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Acceptance of the Mobile Internet as Distribution Channel for Paid Content

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ABSTRACT

The mobile Internet is perceived as a chance for media industry to generate additional revenues from paid contents. Successful business models for the mobile Internet will only be possible if mobile content formats generate added consumer value. In this context, media companies planning to establish mobile services for content distribution are facing the problem that acceptance of mobile services has not yet been researched thoroughly. We conducted a survey of mobile content usage that is based on 7183 valid responses in May 2005. Our paper outlines first results from this survey. Key findings are that paid mobile contents will not be a mass market in the medium term. Nevertheless, we found that respondents that are familiar with mobile radio and handset technology and read specialized printed media on a regular basis showed the highest acceptance of mobile paid contents.

INTRODUCTION

The publishing industry is characterized by oligopolistic structures, differentiated products and fierce competition. The growing range of contents available in digital distribution channels like the Internet has led to decreasing circulations, revenues and earnings in the publishing industry. Despite concentrated efforts to generate direct revenues from online recipients the traditional freebie-mentality of Internet users seems to be overwhelming compared to the small online revenues. This development may lead to a strategical threat of the publishers' core business if not to an enduring threat to their existence.

To find a way out of this situation, publishers can pursue two strategies in order to generate additional revenues [1]: They can enforce the diversification into new business areas such as Internet service providing or embrace measures to increase the customers' willingness to pay for online content [2]. The willingness to pay does not only depend on the quality of the content but also on its usefulness and the quality of its format [3]. Examples for such value added services are mobile Internet services which provide location-independent access to contents [4]. In order to generate revenues from the utilization of content in the mobile Internet it is necessary that the content provided addresses existing customer requirements.

In practice, it is difficult for media businesses to identify relevant areas of application for mobile services, because their acceptance is only poorly understood. Therefore the decision problem of a publishing house in the mobile services area can be divided into three parts:

- Firstly, the customers who are likely to use the service have to be identified.
- Secondly, the content which is supposed to satisfy the requirements of the potential customers needs to be determined.
- Thirdly, the service formats which promise to be successful given the preferences of the potential customers need to be identified.

The paper on hand answers the three questions based on a representative survey of German Internet users from the viewpoint of acceptance research. Section 2 gives an overview of the related work and the status of acceptance research related to the mobile Internet and describes the underlying methodology of the survey in detail. In section 3 the results of the survey are described. Section 4 analyses the results of the survey and points out the major findings. The paper closes with a conclusion in section 5.

RELATED WORK AND CONCEPT OF THE RESEARCH APPROACH

Generally, the mobile Internet consists of data services built upon mobile radio technologies. In this area, it is important to distinguish between carrier technologies for LANs (e.g. 802.11, 802.16 and 802.20) and WANs (e.g. GSM, UMTS and CDMA2000) on the one hand and protocols for data communication on the other hand (e.g. WAP, SMS and MMS) [5].

Acceptance represents a form of consenting behavior or consenting attitude towards an innovation [6]. Acceptance research in business administration can be understood as an approach that tries to identify reasons on the customer side that lead to either acceptance or rejection of an innovation [7], [8]. Acceptance of an innovation depends on three factors: the (cognitive) knowledge of potential users, interest and a positive (affective) attitude and a specific (conative) decision to buy [9].

Two groups of studies which contribute to research of acceptance of the mobile Internet can be identified: expert groups [11], [12], [13], and customer surveys [14], [15], [16], [17]. It can be stated that no shared argumentation can be found in the studies mentioned above. Therefore, they do not enable the reliable deduction of promising mobile services. Instead it appears that the acceptance of mobile services needs to be examined empirically and experimentally for each individual case. Furthermore, the present status of acceptance research in the mobile Internet concerning mobile service provision by companies from different market segments, e.g. publishers or financial service providers, is rather unfocussed or has only little significance due to small samples. Therefore a lack of research can be identified in this field. The paper on hand is a first step to address this issue from the viewpoint of the mass media industry.

The main goal of the following acceptance analysis is to determine a decision map which can be used by media companies to identify promising distribution forms for their content in the mobile Internet. In order to achieve this, three central questions are examined:

1. With regards to the diversity of distribution formats in the mobile Internet (MMS, SMS, WAP, etc.), it seems necessary to identify those with the highest user acceptance.
2. The question which content is used by which type of customer and to which extent in an mobile setting is at the core of the examination.
3. Furthermore, the necessity to examine affective acceptance criteria suggests finding out which motives lead to the usage of mobile services and which do not.

Figure 1. Distribution of print titles relative to the survey population

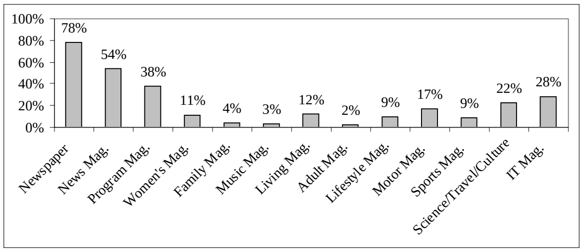
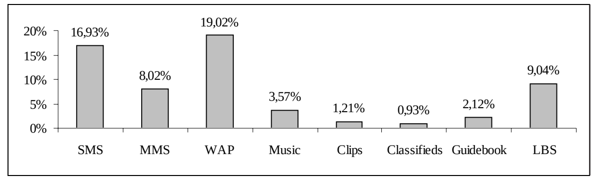


Figure 2. Distribution of mobile services relative to survey population



These three questions address problem areas which require validation through field research. Since the underlying central questions of the analysis characterize quantifiable product/market combinations, the following survey was conducted as a standardized written survey. The primary goal is the detection and description of the verifiable usage of mobile services by the costumers of magazine publishers.

The reason for the suggestion of actions for publishers who want to provide mobile value added service to their customers is an assumed logical connection between media specific customer segmentation (e.g. using format and content type as segmentation criteria) and the usage of mobile services. The verification of this hypothesis is not matter of this survey but a matter of our further research.

ACCEPTANCE OF MOBILE CONTENT FORMATS AMONG USERS OF PRINTED MEDIA

The survey was aimed at identifying significant correlations between the regular use of popular printed media and mobile content formats. On this basis, we try to determine promising content/service combinations and their respective users as an additional source of revenue for newspaper and magazine publishers. For this purpose, we created a standardized online questionnaire which was advertised on the homepages of 16 popular German consumer magazines in order to achieve a high degree of representativeness. Out of the 13,402 viewers of the questionnaire, 7,178 completed the survey. Approximately 75% of the participants were male. On the whole, they were evenly distributed among the age- and income brackets.

The survey was divided into four sections: first, participants were asked about their usage of 13 common types of printed media (newspapers, news magazines, (tv)program magazines, women's magazines, family magazines, music and youth magazines, living magazines, adult magazines, lifestyle magazines, motor magazines, sports magazines, science/travel/culture magazines, and IT magazines). The answers were used to create a typology of users of mobile content. The central question of the second section was the degree to which the acceptance of mobile radio technology influences the usage of mobile Internet applications. Questions included the mobile devices owned by the interviewee and the preferred mode of Internet access. The third section, which was the main focus of the survey, was centered around the use of contents on the mobile Internet. We examined potential combinations of content and different formats, including SMS, MMS and WAP. Besides, mobile music and video services as well as specialized contents such as guidebooks, classifieds and location-based services (LBS) were surveyed. The questionnaire was concluded by questions related to the motivation leading to the use or non-use of the various formats.

Usage Frequencies of Mobile Service Formats per Reader Segment

In order to segment the respondents, we tested the regular use of 13 different types of printed media. Daily newspapers were used most frequently followed by news, program and IT magazines. These results correspond to present statistics of the German mass media market, which state that the circulation and the revenues of the newspaper segment significantly exceed those of the magazine market (cf. figure 1).

Stationary PCs are most widely distributed (87% of the participants), followed by mobile phones (79%) and notebook PCs (54%). Mobile phones are most widely distributed among the women's, youth, music, and lifestyle segments. Only 4% of the interviewees use "Smartphones", which combine the features of mobile phones and PDAs. These devices are considered to be a sign of a high acceptance of mobile services. Smartphones have an above average diffusion among readers of motor and adult press.

Only paid mobile Internet services were examined. The most widely used services are the WAP-pages supplied by the mobile service provider's portals. Contents supplied by SMS, MMS and LBS were popular as well. Mobile music and video services, guidebooks and classifieds are of little significance (cf. figure 2).

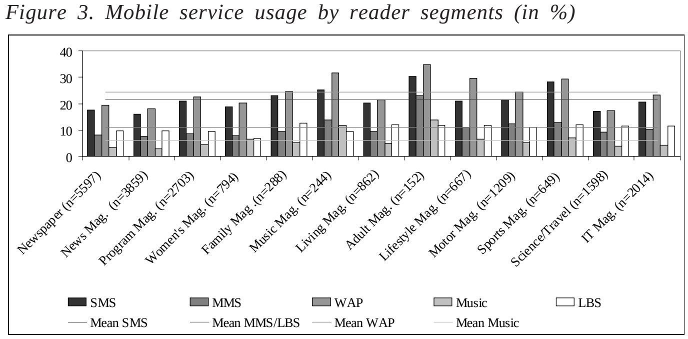
The mass market segments such as daily newspapers, news- and program magazines show above average usage rates of all service categories compared to the population. The evaluation of service usage related to the size of the segment gives a different impression. Figure 3 shows the usage rates of the five most widely spread mobile service formats in relation to the size of each reader segment (the value in brackets indicates the number of respondents of each reader segment).

Particularly readers of niche media with lower circulation, such as music, adult, lifestyle, motor, and travel magazines, display an above average willingness to use paid mobile content. For example, 28% of the readers of sports press use paid SMS services at least occasionally and 35% of the readers of adult press use paid WAP services. Music services display above average popularity among readers of youth and music press (11.9%) and adult press (13.8%).

Usage Frequencies of Mobile Content Services per Reader Segment

In the following, we will examine the usage frequencies of different services offered via SMS (1), MMS (2), WAP (3) and LBS (4) in detail in order to achieve a deeper understanding of their acceptance among different user groups. Video services, classifieds and guidebooks will be neglected due to their sparse usage as well as music services which were not examined in detail.

Figure 3. Mobile service usage by reader segments (in %)



On average, SMS services are used by 17% of the interviewees. Readers of adult magazines display the most noticeable usage (30%). Readers of sports magazines (28.3%) as well as music titles (25%) are also frequent users. Seven specific versions of paid SMS services were examined, including both entertainment and information. On average, the most popular services are sports news (8.6%) and general news (6.4%). Financial news and horoscopes are of minor importance (2.5% and 2.4%). Aside of the significant use of SMS sports news by readers of sports press (21%), readers of music and youth magazines display a noticeable willingness to use entertainment content (12%). Readers of adult and lifestyle magazines are frequent users of sports news (14% and 8.5%).

The usage of paid MMS services is similar to the case of SMS, albeit on a lower average level (8%) of the respondents. Again, sports news and general news have the highest average usage rates. Readers of adult magazines (23%), music und youth magazines (14%) and motor/sports magazines display an above average acceptance of MMS services in general. MMS-based sports news are consumed by readers of sports and adult magazines (8% and 7.8%). Readers of adult magazines (6%), music and youth magazines (3.6%) and sports press (3.1%) frequently consume general news.

As stated above, WAP based portal services see the strongest demand among the target group. 12 typical WAP offerings were surveyed. Aside of media-specific information and entertainment offerings such as general news (9.1%), sports news (8.9%), leisure (3.1%) and travel information (3.2%), device-specific products such as ring tones (9.4%), email (7.1%) and games (6.7%) were purchased most frequently by the population. Entertainment contents such as ring tones and games are used above average by the readers of youth and music magazines (8.2%). Again, information content such as general news and sports are purchased most frequently by readers of adult (15.8% and 14.5%), lifestyle (12.6% and 10.3%) and sports press (8.5% and 20.2%).

Respondents were able to choose among four kinds of LBS which have already been realized by the mobile service providers: location-based directories and yellow pages, so called “community services”, navigation services and location-based mobile payment. The usage level was generally low, with directories and navigation being the most popular services (3.6% and 3.4%). Community and payment services are of minor importance (1.6% and 0.4%). There is a noticeably high usage frequency of these services among readers of family magazines (e.g. 6.3% using directory services) and living magazines (e.g. 5% using navigation). Further segments displaying above average demand for LBS are music and youth, and adult publications.

Motivation for the Usage of the Mobile Internet

If the specific variants of mobile services were indicated to be not used, respondents were asked on which conditions they would consider using the services in the future. The survey contained items testing the expected utility (price and added value), the perceived quality of the content and aspects of technical usability (speed, display quality and device usability). There were no significant differences between the reasons stated by different segments and concerning different services. As displayed in Table 1, price and added value were dominant.

For each service that a respondent indicated to use at least casually criterions were available that allow conclusions about the respondent’s motive of using the certain service. In detail, eight criterions have been made available. Thereof four criterions indicate the respondent’s purpose-neutral interest (practical value of the service, curiosity about the service, fascination from mobile technology in general and habitual usage) and four criterions indicate the respondent’s earmarked interest (mobility, information, entertainment and interactivity).

Table 1. Conditions for future usage of the mobile Internet

	Mean	Deviation
Lower prize	41,6%	13,4
Added value	18,5%	6,4
Content quality	18,1%	7,0
Higher bitrate	10,8%	6,5
Higher display quality	8,2%	4,8
Better device usability	7,0%	3,4

Figure 4. Purpose-neutral interest and content-oriented gratifications (in %)

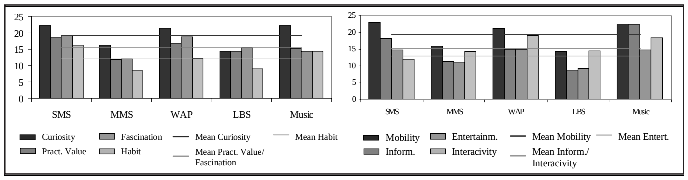


Figure 4 shows that the attraction of the mobile Internet is mainly determined by the respondents’ curiosity and general fascination of technology. Thereby, services based on WAP and SMS show highest practical value leading to higher habitual usage of these service formats. Furthermore, the figure shows that mobile services serve needs that are connected to the reason of mobility. While SMS-based services as well as surprisingly music-services serve information needs best, MMS, WAP and LBS are meant to interact with other users.

FINDINGS FROM THE SURVEY

Against the background of the research questions listed in section 2 we will analyze the survey’s results in order to identify significant coherences of indicated behavior and to conclude from this behavior upon the respondents’ acceptance of contents in the mobile Internet. According to the first question we will examine the survey’s results for systematic dependencies between the consumption of printed contents and the usage of mobile content formats (1). Afterwards, we will study the motives indicated for the usage of mobile contents to identify differences of consumers’ needs (2).

(1) Figure 3 leads to the assumption that respondents reading different print titles will show different usage patterns of mobile Internet content beyond the differences explained by their choice of mobile devices. In particular, readers of music, adult, lifestyle, motor and sport magazines show an above average willingness to use mobile services. Table 2 shows confidence coefficients resulting from (Chi-Square) tests of statistical independence between the reading habits and the willingness to use mobile contents. The test results prove that there is a significant dependency. However, the interrelation is very low for all reader groups,

Table 2. Confidence coefficients for magazine readership and mobile services use

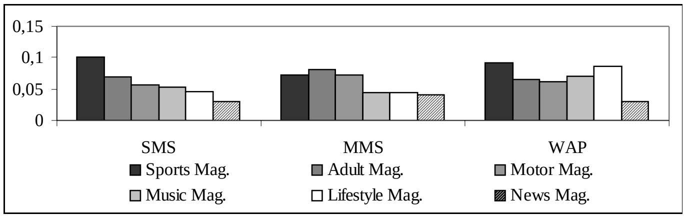
	News-paper	News Mag.	Pro-gram	Wo-men's	Family	Music	Living
SMS	0,028	0,037*	0,08**	0,051**	0,03	0,053**	0,036
MMS	0,018	0,04*	0,03	0,028	0,034*	0,044**	0,027
WAP	0,031	0,033	0,073**	0,015	0,03	0,07**	0,029
LBS	0,04*	0,041**	0,026	0,033	0,024	0,02	0,055**
Music	0,026*	0,046**	0,037*	0,064*	0,008	0,077**	0,019

* significant on 95%-level
** significant on 99%-level

	Adult	Life-style	Motor	Sports	Science /Travel	IT
SMS	0,068**	0,046**	0,056**	0,1**	0,027	0,068**
MMS	0,082**	0,045**	0,072**	0,072**	0,033*	0,063**
WAP	0,065**	0,086**	0,061**	0,091**	0,028	0,071**
LBS	0,018	0,052**	0,035*	0,043**	0,053**	0,051**
Music	0,058**	0,054**	0,038**	0,052**	0,002	0,009

* significant on 95%-level
** significant on 99%-level

Figure 5. Coefficients for magazine readership and mobile services use



as indicated by the coefficients which are very small. This leads to the conclusion that on the one hand reader segments showing significant dependencies will allow potential earnings from mobile content offerings. On the other hand, mobile content services will only reach small market sizes. It is unlikely that they will become a mass market in medium term.

In Figure 5, we compare the values of the contingency coefficients of the five reader groups with the highest significance and the three most popular mobile service formats (SMS, MMS and WAP). Readers of sports magazines have the strongest interrelation with SMS- and WAP-based services while readers of adult magazines prefer MMS-based services.

To answer the second research question, the interrelations identified on the level of service formats need to be verified on the level of different contents distributed in these formats. As we have detailed before, news, sports and entertainment contents are consumed most frequently using SMS-, MMS- and WAP-based services. Therefore, the results of independence tests for these contents in the four reader groups with highest willingness to use mobile services are shown in Table 3. The figure reveals that reading music, adult, and sports magazines is significantly interrelated with using mobile contents. However, besides the interrelations between usage of mobile sports contents by readers of sports magazines, the values of these interrelations are rather small.

(2) In section 4 we described that the attractiveness of the mobile Internet is determined by curiosity and fascination of technology as well as the need for ubiquitous information. Examining the respondents' motives in relation to their reading behavior reveals only marginal differences between different reader groups. E.g. SMS- and MMS-based contents tend to be perceived as entertainment by readers of music and adult magazines whereas readers of lifestyle magazines use them in order to satisfy information needs (cf. Figure 6). Only readers of adult magazines show a balance between habitual mobile content reception and satisfaction of spontaneous information needs. We did not find any significant differences either between the motives of mobility and ubiquity, dominating interactivity within all reader groups, and between technology fascination and practical value.

Figure 6. Relation of curiosity and habitual usage

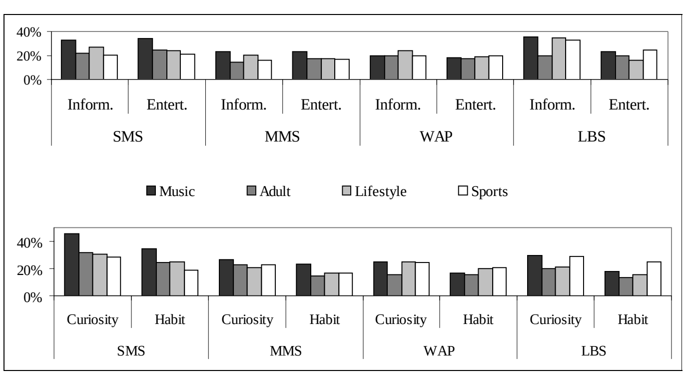


Table 3. Confidence coefficients for magazine readership and mobile content use

		Music Magazines	***Adult Magazines***	***Lifestyle Magazine***	***Sports Magazine***
SMS	Sports	0,026*	0,051**	0,039**	0,205**
	News	0,038**	0,053**	0,034*	0,04**
	Entertainment	0,085**	0,057**	0,058**	0,029*
MMS	Sports	0,038*	0,061**	0,02	0,124**
	News	0,018	0,037*	0,031	0,026*
	Entertainment	0,042**	0,059**	0,025*	0,026*
WAP	Sports	0,033*	0,061**	0,059**	0,183**
	News	0,012	0,04**	0,071**	0,016
	Entertainment	0,087**	0,059**	0,058**	0,017

* significant on 95%-level
** significant on 99%-level

SUMMARY

The survey at hand addresses the acceptance of mobile services from a behavioral perspective. There are a number of key findings: mobile contents are used mainly in order to satisfy curiosity and location-independent information needs. In contrast to e.g. [18], who assume that special interest contents such as guidebooks will dominate users' demand of mobile services, we found that only contents of general interest such as news and sports are being used frequently. Furthermore we were able to disprove statements indicating a lack of acceptance of WAP-based contents.

Respondents reading special interest magazines such as adult or sports press show a higher willingness to use mobile contents. In contrast, consumers of mass market segments such as newspapers and news magazines did not show significant demand for mobile contents. This result is disillusioning for three reasons: Firstly, readers of music, adult, lifestyle or sports magazines are naturally limited in number. Secondly, there is only a small degree of interrelation within these groups. This leads to the conclusion that even those readers are not willing to use mobile services to a large degree. Thirdly, our examination of motives revealed that using mobile contents is mainly driven by curiosity and fascination. This leads to the assumption that content providers can not expect stable demand in the near future.

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