiation strategies. Information and communication technologies are cross-section technologies, which change business fundamentally. We are well advised to record these emerging changes.

The Institute for Media and Communication Management of the University of St. Gallen is one of the research institutes which supply the necessary data.

St. Gallen, January 2004

Prof. Dr. Peter Glotz
Direktor des Institutes für Medien- und Kommunikationsmanagement der Universität St. Gallen

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1. Executive Summary

The Internet market for paid content and paid services is continually growing in significance, adding new meaning to the word "e-commerce". Business models regarding the range of premium digital contents or digital services, which, solely financed through advertising, were not possible or broke down in earlier times, can now be realized economically through "Paid Content" or "Paid Services".

This study provides insights into "Paid Content" and "Paid Services" gained through empirical analysis of provider-, client- and revenue data. It is one of the world-wide first studies which predicts online market development, market features and business models for "paid content" and "paid services" not only on the basis of consumer interviews but also on the basis of actual data on revenue.

The beginning of this study introduces a newly developed classification system for comparing business models in “Paid Content” and “Paid Services”.

The empirical analysis includes a market analysis in which market development by means of time series and different market features is presented.

In addition dominant business models in 10 market segments are described and the success factors for payment and price differentiation of the 280 examined business models in each of the 10 market segments are explained.

One result shown in the study are the high growth rates in most of the 10 market segments of "Paid content" and "Paid Services", which differ greatly regarding the number of offers, consumer, revenue and number of transactions.

The analysis of the business models in different market segments, depending on the digital contents and digital services offered, shows that consumer prefer different payment methods and that through different forms of price differentiation the returns in total and per transaction can be improved significantly.
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2. Introduction – Paid Content and Paid Services

“For the full potential of the Internet to be realized it will be necessary to develop methods to charge for the value of information services available on the network”

(MacKie-Mason, Varian, 1995)

The sale of digital goods and services has become reality. By 2003 a market for digital contents and services had emerged, one which did not exist in 2000. By this market, according to a study of the "Verband Deutscher Zeitschriften Verleger" (VDZ), up to 5% of the revenues of online-publishing-offers are generated through selling digital paid contents and paid services are generated. The difference of 30% in comparison to the revenue-mix of the offline publishing business suggests a potential for further growth. Nevertheless, the publishing industry is only one of many branches which have discovered the Internet medium as a new sales channel for digital products and services.

The acquisition of digital paid contents and digitale paid services is becoming more and more accepted by information consumers. A few years ago, in the paradigmatic frame of the for-free-culture, this was considered impossible. However, over 50% of the consumer interviewees in a current study of the University of Karlsruhe IZV6 (2003) regarding consumer behaviour indicate that they bought digital contents or services via the Internet. If one compares this with the fact that over 90% of the interviewees had already bought material goods via the Internet, one might assume the existence of considerable growth potential.

In Allensbach's (ACTA 2003) current computer- and technology analysis, in which 15000 people were questioned about their willingness to pay for digital contents and services - the increase of willingness to pay within one year has clearly been proved. As displayed in Figure 1 the willingness to pay for interesting information grows selectively in certain areas. According to ACTA 2003 it is the preparedness to pay for travel information, product tests, services which investigate particularly cheap product offers, and information about drugs, which is the most developed. In comparison to that the willingness to pay for financial information is relatively low. A particularly strong increase has been registered in the willingness to pay for travel, weather- and medical information. The share of the population which is prepared to pay for the routing for journeys has risen from 10% to 15%. The circle of people with willingness to pay for product tests has risen from 11% to 14% and the part
of the population willing to pay for information about new drugs has risen from scarcely 9% to 12%. If the willingness to pay in 2002 is equated with 100 as in Figure 1, the index observation shows partly the sharp rise of the willingness to pay, particularly for the interesting field of medical information. (Source: http://acta-online.de)

Fig. 1: Willingness-to-pay for information goods on the web in Germany
(Source: ACTA 2003)

The question which arises now no longer concerns the question whether costly contents or services can be offered, but how these can be offered via a digital medium.

The answer to the question "how" poses huge challenges for companies. Technical problems have been generally solved through the availability of adequate payment systems. Nevertheless, only few experience and empirical observations regarding the market for digital contents and services and their consumers is available.

A current VDZ study shows that in 2008 ca. 45% of online revenue of professional journals will originate from paid content and content syndication. This target can only be reached if business models and decisive parameters are not defined on trial & error principles. The
development of successful sales strategies for digital products and services has to rely much more on an empirically ascertained data-base as well as on solid economic analysis.

Our study offers the necessary conceptional support for developing a successful sales strategy for the digital contents and services market.

Our analysis goes further than previous studies in which mostly general quantitative benchmark figures were given with little explanatory value. For instance, observed average prices for digital contents of different one dimensional classified branches have been analysed and established. This study provides enterprises with better useable results, based on a newly developed method of classifying digital contents and services. These results contain evidence regarding payment methods used as well as price and quantity differentiation strategies and their relevance to the respective market.

Besides observing single market categories the study also provides an overview of the previous development of the market for digital contents and services and ventures an outlook on the future development of several payment systems and differentiation strategies.
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3. Approach and Methodology

This study was generated by the Institute of Media and Communication Management of the University of St. Gallen in cooperation with FIRSTGATE Internet AG.

FIRSTGATE Internet AG was founded in January 2000 and has developed and marketed the Internet-based system FIRSTGATE "click&buy" to tariff and settle purchases of digital contents and services on the Internet. The software developed is integrated as an ASP-Solution in the websites of providers of digital contents and services. If a purchase of digital content or digital service takes place the “click&buy” software set-up a session between the computer of the purchaser and the Internet server of FIRSTGATE Internet AG. The purchaser has therefore only to register once at FIRSTGATE Internet AG to obtain paid digital contents and services from all providers who use the software "click&buy" through simple log-in and password. Because the payment of all digital contents and services from different providers proceeds via FIRSTGATE Internet AG, the purchaser receives only one bill at the end of the month. FIRSTGATE Internet AG thus acts as an intermediary, which generates different value-added processes of e-commerce as well as providing technical solutions.

The FIRSTGATE click&buy technology is particularly used to market digital contents by media houses, portals, data bases, picture- and news agencies. FIRSTGATE offers medium-sized companies and private Internet users the opportunity to benefit from fee-required distribution of digital contents with little effort and to settle payment via FIRSTGATE click&buy. Since it was founded, FIRSTGATE “click&buy” has reached a leading market position in Germany regarding commercialisation of digital contents on the Internet. It has more than 2.5 million registered clients, who have bought digital contents and services at least once. Furthermore, more than 2500 providers distribute their digital contents and services through the FIRSTGATE “click&buy” software.

The data base, which was used for the empirical analysis to generate this study, is an extensive and detailed sample of the German market regarding the distribution and e-commerce of digital contents in the world wide web. It contains data from the provider side, data from the demand side and data on individual transactions.

In cooperation with the University of St. Gallen and FIRSTGATE Internet AG the =mcm= institute has developed a classification for categorizing and classifying digital contents and services. This will be introduced and illustrated in the following chapter.
The 280 suppliers with highest sales and their 550 websites were chosen from the data of FIRSTGATE Internet AG. Each of the 550 websites of fee-required contents or services was assigned to a certain category on the basis of web research. For each website 50 variables were used regarding price differentiation, proceeds models, settlement methods and further indicators. In our view the websites chosen represent a fundamental and broad sample of the German market for "Paid Content" and "Paid Services", this allows us to make statements about the market as a whole as well as about single market segments. In the analysis, data concerning the 550 websites was included as well as data of more than 3,5 million transactions/sales.

The FIRSTGATE Internet AG data as well as the data ascertained were analysed by means of statistical methods. Here, mostly "structure-discovering" and “descriptive” methods were used. "Structure-discovering" methods try to detect structures on the basis of the present data record, structures which do not start from a theoretical derived model (Homburg et al. 2002:105).

"Descriptive" means that statistical methods derive statements with regard to the underlying structures. The market development as a whole and in different market segments is described on the basis of a time series within the individually quoted time frame. The relative distribution and the average data regarding different features were established by using the arithmetical mean across the time frame from August 1st to July 31st 2003 to avoid strong temporary and seasonal deviations (to prevent a distortion of our results).
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4. Definition and Classification of digital Content and digital Services

4.1 Definitions

Firstly, central terms are defined, in the context of the object of investigation of the study. Due to their different economic attributes, the terms "Paid Content" and "Paid Services" are to be distinguished from each other.

**Definition “Paid Content”**

“Paid Content” is defined as the not-free electronic commerce of digital content and information goods in digital media. Examples of digital media are for instance the worldwide web or mobile media (SMS, WAP).

**Definition “Paid Services”**

“Paid Services” are the not-free supply of digital services in digital media. Digital services are services like dating services, SMS services or online game services.

To point out the differences between "Paid Content" and "Paid Services", the terms "digital content", "digital service" and their difference are exemplified and defined by Stahl (2003) in the following. Digital contents differ from digital services in the way that they can be passed on and be used by different individuals. Digital services can be characterized as a right which can be exercised, but not passed on without it being lost. The difference can be made clear by considering the differences between a MP3 music file and online gambling. The MP3 file can often be duplicated, passed on and exchanged - without capacity boundaries or losses suffered by an individual. These features of MP3 files as an example of digital contents are one of the main reasons for the huge revenue collapses in the music and media industry since the existence of the Internet. Online gambling, however, as an example of digital services, is only a right to participate when the purchased input is offered and traded. This right can be traded and passed on, but, contrary to MP3 files, the vendor forfeits the benefit of this right at the moment it is passed on.
Definition “Digital Content”

Digital Content is a combination of information and meta information, where object, structure and format of the information are separated. The meta information contains the whole context regarding the information. Features of digital contents are their usability, applicability, exchangeability and recoverability.

Definition “Digital Service”

A digital service is a service that is completely (or at least substantially) available for direct applications in an electronic medium. The value of the service consists of the right of the usage. Features of digital services are their usability, applicability and recoverability but not their exchangeability.

4.2 Classifications

The "Paid Content" and "Paid Services" market is very heterogeneous with regard to its type of offers. Consequently, to be able to analyse the market and business models, a classification of the contents is imperative. Classification schemes serve to establish comparability between the providers. The goal of the classification is to categorize providers (and their offers) in different market segments. The offers of the providers within one category are very homogeneous. Between different categories they are very heterogeneous. In many studies on paid content (e.g. v. Reibnitz, Oelbermann 2003) central economic parameters are presented by means of a categorization method which contains categories concerning technical features of digital contents (e.g. video, MP3, data base research) and thematic categories (e.g. Business, Adult,…). In those studies it is not explained how adult videos are classified - whether in the category "Adult" or "Video". Due to the mixture of features of digital content a clear allocation and explanation in these studies is not possible.

For this reason the =mcm institute of the University of St. Gallen has developed two complementary classification methods (Stahl 2003). The classification characteristics are independent and therefore can be combined. In the first classification scheme, digital contents as well as digital services are categorized by topic and context. The second classification scheme differentiates between digital contents and services (based on the distinguishing features described above). The digital content is classified and categorized on the basis of its format characteristics.
Classification regarding Topic and Context

In this study the classification of digital contents and services according to topic and context plays a major role. A final classification of contents by topic or context is not possible, because of the continuing development of new topics or the fact that determining the top categories regarding the topics/context depends on objectives and purposes.

An elaborate thematic classification method of digital contents and services is that of dmoz.org. This method is established and if necessary adapted in regard to a democratic process with nearly 60,000 people. At the same time the dmoz.org classification is downloadable "open source" and has no underlying commercial interest. As displayed in Table 1, 14 top-categories from dmoz.org are relevant for the classification of digital contents. These 14 "topic-categories" can be understood as different market segments, too.

Table 1: Categories of the classification method "topic/context" (dmoz.org)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arts &amp; Media</strong></td>
<td>(Movies, TV, Music…): This category contains fee-required digital contents, for instance MP3 files, film reviews, music scores, culture newsletters, photos, etc. or fee-requested digital services like photography or music community services.</td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td>(Jobs, Real Estate, Investing…): This category contains fee-requested contents such as folders of job applicants, actual financial information or investment recommendations, etc. as well as fee-requested digital services like fixed deposit online calculation, online legal advice, online tax advice or the setting up of advertisements regarding real estate in online portals. This category contains the contents and services for mobile telephones, too.</td>
</tr>
<tr>
<td><strong>Computers</strong></td>
<td>(Internet, Software, Hardware …): This category contains fee-required digital contents, for instance IT-publications, archives of computer magazine publications or software which can be obtained online, etc. as well as fee-requested digital services like fill-in services in search engines, online programs to draw up home pages or IT chat forums.</td>
</tr>
<tr>
<td><strong>Games</strong></td>
<td>(Video Games, Gambling…): This category contains fee-required digital contents, such as online games, instructions, and solutions regarding computer games etc. or fee-requested digital services like online raffles, online lotteries, or stock exchange games.</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td>(Fitness, Medicine…): This category contains fee-required digital contents, for instance premium content from menshealth.de, etc. or fee-requested digital services like the identification of the cheapest health insurance tariffs.</td>
</tr>
</tbody>
</table>
• **Home** (Family, Consumers, Cooking…): This category contains fee-required digital contents, for instance test reports from consumer bodies, ecological tests, etc. or fee-requested digital services, like contact information for babysitters or online software for the design and furnishing of apartments.

• **News** (Media, Newspapers, Weather…): This category contains paid digital contents, for instance current edition, archive articles or dossiers of daily or weekly magazines, etc. as well as paid digital services like the opportunity to retrieve weather news or meteorological charts for a certain region.

• **Recreation** (Travel, Food, Outdoors, Humour…): This category contains paid digital contents, for instance travel guides, excursion tips, analysis of camping sites, etc. or fee-requested digital services like contact data for agencies for shared car journeys.

• **Reference** (Maps, Education, Libraries…): This category contains fee-required digital contents, for instance learning materials, term papers, theses, etc. as well as fee-requested digital services like routing, traffic and city plans.

• **Science** (Biology, Psychology, Physics…): This category contains paid digital contents like archive articles of the journal "Psychologie Heute", articles from scientific journals etc.

• **Society** (People, Religion, Issues…): This category contains paid digital contents, for instance astrological analysis or documents of evangelical news services (epd), etc.

• **Sports** (Baseball, Soccer, Basketball …): This category contains paid digital contents like sport news or personal videos at the finishing line of a marathon.

• **Adult** (eroticism …): This category contains paid digital contents like erotic pictures, videos or stories, etc. as well as paid digital services like video chat rooms or lonely hearts ads.

• **Shopping** (Car, gifts …): This category contains paid digital contents, for instance software for online shopping at eBay, ordering a catalogue from a mail-order company etc. or paid digital services, like the address of the salesclerk or online assessment of car value by Schwacke.
Classification with regard to format

The second classification method is based on differences in the economic characteristics of digital contents and services as described above. All digital contents and services were classified twice, whereas single investigations combine the classification method "topic/context" with the classification method "format", as can be seen in the analysis later on. The classification format and its classes and categories are displayed in Table 2.

Table 2: Categories of the classification "format"

<table>
<thead>
<tr>
<th>The two top categories of the classification method are…</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <em>Digital Content</em></td>
</tr>
<tr>
<td>• <em>Digital Service</em></td>
</tr>
</tbody>
</table>

Sub classes and sub categories of digital contents are

• *audio-based files* (e.g. music recordings, speeches, MP3,…),
• *video files* (e.g. movies, television programs,…).
• *graphic files* (e.g. photographs, postcards, calendars, maps, posters,…)
• *text files* (e.g. articles, news, form,…),
• *software files* (e.g. software programs)

and any combination of these.

Sub classes or subcategories of digital services are

• *audio based services* (e.g. audio chat,…)
• *video based services* (e.g. streaming video, video chat,…)
• *picture based services* (e.g. dating services, small ads,…)
• *text based services* (e.g. contact information, SMS transmission opportunity, chat…)
• *software based services* (e.g. online games, gambling, homepage generator,…)

and any combinations of these.
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5. Market Analysis of Paid Content and Paid Services in Germany

5.1 Market Development

Germany is one of the leading countries worldwide in the field of “Paid Content” and “Paid Services”. The number of provided offers, the generated revenues and the number of customers has the biggest growth rates worldwide.

The number of offers increased by more than 72% during the period between July 2002 and July 2003 (as shown in Figure 2). In the individual categories, the growth rate was to be seen in three digit figures in some cases.

A possible reason for the growth in the number of offers of “Paid Content” and “Paid Services” is the increasing willingness to pay of consumers for digital contents and digital services. Because of this increasing consumer willingness to pay, new sellers and providers of digital contents and services enter the “Paid Content” and “Paid Services” market, since the ‘Revenue model’ suggests prospects for great success and a profitable future.

Fig. 2: Percentage change in the number of offers between July 2002 and July 2003
In addition to the increase in the number of offers, the change in revenue is important for assessing the development of the “Paid Content” and “Paid Services” market.

Figure 3 represents the percentage change in revenue during the period from July 2001 up to July 2002 and from July 2002 up to July 2003.

In the first period, the growth rate is significantly higher than in the second – on average more than twice as high. Between July 2001 and July 2002, the market grew on average by more than 400%. During the period July 2002 up to July 2003, the growth rates were still higher than 120%. The difference in growth rates is mainly due to the fact that the market was in a development phase in the first period and therefore a high growth rate was possible due to its low-key start.

The growth rate in the individual market segments shows that the market for digital contents and services is not yet saturated. Despite the significantly high volumes of revenue during the second observation period, almost all the market segments here also grew by three digit percentage figures.

For the period between July 2002 and July 2003, the growth of the seven strongest (in revenue) market segments was calculated for each month. July 2002 is the starting point of the growth rate at 100%. In Figure 4, an above average growth of the revenue of digital
contents and services can be observed in the market segments "Arts & Media", "Business", "Computers" and "References".

Furthermore, a Regression line (Trend line) was calculated for the course and development of the revenue in the general market for “Paid Content” and “Paid Services”. This Regression line can be described mathematically approximately with a parabola (of the sixth grade).

\[ y = 2E-05x^6 - 0.1261x^5 + 389.3x^4 - 640846x^3 + 6E+08x^2 - 3E+11x + 6E+13 \]

The Trend line describes the statistical relationship of revenues and time. A simple measure is necessary which describes how well the equation explains the (real) development in revenue which was actually observed in the data set.

![Fig. 4: Relative growth of the 7 strongest (revenue) categories, (or market segments) between July 2002 (= Index 100%) and July 2003](image)

This function is taken over by the coefficient of determination, known in technical terminology as \( R^2 \) (Square root of \( R \)), which lies in the range of 0 to 1. The smaller (or bigger) the \( R^2 \), the smaller (bigger) is the explanatory possibility of the model and the Trend line. A high \( R^2 \) denotes the quality of the adaptation of the Regression line to the observed
data. The equation depicted above has thus a relatively high explanation potential, since $R^2$ amounts to 0.9529.

Along with the growth of offers and revenues, the percentage change of the number of customers between July 2002 and July 2003 is introduced as a further characteristic of market development. As may be seen in Figure 5, in the market for “Paid Content” and “Paid Services”, the number of customers grew by 56.7% within a 12-month period. The growth of the number of customers is lower in comparison to the growth of the revenue. From this it can be derived that the increased revenue is not only to be ascribed to an increased number of customers but also to an increase in existing customers’ average willingness to pay. Thus, the results of other studies, which investigate the growth of the willingness to pay, were clearly substantiated.

**Fig. 5: Percentage change in the number of customers between July 2002 and July 2003**

Within the individual market segments, as is to be seen in Figure 5, the number of customers grew in the market segments “Home” (226.7%), “Arts & Media” (143.8%), “Computers” (140.9%) and “References” (100.9%), with three digit growth rates at their highest but with quite low rates in the market segments “Society” (11.2%), “Games” (9.1%) und “Recreation” (0%).
In the last two years, the German market for “Paid Content” and “Paid Services” has grown very strongly regarding offers, revenue and customers. On one hand, the growth rates have decreased and the growth of the market has slowed down; on the other hand, the growth rate of customers and offers is still in high two-digit figures and that of revenue in the three-digit area, despite bad economic fluctuations in Germany, a depression in e-Commerce and, currently, a significantly high level of the sum of offers, revenue and customers. The market is not yet saturated.

On the basis of this market development, a prognosis can be established for the revenue model “Paid Content” and “Paid Services” that, compared with the revenue model financed purely by advertisements for the offer of digital contents and services, it will become more and more important. The small revenue of the “Paid Content” and “Paid Services” – initially greeted by a smile - will reach company relevant size.
5.2 Market Characteristics

Following the presentation of the development of the German market for “Paid Content” and “Paid Services” in the preceding section, a few central market characteristics will be introduced and explained in this section. The statistical distribution of:

- Offers
- Revenue
- Purchase transactions
- Number of customers

to the individual market segments within the classification schemes of “Theme/Context” and “Format”, as well as the average revenue per sale/customer, account for the characteristics examined.

For this study, as mentioned above, 550 websites from 280 hosts (providers) were analyzed. A graphic representation of how the paid content and paid services on the 550 websites, in short the “offers”, distribute themselves among the 14 different categories of the classification scheme “Theme/Context”, is given in Figure 6.

![Fig. 6: Relative distribution of the number of offers among the individual categories.](image-url)
From Figure 6, it can be abstracted that the highest number of offers are for the “Adult (26%)” and “Business (23%)” categories. Furthermore, many offers exist for “References (11%)” and “Computers (10%)”.

Observation of the relative distribution of revenue (in the individual categories according to the classification scheme “Theme/Context”) of the aggregate market for “Paid Content” and “Paid Services” helps us, at first sight, to perceive a similar picture as in the distribution of the number of offers. On the other hand, the two biggest categories of “Adult” (18,49%) and “Business” (15,73%) are comparable to the market share of offers, the dominance of which, however, in terms of revenue is significantly smaller.

![Fig. 7: Relative distribution of the (aggregate) revenue among the individual categories.](image)

A clear distinction between the categories with the third and the fourth biggest market shares can be identified from Figure 6 and Figure 7. They are the categories “References” and “Computers” in relation to the offers, but at a distinct distance from the top two categories of “Adult” and “Business”. With reference to revenue, third and fourth are the categories “Shopping” and “Games” (12,07%) - the difference of their market share from that of the top two categories is again notably smaller.
A further central characteristic is the number of transactions, i.e., the number of sales that take place in the individual market segments. As we see in Figure 8, the most (sales) transactions take place in the market segments “Shopping” and “Home”. In the market segment “Shopping”, there are mainly cost-obligatory digital services for the offer of goods e.g. cars. In contrast, in the market segment “home”, cost-obligatory digital content e.g. studies about product tests lead the field. Both categories are small in market share for offers, and belong to the medium wave of revenue. From this it can be concluded that low-price models rule in the mentioned market segments.

Fig. 8: Relative distribution of (sales) transactions among the individual categories

Following the presentation of the relative percentage distribution of the number of offers, revenues and (sales) transactions, the distribution of the number of customers among the individual categories of the classification scheme “Theme/Context” can be shown as a fourth market characteristic (see Figure 9).
As is to be seen in Figure 9, the market segments (with reference to the number of customers) “Home” (23%) and “Shopping” (17%) have the biggest market shares. Consequently, in those segments not only are the numerous (sales) transactions relating to digital contents and services proportionately active, but also, at the same time, the sellers in these market segments succeed in getting numerous customers to buy what they are offering.

Under the assumption that the customer's interest in digital contents and services in the market segments “Home” and “Shopping” is not bigger than in the other market segments, e.g. “Adult” or “Business”, the relatively large number of (sales) transactions and the relatively large number of customers in these two market segments can be interpreted to mean that the difference between the customers' willingness to pay for digital contents and services and the given market prices in these market segments is relatively larger than the difference in other market segments. In other words, very few sellers in these market segments offer fee-required digital contents and services, which attract for large numbers of customers and thus they are being demanded repeatedly. This observation can also be interpreted to the effect that the price level of the cost involved in acquiring digital contents and services in these markets lies within the scope of many customers' willingness to pay.
All the four described market characteristics “Distribution of Offers”, “Distribution of Revenue”, “Distribution of (Sales) Transactions” and “Distribution of Customers” in relation to the classifications scheme “Theme/Context” are given in Figure 10.

As can be understood from Figure 10, the biggest differences with respect to the market characteristics are those between the market segments “Adult” and “Home”. In the market segment “Adult”, the biggest share of the revenue (18% market share) belongs to relatively many sellers (27% market share) although only a small share of the customers (7%) in this market segment acquire digital contents and services. In the market segment “Home”, big revenue is made by very few sellers (1% market share) with relatively many customers (22% market share) in comparison to other market segments through a high volume of (sales) transactions.

Having observed the market characteristics until now mainly in percentages and relations between the individual market segments, at this point we shall compare of the average value in absolute terms.
For this purpose, the average revenue per (sales) transaction (in €) and the average number of sales per customer (in €) is represented in Figure 11.

From Figure 11, we can see that the biggest revenue per (sales) transaction has been made in the fields of “Society” (€ 10.55) and “Science” (€ 6.05). This relates to the fact that very high value digital contents (e.g. studies) or digital services (e.g. astrological analysis) are being offered here. The revenue per customer in the market segment “Adult” is quite clearly the biggest. The proportionally large numbers of sellers of “Adult Content” are able to incite their proportionally fewer customers, (compared to other segments’ customers) to repeated purchases (a customer buys 4.16 times on average from an “Adult” seller). When one interprets the average number of transactions per customer as customer binding, then this is the biggest in this market segment. This graphic shows that the adage “Sex sells” is valid also for “Paid Content” and “Paid Services”.

On average, each (sales) transaction yields € 3.05 and each customer spends an average of € 5.99. The average purchase rate of the customers is around 1.96 purchases from the same seller.
As was explained in Chapter 4, digital contents and services can be classified not only according to the Theme/Context but also according to the (technical) format. As upper categories, digital contents and services are differentiated in this classification scheme. Figure 12 shows the distribution of offers and revenues in digital contents and services in the market “Paid Content” and “Paid Services”. It is clear that more digital contents are being offered than digital services. The total market revenue distributes itself, however, in exactly the same proportion between “Paid Content” and “Paid Services”.

As explained in Chapter 4, both “digital contents” and “digital services” can be divided further into sub-categories. Classification of the offers into sub-categories of digital contents and services is represented in Figure 13 (for digital contents) and Figure 14 (digital services).
As is to be seen from Figure 13, the further classification of offers as sub-categories of digital contents is not easy, since in 43% of the websites that offer digital contents, a bundle of
contents of various formats (e.g. texts and graphics) is being offered. 23% of the websites offer cost-obligated digital contents in the form of graphics, 20% in the form of texts.

Classifying the offers as sub-categories of digital services is easier. 59% of the offers are for text-based services. Examples of text-based services are cost-obligatory contact information in a portal column, SMS sending possibility, chat rooms, online gambling (e.g. lottery). A further 24% of the offers are for “graphic-based services”, which are in the form of dating services or cost-obligatory uploading of a picture for an advertisement. In Figure 15, the percentages of distribution of offers and revenue, i.e. the sub-categorisation of the digital contents and services, are contrasted.

As presented in Figure 15, the contents-bundle (35%), i.e. the bundle of contents of various formats, accounts for the biggest share of the market revenue. This is not only the biggest category for offers within the market, but also, by and large, the biggest for revenues. Sellers who offer only one format of content realise on the whole only 15% of the market revenue. In “Paid Services”, which also accounts for 50% of the total market revenue of the “Paid Content” and “Paid Services”, the revenue is being realised, above all, by the text-based service (28%) and graphic-based services (14%).

5.2.1 Revenue model

According to Bernd Skiera and Anja Lambrecht (2002), an supplier must not only set up the optimal prices for its products, but must also determine what the price actually relates to. The latter decision is referred to as the choice of the revenue model, wherein the revenue source must be specified. The revenue model is the basis for a price model, from which the concrete price scheme is derived. Bernd Skiera and Anja Lambrecht (2002) identify three different revenue sources for media businesses on the Internet.

<table>
<thead>
<tr>
<th>Products</th>
<th>Contacts</th>
<th>Informations</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e.g. digital contents and services)</td>
<td>(e.g. banner advertisements or E-mail advertisements)</td>
<td>(e.g. user profile, panel data)</td>
</tr>
</tbody>
</table>

“The actual product is priced based on the revenues from the sale of the products. The undertakings revert to the revenue source contacts if they use the contacts as the customers of their products, in order to realize revenues (e.g. through advertising or sponsoring). The contacts of the revenue source can be related to the products of the revenue source or replace them. […] With it, naturally the interdependence between the revenue sources must be observed. […] This type of revenue sources can be employed collectively or isolated” (Source: Skiera, Lambrecht, 2002).

In the frame of the present study, only the two revenue sources “Products” and “Contacts” were examined, since no information was available about the extent to which the sellers of digital contents profit from the sale of user profiles or information on user and purchase behaviours. On the basis of the research objective of the study, only the alternative, “Payment” or the mixed form “Payment & Advertisement” exist as revenue sources for the sellers analysed.

In this connection, it should be noted that the question does not arise for all digital contents or services of whether the distribution should take place via the revenue source “Payment” or the mixed form “Payment & Advertisement”, since there are a few formats which, for
reasons of lower willingness to pay, can at times be financed only through “Payment”. Conversely, there are also content types and content formats, which can be created only with high costs and for which advertisement does not represent any revenue source. According to a VDZ study (v. Reibnitz, Alexander; Oelbermann, Martin 2003), this relates significantly to the long economic life of the contents of these formats, which cannot be updated. The longer the economic life, the more difficult is the financing of the advertisement, since advertisement, to a great extent, needs updating. In this way, formats with a low advertisement potential have no alternative than to be financed purely through payment.

The analysis of 550 examined websites of 280 sellers shows (see Figure 17) that one third of the websites obtain their revenues solely from the sale of digital contents and services. Two thirds of the sellers obtain their revenues from the mixed form of payment (through sale of digital contents and services) and from advertisements (banners).

![Fig. 17: Revenue source of the sellers of “Paid Content” and “Paid Service”.

In Figure 18, the distribution of the market revenue for “Paid Content“ and “Paid Services“ is represented in accordance with the chosen revenue sources of the sellers. We can see that those 34% sellers who obtain their sale proceeds purely out of the sale of cost obligatory contents, contribute 39% of the market revenue in the market for “Paid Content“ and “Paid Services“. Consequently, these sellers make more revenue on average through
the sale of digital contents and services than the sellers who obtain their sales proceeds through both the sale of cost obligatory digital contents and services and advertisement. This does not mean however that the average total revenue of the sellers who also operate with advertisement banners should be lower, since the revenues from online advertisement are still, on average, significantly higher than those revenues which are generated through the sale of digital contents and services.

Fig. 18: Relative Distribution of the Market Revenue from ”Paid Content” and ”Paid Services” according to the chosen Revenue source of the Seller.
5.2.2 Payment method

In addition to the decision about the revenue model, the question of the form of Payment method has to be clarified for every business model in the area of “Paid Content” and “Paid Services”. Four different Payment methods were identified by analyzing 550 examined websites from 280 sellers.

- Pay per Click: The customers pay for each information object which they open or download.

- Pay per Minute: The customers pay per minute or hour for the time which they take to view a service or to search for information.

- Club / Membership / Subscription: Here, the customers pay for the regular use of a service. This form of payment is relevant in a time period which is defined in advance.

- Pre-paid (“Pre-paid per Click” or “Pre-paid per Minute”): The customers pay in advance for an exactly defined contingency for content or services. The customers receive a credit from the seller through the Postpaid-Payment-Methods. An example of this form of payment is the sending of a certain number of SMS from the Web using “Webcoins”. This type of payment is used, above all, for certain products or services for which very small transaction sizes are calculated and which would create bigger costs as individual payments (e.g. “Pay per Click”)

Besides, a few of the sellers also offer a choice of combinations or other payment methods. Figure 19 depicts the frequency distribution of the various payment methods for the 550 websites from 280 sellers who were researched.

The predominant payment method is “Pay per Click”; more than half of the sellers sell digital contents and services using this method. The second most frequently used method is that of offering digital contents and services as subscriptions or in clubs (21% of the sellers choose this payment form). 12% of the sellers offer both payment methods.

In Figure 20, in addition to the distribution of the offers, the distribution of the market revenue according to the various payment methods is also to be seen. The relative distribution of offers is almost identical to the relative distribution of the market revenue.
Fig. 19: Payment methods (I): Distribution of the Offers according to the payment method applied

Fig. 20: Payment methods (II): Distribution of the Offers and the Market revenue according to the payment method applied
5.2.3 Price differentiation

A further characteristic of the market “Paid Content” and “Paid Services” (and at the same time of the individual business models) is that of price differentiation, which is explained and introduced in the following sections.

**Definition “Price Differentiation” (Source: Wöhe 1996)**

When the same products (e.g. digital contents and services) are being offered to various consumer groups at differing prices, then we talk about price differentiation. Price differentiation is possible, since the individual consumer groups possess various levels of willingness to pay and react with various degrees of sensitivity to prices and the market, i.e. the buyer groups can be divided into different segments of varying prices.

According to scientific theory, price differentiation can be classified under different forms:

- **Quantity-related price differentiation**: price differentiation based on the size of the buy-off quantity.
- **Personnel price differentiation**: price differentiation on the basis of the affiliation to certain socio-economic groups.
- **Regional price differentiation**: price differentiation on the basis of the place of offer.
- **Application-related price differentiation**: price differentiation based on the intended application of the product.
- **Time-related price differentiation**: price differentiation based on the time point of the consumption of the service.

Price differentiation helps suppliers to maximise their profits through differentiated market adaptation, since revenues can also be made in a market sector with low demand, without reducing the revenues from the market sector with higher demand.

Siegel (2002) differentiates between price differentiation using self-selection and price differentiation using price bundling. Wöhe (1996), shows that consumers can be partly categorized as homogeneous consumer groups (e.g. personnel price differentiation) or they fall automatically into individual consumer groups on the basis of their preferences (e.g. quantity or application related price differentiation).

Price differentiation has special significance in the context of “Paid Content” and “Paid Services” since, due to information technology, consumer behaviour can be exactly observed and analysed. This makes market strategies possible, which would have not been possible in other markets due to a lack of data. The possibility of price differentiation is very
high for digital contents and services. In our analysis of 550 websites from 280 sellers, we observed 17 different forms of price differentiation in the market “Paid Content” and “Paid Services”. Below, the 17 ascertained forms are assigned to the theory-based forms of price differentiation already listed.

- **Quantity-related price differentiation**: Characteristics for “Paid Content” and ”Paid Services” are the price differentiations according to the
  - *Duration of the membership or duration of subscriptions* (various time periods of membership are offered, whereby long term membership periods are proportionately cheaper than the corresponding short term ones)
  - *Scale of Services*
  - *Number of (sales / purchase) Transactions*
  - *Scale of the contents*
  - *Utilisation period*: (e.g. the utilisation period of certain services which were pre-paid like the announcement of the contact notification)

- **Personnel price differentiation**: Characteristics for “Paid Content” and ”Paid Services” are those according to
  - *Subscription / without subscription* (e.g. subscribers to magazines obtain cheaper terms on the purchase of ”Paid Content” and ”Paid Services”. Frequently, this is verified technically by monitoring the subscription number.
  - *Age* (e.g. students receive “Paid Content” and ”Paid Services” at lower prices)

- **Regional price differentiation** was not observed in the market for “Paid Content” and ”Paid Services”, since regional price differentiation was technically hardly possible due to the properties of the Internet.

- **Application-related price differentiation**: In this form of price differentiation, the following factors are accounted for
  - *Type of Utilisation* (e.g. private use or commercial use of a rubric market service)
  - *The Means* (by which the “Paid Content” or the “Paid Services” is being communicated)
  - *Quality of the content* (e.g. high resolution graphics are more expensive than low resolution graphics, doctoral dissertations cost more than degree theses)
- **Format**: (e.g. photos are cheaper than videos)

- **Time-related price differentiation**: This form of differentiation takes into account up-to-datedness, since for digital contents and services, this timeliness can influence its value decisively (e.g. as in financial information). Time-related price differentiation is partly according to daily up-to-datedness and partly according to monthly up-to-datedness.

In addition, certain characteristics of the price differentiation in the “Paid Content” and "Paid Services" market were observed, which are special forms of price differentiation and which cannot be assigned to the general types of price differentiation.

A special characteristic of price differentiation is, according to Varian (1995), product bundling and product splitting - in short “Bundling” and “Splitting”. According to Siegel (2002), product bundling, which can also be described as price bundling, “involves a price differentiation in the multi-product case, whereby the prices of the products are not interdependent” (Siegel, 2002:5).

We talk of bundling when various products are sold together as a bundle. Examples of bundling in “Paid Content” and "Paid Services" are dossiers of magazines, in which various articles on a particular theme from different issues of the magazine are sold as a bundle. In this respect bundling, as a characteristic of price differentiation, is profitable for the company, since through it the heterogeneity of the consumers’ willingness to pay can be reduced. Splitting is the converse of bundling. We talk of splitting when the bundled products (e.g. each magazine at the kiosk is a bundled product of different articles on different topics by different authors) are split into individual member products and are then sold separately (e.g. the articles of a magazine being sold individually in the Internet archive).

A further characteristic of price differentiation in the market for “Paid Content” and "Paid Services" is differentiation according to the **Type of contents or services**. An example is price differentiation for the contents of adult-material (soft erotic vs. hardcore) or the different prices in the rubric markets according to the rubric (e.g. contact advertisements are cheaper than advertisements of job offers).

Besides, in the “Paid Content” and "Paid Services” market, depending on the payment method, slightly different prices are levied on a product. In this way, prices for the online
payment method are cheaper than payment through invoices or transfers. Whether this characteristic of price differentiation comes under the scientific definition of price differentiation is, however, unclear.

In Figure 21, we now see the relative distribution of the offers in relation to the various applied forms and characteristics of price differentiation in the total market of “Paid Content” and “Paid Services”.

It should be noted that price differentiation does not take place in 51% of the observed websites and the offers from “Paid Content” or “Paid Services”. As a result, this distribution refers to only 49% of the analysed websites.

The most frequently chosen form of price differentiation in the market for “Paid Content” and "Paid Services" is the form of duration of membership or duration of subscriptions (31%).

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**Fig. 21: Forms of price differentiation in the market for “Paid Content – Paid Services” (I): Distribution of offers corresponding to the forms of price differentiation applied**
In Figure 22, in addition to the distribution of offers, we can see the distribution of market revenue corresponding to the various forms of price differentiation. The relative shares of market revenue are significantly higher for price differentiations involving the number of transactions (quantity discount) or for price differentiations between subscribers and non-subscribers, than the relative share of sellers who chose these forms of price differentiation.

The market characteristic of price differentiation is explained further for each individual market segment in the following chapters. In doing this, we are able to highlight which characteristics of price differentiation, so to say, of revenue and of consumer binding account for the profit factors of the business model in the particular market segment examined.
1. Executive Summary

2. Introduction - Paid Content and Paid Services

3. Approach and Methodology

4. Definition and Classification of Digital Content and Digital Services

5. Market Analysis of Paid Content and Paid Services in Germany

6. Characteristics and Analysis of Business Models for Paid Content and Paid Services in individual Market Segments

7. Fundamental Results of the Study

6. Characteristics and Analysis of Business Models for Paid Content and Paid Services in individual Market Segments

The development and characteristics of the total German market for "Paid Content" and "Paid Service" were presented in the previous chapter. This chapter highlights and explains central economic characteristics and profit factors from 280 business models in 10 different market segments, classifying the sub-categorisation of the market segments according to "Theme/Context" (as per dmoz.org). The areas of "Arts & Media", "Business", "Computers", "Games", "Home", "News", "References", "Society", "Adult" and "Shopping" form part of the market segments and business models researched.

The market segments "Health", "Recreation", "Science" and "Sports" are not explained individually due to their small market sizes; in them the small number of sellers and low revenues provide only insignificant data. Consequently no generally valid analysis of the success factors is possible.

The most important profit factors for the sale of "Paid Content" and "Paid Service", which act independently of the market segments, are pointed out: they are "Quality", "Up-to-datedness (Timeliness)" and "Exclusivity" of the digital contents and services. If the quality of the offered cost-obligatory contents or services is poor or if the timeliness of the cost-obligatory contents or services does not correspond to the consumers' wishes, then they cannot be adjusted through the profit factors which are specified in this study, e.g. price differentiation.

Only premium contents and premium services are being marketed for a price, since lower quality contents are available for free on the Internet and are only a mouse click away. An example is a new album from a popular music artist. If fans do not find this music album good, they do not buy it, no matter how low the price is or how the business model was developed. High consumer binding can generally only be achieved when the consumer is not disappointed by the first purchase of a digital content (e.g. by other features described in the offer or through a programming mistake and crash of the digital service) or by his or her first use of a digital service.

Conversely, for high quality digital contents and services, however, the revenue or the consumer binding can be increased through a thoroughly thought out and innovative creation of the complete business model (e.g. through choosing a suitable payment method corresponding to the type of digital contents or digital services or through price differentiation).
In relation to the quality of the results which are presented in this chapter, it must be mentioned at this point that the offers are not perfectly homogeneous and therefore are not always perfectly comparable in all market segments. All offers in the market segment “Adult” are fully comparable with respect to the type and quality, but this is less valid in the market segment “Business”, in which the offers differ strongly in type and quality. This heterogeneity of offers in the individual market segments can lead to distortion in comparing offers (e.g. in comparison of the revenues per transaction and customer).

At present, there is certainly no classification scheme for the market “Paid Content - Paid Service” which enables greater homogeneity of the categories. Despite this limitation, however, the quantitative statistics specified in this study, display an absolutely new understanding of the market and business models of ”Paid Content” and “Paid Services”, due to the extent and the quality of the data on which they are based, which is significantly and qualitatively high.

The goal of this chapter is to describe the dominant business models for each of the 10 market segments and to mention the central factors of profit with respect to revenue and consumer binding. In addition, the following economic characteristics of the business models are examined: revenue per transaction and customer, the payment method (for explanation of the payment method, see page 11) and the forms of price differentiation (for definition and explanation, see page 12).

We do not intend to establish an exact guideline for fixing the price, since the price of a digital content or digital service depends on many factors, e.g. “Quality”, “Timeliness” and “Exclusivity”, company image, targets etc. Simple statements about price fixing are not possible in our view, since prices must be analysed and ascertained individually, depending on the “Quality” and “Exclusivity” of the digital contents and services offered in each business model.
6.1 Arts & Media

<table>
<thead>
<tr>
<th>Key data and characteristics in the market segment &quot;Arts &amp; Media&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sellers observed: 23</td>
</tr>
<tr>
<td>Number of Website observed: 31</td>
</tr>
<tr>
<td>Share of digital contents in the revenue of the market segment: 76%</td>
</tr>
<tr>
<td>Ø Revenue per consumer: € 5,59</td>
</tr>
<tr>
<td>Ø Revenue per transaction: € 4,06</td>
</tr>
<tr>
<td>Share of digital services in the revenue of the market segment: 24%</td>
</tr>
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<table>
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<tr>
<th>Dominant Business model in the market segment &quot;Arts &amp; Media&quot;</th>
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<tbody>
<tr>
<td>In the market segment “Arts &amp; Media”, the dominant business model is the electronic sale of music albums (usually in MP3 format). References here are to “popfile.de”, &quot;BeSonic - The Musikportal&quot;, &quot;hotvision.de&quot; or &quot;Chart-Radio.de&quot;. In the dominant business model, payment is made through “Pay per Click” and as a rule there are no price differentiations. Furthermore, in this market segment “Photos” are more frequently at the centre of the business model. References here are to Fotocommunity.de or the Mail factory of the German Post AG.</td>
</tr>
</tbody>
</table>

Between July 2002 and September 2003, revenue in the market segment “Arts & Media” grew by around more than 200%. This was as much as the entire market of "Paid Content" and "Paid Services". As is to be seen in Figure 23, however, high fluctuations of more than 100% can be observed during early 2003. Growth does not thus proceed steadily, but nevertheless quite clearly with an increasing trend, as is to be discerned from the straight trend line. The fluctuations observed can be explained by new market entries by sellers and consequent media campaigns.

The clear increase in revenue in the market segment “Arts & Media” can also be related back to the fact that the diskette industry is increasingly developing more offers and business models for the electronic sale of its music albums in order to offer consumers an alternative to the illegal exchange of music, through legal disc forms and portals.
Fig. 23: Change in the revenue in the market segment "Arts & Media" between July 2002 (= Index 100%) and September 2003

Fig. 24: Distribution of offers and revenues according to the contents and services within the market segment "Arts & Media"
As is to be seen in Figure 24, in the market segment "Arts & Media", Paid Content (78%) is offered above all, but relatively only little Paid Service is offered. Most revenue in this market segment is likewise made in almost the same proportion from digital contents and only a little comes from digital services. Thus, we can state that the market segment "Arts & Media" is strongly oriented towards Paid Content.

When one observes the individual sub-categories of digital contents and services, as shown in Figure 25, one sees that the sellers of "Audio data" also play an important role with respect to the revenue in the entire market segment. However, one more striking point is that relatively few sellers achieve high revenues with software or picture based services.

Fig. 25: Distribution of offers and revenues on the digital contents and services in the market segment "Arts & Media"
6.1.1 Success factor “payment method”

The dominating payment method in the market segment "Arts & Media" is the “Pay per Click” (56%) followed by “Club/Membership” (26%), as shown in Figure 26. This can be related back to the business model for the digital sale of music albums. The “Club/Membership” payment method can be found, above all, among the various photo communities in this market segment.

![Figure 26: Payment methods in the market segment "Arts & Media": Distribution of offers corresponding to the Payment method applied.](image)

In Figure 27, the relative distribution of offers is contrasted with the relative distribution of market revenues and the number of customers. Thus, big differences are to be observed in the distribution of revenues, above all between those sellers who use the “Pay per Click” payment method and those who use the “Club/Membership/Subsricption” payment method. According to Figure 27, the “Club/Membership/Subsricption” payment method brings significantly higher revenues than the “Pay per Click” payment method.
Fig. 27: Relative distribution of offers, market revenues and customers corresponding to the payment methods applied in the market segment "Arts & Media"

Fig. 28: Revenue per transaction and consumer (in €) and the number of transactions per consumer with the payment methods applied in the market segment "Arts & Media"
In Figure 28, for the analysis of the Success factor “Payment method” in the market segment, the revenue per transaction and consumer has been contrasted with the number of transactions per customer (with various payment methods) in the market segment “Arts & Media”.

With the help of this figure, the hypothesis derived from Figure 27 can be confirmed, since it shows that on average the highest revenues per sale/transaction (€ 11.70) and per consumer (€ 12.42) can be achieved with the payment methods “Club/Membership/Subscription”. The revenues per sale or transaction and per consumer with the payment method “Pay per Click” are relatively low. Another striking point in Figure 28 is that with the “Pre-paid” payment method, consumer binding (measured by the average number of sales or transactions per consumer) and its resulting average revenue per consumer are significantly higher.

As a success factor for the payment method in the market segment “Arts & Media”, it can be maintained that all those payment methods which lead to a longer consumer binding (e.g. the “Club/Membership” payment method or the “Pre-paid Content” and “Paid Service” method) are accepted by the customers and lead to higher revenues per consumer.
6.1.2 Success factor “price differentiation”

More than half the sellers (53%) in the market segment “Arts & Media” do not use any form of price differentiation. The others use predominantly “Payment Methods”, closely followed by the quantity related form of price differentiation “Extent of services”, as price differentiation methods. See Figure 29.

In order to measure the success of price differentiation, the relative distribution of offers, revenues and consumers corresponding to the forms of price differentiation applied (as shown in Figure 30) and that of the average revenue per (sales) transaction, the average revenue per consumer and the average number of sales per consumer has been presented and contrasted for each individual form of price differentiation.

We can see that for many sellers who do not differentiate their prices revenue is significantly lower than for sellers who do differentiate their prices by the extent of the service or the duration of the membership.
An example where price differentiation is made with respect to the extent of the service, would be photo portals on which printouts of digital pictures can be ordered. The prices are differentiated regarding the quantity and the size of the printouts.

Fig. 30: Relative distribution of offers, revenues and consumers corresponding to the forms of price differentiation applied in the market segment “Arts & Media”.

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The revenues for sellers with the differentiation “Period of membership” are thus as high as for those sellers who use the payment method “Club/Membership”. In effect, offers are the same, since in this form of price differentiation only this method of payment comes into question.

Also in the price differentiation form of “Payment method” and “Bundling” revenue per customer is higher on an average in comparison to that of the offers, where the prices are not differentiated.

Consequently, it can be maintained that success factors in the market segment "Arts & Media" are price differentiation for “Extent of Services” and “Duration of Membership”; “Payment method” and “Bundling” increase the return per transaction and consumer.
6.2 Business

<table>
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<tr>
<td>Number of sellers observed: 72</td>
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<td>Number of Websites observed: 125</td>
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<td>Share of digital contents in the revenue of the market segment: 39%</td>
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<tr>
<td>∅ Revenue per consumer: € 7,91</td>
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<tr>
<td>∅ Revenue per transaction: € 3,43</td>
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<td>Share of digital services in the revenue of the market segment: 61%</td>
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<tbody>
<tr>
<td>On the basis of the size of the market segment “Business”; several dominant business models can be identified for the sale of digital contents and services.</td>
</tr>
<tr>
<td>In the area of “Shares, Stocks, Finances”, the dominant business models of finance portals are the cost-charging offers of current analysis (e.g. weekly premium investment strategies) and the very timely sending of important stock exchange information to a mobile phone or as an Email. Through this business model, the timeliness of the content is a steady central characteristic of offers. Examples are n-tv.de, boresse.de, capital.de or Financial Times Deutschland.</td>
</tr>
<tr>
<td>The offers of forms, drafts, model contracts or of online law advice are part of the dominant business model in the area of “Law and legal contents”.</td>
</tr>
<tr>
<td>Further dominant business models in the market segment “Business” are the non-mobile portals like Immobilienscout 24, in which advertising real estate must be paid for.</td>
</tr>
<tr>
<td>According to the dmoz.org classifications scheme, all contents and services which have to do with mobile telephones are counted as part of the market segment “Business”.</td>
</tr>
<tr>
<td>A dominant business model in this context is the paid offer of ringing tones, logos and of the sending of SMS directly from the web. Examples are the RTL WORLD SMS or handy.de.</td>
</tr>
<tr>
<td>The dominating payment method in this market segment is “Pay per Click”. The majority of sellers do not differentiate prices on their offers.</td>
</tr>
</tbody>
</table>

The market segment "Business" is one of the biggest market segments within the "Paid Content" and "Paid Service" market with respect to offers (23%) and revenue (16%), as explained in the preceding chapter. Thus, the offers of the market segments can once again be classified (according to the classifications scheme “Theme/Context” based on dmoz.org) into various other sub-categories such as “Jobs”, “Shares, Stocks, Finances”, “Law & legal contents”, “Real Estate” and “Mobile phones".
The growth of revenues in this market segment amounted to, on average, almost 130% within a year. Revenues of the sellers of shares, stocks and financial information amounted to a growth rate of more than 500%. The growth of the various sub-categories in the market segment “Business” is depicted in Figure 32.

Figure 33 shows the distribution of offers and revenues within the market segment “Business” according to its sub-categories. A striking aspect is that in the market segment “Business” the relatively few sellers of the sub-category “Real Estate” generate a relatively big share of the revenues.

In Figure 34 we see the average revenue per (sales) transaction, the average revenue per consumer and the average number of transactions per consumer. The biggest revenue per (sales) transaction and per consumer are in the sub-category “Real Estate”, because of the relatively high prices of services offered there. In contrast to that, the
Fig. 33: Distribution of offers and revenues within the market segment "Business"

Fig. 34: Revenue per transaction and per consumer (in €) and the number of transactions per consumer in the market segment "Business"
sellers in the sub-categories “Mobile phones” and “Shares, Stocks, Finances” succeeded in gaining customers for a second round of purchases. Hence, the average number of (purchase) transactions per consumer in the sub-category “Mobile phones” is at around 5,59 purchases.

When one observes the formats which are being sold electronically in the market segment "Business", one finds that digital contents dominates in offers (68%); the highest revenues however, are made from digital services (62%). This division is shown in Figure 35.

The exact distribution of offers and revenues in individual formats is presented in Figure 36. From it, we can see that 50% of the revenues of the entire market segment come from picture-based services. Examples are the offers of portals for real estate, which allow a paid uploading of photos of the properties offered.
Figure 36 shows only the distribution of offers and revenues during the observation period from August 2002 until July 2003. The development of, e.g. the revenues is not shown, though detailed data analysis reveals that contents are being increasingly demanded and so the resulting revenues should reach the same level as those earned by services.
6.2.1 Success factor “payment method”

The dominating payment method in the market segment "Business" is the “Pay per Click” method (44%), as is to be seen in Figure 37. Further, 28% of sellers “Pre-paid” method also include “Pay per Click” in their offer, as do 28% of sellers of "Club/Membership".

The relative distribution of offers, market revenues and customers corresponding to the payment methods applied in the market segment "Business" shows, as can be understood from Figure 38, that 46% of the revenues are made by 17% of the sellers who use the “Pre-paid” method. In contrast to that, only 27% of the market revenues are made by 54% of the sellers who employ the “Pay per Click” method. The proportion here is therefore exactly the inverse.
Looking at the average revenue per (sales) transaction or consumer in the individual payment methods in Figure 39, it is clear that, here too, the revenues from the “Pre-paid” method are significantly higher than those from the dominating “Pay per Click” method. The revenues per consumer in the "Club/Membership" payment method, which above all is being used by sellers in the “Shares, Stocks, Finances” category for the regular provision of current information, is likewise significantly higher.
Regarding payment methods in the market segment “Business”, it can be seen that “Pre-paid” and “Club/Membership” payment methods lead to higher revenues than the "Pay per Click" method.

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6.2.2 Success factor “price differentiation”

Analogous to the payment method results, in the market segment “Business”, one can see that various forms of price differentiation bring different results in revenue and consumer binding.

48% of the sellers differentiate their prices, 52% do not. Price differentiation on the basis of number of purchases (for 15% of sellers) and duration of membership (for 7% of sellers) is predominant.

![Fig. 40: Forms of price differentiation in the market segment "Business": Distribution of offers corresponding to the forms of price differentiation applied](image)

In order to measure the progress of price differentiation, the relative distribution of offers, revenues and consumers corresponding to the applied forms of price distribution is presented in Figure 41. From this, it can be seen that in comparison to 50% of the sellers who use no price differentiation but produce 25% of the market revenue in the market segment “Business”, those 15% of sellers who do differentiate prices according to the number of transactions and who give quantity discounts, bring in about 58% of the market revenue.
Revenue per transaction and customer and the number of transactions per customer using various forms of price differentiation has been calculated, as is shown in Figure 42. Here again, we can see that the revenues from the dominating form of price differentiation (through number of transactions) are higher than those from sellers who do not make any price differentiation. However, the two “mavericks” in this graph are those offers which differentiate prices through extent of services and through splitting. In the case of some sellers in the sub-category “Shares, Stocks, Finances”, differentiation is made on the extent of services; a price differentiation through splitting is undertaken by sellers of business media.
In contrast, the revenues from price differentiation through duration of membership are lower than those from sellers who do not differentiate prices.

Price differentiation through number of transactions (quantity discounts), extent of services and splitting can be described as successful forms of price differentiation (with respect to the revenue per transaction and customer) in the market segment “Business”.
6.3 Computers

### Key data and characteristics in the market segment “Computers”

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Number of sellers observed:</td>
<td>35</td>
</tr>
<tr>
<td>Number of Websites observed:</td>
<td>53</td>
</tr>
<tr>
<td>Share of digital contents in the revenue of the market segment:</td>
<td>57%</td>
</tr>
<tr>
<td>Ø Revenue per consumer:</td>
<td>€ 6.28</td>
</tr>
<tr>
<td>Ø Revenue per transaction:</td>
<td>€ 3.48</td>
</tr>
<tr>
<td>Share of digital services in the revenue of the market segment:</td>
<td>43%</td>
</tr>
</tbody>
</table>

### Dominant Business model in the market segment “Computers”

In the market segment "Computers", the dominant business models are, firstly, service offers for setting up a home page and the modules necessary for that, like chat rooms, discussion boards or search machine entry and secondly, offers of subject-articles for IT themes or instructions in the case of computer problems. Examples in this segment are (above all) computer and IT magazines (e.g. Internetworld, PC- Welt, CHIP online) and home page service sellers (e.g. Metropolis AG, NOF-Club or Beepworld.de).

In addition to the dominant business models, there are a few sellers who offer small software programs or software updates online at a fee.

The market segment "Computers" is the one which grew most sharply, by 400%, during the observation period from July 2002 up to September 2002, in comparison to the other market segments.

The offers of the market segments (according to the classification scheme “Theme/Context” based on dmoz.org) can once again be classified into various sub-categories. The sub-categories “Software for PC”, “Software for Internet use” and “Computer and Internet news” belong to this list. The growth of revenue within the market segment and in the individual sub-categories is shown in Figure 43. From it, the growth of the sub-category “Software for Internet use” is, above all, prominent, standing out by a revenue increase of thousands of percents (4205%). This development points back to the fact that in this market segment a lot of advertisement-financed offers have disappeared; at the same time, consumers have developed a general willingness to pay for professional services in this area.
Fig. 43: Change in the revenue in the market segment "Computers" between July 2002 (= Index 100%) and September 2003

Fig. 44: Distribution of offers and revenues within the market segment "Computers"
In Figure 44, we see the distribution of offers and revenues within the market segment "Computers" with respect to its sub-categories. What is striking here is that a relatively few sellers of the sub-category "Software for PCs" account for a relatively large share of the revenue. At the same time, Figure 44 shows that relatively many sellers of the sub-category "Software for Internet use" account for only a relatively small share of the revenue. Looking at the development of revenue in this sub-category brings us to the conclusion that many sellers have made their offers fee-paying; the market in itself is operating only in an early developmental phase with high growth rates.

In Figure 45 shows the average revenue per (sales) transaction and consumer and the average number of purchases per consumer. Revenue per (sales) transaction and consumer in the sub-category "Software for Internet use", show the highest return: € 11,69.

![Fig. 45: Revenue per transaction and customer (in €) and the number of transactions per consumer in the market segment "Computers"](image-url)
As can be seen in Figure 46, in the market segment "Computers" many digital contents (72%) are offered, but only a few digital services (28%). Revenues of the market segment "Computers" are proportional with digital contents revenue amounting to around 60%.

In Figure 47, we see how offers and revenues distribute themselves among the individual sub-categories of digital contents and services. As is to be expected, the software offers dominate all other categories of the market segment with 36%. The most revenues are, however, made by the bundle of digital contents ("Texts & Graphics"), which are above all offered by publishers who sell, subject to a fee, current and archived articles and news about computer and IT themes.
Fig. 47: Distribution of offers and revenue among digital contents and services in the market segment "Computers"
6.3.1 Success factor “payment method”

Figure 48 shows the percentage distribution of the payment distribution chosen by the sellers. As is the case in other market segments, also in this market segment at “Pay per Click” at 58% is the dominant payment method. Further, 32% of the sellers offer a deduction on the fee-paying digital contents and services offered by them in the “Club/Membership” method.

As is the case in the other market segments, in “Computers” too the relative distribution of offers, market revenues and consumers is calculated according to the payment method applied. An analysis of the revenues per transaction and customer and the number of (sales) transactions per customer for various payment methods is also performed. It can be seen from Figure 49 that most of the offers (59%) are settled by using the “Pay per Click” method; at the same time, most of the revenues (59%) come from the market segment using this payment method.
Fig. 49: Relative distribution of offers, market revenues and consumers corresponding to the payment methods applied in the market segment "Computers"

Fig. 50: Revenue per transaction and consumer (in €) and the number of transactions per consumer in the payment methods applied in the market segment "Computers"
Notable in Figure 49 are also however those 13% of sellers who settle by the "Club/Membership" model, since they bring about 29% of the market revenue and account for 29% of the consumers.

When we compare Figure 49 and Figure 50, we see that the market revenues from digital Contents & digital Services, which are settled by using the "Pay per Click" or the "Club/Membership/Subscription" methods, are indeed very big; the revenues per transaction and per consumer are, however, significantly lower than those revenues which are obtained by means of the "Pre-paid" payment method. The form of payment which optimizes the revenue of a seller in the market segment "Computers" is hence not the "Pay per Click" or the "Club/Membership/Subscription" method but the "Pre-paid" (per click and per minute) method.
6.3.2 Success factor “price differentiation”

The market segment “Computers” differs only slightly from the other market segments with respect to the distribution of the various forms of price differentiation. As is to be seen in Figure 51, 55% of the sellers do not differentiate the price of their offers. The dominant forms of price differentiation among the remaining 45% of the sellers are those of price differentiation through duration of membership (8%) and through bundling of contents (9%).

In Figure 52, we see the relative distribution of offers, revenues and consumers corresponding to the forms of price differentiation applied. Price differentiation hence is marked by the duration of membership, since, although it is used by only 8% of the sellers, it generates 20% of the market revenue and 26% of the consumers in the market segment.

Fig. 51: Forms of price differentiation in the market segment “Computers”: Distribution of offers corresponding to the forms of price differentiation applied

![Diagram showing distribution of offers](image-url)
Fig. 52: Relative distribution of offers, revenues and consumer corresponding to the forms of price differentiation applied in the market segment “Computers”

Fig. 53: Revenue per transaction and customer (in €) and the number of transactions per consumer using the forms of price differentiation applied in the market segment “Computers”
There are important differences in the revenues per transaction and customer coming from various forms of price differentiation in the market segment "Computers" (see Figure 53). When prices were differentiated according to the number of transactions (quantity discounts), extent of services, bundling or according to the medium in which the contents were released, revenues were bigger both per transaction/ sale and per customer. These forms of price differentiation can be rated therefore as especially successful for the sale of premium contents and services in the market segment "Computers".
6.4 Games

### Key data and characteristics in the market segment “Games”

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sellers observed</td>
<td>14</td>
</tr>
<tr>
<td>Number of Websites observed</td>
<td>18</td>
</tr>
<tr>
<td>Share of digital contents in the revenue of the market segment</td>
<td>32%</td>
</tr>
<tr>
<td>Ø Revenue per consumer</td>
<td>€ 6.03</td>
</tr>
<tr>
<td>Ø Revenue per transaction</td>
<td>€ 2.52</td>
</tr>
<tr>
<td>Share of digital services in the revenue of the market segment</td>
<td>68%</td>
</tr>
</tbody>
</table>

### Dominant Business model in the market segment “Games”

As is to be supposed from the name, paid services dominate the market segment “Games”. Essentially there are two main areas: amusement games without winning possibilities (the so-called online games or games locally installed on the computer) and amusement games with winning possibilities, e.g. online lottery or online betting.

The category "Games" is predicted by many sources to have huge revenue potential. The revenues obtained, however, regarding growth rate and total volume are only average, which implies that if this market segment has above-average revenue potential, it has not yet caught fire. The growth of the market segment “Games” observed during the time period from July 2002 to September 2003 is 241% and accounts approximately for the total market growth.
Fig. 54: Change in revenue in the market segment “Games” between July 2002 (= Index 100%) and September 2003

A glance at the distribution of offers shows, as per expectations, two strong areas. The market segment “Games” is marked on one hand by “Games of Chance” (e.g. lottery or online betting) and on the other by “Amusement Games”, including both online games (e.g. Bundesliga Manager or K1010.de) and also games for local computers (e.g. eisenbahn.exe).
Fig. 55: Distribution of offers and revenues within the market segment "Games"

When one compares the distribution of offers with the corresponding distribution of revenues in the above-mentioned categories, one sees that, based on the number of offers, the category “Online games” indeed accounts for the biggest share of offers. However, it plays only a secondary role when based on the distribution of revenues. It appears that shortcomings exist, which suggests that offers in the market are inadequate. This point is taken up again in the detailed analysis of payment models and price differentiation.

In contrast to that, it is a striking fact that just in the category “Games of Chance”, just a few offers bring a big share of the revenues in the market segment “Games”.

Analysis of the average revenues per transaction and customer in the individual categories, as shown in Figure 56, reveals at first glance a fairly clear explanation for the revenue distribution. Both the average revenue per transaction and the average revenue per customer are significantly higher for the category “Games of Chance” than for the rest of the categories in the market segment “Games”. This explanation is too simple, however, since it does not explain the over-proportionate dominance of this category in the revenue of the total segment in comparison to its share of offers. The relative success of offers of the
category “Games of Chance” in comparison to the other categories of this segment will be explained when we discuss payment methods and price differentiation models.

### Fig. 56: Revenue per transaction and consumer and the number of transactions per consumer in the market segment “Games”

<table>
<thead>
<tr>
<th>Category</th>
<th>Average Revenue per Purchase Transaction (in €)</th>
<th>Average Revenue per Customer (in €)</th>
<th>Average Number of Purchase Transaction per Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Games</td>
<td>2.44</td>
<td>6.13</td>
<td>2.51</td>
</tr>
<tr>
<td>Online Games</td>
<td>2.89</td>
<td>6.54</td>
<td>1.93</td>
</tr>
<tr>
<td>Gambling</td>
<td>3.06</td>
<td>4.73</td>
<td>1.56</td>
</tr>
<tr>
<td>Other</td>
<td>1.11</td>
<td>1.28</td>
<td>2.83</td>
</tr>
<tr>
<td>Games Aggregated</td>
<td>2.82</td>
<td>6.03</td>
<td>2.39</td>
</tr>
</tbody>
</table>

A comparison of the categories “Games for PC” and “Online games” is a further indication that the average revenue per transaction and consumer is not crucial or decisive for the aggregate success/profit. Both categories show similar average revenues per transaction and consumer. Nevertheless, the share of the aggregate revenue of the category “Games for PC” is significantly higher than its share of offers, as is shown in Figure 57. In the category “Online Games”, this proportion is reversed.

When seen as a whole, paid content in the market segment “Games” (as per expectations) plays a much smaller role, with 32% of the revenue, than paid services, which, on the basis of the definitions used in the frame of this study, is understandable (compare section 4.1). “Games” or playing in itself is something elusive and is not a transferable good and should thus be assigned to a service. Only a game in a software program format can be classified as content, since in this case a transfer to a third person is, in principle, possible.
The following detailed chart supports statements made earlier. An individual digital content, which brings revenue, is the area “Software”. In digital services, text-based services predominate in both the number of offers and the revenue.
6.4.1 Success factor “payment method”

The most-used payment method in the market segment "Games" is "Pay per Click" (55%) followed by "Club/Membership/Subscription" (33%). Sub-classified into individual categories, the “Pay per Click” model can be particularly and exclusively found in the category “Games of Chance” and “PC Games”. Only in “Online games”, is the payment method "Club/Membership/Subscription" prominent.

![Pie chart showing payment methods in the market segment "Games" with "Pay per Click" at 55%, "Club/Membership/Subscription" at 33%, and other categories at 6% each.]

We can see in Figure 61 that average revenues per transaction and consumer within the individual payment methods. As expected, revenues from “Pay per Click”, are lower than those of the payment model "Club/Membership/Subscription". Consequently it appears that, in the market segment “Games” higher revenues per transaction would be generated with a "Club/Membership/Subscription" payment method than with a pure “Pay per Click” model. As is to be understood from Figure 60, not only the revenues per transaction are evidence of a successful use of the payment model “Pay per Click”; also the proportion between the number of offers and the revenue volumes generated through the "Club/Membership/Subscription" payment models is a success factor.
In comparison to the other payment methods, the significantly higher revenue per transaction and per consumer of the payment models “Pay per Click” & “Club/Membership” is an anomaly. Here, there is an individual seller of “Games of Chance” offering a lottery, who, along with “Pay per Click” also offers an additional free advantage club for existing customers.

**Fig. 60: Relative distribution of offers, market revenues and consumers corresponding to the payment methods applied in the market segment "Games"**
Fig. 61: Revenue per transaction and consumer and the number of transactions per consumer for the payment methods applied in the market segment “Games”
6.4.2 Success factor “price differentiation”

More than half of the sellers (57%) in the market segment “Games” use a price differentiation strategy, predominantly differentiation according to membership duration (17%) followed by differentiation according to the amount of service and the number of transactions (quantity discounts). Each of these amounts to 11% of the total.

When one examines the success of these price differentiation strategies, one sees clearly in Figure 64 that the revenue obtained per customer with any form of price differentiation is higher than with a one-dimensional price strategy (without any price differentiation strategy). The only exception is price differentiation according to the medium. Here, the revenues per consumer still lie below the revenues of offers which do not use any price differentiation. This leads to the conclusion that the end consumer is not ready to pay different prices for the same service that has been provided by different media. However, since this price differentiation can only be applied for individual offers in the market segment “Games” and since they do not account for a significant market share, the offers in themselves have no great influence on the result of the analysis.
The higher revenues per consumer which come through applying price differentiation strategies support the hypothesis that through price differentiation the consumer potential, with its individual benefit function, can be better realised. This result is corroborated additionally by the data in Figure 63. Thus, 44% of the offers examined within the market segment “Games” do without price differentiation. These offers earn only 36%, however, of the revenues in the market segment, which is only an average performance in comparison to the other offers with price differentiation.

The most successful price differentiation strategy in the market segment is differentiation according to the number of transactions (quantity based price differentiation). This leads to higher revenues, both per transaction and per user, than other price differentiation strategies or when there is no price differentiation. Offers which use quantity based price differentiation are relatively successful: 11% of offers bring 34% of revenues within the market segment “Games”.
Fig. 64: Revenue per transaction and consumer (in €) and the number of transactions per consumer using the forms of price differentiation applied in the market segment "Games"
6.5 Home

<table>
<thead>
<tr>
<th>Key data and characteristics in the market segment &quot;Home&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sellers observed: 5</td>
</tr>
<tr>
<td>Number of Websites observed: 6</td>
</tr>
<tr>
<td>Share of digital contents in the revenue of the market segment: 97%</td>
</tr>
<tr>
<td>Ø Revenue per consumer: € 3,19</td>
</tr>
<tr>
<td>Ø Revenue per transaction: € 1,88</td>
</tr>
<tr>
<td>Share of digital services in the revenue of the market segment: 3%</td>
</tr>
</tbody>
</table>

**Dominant Business model in the market segment "Home"**

The absolutely dominating business model in the market segment “Home” is the electronic sale of digital contents for product and good tests. Examples are Stiftung Warentest, Ökotest, User Advice or Living at Home.

Further, the majority of the business models in this market segment make their offers of digital contents with "Club/Membership" payment method and differentiation of prices by duration of membership.

The market segment “Home” is a relatively small market segment, consisting of 5 sellers and 6 websites, but with respect to revenue, it finds a place in the Top 5 market segments in the market “Paid Content” and "Paid Services". At the same time, it is the market segment in which the most (sales) transactions take place and which has the highest number of consumers for digital contents and services. In this market segment, among other things, all user information relating to products and services is classified according to the classification scheme “Theme/Context” based on dmoz.org.

As is to be seen in Figure 65, revenue growth in this market segment is not linear but parabolic. Statements as to whether there is a correlation between revenue growth and the seasons of the year are not possible due to the short time period of our study and the still “young” market – yet, this can be put forward as a hypothesis. Within a year, the revenue in this market segment grew, independent of the growth process, by around 50-70%.
Fig. 65: Changes in revenue in the market segment "Home" between July 2002 (= Index 100%) and September 2003

Fig. 66: Distribution of offers and revenues according to contents and services within the market segment "Home"
Figure 66 shows that in this market segment, digital contents were mainly offered (60%) and the revenue was made almost exclusively from them (97%). The market segment “Home” can thus be described as being very much “loaded” with content.

In Figure 67, we see a representation of the distribution of individual types of digital contents and services. Here, it becomes clear that 95% of the revenues are made from digital contents through “Texts & Graphics”, which are offered by both the consumer protectors and the furnishings & garden specialists.
6.5.1 Success factor “payment method”

In the market segment “Home”, 50% of sellers using the “Club/Membership” payment method sell digital premium contents (as can be seen in Figure 68). This market segment is an exception in comparison to the other market segments, since in it, the otherwise dominant payment method “Pay per Click” is used by only 33% of the sellers. Figure 68 shows the distribution of the various payment methods used in the market segment “Home”.

![Fig. 68: Payment methods in the market segment “Home”: Distribution of offers corresponding to the payment methods applied](image)

In Figure 69, the relative distribution of market revenues and number of consumers is contrasted with the relative distribution of offers. From this, we can see big differences in the distribution of revenues, above all between sellers who use the “Pay per Click” payment method and those who use the "Club/Membership/Subscription" method. 69% of the market revenues come from the “Pay per Click” payment method, whereas only 3% of the market revenues are made with the "Club/Membership/Subscription" method, which is used by 50% of the sellers.
As depicted further in Figure 70, the payment method "Club/Membership/Subscription", which is dominant in the market segment “Home”, is, however, at the same time also the payment method by which the biggest revenues per sale (€ 5.05) and per consumer (€ 5.19) are obtained. Yet, strikingly, the number of (sales) transactions per consumer is at around 1.03, which means that membership was not extended. Revenues from the payment method “Pay per Click” are significantly lower with € 1.87 per transaction and € 2.95 per consumer. However, 95% of market revenues in the market segment are made with this method, which means that revenues per transaction and consumer are indeed not very high. This payment method, however, is accepted well by consumers who wish to buy digital contents in this market segment and every second consumer in this payment method also purchases repeatedly (since on average, there are 1.58 transactions per consumer).
It cannot be unequivocally answered which payment method in the market segment “Home” is now the most successful and appropriate one for business models, since further factors (e.g. the popularity of the sellers) probably play a considerable role in the distribution of the market revenues corresponding to the payment models.

When one derives the profit factors for the payment model from the revenues per transaction and consumer, then those business models which choose the payment method “Club/Membership/Subscription” are the most successful.
6.5.2 Success factor “price differentiation”

In the market segment “Home”, prices are frequently differentiated by duration of membership (49%). As can be seen in Figure 71, forms of price differentiation in the market segment “Home” are duration of membership (17%) and various prices for consumers (17%), depending on whether they subscribe to a magazine or not. This last form of price differentiation is used, for example, by “Stiftung Warentest”.

Figure 71: Forms of price differentiation in the market segment "Home": Distribution of offers corresponding to the forms of price differentiation applied

![Pie chart showing distribution of offers](image)

Figure 72 shows the relative distribution of offers, revenues and consumers corresponding to the forms of price differentiation applied. From it, we see that in comparison to the 50% of sellers who differentiate their prices by duration of membership, bringing about only 5% of the market revenue in the segment, those 17% of sellers who differentiate their prices between subscribers and non-subscribers account for 93% of the market revenues.
The average revenues per (sales) transaction & consumer and the average number of (sales) transactions per consumer for the various forms of price differentiation in the market segment "Home" are shown in Figure 73.

When price differentiation takes place by duration of membership, the revenues are at the maximum (analogous to the "Club/Membership/Subscription" payment model) and the number of transactions per customer (consumer binding) at the minimum. Even more striking in this figure is that, independent of the form of price differentiation, the revenues per (sales) transaction and per consumer are still bigger than from those sellers who do not differentiate their prices.
Similar to the payment models, it is also unclear from the forms of price differentiation in the market segment “Home” which form of price differentiation is the most successful and fitting for business models in this market segment, since as mentioned above, further factors, e.g. the popularity of the sellers, play a considerable role in the distribution of market revenues.

As a success factor with respect to price differentiation, it can generally be said for the entire market segment “Home” that each form of price differentiation increases the revenues in comparison to offers without price differentiation.
6.6 News

<table>
<thead>
<tr>
<th>Key data and characteristics in the market segment “News”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sellers observed: 11</td>
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<tr>
<td>Number of Websites observed: 12</td>
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<tr>
<td>Share of digital contents in the revenue of the market segment: 82%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Dominant Business model in the market segment “News”</th>
</tr>
</thead>
<tbody>
<tr>
<td>The market segment “News” is one of the first market segments that offered “Paid Content” and “Paid Services”. Even so, the offers developed at a very slow pace recently, since many lacked “Exclusivity” and could easily be substituted by free offers. Accounting of individual messages according to use is still the dominant business model within the market segment “News”. However, since the existing “Pay per Click” payment methods were expanded, consumers thus being offered more choice, the market became more dynamic. In this way, some sellers offer, in addition to individual news, also focused theme dossiers. These bundling strategies (e.g. SPIEGEL Online) are practiced in the market with great success.</td>
</tr>
</tbody>
</table>

The market segment “News” comprises basically two revenue relevant categories. The dominating one is the category of current news, while weather reports and forecasts account for the second revenue relevant category.

When one looks at the growth of the individual categories in Figure 74, one sees that the growth of news offers picked up only in the 3rd quarter of 2003 and shows a stable growth trend since then. Also, offers in the area of weather services increased in the 3rd quarter of 2003, after initial problems at the beginning of the observation period. Their growth track is not so stable as that of news. Offers summarised under the category “Others” present a very unsteady growth. Since this category is not relevant regarding the number of offers and strength of revenue, this is not examined more closely. On the whole, the growth trend in the market segment has been stable since the third quarter of 2003.
Fig. 74: Distribution of revenue in the market segment "News" between July 2002 (= Index 100%) and September 2003

The sub-category “News” contains about 64% of the offers in this market segment, the sub-category “Weather” following with 27% of offers. Consideration of the sales revenues makes it apparent, however, that only the category “News” is revenue relevant. Fee-paying weather report offers could not yet establish themselves with the end consumers.
In addition to observing the absolute distribution of offers and revenue between the categories “News” and “Weather” within the market segment “News”, the following statements can be made. As we see in Figure 76, “Weather” brings on an average a higher revenue per transaction and consumer than does “News”. However, a comparable average number of sales per consumer can be observed. Hence, it is clear that services in the category “Weather” are marketed on an average at a higher price than those in the category “News”. The consumer appears to accept this; the number of sales per consumer is still the same.
As can be seen from Figure 77, the market segment “News” is dominated by offers of digital contents (75%). Only 25% paid services are offered. With respect to revenues, paid content dominates in this market segment with 82% of the sales revenue. This orientation on paid content corresponds closely to the dominance of the category “News”.

Fig. 76: Revenue per transaction and per consumer (in €) and the number of transactions per consumer in the market segment “News”
Offers in the category “News”, as already described, have the biggest share of contents, as defined in this study. Figure 78 shows that 43.75% of these offers consist of text-based contents and 31.25% of text and picture based contents. Only 25% of offers are of text-based services.

Figure 78 shows furthermore that with reference to the revenues, the text and picture based contents are more successful in marketing than are purely text-based contents. For example, the text-based offers (which account for 43.75% of the aggregate offers) produce only 4.71% of the revenues in the market segment “News”. From this it can be concluded that the marketing of contents is more successful when the contents appear more valuable (which means, rich in pictures).
Fig. 78: Distribution of offers and revenues among the digital contents and services in the market segment "News"
6.6.1 Success factor “payment method”

With relation to the offers, the settlement model “Pay per Click” is again the dominating payment model in the market segment “News” with a market share of 55%, followed by “Club/Membership/Subscription” and “Pay per Click & Club/Membership” with 18% each respectively.

Fig. 79: Payment methods in the market segment "News": Distribution of offers corresponding to the payment method applied

Within the category “Weather”, a pure subscription payment method is preferred, whereas within the category “News” the “Pay per Click” payment method is preferred. Within that category however, we can see a development which enriches the pure “Pay per Click” model with combined subscriptions or Club/Memberships. This facilitates the so called Upselling (strengthening the customer binding).

Looking at the following Figures 80 and 81, it appears as though Club/Membership combined with “Pay per Click” is successful. The payment model from a combination of “Pay per Click” and “Club/Membership” is, along with the pure “Pay per Click” model, the only further payment model through which significant revenues can be achieved. Moreover,
with an average number of 2.33 transactions per consumer, this combination presents the highest consumer binding within the market segment “News”. The pure “Pay per Click” model has likewise proved itself with reference to consumer binding and dominates with a market share of 96%. With an average number of 1.84 transactions per consumer, it produces the second highest consumer binding within the market segment.

Fig. 80: Relative distribution of offers, market revenues and consumers corresponding to the payment methods applied in the market segment “News”
Fig. 81: Revenue per transaction and per consumer (in €) and the number of transactions per consumer using the payment methods applied in the market segment "News"
6.6.2 Success factor “price differentiation”

More than half of the offers (54%) in the market segment “News” apply a price differentiation; differentiation according to the duration of membership (27%) is the most frequently used method, followed by “Type of contents”, “Number of transactions” (Quantity discount) and “Splitting” with 9% each respectively.

Analysis of the effects of price differentiation (see Figure 84) shows closely that price differentiation according to the “Number of transactions” (quantity discount), with 1.15 transactions per customer, has the lowest customer binding within the market segment “News”. This is astounding, because normally, from a quantity discount strategy, a higher customer binding for the offer is expected. However, since at the same time the average amounts per transaction and consumer lie significantly above average within the market segment “News” and the total achieved revenues with 1% of market volume are not significant, it can be assumed that this is an offer-specific special case.

In opposition, offers to which price differentiations have been applied through the “Type of content” achieve, with 55%, the biggest share of the revenue of the market segment. Price
differentiation according to the “Type of contents”, those offers which sell an identical content in different contexts. For example, an article can be sold once as current news and again as background information in a so-called dossier.

The success of this price differentiation model is also marked by a higher consumer binding, with 1.85 transactions per consumer. Thus, it is the second most important revenue category within the market segment, in comparison to those offers, which have no price differentiation.

Fig. 83: Relative distribution of offers, revenues and consumer corresponding to the forms of price differentiation applied in the market segment “News”
Fig. 84: Revenue per transaction and consumer (in €) and the number of transactions per consumer using the forms of price differentiation applied in the market segment "News"
6.7 References

### Key data and characteristics in the market segment “References”

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<table>
<thead>
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<tbody>
<tr>
<td>Number of sellers observed:</td>
<td>17</td>
</tr>
<tr>
<td>Number of Websites observed:</td>
<td>58</td>
</tr>
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<td>Share of digital contents in the</td>
<td>96%</td>
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<td>revenue of the market segment:</td>
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<td>Ø Revenue per consumer:</td>
<td>€ 5.91</td>
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<td>Ø Revenue per transaction:</td>
<td>€ 4.01</td>
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<td>Share of digital services in the</td>
<td></td>
</tr>
<tr>
<td>revenue of the market segment:</td>
<td>4%</td>
</tr>
</tbody>
</table>

### Dominant Business model in the market segment “References”

Two dominant business models can be identified in the market segment “References”. In the first, knowledge databases, learning materials and university contents (e.g. for thesis work) are offered. References for it are Diplomarbeiten24.de, Xipolis – Wissen online, Duden online or the Gabler Verlag. In the second, we find digital services in the form of city, route and transport planners, e.g. Mairs Geographical Verlag, Falk Atlas or the Tele-Info Digital Publishing AG.

Paid content dominates paid services in this market segment; almost exclusively “Pay per Click” is practised and this dominating form of price differentiation takes place with respect to the extent of services.

As described in Chapter 5 the market segment “References” ranks among one of the average market segments within the market of “Paid Content” and “Paid Services”. As in the other segments, the offers here can once again be classified (according to the classification scheme “Theme/Context” based on the dmoz.org) into various other sub-categories. The sub-categories are “Reference works, Knowledge”, “City plans, Route planner” and “Others”.

The growth of revenues in this market segment amounted, on average, to more than 150% within a year; the revenues from the sellers of “Reference works, Knowledge” produced a growth rate of more than 180% within 15 months. The progress of the growth rate of revenues in the various sub-categories is show in Figure 85. It can be seen that the growth of the sub-category “Reference works, Knowledge” progresses almost parallel to the growth line of the aggregate market segment. This indicates that the
Fig. 85: Change in revenue in the market segment "References" between July 2002 (= Index 100%) and September 2003

Fig. 86: Distribution of offers and revenues within the market segment "References"
sub-category “Reference works Knowledge” generates a big share of the revenue within the market segment. This hypothesis is confirmed by Figure 86. Less than 10% of offers fall in the sub-category “Reference works, Knowledge”; however, more than 80% of the revenue of the aggregate market segment is generated in this sub-category, which thus dominates not only in proportion to other sub-categories but also, as is to be seen in Figure 87, with respect to the revenues per transaction (€ 6,68) and consumer (€ 9,20).

Fig. 87: Revenue per transaction and per consumer (in €) and the number of transactions per consumer in the market segment "References"

When one observes the formats which are sold electronically in the market segment “References”, one sees that digital contents with respect to offers dominate with 67%; also the revenues are made almost exclusively from digital contents (96%). The division of revenue is presented in Figure 88.
Fig. 88: Distribution of offers and revenues according to contents and services within the market segment "References"

Fig. 89: Distribution of offers and revenues among digital contents and services in the market segment "References"
The distribution of the sub-categories of digital contents and services in the market segment, as shown in Figure 89, shows that most sellers (48%) offer the bundle of digital contents ("Texts & Graphics") and generate almost 90% of the aggregate market revenues (This is a similar picture to that of the sellers in the sub-category “Reference works, Knowledge”).

6.7.1 Success factor “payment method”

In the market segment “References”, the payment method “Pay per Click” dominates, more than in any other market segment. 88% of sellers use this method of settlement. The payment methods observable in the market segment and the share of sellers, who choose this method, are presented in Figure 90.

The relative distribution of offers, market revenue and consumers corresponding to the payment method applied in the market segment “References” are summarized in Figure 91. The distribution of all three characteristics is equally spread among the payment methods.
The payment method “Pay per Click” dominates not only with offers but also with revenue and the number of consumers.

Fig. 91: Relative distribution of offers, market revenue and consumers corresponding to the payment methods applied in the market segment "References"

When one observes the revenues per (sales) transaction and consumer for each individual payment method, as shown in Figure 92, one finds that in contrast to other market segments, in the market segment “References” the highest revenues per transaction or consumer come from the payment method “Pay per Click”.

Abb. 92: Revenue per transaction and per customer (in €) and the number of transactions per customer in the market segment "References"
6.7.2 Success factor “Price differentiation”

As it does with the payment methods, the market segment “References” differentiates itself from other segments also in its forms of price differentiation. 69% of the sellers, the absolute majority, differentiate their prices. Figure 93 shows that price differentiation through extent of services is the most frequent form of differentiation, amounting to 40%. 10% of the sellers differentiate their prices either through duration of membership or whether the consumer is already a subscriber to a magazine or not.

As with other market segments, here also the success factor “Price differentiation” will be examined by looking at the relative distribution of offers, revenues and consumers according to the forms of price differentiation applied in this market segment. As depicted in Figure 94, the biggest revenues (82%) in “References” are achieved through offers where the price is differentiated by the quality of content. Examples are portals through which a homework essay or a thesis can be acquired, at a cost. Since thesis work involves, on average, work of higher quality than a homework essay, it is more expensive. The mark awarded to the thesis also affects the price.

When one observes (see Figure 95) the effects of the various forms of price differentiation on the revenue per (sales) transaction and consumer and the number of (sales) transactions per consumer in the market segment “References”, one sees again that price differentiation through quality of contents brings the highest revenues per consumer, even with varying prices for subscribers and non-subscribers.

Less successful with respect to the revenue per consumer are the frequent forms of price differentiation through extent of services or duration of membership. Here, when no price differentiation is used revenues are increased.

For contents and digital services offered in the market segment “References”, those business models bring most revenue which discriminate prices for “Paid Content” and “Paid Services” by their quality or which differentiate between subscribers and non-subscribers to a magazine.
Fig. 95: Revenue per transaction and consumer (in €) and the number of transactions per consumer using the forms of price differentiation applied in the market segment "References"
6.8 Society

### Key data and characteristics in the market segment “Society”

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sellers observed</td>
<td>20</td>
</tr>
<tr>
<td>Number of Websites observed</td>
<td>24</td>
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<tr>
<td>Share of digital contents in the revenue of the market segment</td>
<td>2%</td>
</tr>
<tr>
<td>Revenue per consumer:</td>
<td>€ 11.52</td>
</tr>
<tr>
<td>Revenue per transaction:</td>
<td>€ 10.55</td>
</tr>
<tr>
<td>Share of digital services in the revenue of the market segment</td>
<td>98%</td>
</tr>
</tbody>
</table>

### Dominant Business model in the market segment “Society”

The dominating business model in the market segment “Society” is dating services, examples being FriendScout24, Bildflirt, flirtnest.de, LetsFindUs, love.de or find2gether.de.

There are also various business models in this market segment for the theme Astrology e.g. RTL.de Astro, AstroConnect, boersenhoroskop.de or the online offers of the Astrology center, Freiburg.

Above all, picture-based services are offered within the dominant business models and are paid for by using the “Club/Membership” method. Prices are differentiated in the dominant business model through duration of membership.

In the USA, this market segment belongs to those market segments which are strongest in revenues in the market of “Paid Content” and “Paid Services”. In Germany, this market segment does not play a meaningful role in comparison to other market segments. However, this situation appears to be changing, the number of sellers of the cost-liable digital contents and services having grown by around 144% within a year. As a result, this market segment behaves as one of the leaders in comparison to other market segments.

The progress of the revenue growth curve, as represented in Figure 96, is not steady, since this market segment also has charity sellers, who can receive online donations. Consequently there is a strong increase in revenue before Christmas (November and December), since here the BILD Hilft e.V., Unicef and die Stiftung RTL – wir helfen Kindern e.V. put out charity appeals. The second maverick in March 2003 can also be explained by a charity appeal, since the television channel Pro7 broadcast the Red Nose Day appeal. When one removes these mavericks from the growth of the revenue, one sees revenue increase
in the market segment of around 140-150% within a period of 15 months.

As can be understood from Figure 97, in the market segment “Society”, mainly paid services (76%) and relatively less paid content (24%) are offered. Almost all revenues in this market segment come from digital services (98%). We can thus state that the market segment "Arts & Media" is very strongly oriented to paid services.

When one looks at the individual sub-categories of digital contents and services, as shown in Figure 98, one sees that sellers of “Picture based services” contribute three-quarter of the total revenue within the whole market segment. The dominant business model is “Dating services” in the market segment.

A further strong sub-category is the selling of “Text based services”, in which almost all the remainder of the revenues are (24.4%), coming, above all, from Help-organizations, which offer the possibility of online charity donations.
Fig. 97: Distribution of offers and revenues according to contents and services within the market segment “Society”

Fig. 98: Distribution of offers and revenues according to contents and services within the market segment “Society”
6.8.1 Success factor “payment method”

Figure 99 shows that 50% of the sellers choose the payment method “Club/Membership/Subscription”, which is used, above all, by business models of “Dating services”, which dominate in the market segment “Society”. A further payment method in the market segment is “Pay per Click”, which is chosen by 38% of sellers.

![Pie chart showing payment methods distribution](image.png)

In order to find out the most successful payment method in the market segment “Society”, the relative distribution of offers, market revenues and consumers corresponding to the payment methods applied was calculated. As presented in Figure 100, the biggest share of market revenues (61%) was achieved by 38% of sellers, who settle using the “Pay per Click” method. Referring to the relative share of consumers, the seller who offers “Club/Membership/Subscription” is most successful.
As in the other markets, here also the revenues per transaction and consumer and the number of (sales) transactions per consumer were analyzed in accordance with the payment methods used. From Figure 101, we understand that the revenues are, above all, significantly higher in the “Pay per Click” payment method than in all other payment methods. This is associated, more than anything, with the type of contents. In the “Pay per Click” method, astrological contents above all, like astrological analysis, are sold at comparatively high prices and are settled by online payments. The prices and revenues of these are not obtainable for the “Club/Membership/Subscription” models. A striking feature in Figure 101 is that the average number of (sales) transactions is very low, regardless of the payment method. Sellers in this market segment are not able to stimulate repeated purchases by their customers and or the extension or renewal of their subscriptions.

The form of payment, which optimizes the revenue in the market segment “Society”, is thus the “Pay per Click” method and for “Dating services”, the “Club/Membership/Subscription” method.
Fig. 101: Revenue per transaction and consumer (in €) and the number of transactions per consumer using the payment methods applied in the market segment "Society"
6.8.2 Success factor “Price differentiation”

The market segment “Society” differs markedly from the other market segments in its distribution of the various forms of price differentiation. As can be understood from Figure 102, 63% of the sellers differentiate the prices of their offers. The dominant form of price differentiation is through duration of membership (38%) and the extent of services (21%). “Only” 37% of the sellers do not differentiate the prices of their offers.

![Fig. 102: Forms of price differentiation in the market segment “Society”: Distribution of offers corresponding to the forms of price differentiation applied](image_url)

Also in the market segment “Society”, the relative distribution of offers, market revenues and consumers corresponding to the forms of price differentiation applied were calculated in order to find out the most successful form in this market segment.

As presented in Figure 103, the biggest share of market revenues (61%) came from 38% of the sellers who did not make any price differentiation on their offers. This can be explained as follows: in online charities, no price differentiation is used, but relatively high donations are made at the same time, through which the share of revenue increases sharply. That seller, who makes his offers in the “Club/Membership/Subscription” model and who thus
differentiates prices by duration of membership, has the biggest share of consumers in this market segment (above all, the sellers of dating services).

In order to ascertain success through price differentiation, the revenue per transaction and consumer (in €) and the number of transactions per consumer using the forms of price differentiation applied were calculated for this market segment as well. As can be gathered from Figure 104, there are significant differences between the revenues per transaction and per consumer for different price differentiation forms.

Sellers who do not differentiate their prices make the biggest revenues again. When one compares Figure 101 with Figure 104, one sees that the revenues from the payment method “Club/Membership/Subscription” are higher than those from sellers who differentiate their prices by duration of membership. Comparing these figures shows further that the absolute revenues earned through the “Pay per Click” payment method are higher than those earned by sellers who do not use any price differentiation.

A glance at the data shows that there are several sellers who use “Club/Membership/Subscription” method, but no price differentiation. Revenues here are
higher than the revenues of those sellers who use the "Club/Membership/Subscriptio" method and who also differentiate prices by duration of membership.

As a success factor in the market segment "Society", it can be concluded that the revenues per (sales) transaction and consumer are higher when the prices are not differentiated.
6.9 Adult

<table>
<thead>
<tr>
<th>Key data and characteristics in the market segment &quot;Adult&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sellers observed: 44</td>
</tr>
<tr>
<td>Number of Websites observed: 141</td>
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<tr>
<td>Share of digital contents in the revenue of the market segment: 61%</td>
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<tr>
<td>Ø Revenue per consumer: € 16.89</td>
</tr>
<tr>
<td>Ø Revenue per transaction: € 4.06</td>
</tr>
<tr>
<td>Share of digital services in the revenue of the market segment: 38%</td>
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</table>

<table>
<thead>
<tr>
<th>Dominant Business model in the market segment “Adult”</th>
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<tbody>
<tr>
<td>The market segment “Adult” was one of the first market segments in which paid content / paid services were offered and thereby, at least in this respect, it is in a pioneer position. The market can be divided into sellers with strong brands, and correspondingly strong brand loyalty from consumers and small sellers, who offer their “Paid Content” and &quot;Paid Services&quot; through the so-called Webmaster-Rings. Hence, the dominant business model for both seller groups is the same. Long-time access is being sold to the consumer (e.g. in the form of a subscription).</td>
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The market segment “Adult” has grown consistently in the observation time period, though the growth rate was lower than that of the aggregate market and furthermore, near the end of the observation period, was regressive. This low market growth (in comparison to the entire market) can surely be justified since the starting point at the beginning of the observation period was significantly higher than was the case in the other market segments.
The distribution of offers and revenues between “Paid Content” and "Paid Services" is relatively balanced, with a slight surplus for paid content, with a share of 58% of the entire revenue of the market segment “Adult”.
Fig. 106: Distribution of offers and revenues as per contents and services within the market segment “Adult”

Exact analysis of paid content shows that purely picture based offers account for the biggest share of contents. With respect to revenues however, picture based contents play only a small role in the market for paid content in the “Adult” segment. Successful paid content offers stand out much more through combined picture and text based offers, or rather, picture, text and video-based offers.

These results confirm the experience that frequently in the market segment “Adult”, the revenue potential of smaller offers, which limit themselves primarily to picture based contents, is over-valued. In order to develop revenue potential significantly, the seller must provide a many-sided and complex offer. This means that in the market segment “Adult” too, a few small sellers dominate the market.

These sellers are in the position to offer complex paid services through the sale of pure paid content, which are either video based (22.11% of the revenues) or text based (20.22% of the revenues).
6.9.1 Success factor “payment method”

The payment method “Pay per Click” is the most used payment method in the market segment “Adult”, with a share of 41%. However, when one combines the payment methods “Club/Membership/Subscription” and “Pay per Click”, one gets a combined share of 44%. The subscription model is thus more widespread here than in any other segment. Also the “Pay per Minute” models are, in contrast to other market segments, strongly represented.
Looking at the revenues per consumer justifies the above-established dominance of the alternative payment methods in comparison to the traditional “Pay per Click” payment method. Both the subscription payment methods show higher revenues of € 11.98 or € 16.42 per consumer than the “Pay per Click” payment method, with € 10.88. More significantly, the revenues per consumer are higher with “Pay per Minute” in this market segment, with an average revenue of € 26.97 or € 61.21 per consumer. The relative distribution of revenue among the various payment models, as presented in Figure 109, shows that the above-mentioned payment model is more successful than the classical “Pay per Click” method, not only with respect to revenues per consumer but also with respect to the entire revenues in the market segment “Adult”.

Fig. 108: Payment methods in the market segment ”Adult”: Distribution of offers corresponding to the payment methods applied
Fig. 109: Relative distribution of offers, revenues and consumer corresponding to the payment methods applied in the market segment "Adult"

Fig. 110: Revenue per transaction and consumer (in €) and the number of transactions per consumer using the payment methods applied in the market segment "Adult"
6.9.2 Success factor “Price differentiation”

The success factor “price differentiation” for the market segment “Adult” is not so wide spread as the success factor “payment method”. A big share of the offers (64%) employs no kind of price differentiation. Only 22% of all offers focus on differentiation by duration of membership.

This market behavior however appears to be rational throughout. None of the applied price differentiation strategies lead to better consumer binding than a one-dimensional model without price differentiation. Offers which take the latter approach appear to achieve a higher consumer binding, with an average of 8.70 transactions per consumer, than is the case with all other price differentiation strategies. An exception is price differentiation based on the number of purchases (quantity discount), which accounts for a 5% share in the market segment, since it shows 10,78 transactions per consumer. This price differentiation model however, with 8% share of revenue, is not very significant.

In contrast, it is interesting to note that in Figure 112 there is a considerable amount of revenue coming from price differentiation according to duration of membership. The 20% of
offers, which use this form of price differentiation, achieved a 40% revenue share. They are thus above average successful, although the consumer binding was lowest with only 1.15 transactions per consumer in comparison to the other price differentiation approaches. This price differentiation model can clearly generate significant potential revenue; it is unclear, however, whether, due to the low consumer binding, this strategy will be successful in the long run.

Fig. 112: Relative distribution of offers, market revenues and consumers corresponding to the forms of price differentiation applied in the market segment "Adult"
Fig. 113: Revenue per transaction and consumer (in €) and the number of transactions per consumer using the forms of price differentiation applied in the market segment "Adult".
6.10 Shopping

<table>
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<tbody>
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<td>Number of sellers observed: 26</td>
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<td>Number of Websites observed: 31</td>
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<td>Share of digital contents in the revenue of the market segment: 12%</td>
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<tr>
<th>Dominant Business model in the market segment “Shopping”</th>
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</table>

"Paid Content" and "Paid Service" offers in the market segment “Shopping” mean, essentially, companies operating and trading on the virtual market – in the sense that advertisement markets, which have the biggest share of online-operations, or the so called small advertisement newspapers, dominate within this market segment. Also trade portals, e.g. AutoScout24 or services for such portals, e.g. eBay are centralized in this market segment.

One can distinguish two target groups. The first, for “Paid Content” and "Paid Services", is that of people who offer goods for sale. In this way, for example, the insertion of sales offers or additional services is offered as paid service for a sale offer.

The second target group is the potentially interested parties or the buyers. In this target group, research in a databank of offers or services is sold for gathering information on market offers.

The market segment “Shopping” has grown rather less during the observation period than the aggregate market. This can be ascribed to reversed growth rates in the category “Portals”. Within this category, the market growth slowed down to a high revenue level. There were fewer product and service innovations to be observed in the Portal category, which could have tapped the additional revenue potential. Such product and service innovations are usually the cause of revenue growth, as could be seen in other markets.

In contrast, the category “Others” achieved considerable growth within the market segment “Shopping”. This category, in which all services which are not subsumed under “Small advertisements” or “Portals”, can be combined, could create new potential revenue through innovative services.
Seen as a whole, the category “Portal” accounts for the biggest share of revenues in the market segment, despite its regressive growth rates. Although “Small advertisements” encompasses, as is shown in Figure 115, the biggest number of offers within the market segments it brings in the smallest in the three categories. This is because the market for small advertisements is sharply split, due to locally printed small advertisement publications. Each small local advertisement publishing company distributes its own local offer of small advertisements. Portals, in contrast, are basically not regionally, but nationally, oriented. Due to this fact, a few big sellers of the category “Portals” can create a big potential revenue.
A detailed observation of the revenues (see Figure 116) shows that within the category “small advertisements”, both the smallest revenues per transaction and the smallest revenues per consumer were obtained. The sellers here appear to prefer low price models. As a result of this, the services of the category “small advertisements” are not sold more, than is the case in the other categories within the market segment. Sellers of other categories can obtain considerably higher average revenues per transaction and consumer.
We can see that in the Paid Content/Paid Services market those offers which have as their business goal trading on virtual market places, primarily supply paid services. Paid content is of only limited importance in the market segment "Shopping". 88% of the revenues in this market segment are generated by paid services. Paid content offers in the area of information for trade and developmental support of the corresponding market places have only a supporting role, which is reflected in their low share of revenue within this market segment of just 12%.
Figure 117: Distribution of offers and Revenues according to contents and services within the market segment "Shopping".

Figure 118 gives a detailed picture of the division of revenues. The market segment “Shopping” is dominated by text-based services offered by a few big sellers (45% of the offers), with a share of 80.98% of the aggregate revenue. Sales-supporting text-based "Paid Content" follows far behind with a share of the aggregate revenue of 7.08%.
Fig. 118: Distribution of offers and revenues among digital Contents & digital Services in the market segment "Shopping"
6.10.1 Success factor “payment method”

Since participation in the virtual markets did not mostly turn private users into regular customers, the payment methods used adapted themselves in the market segment “Shopping”. The results of Figure 119 can be interpreted in this context. According to this, the majority of the services offered (62%) used the “Pay per Click” payment method, followed by “Club/Membership/Subscription” (19%) and “Pay per Click & Club/Membership” (16%). In terms of revenue, the “Pay per Click” model dominates with a 78% share.

![Fig. 119: Payment methods in the market segment "Shopping": Distribution of offers corresponding to the payment method applied](image-url)
Interestingly, in the market segment “Shopping”, higher revenues per transaction and user can be achieved with the payment model “Pay per Click” than with the model “Club/Membership/Subscription”. This is primarily due to the fact that the payment method “Club/Membership/Subscription” is partly used to pay for access to information, e.g. sales advertisements, which is normally settled at a lower transaction cost, while the payment method “Pay per Click” is employed, as a rule, for settling of the advertising of an offer, which normally has a high transaction cost.
6.10.2 Success factor “Price differentiation”

In contrast to the relatively one-sided character of the success factor “payment method”, a number of price differentiation strategies can be observed in the market segment “Shopping”. More than half the offers (60%) apply some form of price differentiation strategy. The two predominant differentiation approaches are, first, through “Duration of membership”, e.g. differently-priced access to a database per month, per day or just once, having a share of 20% of the market, followed, by differentiation according to “Extent of services”, with a share or 16%.
This figure relativizes the influence of various price differentiation models on the revenue distribution. 76% of the revenues within the market segment “Shopping” are generated by offers that have no kind of price differentiation. The group of offers (16%), which employs price differentiation through “extent of services”, generates just 3% of the revenues, so this method is not successful. Price differentiation through “duration of membership”, with a 19% share of offers and 17% share of revenues also shows a poor success quotient, as do offers without any kind of price differentiation. Consequently, within the market segment “Shopping”, no successful price differentiation approach could be identified.
Fig. 123: Relative distribution of offers, market revenues and consumers corresponding to the forms of price differentiation applied in the market segment "Arts & Media".

Fig. 124: Revenue per transaction and consumer (in €) and the number of transactions per consumer using the forms of price differentiation applied in the market segment "Shopping".
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7. Fundamental Results of the Study

7. Fundamental Results of the Study

In the following, the fundamental and central results of the present study on "Paid Content - Paid Services" are summarised.

- The twofold classification of offers as "Paid Content" and "Paid Service" according to the "Theme/Context" and "Format" proves appropriate for the analysis of markets and individual market segments (see Chapter 4). By using these classification schemes, offers could be sub-classified in relatively homogeneous market segments, so that results could be expressed and compared, something which has not been achieved till now.

- Revenues in the German market for "Paid Content - Paid Service" grew by more than 120% within one year (observation period: July 2002 to July 2003). This high growth rate, in comparison to the general economic growth, indicates that the market is not yet saturated, despite the huge number of sellers.

- Revenues of almost all market segments has grown by two to three digit percentage figures. The reason is the existing or increasing willingness to pay of consumers for high value premium contents or services in almost all theme areas.

- Consumer binding, measured by the number of transactions per customer, differs in the individual market segments. From this, it could be seen that, on average, a suitable price differentiation strategy leads to higher consumer binding.

- Two-thirds of all sellers attain their revenues through a combination of Internet advertisement and cost-liable offers of digital “Paid Contents” and “Paid Services” (see Figures 17 and 18).

- Half of the sellers observed choose the "Pay per Click" payment method and do not differentiate the prices of their digital contents and services offered.
• As was seen in considering the individual market segments, depending on the type of digital content and services, revenue per sale and consumer can be significantly augmented through prepaid and club/membership payment methods, in comparison to the revenue of the "Pay per Click" payment method.

• Through price differentiation, revenue from the e-commerce of digital contents and digital services can (depending on the type of digital contents or services) be significantly increased.

• In the electronic sale of "Paid Content" and "Paid Service", most successful sellers (in terms of revenue and number of sales transactions) differentiate their business models through the payment method and in the form of price differentiation, in comparison to the popular and widespread business models (for the sale of contents and services) in the “offline” world.
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7. Fundamental Results of the Study


In Germany, sellers in the market for digital contents and digital services are positioning themselves for the growth that is expected. The authors believe that the expectations of this market growth can only be fulfilled when the participating firms look at their business models in detail and when they offer consumers differentiated payment and access modes.

Stringent price differentiation strategies are needed, among other things, in order to meet individual consumers’ needs. The consumer must be given the chance to decide on and choose the most suitable transaction mode for him, based on his own willingness to pay.

Identification of digital contents and digital services, for which a marketing potential has been acknowledged, stands at the forefront of deciding on the appropriate price strategies. It is to be noted that, after initial caution and the choice of a few services by innovative firms, the search proceeds increasingly successfully for many firms. More and more digital contents and services were offered on the Internet in the last 12 months - a development, which has overtaken the numbers used in the frame of this study. Still, most contents will be available in the future free of charge. This is also necessary in the context of a successful paid content strategy in order to lead the consumer to accept and pay for cost-liable added-value services.

The question about which payment method is appropriate is, at present, the ruling question of firms active in the “Paid Content” and “Paid Service” market. Individual settlement still predominates, though supplementary payment methods are being increasingly added to this business model. An example in the market segments “Home” or “Society” is a combined model of individual settlement and subscription, involving existing customers (e.g. offline-subscriber shops), which is becoming more and more common. However, it can be generally said that in each market segment, the individual payment method will rule, but differentiated payment methods will also be offered. This relates especially to the combination of “Pay per Click” and bundling offers (e.g. subscriptions, usage contingencies etc).
Only after deciding on the right payment method does it make sense for a firm to work on a price strategy. Such a price strategy does not adopt or rely entirely on quantitative market analysis. The information on average prices in various branches does not permit any conclusions to be drawn concerning price formations based on individual offers. Until now, no reliable estimates of price distribution functions for digital contents and services has been published, so that this fact also makes it difficult to develop a successful price strategy for the future.

In this context, the belief that the Internet provides almost perfect information and that consequently perfect competitive markets exist, does not correspond to reality. Nor will such competitive markets become reality in the future. In fact, the contrary will be the case. The consumer faces difficulties in identifying quality because of the complex differentiation of information products and other product characteristics. Hence, there is no transparency in the market for digital contents and services. As a result of this, consumers will increasingly orient themselves to strong brands, since this helps them to estimate quality more easily, which is a pre-requisite for a positive purchase decision. This makes it possible for the sellers of brand products to skim prices. Such a development is already observable in distribution.

In summary, the "Paid Content" and "Paid Service" market has left the first phase of market development. Firms which are active in the market have positioned themselves, and mark themselves off from their potential competitors by building brands. Firms, which want to simply start by making offers could be too late to find a place for their high value paid content and services on the Internet market. This is what happened in the case of the job advertisements market; newspaper publishing companies invested in the so-called specialised Internet job portals and it appear they have suffered a total loss (Glotz, Meyer-Lucht 2003).

Expansion of the starting point acquired through winning new consumer levels, through adding innovative services and through introducing differentiated business models will be the focus in the next 24 months. The “Proof of Concept” for the potential of e-commerce of "Paid Content" and "Paid Services" was rendered long ago.
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The institute for media and communications management was established in January 1998 with the support of the Bertelsmann Foundation and the Heinz-Nixdorf Foundation and focuses on the management of new media. Its research is dedicated to the Management of the Media Industry, Electronic Commerce (Business Media), Knowledge Management (Knowledge Media), Corporate Communications, and Computational Media. It is to become a worldwide renowned training center for managers of the future, preparing them to cope with the challenges of the new media.

The institute for Media an Communications Management (mcm institute) is exploring the management of new media and the impact of the digital revolution on the economy and society. The main fields of research are:

- management of the media industry,
- e-Business and electronic markets,
- knowledge management,
- corporate communication,
- media and communication law,
- media and society.

The mcm institute aims to establish itself as the leading international center in the field of media and communication for education, research and consulting. The mcm institute will perform pioneering research as it deals with Media Management on the level of media informatics, on the level of media economy and on the level of media sociology. Interdisciplinary cooperation with Schools of Media Studies is intended and welcome.

The mcm institute will promote the worldwide exchange of professors and students with
other Media and Communications Institutes and advance know how transfer from the academic level to private enterprises and vice versa.

The Research group "Intelligent Media" (www.mcm.unisg.ch/im) examines knowledge intensive Organisations in the production, assembling, price forming and management of digital products (Content and Software). With reference to the area "Content", social models and price models for content in different branches, like for e.g. the EU Project “INKASS” are being investigated and the theme “Content Management” is being examined from a multi-dimensional perspective theoretically and in applied examples.

In the research area "Digital Product Design Communities", distributed Design-Organisations (Design Communities) are being investigated in the production of software under a concrete case of selected Open Source Communities. Such Communities frame objects for the investigation of strongly distributed knowledge intensive Organisations, which develop in the electronic media "Digital Product Designs".

Further information about the research group “Intelligent Media” can be found in the Internet under http://www.mcm.unisg.ch/im
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In only 4 years, FIRSTGATE click&buy® has established itself as the leading payment solution for digital content and e-services in Europe. Over 2.5 million Internet users (May 2004) have purchased digital content with the click&buy technology, and each month up to 100,000 new users register for the service. More than 2,500 online content providers are currently making profits using click&buy. Examples of major companies that rely on their e-commerce business on click&buy include British Telecom, Swisscom, CNN, ABC Networks, Encyclopædia Britannica, iVillage, RTL, Spiegel.net AG, German Postal Service, AutoScout24 and UNICEF. A full overview of content providers can be found on FIRSTGATE and affiliates’ websites.

For further information, please visit http://www.firstgate.com