Telematics and Informatics 30 (2013) 111–120

Contents lists available at SciVerse ScienceDirect

Telematics and Informatics

journal homepage: www.elsevier.com/locate/tele

Should mobile Internet be an extension to the fixed web? Fixed-mobile reinforcement as mediator between context of use and future use

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ARTICLE INFO

Article history:
Received 1 September 2011
Received in revised form 19 January 2012
Accepted 10 February 2012
Available online 6 March 2012

Keywords:
Mobile services
Mobile Internet
Reinforcement
Fixed-mobile convergence
Consumer studies
Displacement

ABSTRACT

As the fixed and mobile Internet are converging, the question emerges whether consumers expect mobile Internet services to replicate services they know from the fixed Internet. Literature on reinforcement and displacement suggests that the use of new media depends on whether users are inclined to replace or reinforce their existing media use on a new device. This paper analyzes whether the importance that users attribute to using similar services on their mobile phone as on the fixed Internet can explain the intention to adopt mobile services. Specifically, we investigate if such fixed-mobile reinforcement could mediate the impact of personal innovativeness and several dimensions of context. We compare basic Internet services, entertainment services and transaction services. We find that especially the intention to adopt basic Internet services largely depends on the importance of using similar services in the mobile domain as on the fixed Internet. Several context-of-use predictors are partially or even fully mediated by fixed-mobile reinforcement. The results convey a positive message to operators that are betting on converged multimedia services that can be accessed from any device and from any fixed or mobile network.

1. Introduction

As smartphones and tablets are becoming increasingly powerful, users can now access fixed Internet services from their mobile device (West, 2010). The trend of fixed-mobile convergence will further be fueled by the integration of wireless and wired access networks using technologies like IP Multimedia Subsystem and Systems Architecture Evolution in LTE (Dahlman et al., 2007). Fixed-mobile convergence raises the question as to whether the mobile Internet should be seen as anything more than an extension to the fixed Internet (Nielsen and Fjuk, 2010).

The blurring boundary between the fixed and mobile Internet drives a new range of converged multimedia services. Such converged communication services would offer the same service experience regardless of whether they are used through a mobile or fixed device. Users can thus access the same content, address books and services from any device, and may even be able to switch from one device to another while continuing to use a service. This concept of converged multimedia services is pushed by telecom operators (e.g., in the Open Mobile Alliance working group Converged IP Messaging but also in the Rich Communication Suite consortium). Telecom operators hope that such converged multimedia services will enable them to provide a unique proposition as compared to over-the-top providers like Skype and WhatsApp who threaten to take over the profitable voice and messaging business (Nikou et al., 2012).

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doi:10.1016/j.tele.2012.02.002

Still, it remains unclear how strongly consumers wish to use the same services on their mobile device as on the fixed Internet. Our own annual consumer survey has shown consistently over the past five years that a vast part of the population wishes to use their mobile device simply for dedicated tasks like calling and texting. Although more innovative users may look to adopt services they know from the fixed Internet, this group may be more interested in services that take advantage of the mobile context like geolocalization and location based services. As such, it may be questioned whether consumers are really more likely to adopt mobile Internet services if these resemble the services they already know from the fixed Internet.

The relation between fixed and mobile devices has been studied previously in the literature on replacement and reinforcement. Prior research shows substitution effects on a macro level using aggregated national statistics (Sung and Lee, 2002; Vogelsang, 2010) and on a micro level when using data measuring substitution per household (Rodini et al., 2003). These studies, however, merely focus on the telecommunication aspect of the mobile phone. Due to increasing features of the mobile phone, it is questionable whether this substitution effect will hold for more advanced mobile Internet services. Moreover, the study of Rodini et al. (2003) mainly examines fixed-mobile access substitution, thus providing little information about behavioral displacement. In a previous study, it is shown that the usage of specific mobile service categories correlates with the usage of the same service types on fixed Internet. In other words, the use of specific service types on fixed Internet reinforces rather than replaces the use of the same service types on mobile phones.

The purpose of this study is threefold. First, we test if the importance that users attribute to using similar services on a mobile phone as they are used to on the fixed Internet explains their intention to use mobile services in the future. In doing so, we explore how such effect might differ when comparing basic, entertainment and transaction services. Second, we place the construct of fixed-mobile reinforcement (henceforth referred to as FMR) in context by introducing the role of the situation where the mobile is used in. Regarding this context-of-use, it might be that users that find it important to use mobile devices in a specific context attribute more value to the possibility to use the same services from the fixed Internet. Third, we explore if FMR may also play a mediating role in the effect of established predictors. For example, it may be expected that more innovative consumers find it more important to use the same innovative services on their mobile phone as they are used to from the web. Hence, we examine the mediating role of FMR with personal innovativeness.

To the best of our knowledge, this is the first study to examine reinforcement effects on the future use of mobile Internet services. We broaden the discussion on reinforcement effects on mobile phones by including factors regarding the context-of-use. This study also contributes to an embodiment of the literature aiming at scholarly understanding of why consumers intend to adopt mobile Internet services (e.g., Bouwman et al., 2008a). More specifically the results of this study contribute to adoption models on mobile technologies that include context-of-use (e.g., Mallat et al., 2009), and personal innovativeness as mobile adoption antecedent (e.g., Mao et al., 2005). The study will also provide insights for practitioners, for example by showing whether it is worthwhile to focus on delivering converged, consistent service experiences on the mobile web and the fixed Internet. Especially for operators, the results in this study provide feedback as to whether the fixed-mobile converged multimedia paradigm can be viable.

Section 2 discusses the background of the present paper, focusing on context-of-use, personal innovativeness and displacement and reinforcement literature. Section 3 details the method and Section 4 provides the results. Section 5 discusses results, limitations and implications.

2. Literature background and hypotheses

2.1. Mobile Internet as extension

In displacement literature, it is argued that usage of one medium negatively influences the use of other media. Media scholars investigated this displacement effect by the advent of new technologies including television (Mendelsohn, 1964) and VCR (Henke and Donohue, 1989). It is even suggested that a revolution in the way people consume media, ultimately lead to the dissolution of traditional media (Coffey and Stipp, 1997). More recent studies have focused on displacement effects by the Internet on traditional media (Lee and Leung, 2008).

Whether the uptake of newly emerging media has displacement effects on the older media seems, in practice, rather difficult to conclude. After a concise literature review, Lee and Leung (2008) conclude that numerous studies have explored these displacement effects but that they have shown various, sometimes contradictory, findings. The key factor in this is to what extend the characteristics of the two media overlap – on issues that are relevant to the specific user groups. Prior displacement effects literature on emerging media focuses on two generic dimensions that are assumed to overlap, involving time and functional displacement.

Basic argumentation, regarding time displacement, is that people have limited amount of time to spend on the consumption of different media (Dutta-Bergman, 2004). Concerning the use of media, this leads to the assumption that a person can only use one medium at a time. Hence, the use of a new medium, subsequently, means decreasing the time spent with existing media. Earlier time displacement studies to the displacement effects of television indicated a reduction in time spent listening to the radio, reading comic books and attending movie theaters (Coffin, 1955). With the growth of Internet usage scholars became interested in the displacements effects of the Internet. Studies assumed negative correlations between Internet and television viewing. Also the Internets' impact on traditional media (e.g., newspaper and bulletin boards) is assumed to be present. Literature is, however, inconclusive regarding the displacement effects of the Internet. Some scholars

found negative correlation concerning television viewing (Ha and Fang, 2011; Kaye, 1998), telephone use (Chou, 2001), book reading (James et al., 1995), and newspaper reading, thus indicating a displacement effect of Internet of these media. Positive correlation, however, are also found, thus not indicating a displacement effect. Examples of these are for instance between television viewing, radio listening, book and newspaper reading (Robinson and Kestnbaum, 1999), or between movies, and video games (Cai, 2005).

Studies concerning functional displacement are focused on the satisfaction of user needs by using media. In line with the uses and gratifications theory, studies posit an active and purposive role of the users. In contrast to the dimension of time, the functional dimension predicts an increase use of other media in order to fulfill the needs. For instance, when people tend to have a high need for entertainment it is likely that they spend time viewing television, but also go more often to the cinema. Hence, in contrast to the displacement hypothesis, use and gratifications theory predicts that media is supplementary rather than competitive (Lin, 2001). However, scholars did find overlapping needs regarding different media. The need for relaxation and entertainment by cinema indicated to be replaced by watching videos via VCR (Lin, 1993). In addition, the Internet was found to be a functional alternative to television regarding entertainment, passing time, relaxation, social interaction and information (Ferguson and Perse, 2000).

In sum, literature show ambiguous results concerning possible reinforcement or displacement effects between different media. Probably the most obvious benefit of mobile services is its relation to the situation where it is used in (Bouwman and van de Wijngaert, 2009), thus having a high mobility in space. While moving around, people are able to use mobile devices and services (Jarvenpaa et al., 2003). Anytime and anyplace, therefore, are concepts that are closely related to mobile services. Hence, the nomadic value of mobile services is a key differentiator with respect to other media (e.g., television and fixed Internet). The primary motivation identified for using mobile Internet therefore is to stay connected when a fixed Internet connection is out of reach (Nielsen and Fjuk, 2010). This reinforcement effect, thus mobile Internet as extension of the fixed connection, is also found in prior empirical research. A reinforcement effect between both media is, subsequently, assumed. All in all, we propose that:

H1. The importance that users attribute to using similar services on a mobile phone as they are used to on the fixed Internet positively affects the future use of mobile Internet services.

2.2. Personal innovativeness

It is widely assumed that people's attitudes towards innovation predict how likely they are to adopt a wide variety of technological innovations (Yang, 2005b). Generic attitudes towards innovation have been a central concept in studies on the diffusion of innovation (Rogers, 1962). Personal innovativeness in the domain of information technology is defined as an individual trait reflecting a willingness to try out any new technology (in our case advanced mobile services). Past research has shown that personal innovativeness influence a person's use of mobile phone services (Mao et al., 2005), and. increases the rate of adoption of WAP services (Teo and Pok, 2003) Personal innovativeness is a useful predictor of innovation adoption behavior in the area of mobile commerce (Yang, 2005a). Personal innovativeness, which was initially proposed as a moderator or a mediator (López-Nicolás et al., 2008), was later re-conceptualized as a direct determinant of future use (Yi et al., 2006). Clearly, people's attitudes towards innovation are likely to influence their use of mobile services (Mao et al., 2005), which is why we postulate the following hypothesis:

H2. A positive attitude towards mobile innovations has a positive effect on the future use of mobile services.

Moreover, we propose that FMR may mediate the impact of Personal innovativeness. More innovative consumers may find it more important to use the same innovative services on their mobile phone as they are used to from the web:

H3. The importance that users attribute to using similar services on a mobile phone as they are used to on the fixed Internet mediates the impact of Personal innovativeness on the future use of mobile Internet services.

2.3. Context-of-use

Core about mobile technology is that people carry around their mobile device all the time. The essence of mobile telecommunication is to understand why people make use of mobile services in some situations, but not in others. The range of situations in which mobile services can be used is virtually limitless. The emergence of fixed-mobile convergence solutions like IMS, the success of software platforms like Apple's apps platform, and resulting multimodality options increases the scope of contexts in which mobile services may provide added value. Consequently, shaping mobile services towards specific context-of-use has received some attention. Typical examples are the kind of location-based services that emerged several years ago, and, more recently, social networking applications that take advantage of the social context-of-use. Context adaptation relates to personalization, as it takes care of user preferences and interests as well as user context.

Context was first conceptualized from a linguistic and artificial intelligence perspective, before it entered the world of mobile computing (Coutaz et al., 2005). Despite its importance in the mobile domain, the concept of context is still fairly

ambiguous. The concept context, and its synonyms (Han et al., 2005), is hard to define, because there are many relevant views, i.e., technical, design, acceptance research, marketing, and, physical, social, cultural dimensions. Ciborra (2006) discusses context or situation from a phenomenological and interpretative perspective, but offers few concrete pointers for empirical research. Dey and Abowd (2000) define context from a human–computer interaction perspective, as 'any information that can be used to characterize the situation of entities (i.e., whether a person, place or object) that are considered relevant to the interaction between a user and an application, including the user and the application themselves'. A first layer of context would comprise the person interacting with the mobile devices, making use of stored information on the device Hristova and O'Hare (2004). The next layer would be the type of device, (smart) phone, tablet and so on as well as the mobile network to which the device is connected. Moving from the device related issues towards location would be the next layer, i.e., the spatial context as well as the physical context, as mentioned by Schilit et al. (1994). Directly related to space is time (Chen and Kotz, 2000). Gerstheimer and Lupp (2001) suggest that users (individuals, group or organization), type of process (leisure or business) and place (fixed, mobile) are relevant aspects of context. In addition, softer attributes regarding mood or situation-related issues are also part of the context, for example indicating that a certain user is in a business meeting and therefore cannot be disturbed (Schilke et al., 2004). Company and what kind of company, public or private situation would be a more socially defined layer. The same goes for the modalities of mobility, work and leisure (Pedersen and Ling, 2002). Sometimes changes in the status of these are also considered (Brown et al., 2002).

It is clear that depending on the discipline and the focus on technical or social and human aspects, context is framed differently, ranging from hard core technical aspects to very soft human factors. Bradley and Dunlop (2005) try to cover all these aspects. We will use this distinction between more technology related contexts or conditions, i.e., the place where a mobile service is used, and the more social context, i.e., the social environment the mobile service is used in.

Mallat et al. (2009) focus on context and Technology Acceptance Model concepts, e.g., perceived ease of use, perceived usefulness and behavioral intention. Their study does not discuss mobile services in general but only a specific class of services i.e., mobile ticketing. Following Mallat et al. (2009) we expect that the more people are inclined to use mobile services within a specific context, the more they will use mobile Internet services in general. We thus propose that:

H4. Using mobile services in a specific context has a positive effect on the future use of mobile services.

In this paper, we select four dimensions of context-of-use that are often used, but we are aware that other dimensions might be relevant as well given that literature is rather ambiguous in this respect. Task-related dimensions of context are prominent in recent literature. Carlsson (2006) argues, for instance, that, in order for mobile services to be adopted, they have to fit and add value to specific tasks (the Braudel Rule).

This also relates to the notion of media choice and task-technology fit, which states that a user's behavioral intention is closely related to whether or not the technology fits the intended activities (Bouwman and van de Wijngaert, 2009; Daft and Lengel, 1984; Goodhue and Thompson, 1995). This view is empirically supported by Bouwman and Van de Wijngaert (2002, 2009). Within this paper, we consider the generic task-related context but also more specific work-related and passing-time-related context. We also consider social context as a condition for usage as mobile services may be used in social situations like gathering with friends.

Regarding context-of-use, it might be that users that find it important to use mobile devices in a specific context attribute more value to the possibility to use the same services from the fixed Internet:

H5. The importance that users attribute to using similar services on a mobile phone as they are used to on the fixed Internet mediates the impact of context-of-use on the future use of mobile Internet services.

The general model is specified for mobile entertainment services (e.g., downloading games, buying or downloading music-files and using mobile TV); basic mobile Internet services (e.g., e-mail, surfing the web, accessing search engines and news services); and mobile transaction services (e.g., buying train and airline tickets, checking timetables, checking and booking hotels and using localization services).

Fig. 1 presents the conceptual model, which comprises the hypotheses proposed in this section.

3. Method

3.1. Sample and data collection

Respondents were selected from a panel of 25,000 households that regularly take part in survey research and that are representative for the Dutch population. Potential respondents ($N = 849$) were first approached by telephone to see if they were willing to participate and whether or not they used a mobile phone. In April 2010, respondents who agreed to participate and matched the selection criterion received an e-mail with a link to the online questionnaire. In all a total of 515 questionnaires were completed. The sample was checked against relevant criteria to make sure it was representative for the Dutch population. The results indicated that the sample was sufficiently representative, and wherever it was not, the data was weighted to correct for possible bias.

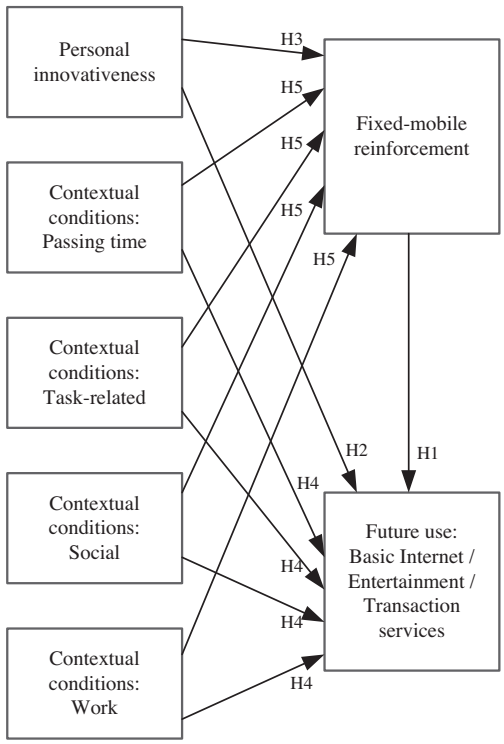

Fig. 1. Conceptual model.

3.2. Measurement

Future use was measured by listing sixteen different mobile services and asking respondents to rate to which extent they would be willing to (continue) using these services in the future. Based on exploratory factor analysis, we selected nine services that meet the three categories of mobile services. The dimensionality of the three service categories is confirmed in confirmatory factor analysis. Average variance extracted higher than .6 for all categories, standardized factor loadings exceed .7 for all items, and discriminant validity acceptable, as the square of the correlation of two constructs is smaller than their average variance extracted estimates.

The appendix provides a measurement summary including all the items. Personal innovativeness (i.e., people's attitude towards mobile innovation) was measured using three items provided by De Marez and Verleye (2004), which we used in a previous study as well (De Reuver and Bouwman, 2010). Social context was pre-tested (De Reuver and Bouwman, 2010). Task-related context items were based on Bouwman and van de Wijngaert (2009) and were also confirmed in our previous study (De Reuver and Bouwman, 2010). The measurement scale on work-related context was pretested in a pretest study. We added a new scale to measure passing time related context, and a new scale for fixed mobile reinforcement (FMR).

Table 1 provides the results of confirmatory factor analysis, which indicates acceptable overall fit. Average variance extracted higher than .6 for all categories, standardized factor loadings exceed .7 for all items, and discriminant validity acceptable, as the square of the correlation of two constructs is smaller than their average variance extracted estimates.

4. Results

All three models show acceptable overall fit. Social context has no significant effect in any of the models.

Regarding basic mobile Internet services (e.g., email, MMS, surfing, search), Fig. 2 shows that there is a major effect of FMR (.59). Personal innovativeness and task-related context are fully mediated through FMR, and passing-time context are partially mediated. Work context is the only construct that has solely a direct effect on the future use. Explained variance of the intention to use basic mobile Internet services is rather high.

Regarding *entertainment services*, Fig. 3 shows that the effect of FMR is considerably smaller (.37). Again, personal innovativeness and task-related context are fully mediated, but passing-time-related context is now only partially mediated. Work context has no direct or indirect impact on future use. Explained variance of future use is substantially smaller than in the basic Internet services model.

Table 1
Confirmatory factor analysis.

Construct	Item	Std factor loading	AVE	Cr. alpha
Contextual conditions: Passing time	PassTime.1	.95	.81	.92
	PassTime.2	.87		
	PassTime.3	.88		
Contextual conditions: Task-related	Task.1	.79	.68	.87
	Task.2	.84		
	Task.3	.86		
Contextual conditions: Social	Soc.1	.89	.78	.87
	Soc.2	.88		
Contextual conditions: Work	Work.1	.83	.67	.81
	Work.2	.81		
Personal Innovativeness	PI.1	.87	.79	.92
	PI.2	.90		
	PI.3	.90		
FMR	FMR.1	.92	.84	.91
	FMR.2	.91		
Future use: Basic Internet services χ^2 (131) = 243; NFI = .969; TLI = .981; CFI = .985; RMSEA = .041	BI_Basic.1	.94	.71	.91
	BI_Basic.2	.86		
	BI_Basic.3	.71		
	BI_Basic.4	.86		
Future use: Entertainment χ^2 (114) = 220; NFI = .967; TLI = .978; CFI = .984; RMSEA = .043	BI_Ent.1	.85	.65	.84
	BI_Ent.2	.74		
	BI_Ent.3	.83		
Future use: Transaction services χ^2 (98) = 182; NFI = .972; TLI = .982; CFI = .987; RMSEA = .041	BI_Trans.1	.89	.80	.89
	BI_Trans.2	.84		

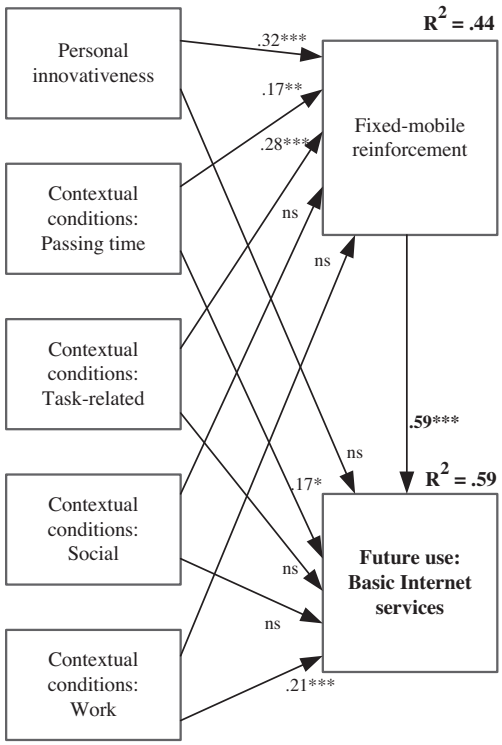

Fig. 2. Basic mobile Internet services (χ^2 (136) = 246; NFI = .968; TLI = .982; CFI = .985; RMSEA = .040).

Regarding *transaction services*, Fig. 4 shows that the effect of FMR is .49. In contrast to the other two models, Personal innovativeness and task-related context are now only partially mediated. Strikingly, personal innovativeness has a positive

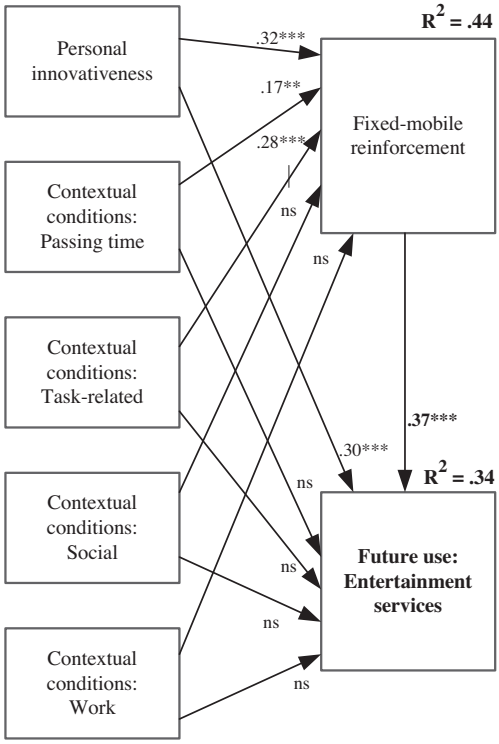

Fig. 3. Entertainment services (χ^2 (120) = 226; NFI = .966; TLI = .979; CFI = .984; RMSEA = .042).

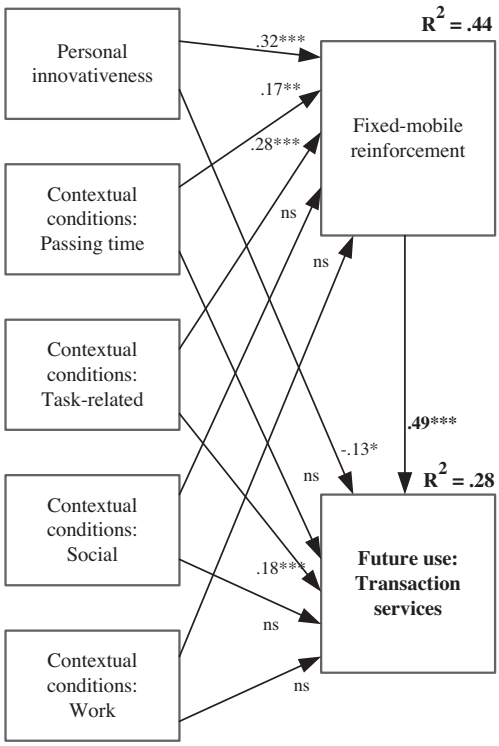

Fig. 4. Transaction services (χ^2 (103) = 186; NFI = .972; TLI = .983; CFI = .987; RMSEA = .040).

Table 2
Context model: Effect sizes.

	Construct	Direct effect	Indirect effect	Total effect	% Mediation
Basic mobile Internet services	Personal innovativeness	.00	.19	.19	100%
	Contextual conditions: Passing time	.17	.10	.27	37%
	Contextual conditions: Task-related	.00	.17	.17	100%
	Contextual conditions: Social	.00	.00	.00	n/a
	Contextual conditions: Work	.21	.00	.21	0%
Entertainment services	Personal innovativeness	.00	.12	.12	100%
	Contextual conditions: Passing time	.30	.06	.36	17%
	Contextual conditions: Task-related	.00	.10	.10	100%
	Contextual conditions: Social	.00	.00	00	n/a
	Contextual conditions: Work	.00	.00	.00	n/a
Transaction services.	Personal innovativeness	-.13	.16	.29	55%
	Contextual conditions: Passing time	.00	.08	.08	100%
	Contextual conditions: Task-related	.18	.14	.32	43%
	Contextual conditions: Social	.00	.00	.00	n/a
	Contextual conditions: Work	.00	.00	.00	n/a

indirect effect but a negative direct effect on future use. The context related to passing time is now fully mediated through FMR, whilst work context plays no role at all. Explained variance is lowest in this model.

As we aim to study the mediating effect of FMR, we compute direct and indirect effect sizes in Table 2. We find that in two out of three models, Personal innovativeness is fully mediated. The extent of mediation for context-of -use differs strongly across the different dimensions of context-of-use and across the different service types.

5. Discussion and conclusions

This study shows that consumers will only adopt mobile Internet services if these strongly resemble the services they already use on the fixed Internet. This effect is especially strong for basic mobile Internet services like email, MMS, surfing and search, but still considerable for transaction and entertainment services. The strong reinforcement effect implies that service providers and operators should offer converged multimedia services that offer similar service experience on fixed and mobile devices. If operators could indeed leverage consumer trust, interoperability and means to provide security, a converged fixed-mobile service portfolio strategy might indeed be viable. On the other hand, the results also support recent strategies from Internet companies to extend services like Skype and Facebook to the mobile phone.

We also find strong evidence that even those consumers that have a positive attitude towards innovative mobile devices and services find it important to be able to use the same services from the fixed Internet. Apparently, these users are glad to stick with the services they know from the normal web. The strong preference to use similar services as known from the fixed Internet appears to be at odds with the general contention in the literature that mobile services should not simply replicate fixed Internet services, but that they should be engineered in their own right (Bouwman et al., 2008b; Carlsson, 2006; Mallat et al., 2009; Räisänen, 2008).

The importance that consumers attribute to using mobile services in a specific context also impacts the importance of having similar services on a mobile device as on the web. Especially consumers that want to use mobile services for specific tasks or for passing time find it important to have services from the fixed Internet on their mobile device. Possibly, users find it important to have services they know and services they can handle when carrying out specific tasks. It might also be that users are unable to imagine which novel mobile service concepts might be useful for their tasks, and therefore they mainly look to what they already know.

According to the results, the use of mobile services in social situations does not impact the intention to use mobile services nor the importance of using fixed Internet services on mobile devices. On the one hand, we expect that consumers that use their mobile devices in social contexts are less inclined to adopt mobile Internet services as social norms dictate that it is rude to use mobile Internet services when around others, or because mobile services are especially useful when not around others, for communication purposes. On the other hand, there might be a positive effect, for example when using mobile video services to show short clips to friends or when using mobile TV when in a room with family members that wish to view other shows. Apparently, the positive and negative aspects of social context-of-use cancelled out in the present study, which leads to a non-significant effect. In any case, the use of mobile Internet services in social contexts warrants further attention.

Our earlier study indicated a strong reinforcement effect between mobile and fixed Internet services. This study not only confirms that finding, but also extends the theoretical role of fixed-mobile reinforcement. More specifically, we show that fixed-mobile reinforcement mediates the effect of personal innovativeness and the context-of-use on the future use of mobile Internet services. Hence, further research concerning the measurement of these reinforcement effects between media should consider the context-of-use and the personal innovativeness of the user.

Our study entails some limitations that warrant further research. One obvious limitation is that several services are unique for the mobile context and do not play a role in the fixed Internet at all, for example location-based, geolocalization or QR code services. On the measurement theoretical side, our construct of fixed-mobile reinforcement contains two rather generic measurement items. Adding more items, investigating underlying dimensions and retesting the construct in other contexts would increase the confidence the measurement properties of the construct. Future studies may also consider adding displacement construct to our model, although our earlier study found that reinforcement effects are stronger than displacement effects regarding mobile Internet. Regarding the theoretical contribution, we focused in this study only on context-of-use and personal innovativeness, while costs and concepts from TAM like usefulness and ease-of-use may also be relevant. For future research, we consider to add the fixed-mobile reinforcement construct to an extended TAM model. We have done preliminary analyses that indicate that there may be very strong mediation effects regarding core TAM concepts.

Appendix A

Measures

Construct	Item	
	What are reasons and conditions for you to use mobile services? (5-point: Very important – Not at all important)	
Contextual conditions: Passing time	PassTime.1	When I am bored
	PassTime.2	To relax, wherever and whenever I want
	PassTime.3	To kill time
Contextual conditions: Task-related	Task.1	To exchange realtime information
	Task.2	To quickly check something
	Task.3	To execute tasks where and where I want to
Contextual conditions: Social	Soc.1	When I am in company of others
	Soc.2	When I am among friends
Contextual conditions: Work	Work.1	When at work
	Work.2	When travelling for work
	What is your opinion on the following statements? (5-point: Totally agree – Totally disagree)	
Personal innovativeness	PI.1	I want my mobile telephone to be the latest model
	PI.2	I want to be one of the first to test new mobile services
	PI.3	I am one of the first to use new mobile technologies
FMR	FMR.1	Eventually, I want to be able to do the same things on my mobile phone as on the web
	FMR.2	I would like to use the same services on my mobile phone as on the web
	To what extent would you be willing to use the following mobile services in the future? (5-point: I would absolutely use – I would absolutely not use)	
Future use: Basic Internet services	BI_Basic.1	Surfing over the Internet with a mobile device
	BI_Basic.2	Email: Sending or receiving email via a mobile device
	BI_Basic.3	MMS
	BI_Basic.4	Mobile news and weather
Future use: Entertainment services	BI_Ent.1	Purchasing/Downloading music to mobile device
	BI_Ent.2	Downloading/Playing games
	BI_Ent.3	Streaming music
Future use: Transaction services	BI_Trans.1	Reserving and/or purchasing plane/train tickets
	BI_Trans.2	Presentations of hotels and/or hotel room reservations

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