Mobile service value – presenting the newspaper publisher view on how to attract readers and advertizers

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Abstract. This paper presents results from a study of news publisher's perceptions of reader and advertiser value of mobile services. Literature on mobile service features and benefits has been used to discuss these values. The study was conducted in 10 European newspaper publishing organizations. The data on the value perceptions was analyzed iteratively to discover patterns of attributes, and resulted in a set of values for readers respectively advertisers. These finding suggest a re-shaped service model for newspaper publishers. The perception of reader values are *availability, experience*, *relevance*, *sociability,* and *credibility*, and of advertiser value *mass coverage*, *targeting*, *tracking* and *mediating.* This set of value attributes can be of guidance for content-providing organizations attempting to practice a value-centered approach to mobile service design.

Introduction

The emergence of ubiquitous computing environments and the increasing number of people in possession of small, mobile computing devices have created new possibilities and opportunities for offering mobile services to a wide audience. These possibilities and opportunities are especially attractive to content-providing organizations such as newspaper publishers, since their core business is information and news services. Content-providing organizations do indeed have an important role for providing value in this new world of mobile services (Ziv, 2005).

The service model for newspapers organizations have for more than 100 years been to offer news-reading and classified advertising for readers and advertising space for advertisers. Today, many newspaper organizations are organized as media-houses, publishing services deploying multiple channels such as print, online, PDAs, and mobile phones. Generally, the publishing systems in media-

houses have support for multi-channel publishing, i.e. publishing on different platforms and in several formats. The ongoing IT and media convergence together with the infrastructural support for mass scale publishing and mobile technology (Lyytinen & Yoo, 2002a), is resulting in a development towards a ubiquitous media environment (UME) (Åkesson & Ihlström, 2006).

Even though newspaper organizations recognize the new opportunities offered by UME, they have been very cautious about exploring the new possibilities (Ziv, 2005). The experiences from the introduction of the Internet as a publishing channel in the '80s together with the confusing array of platforms, devices and standards have created a wait-and-see strategy for many newspaper organizations (Ziv, 2005). As the newspaper organizations started to explore the possibilities of the Internet and the related technical and design challenges, the problem of how to generate revenues arose. Designing services offering the value required for users to pay and to attract advertisers has been a long journey for newspaper organizations. Generating profitable publishing on the Internet has indeed been a difficult struggle, and many are still struggling with these challenges (Ihlström & Henfridsson, 2005).

Moreover, this situation is new not only to content-providing organizations, it is also new to the wide audience. The rapid introduction of mobile technology and new services has led to a situation where users are constantly trying out new appliances and trying new services. This in turn changes use patterns as well as creates new demands and expectations, which leads to uncertainty about what people want and are willing to pay for (Tilson *et al.,* 2004). How much a customer is willing to pay is determined by value (Womack & Jones, 1996), value is defined as the benefit required to meet a customer´s needs at a specific time, at a specific price. Value is produced by the producer, and is only meaningful when related to a specific product or service. Thereby, offering mobile services is associated with significant risk for content-providers as they do not know what readers and advertisers are willing to pay for.

Despite these circumstances, there are newspaper organizations with ambitions to explore the new opportunities offered by UME. and the conveying possibilities of contextual adaptation, localization, personalization etc. At this novel state of it is not clear what impact these new possibilities will have on the design of services, and how to meet the demands and expectations of users and advertisers. The assumptions about these cannot be based on properties of devices (Lyytinen & Yoo, 2002a), nor only on context of use (Rao & Minakakis, 2003), neither solely on usability (Kaasinen, 2005). The circumstances in a UME make this unfeasible.

In this study, 10 European newspaper organization's efforts to define value generating concepts for mobile services are analyzed. These organizations are offering a range of services, using a number of channels such as mobile internet, GPS, and DAB, to offer services to their audiences. In addition to these, there are

new emerging technologies, such as e-paper and e-Reader devices, that these organizations are preparing for (Åkesson & Ihlström, 2006). It is of interest to IS researchers to investigate how content-providing organizations address these challenges in order to understand how these organizations can be innovative in their response to new enabling technology.

This paper addresses the research question: *How does ubiquitous computing re-shape service models in the media industry?* The aim is to understand how values of mobile services are understood by newspaper publishers. That is, how they think about and make sense of how readers and advertisers benefit from mobile services. The main outcome is a set of values that reflect the newspaper publisher view on mobile services. This set of values can be applicable to mobile services offered by other types of content-providing organizations in the media industry.

The remainder of this paper is structured as follows. The first part will present an overview of literature on features and values of mobile services. Thereafter, a description of the chosen research approach is given, and the empirical findings from newspaper organizations as representatives for content-providers are reported. This is followed by a discussion of the findings, and finally, some concluding implications for content-providing organizations will be discussed.

Mobile service features and values

Mobile services and the distinctive features and benefits have received attention in literature (Lyytinen & Yoo, 2002a; Lyytinen & Yoo, 2002b; Jessup & Robbey, 2002; Kleinrock, 1995). In this section, a brief review of the literature on mobile services is given, with emphasis on service features and benefits.

The most fundamental feature and benefit of mobile services is described in terms of the ability to wirelessly access services in different locations and through a variety of devices such as mobile phones and PDAs (Lyytinen & Yoo, 2002a). This independence of location together with independence of time, enable anytime and anywhere access to services (Kleinrock, 1995). Traditional media require a delivery address, a kiosk or an internet connected computer to access news content. Mobile services can be published independent of the user context.

As a consequence, contextual dimensions of mobile services have attracted special interest (Dourish, 2004; Aboyd & Mynatt, 2000; Henfridsson & Lindgren, 2005). Context is commonly referred to as time and place. However, this is a limited view challenged by Dourish (2004) who argue that in embodied interaction context should be understood as constituted together with activity. The value of services and applications arises out of their use in practice, and is thereby related to more than the physical. A minimum set of questions suggested to answer when defining context are: *who, what, where, when,* and *why* (Aboyd &

Mynatt, 2000). When all of these questions are answered, there is a context description for a mobile service.

A context dimension that answers the question where is location. Location-based services add value by utilizing information about a device's location in some way, and are discussed as a core feature of future mobile services and a possible source for revenue growth (Tilson *et al.*, 2004). It is suggested that the successful providers of mobile services can make use of localization and context information to deliver services of value to end-users (Rao & Minakkis, 2003).

The question who and why can be related to incentives for using a mobile service. A feature commonly suggested to bring benefits is personalization of mobile services (Abowd & Mynatt, 2000; Lyytinen & Yoo, 2002a; Rao & Minakakis, 2003). Personalization incorporates the idea of increasing personal relevance by making it possible to adapt content and service to personal preferences and interests.

The question when is related to time. Mobile value can differ depending on time setting (Anckar & DÍncau, 2002). Alerting services and remainder services can be of value in time critical arrangements. Services such as games and entertainment can be of value for killing time or having fun. In situations where dead time slots, such as waiting for flight, efficiency ambitions might be the benefit of using mobile services.

Turban and King (2003) summarizes the characteristic benefits of mobile technology as mobility and reach. They define five major value adding attributes of mobile services: *ubiquity* (availability at any location any time), *convenience* (convenient for users to operate), *instant connectivity* (easily connected to the target), *personalization* (allows for preparation of personalized information), and finally, *localization* (location-specific information and products). These new possibilities in UMEs create new behavoirs and use patterns. New ways of interacting and acting occurs and completely new social behaviors occur (Jessup & Robbey, 2002).

This summary of mobile service features and benefits is from an end-user point of view. In the media-industry the advertisers are and important customer. Advertising in mobile media benefits from being targeted at individuals rather than on target groups, even though this might require permission in some countries (Salo & Tähtinen, 2005). To make use of the fact that mobile devices are highly personal, together with the possibilities of contextual adaptation and thereby targeted advertising content and interactivity, are expected to add value to advertisers. This means that the right individuals will be targeted, at the right time and place with matched advertising content on which the targeted individual can react, creates a more intimate relation, closer to a personal meeting (Ranganathan & Campbell, 2004). In a recent study focussing on consumers perceived value of advertising show that this is strongly related to the content and frequency of the advertisement (Haghirian *et al.*, 2005). The consumer profile, such as age, proved

to be of less importance for how advertising value is perceived. Another study, indicate that users have more expectations on entertainment value than on information value of mobile advertisement (Xu & Teo, 2005). Further, this study suggests that privacy issues are important for acceptance of mobile advertisement. This literature shows that there is a tension between offering advertising exposure and en-user acceptance in mobile media.

Research approach

The research presented in this paper was carried out within the context of an ongoing research project, DigiNews (ITEA 03015) with European academic institutions, technical solution providers, and newspaper organizations. The overall goal of the project is to explore research and development issues for a future electronic mobile newspaper, published on e-paper technology. The project aims at combining the accessibility, simplicity and mobility of printed newspapers, with the advantages of digital media, communication technologies and portable consumer electronics. The two year project will be finished at mid-year 2006.

The study reported in this paper include the 10 newspaper organizations, these are Aftonbladet (AB), Göteborgs-Posten (GP), Nerikes Allehanda (NA), Norrköpings Tidningar (NT), Sundsvalls Tidning (ST), Sydsvenskan (SS), Östgöta Correspondenten (ÖC), Concentra Media (CM), De Telegraaf (DT) and Le Monde (LM). This study can be classified as a qualitative interview study in that it is oriented towards understanding the meaning these organizations have assigned to mobile service value (Walsham, 1993). The aim is to create an understanding of how ubiquitous information environments influence content-providers initiatives for mobile services.

The data gathering methods used are; interviews with newspaper managers, group discussions in workshops within a single newspaper organization, and group discussions in workshops with representatives from several of the newspaper organizations. These activities covered topics related to the scope of the DigiNews project, however the reporting in this paper is limited to topic of mobile service value. In total (Table 1), there were 19 interviews with newspaper managers, and 9 workshops with newspaper representatives from management, IT, marketing and design. The abbreviations in the table will be used in connection to quotations in the empirical reporting to indicate the source.

Interviews	Workshops
NT1 (Aug 25th 2004) Editor-in-chief new media	GPw1 (Jun 2nd 2004) – 6 participants
ÖC1 (Aug 25th 2004) Business developer	SSw1 (Sep17th 2004) – 8 participants
SS1 (Sep 16th 2004) Marketing manager	STw1 (Oct 6th 2004) – 5 participants
SS2 (Sep16th 2004) Layout director	ABw1 (Oct20th 2004) – 3 participants
ST1 (Oct 6th 2004) Quality Assurance Manager	STw2 (Oct 7th 2004) – Design focus group
ST2 (Oct7th 2004) Editor	STw3 (Nov 24th 2004) – Design focus group
ST3 (Oct 7th 2004) Web publisher	CMw1 (Oct 26th 2005) – 4 participants
AB1 (Oct 20th 2004) Editor-in-chief new media	DTw1 (Nov 22nd 2005) – 10 participants
AB2 (Oct 20th 2004) Layout director	LMw1 (Feb 3rd 2006) – 3 participants
GP1 (Oct 27th 2004) Development director	GD1 (Sep 22nd 2005) – 4 participants
GP2 (Oct 27th 2004) Managing Development Editor	GD2 (Nov 30th 2006) – 3 participants
ST4 (Nov 24th 2004) CEO	
CM (Mar 23rd 2005) Head of research	
NT2 (Apr 27th 2005) Head of Editorial Department	
DT1 (Nov 22nd 2005) Director of new media	
DT2 (Nov 22nd 2005) Development officer	
DT3(Nov 22nd 2005) Editor	
LM (Feb 3rd 2006) Chief Operations Officer and Managing Director	

Table I. Data collection activities

The 19 interviews were 60-90 minutes long and followed a semi-structured interview guide, aiming at consistency between the sites and interviewees. While allowing individual perspectives and experiences to emerge, the interview guide provided a systematic way of delimiting issues discussed in the interview (Patton, 2002). All respondents had key functions within respective newspaper, e.g. editor-in-chiefs, managers, or designers (see Table I).

The workshops were organized at the newspaper organization sites focusing on discussing problems within the scope of the projects and visioning about the future. The participants were selected to cover different competences such as managers, marketing, news design and IT people. The workshops were between three and four hours long. To cover the design topics of DigiNews a design focus group was formed in the beginning of the project with news designers from Aftonbladet, Göteborgs-Posten, Norrköpings Tidningar and Sundsvalls Tidning. With this group we worked in two full day workshops especially on the topic of designing the future e-newspaper but also covered discussion on strategic issues. This group is referred to as Design focus group in table 1. In addition to these activities there have been two group discussions with representatives from Concentra Media, Le Monde, De Telegraaf and the Swedish newspaper association. These discussions covered the perceived values of mobile services as well as discussions on the future e-newspapers role in this environment, and were approximately two hours long each.

The data on the beliefs of reader and advertiser value was analyzed iteratively to discover patterns of attributes. The value attributes were defined and tested and redefined until all data could fit in the emerging categories. This resulted in a set of value attributes representing newspaper organizations beliefs of reader and advertiser values.

Newspaper publisher views on mobile services

In the ambition to offer mobile services, the newspaper publishers are very determined not to give their most valuable content away for free. Some content might be free, but not all. It is very important for these organizations to sort out the content that people believe gives value for their money, and charge for it. When discussing the over all challenges with mobile service design, the newspaper organizations emphasized the challenge of ensuring value greater than the technical challenges.

> *The main challenges for designing mobile services are the business model not the techniques. We have content, we have techniques. The question is: what is worth paying for? Content will be for free, compare with Metro.* [CMws1]

In addition, the importance of being successful in providing mobile service value for both customer groups, i.e. readers and advertisers, is stressed.

> *Think what you can do for the advertiser – this is as important as thinking about the readers.* [GD1]

Hereafter, the newspaper organizations perceptions of values related to readers respectively advertisers are presented organized according to the attributes that were identified in the analysis.

What is the wow for readers?

Availability

The newspaper organizations in this study are confident in that mobility will increase and that this phenomenon is not only related to younger readers.

> *All reader types are more or less mobile, mobile workers, on travel, going to and from work, young readers. Even elderly readers are mobile users today. People are a lot more mobile today.* [ST1]

This increased mobility is also expected to create new needs and demands for content. These organizations believe that future news readers will expect content available at any location at any time. This means that they expect the future demand to be 24/7 publishing in multiple channels, however packaged and adapted to location and time.

> *For mobile news there is a possibility of working with GPS. Depending on where you are the news content changes. If you are in New York for example you would get the New York news but also the biggest news from home.* [SS2]

Making news content easily available in mobile devices is considered to be challenging. The limited screen size of most mobile devices is limiting for publishers, since they have a tradition of publishing vast amounts and rich content

in print and on-line. This limitation has to be considered when designing services, at least for the current set of appliances available for mobile services.

If we go to something mobile the size is essential – problem with look and feel – problem to fit with reading habits of printed newspapers. If the device is too small – what happens then? In print, the same pages are read by all and then you can discuss because you have seen the same thing. [CMws1]

Another aspect of availability discussed is cross-media publishing. To offer access to services through different media depending on what suits the reader best is one important issue in the media-house idea. Orientation between different services through one channel is also an aspect regarded as important.

I believe that the critical success factors for the next five years are; professional news service, that are up to date, that are personalized but also surprising, and packaging complete services in combinations so the users only go to one place and find it all. [CMws1]

Experience

The traditional thinking in a newspaper organization has been, and to a large extent still is, to produce a product, i.e. the printed newspaper. The notion behind the multiple-channel publishing media-house is challenging this basic idea. The design of services to be consumed in a variety of devices, migrating through several channels is especially challenging to this mental model. To offer value for users in this new environment, these organizations are intensely working on changing their thinking and attitudes.

We are selling experiences – we are not selling a product anymore. The role of a traditional newspaper is changing, news reading is dying. A new kind of reading experience should be there. If we can address individual differences it will bring that kind of value. [GD2]

This shift form product to service has also forced the newspaper organizations into new lines of thought. In tradition, the main concern has been how to provide quality content and news reading. In the mobile services this has widened to including different types of experiences.

Since we started to think in user experience we have considered going into new areas. There are some new areas we like to go in to that we are not in today. Dating services, entertaining services, local services...Now we have different categories or types of services. Notification and alerting services – must come first – before the news is published. Entertainment, games, movie selections etc, and information services like, weather etc....Experience is for example, when you are at a birthday party, everybody is sitting chatting, your phone starts buzzing and it is breaking news from the Telegraaf. Everybody says wow! That's an experience. But it is also an experience if all the content you get is dedicated to you personal interests. [DT1]

Relevance

Relevance is regarded as a very important value by these organizations, and is related to individuals as well as groups of people sharing some common interest. To add relevance to mobile services, targeting of audiences is discussed. In the

beginning, the fact that somebody had access to a mobile phone or a PDA was a target group, but today this has changed into thinking how a reader can benefit from a service.

> *How to target? Well you can target with device or with content? Initially we asked - Who has a mobile phone? and maybe adapt content to that group of people. Or you can think - Who needs this content? and then publish it where you reach these people. We must learn to ask what is important to people. How can we help people in their every day lives and then design a service, and after that think how can we make this service available.* [LM2]

During the time that these organizations have been experimenting and testing new mobile services it has been difficult to charge for services. Some services have been advertising financed and some have been paid-for services. In time some of these organizations have reasoned that relevance is very important for people's willingness to pay.

> *Up until now we haven't had any central strategy for mobile services, just a lot of loose ends. Now we have a central strategy. We believe the factors for success are relevance and stickiness. To add relevance – you have to know something about your target groups, look for partners that can contribute to adding relevance. Stickiness – the talk of the day, the things that engage people, the things people remember, entertaining...We are trying to move from free to pay. For people to pay the service has to be relevant, suit customer needs. We are going from broadcasting to narrowcasting news. [DT1]*

In addition, the format of how news is presented will change. The selection of news has traditionally been based on the thought of what is interesting to everybody. In this discussion the individual's interest is called attention to.

> *If we can recognize the person who is reading we can get closer to people. With the device – if different people are using the same device, individuals should be able to be recognized, so you get the right content for you. News are getting more and more individual. For example, foreign news is loosing interest, more local is more interesting...A newspaper is news plus the background of the news – each newspaper is therefore unique. We believe in getting closer not further, narrowcasting, shop casting. The value of real or traditional news is diminishing. Alerting is therefore high on the agenda, far more personalized.* [GD2]

The new types of content discussed, more focused on how to make people's everyday-life easier, are also part of adding relevance to the audience. The idea is that if people perceive that services will assist them thorough the day, they will be more willing to pay.

> *We have an interesting new mobile service with a geographic interface with several layers, for the driver, for the pedestrian etc. We are working on a service called City jet – mobile city guide in several languages, healthcare, for shoppers, for students etc. This service will be designed in participation with the audience.* [CMws1]

Relevance is not only about individual relevance though. There are limitations to how personal for example news services can be if you still want to enjoy the experience of news.

The main possibility with the e-newspaper is narrowcasting – to get to know your readers. A nice reading experience is being surprised - so it can not be too narrow, not personal. Personally I think personalization is very overrated. I never use it myself. [NT1]

Sociability

As illustrated above, the relations to the audience are developing to be another in mobile media than in mass-media. The relational and social aspects are considered to be important values. It is not only the relation between the audience and the content-providers that is discussed but also the relations between readers. The relations between individual readers, community building and sharing information and experiences are considered to be part of the sociability of mobile services.

It is more important to build relations to your readers today. We are going from mass media to relation media…Add stickiness to our brand, it is about not only bringing the news but also to help people with added services on very cheap basis. If you can stick those services to your brand, then you will be a friend, a family and friendship is worth a lot. [DT1]

People are socially engaged in news. Have you read the news today? - is a common way to start a conversation. People want to talk about the news. One aspect of sociability that the newspaper organizations want to bring to the mobile publishing channels is the common news that has been read by many.

News reading is very social. People read more or less the same content that gives them the talk of the day. Sometimes the content doesn't matter. [ÖC1]

Another aspect of sociability is people's willingness to contribute with content in new ways, which adds new dimensions to news. People have a desire to be seen and to share experiences, ideas, opinions etc. Therefore these organizations expect that mobile readers are willing to contribute with content that can be published in print, online etc.

People also want to react, to produce, to be seen on the screen. Compare to the blog phenomena, it is huge in France.[GD1]
People want to contribute, content is a two way situation in the future. People produce content as well… I have an example from a picture of the Dutch Formula One drive Christijan Albers who drove his car through the city centre of Amsterdam…Half of the picture was the street and the car and the other half was the audience. Everybody in the audience had a mobile phone in their hand, either talking or taking a picture. Every body on the picture, they were all reporting. And that is one of the biggest challenges with the mobile. [DT1]

The newspaper organizations regard pictures and stories that come from ordinary people who where at a news scene and who experienced the occurrence, to have an added value compared to the journalist who comes afterwards and tell other peoples stories. The idea is adding a realistic and emotional dimension to the content.

Compare with the bombings in London – the most interesting reporting came from people who were there. People are involved – if they make the story its more than if a journalist who weren't there makes it – more emotions. [CMws1]

However, most organizations are not yet prepared to handle a stream of reader produced content. The content management systems and the working organization need to be adapted. Even so, the possibility of organizing this reporting is regarded as an interesting venture for the future.

> *One interesting topic for the future is – How can we motivate people to participate and share? How can we work with community journalism and participative journalism?* [CMws1]

Sociability is also about how people communicate and build communities together. The newspaper organizations see an opportunity in supporting this.

> *Maybe our future role is to bring people together in communicating. 75% of the People consume media because of small talk. We are growing from information companies, from media houses, to communication companies. If we can provide good moderation and good conclusion we still have a role. Google and Yahoo are libraries – for finding something. For communication you blog.* [CMws1]

However, there are also newspaper organizations with a more hesitant attitude to supporting community building, with regards to independent news reporting.

> *I believe in communities and memberships business wise, but is that our role? The newspaper can not sell out its independency.* [NT1]

Credibility

The newspaper brand is what these organizations regard as the most valuable asset to communicate trustworthiness and seriousness. The brand is not only regarded to be manifested in the newspapers name but also in the visual appearance, the journalistic competence, and in the tone of voice. All of these newspaper organizations have a long tradition of publishing news and have over time has built strong brands.

> *Branding, exposure and trustworthiness are important qualities. De Telegraaf should use the brand to make new revenue, e.g. like selling cinema tickets through De Telegraaf's website. We are selling credibility of contacts.* [DT2]

This aspect is considered to be important for reader's conception of service value, and is thereby part of what people will loose if they choose to get their services and news form another content-provider.

> *Part of enhancing the experience is to see to it that if people consider not subscribing they also loose the warmth and the trustworthiness of De Telegraaf.* [DTws1]

What is the wow for advertisers?

Attracting advertisers to the web has been very difficult for the newspaper publishers. The possibility for each organization to have their presence on the Internet is perceived as one reason for that, the limited exposure compared with

broadcasting media and printed media another. The organizations are sure that convincing advertisers of added value in mobile media is challenging. This requires a renewed way of thinking of how to attract advertisers.

Mass-coverage

The value for advertisers in mobile media is naturally closely related to the number of service consumers there are. The importance varies for different types of advertisers, if they are international, national, regional or local brands. Some of the organizations are convinced that the advertisers will not be attracted until there is proof of reader exposure on mass-scale.

If you want to launch a service for early adopters, for example on a PDA – don't even think of advertising. You need mass-coverage for mass-advertising. [GD1]

The expanding of geographical reach together with the fact that you reach in to peoples pocket is discussed as something that adds value to advertisers.

Targeting

Targeting is a very important value mentioned for advertisers. Serving the advertiser with information about who is targeted, where and when are considered to increase the advertising value.

Advertising is about targeting audience, timing and context. To sell space on-line you have to show advertisers what you are selling to. Today we do not know enough and thereby we can not describe what we are selling. If we can measure targeting and reach in mobile channels we can describe what we are selling. [GD1]

Personalization possibilities can be used to target, since people who are interested can pull for advertisements. Interested readers can actively ask for advertising according to their preferences, and advertising can be adapted to individual reading patterns.

We are working on a personalization experiment at Concentra. We are now building a proof of concept based on automatic profiling based on reading patterns. We categorize the news items and the advertisement to match reading patterns with content categories. [CMws1]

However, there is a tension between advertiser value and reader value. There is a worry that too much advertising might be considered as SPAM and that will affect the audience's willingness to pay.

Location based and, interactive advertisement – a new type of advertisement, more entertaining – but NOT SPAM!, We want to work with profiling, zoning etc – matching is a challenge. [CMws1]

Making it interesting for very local advertisers to advertise in mobile media is also considered to be and opportunity. It has for cost reasons not been common for small local businesses to advertise in digital media. The possibility of, at a low price, target for example the inhabitants in a neighborhood with information on local offers is one example of this.

Our strategy behind the mobile services is not technical. It is to package a collection of services and to do it better and local and personalized. If you can get closer to a neighborhood you can attract new types of for example advertising – the local bakery can advertise. [CMws1]

To use timing of advertisement, day-parting, is considered value-adding for advertisers. Day-parting means making advertising relevant in relation to time of day or day of the week.

I believe in day-parting. People are interested in different things at different times of the day. If we can match time and interest the advertisement will be better targeted. [NT1]

Tracking

The newspaper publisher's relation to advertisers has in tradition been built for each channel. This is today changing. Many of the organizations are now reorganizing their advertising department to fit with the media-house multiple channel publishing idea. In this new organization publishers expect to be able to offer new values to advertisers.

The advertiser needs are user response, to target specific audiences, to market their brands, to track information and to be able to interact with possible customers. We have these possibilities with our mobile services. [GD1]

There is also a possibility to serve advertisers with detailed information of how their advertising is interacted with. For example, information can be given back on an interactive advertisement that incorporates the possibility to buy the product.

How do you navigate if you can find the "Buy it button" or if you find it and you are asked a lot of silly questions, you will say no. Every step further people say ok this is not for me. To evaluate this you have to be able to walk a road from the end to the beginning and se where people get lost. [DTws1]

Mediating

The possibility of enabling user interaction directly with advertisers, similar to the interactive advertisement model on the Internet, is considered to be a way of

mediating relations to the readers. This value is considered to be more interesting to the advertiser than the reader.

I do not think users are very interested in interactive advertisements but it is important to the advertiser that we implement that. We have to do that to attract them. [ST2]

The possibility of enabling direct contact between seller and buyer through matching of target groups and personal profiles among the audience is regards as a promising opportunity for adding value to advertisers. This idea is a relationship marketing service to advertisers.

One interesting challenge is - How can we bring the seller and buyer together, if we can bring the consumer and the advertiser to a perfect match straight forward we would have succeeded. [CMws1]

Another mediating role for the publisher is to mediate contact between advertiser and advertiser. The joint advertising trend, for example coffee brand advertising together with a coffee cup manufacturer, requires contacts. Companies with similar businesses sometimes want to join their efforts in marketing activities such as exhibitions.

Making it possible for advertisers to get in contact with each other is something we do more and more. There is an increased interest to join effort is in marketing. [GPws1]

Discussion on content-providers perception of mobile service value

The empirical findings of how these newspaper organizations think about and make sense of mobile service value for readers and advertisers are summarized in Table II. The table presents the conceptualization of the newspaper organizations believes of reader and advertiser values of mobile services. The value attributes presented in the model are the result of the analyzing process described above. In table II, the categories are presented with examples of benefits and the related enabling mobile service features.

Customer	Value attribute	Examples of benefits	Examples of mobile services and enabling features
Reader	Availability	Access to services anytime and anywhere, easy to use, convenient, easy to navigate, natural and intuitive interactivity, likeability, good look and feel, familiarity and recognizeability	Wireless access Cross-media publishing Sorting and structuring content Making content easily accessible Small screen presentation
	Experience	The satisfaction of for example being the first to know, being entertained, being surprised, being informed, having learned something etc	Differentiating and profiling types of services that support different types of needs, such as alerting, weather, entertainment, games etc Making use of multimedia capability
	Relevance	Suit needs – the right timing, location, situation and content. Closer to me Actuality Supporting every day activities Matches interests, beliefs etc	Narrowcasting Personalization Context-awareness and context adaptation of content Timely updates Content packaging
	Sociability	Inclusion, community, sharing, two way content-producing, rating content, getting people in contact with each other, the talk of the day Stickyness - things that engage people	Support community building, mobile news blogs etc Filtering and editing content provided by readers, building networks
	Credibility	Trustworthiness, tone of voice, journalistic competence Closer relation to content -provider	Using the newspaper brand Competent filtering and editing Commenting on news as part of news service
Advertiser	Mass coverage	Expanded reach in space and time, exposure	24/7 publishing accessible anywhere Reach individuals
	Tracking	Getting information back on ads exposure, and on profiles of those who react to ads	Tracing patterns Reader statistics
	Targeting	Targeting groups of people, time, location, context etc	Profiling and matching, location based advertising, zoning and day-parting
	Mediating	Bringing the seller and the buyer together, bringing advertisers together	Support relation building to customers and other advertisers

Table II. Content-providers perceptions of mobile service value

As table II illustrates, the traditional models of services offered by newspaper organization is extensively re-shaped. The set of values identified for readers are closer to the individual than the traditional service model in mass-media. These results indicate that the newspaper organizations believe that the readers no longer can be regarded as a unit with common interests related to living in the same country or city.

Availability any-time and any-where is the central value of any mobile services (Lyytinen & Yoo, 2002a, Kleinrock, 1995; Turban and King; 2003). Access to content from different devices depending on situation still recognizing the newspaper brand, structure and tone is regarded as an important dimension by the newspaper organizations. This implies that from a content-provider perspective, making content conveniently available and good look and feel as well as cross-media publishing are important aspects.

Experience is related to the motivation for consuming a service. The desire to for example learn something or to be entertained is the driver and the satisfaction of having the experience the value. This suggests that content-providers can make use of multimedia capabilities and profiling according to different experience desires.

Relevance is related to the fact that in a UME, people are in possession of personal devices and thereby expect more personalized service offers. In a printed newspaper for example, readers are tolerant with content that is not of personal relevance since the newspaper is presented to a mass-audience. In a personal device, the tolerance for non relevant content is limited. The context of use (Dourish, 2004) is one determinant of relevance, personal interests and believes another (Mallat *et al.*, 2006). Context-awareness, context adaptation of content, personalization and localization are all mobile service features that can be used by content-providers to add relevance value to services.

Sociability is a value related to community building and sharing experiences and content. People are willing to provide and produce content, and people want to be seen and feel included. Content and services that engage people in interaction are value-added. In a UME it is possible to receive, filter and edit reader produced content and to support communities. It can be stated that social issues (Jessup & Robey, 2002) are given a lot more attention than the technical in the value discussion. How to support people's way of life and way of communicating and engaging is regarded as a very interesting new avenue of services.

Credibility is the core value of a newspaper service offers, regardless of media. The newspaper tradition of serious, independent, trustworthy and journalistically professional reporting is the foundation for credibility. The credibility is build in with the newspaper brand. The possibility to communicate with readers, publishing reader's content, and supporting community building are expected to add value to readers but these possibilities also challenges the credibility. In a UME it is possible for people to share content, to send in text, photos, videos etc. The challenge is to manage, filter and moderate this input in such a way that the credibility is sustained.

The values for advertisers have in tradition been to sell advertising space or exposure on the internet with pricing based on for example number of hits. The results clearly point out that the newspaper organizations are preparing to expand their thinking of advertiser value beyond exposure.

Mass-coverage is the basic idea for advertising. However, in a UME the coverage expands with basically unlimited reach regarding time and place (Haghirian *et al*, 2005). One fact that is interesting to note is that the possibility of reaching further and thereby expanding the audience is not the main focus of opportunity. The possibility of getting closer and more intimate with the audience is more intensely discussed.

Tracking is a value that is expected to be of great interest to advertisers. Information about who reacts on an advertisement, when and in what situation can help advertisers build profiles and improve advertising efforts. The use of personal devices for mobile services makes it possible to make this information more detailed than in other media.

Targeting groups of people or individuals with special interests (Salo & Tähtinen, 2005) as well as targeting based context such as on time of day or location are all interesting opportunities in a UME. Matching the advertisement with profiles, zoning and part of the day is regarded as an important value to offer advertisers.

Mediating contact with customers or with other advertisers is a value that the newspaper organizations regard as interesting. Bringing the seller and buyer together in a match is one dimension of this value creating the value of more intimate relations with readers (Ranganathan & Campell, 2004). The service of supporting advertiser's relationship-building with other advertisers is another opportunity that is considered.

This new service model implies that these organizations need to know more about their readers and need to find ways of managing and making this information useful. To be able to deliver these values, the organizations need to support individuals as well as communities. To sustain the credibility of the newspaper brand moderating, filtering and editing will require special efforts. Further, to deliver the values identified for advertisers the system infrastructure needs to be configured to support digital tracing and storing of use pattern data. There are also thoughts on being able to get closer to people in a UME, thereby improving the targeting of advertising. Mediating contact between advertiser and reader and between advertiser and advertiser is also regarded as a value which requires knowing more about the advertisers needs.

This re-shaped service model will presumably have organizational implications. From having a tradition of thinking in newspaper publishing, the organizations need to include filtering and editing reader generated content. From having a tradition of thinking in mass-media, this model of service values brings a need to think in relational media. From having a tradition of selling advertising space, there is a need to think in cross-media and targeted advertising services. Adding to the traditional news publishing practice, new roles are brought by these changes that require new competences and work organization.

Conclusions

The development of ubiquitous information environments and the accompanying new possibilities have attracted research attention for some time. As indicated by this research, the opportunities are many and many changes due to this development are predicted (Abowd & Mynatt, 2000; Lyytinen & Yoo, 2002a,

2002b; Jessup & Robey, 2002; Dourish, 2004). In this paper, the implications for content-providers have been given attention.

This paper set out to address the research question: *How does ubiquitous computing re-shape service models in the media industry?* The results from the empirical study give evidence that this discussion is vital to content-providers. The newspaper organization's efforts to offer mobile services, has driven them to change and expand their thinking of what the values for readers and advertisers are, and has thereby re-shaped their service-models. 10 European newspaper organizations efforts to define value generating concepts for mobile services were been analyzed. These newspaper organization's perceptions of values have been identified for readers to be *availability, experience, relevance, sociability,* and *credibility*. The advertiser value has been identified as *mass-coverage, targeting, tracking,* and *mediating*. As shown in this study the social values of services are given more strategic importance than the technical issues. Further, the perceptions of value are changing these organization's perceptions of their roles, from being mass-media producers to being relational service providers.

There are limitations to this study. Aspects such as security and privacy are not explicit in this empirical material, neither technical capabilities such as delivery speed. Further, the readers and advertisers own perceptions are not taken into account. The later however, relates back to the difficulty of users knowing what they want (Tilson, *et al.*, 2004) and to the chosen definition of value as an attribute defined by the producer of a service (Womack & Jones, 1996).

Even though the value mobile services have received considerable attention in literature there are still gaps in our knowledge. This article contributes to the understanding of how ubiquitous information environments influence content-providers initiatives for mobile services. In conclusion, this research indicates that a value-based design approach is emerging in the newspaper organizations efforts to offer mobile services, i.e. for the value for readers and advertisers put in centre, and the technical put in the periphery. This set of value attributes can be of guidance for content-providing organizations attempting to practice a value centered approach to mobile service design.

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