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Research article

Mobile word-of-mouth – A grounded theory of mobile viral marketing

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Abstract

Mobile devices as personal communication tools are used as platforms for viral marketing within existing social networks. Although there is some evidence on the usefulness of mobile viral marketing from the marketers' perspective, little is known about the motivations, attitudes, and behaviors of consumers engaged in this marketing instrument. The purpose of this research is to better understand the motivations behind a consumer's decision to engage in mobile viral marketing strategies. The outcome is a grounded theory of mobile viral marketing with respect to the consumer and his social network, decomposing the mobile viral effect and identifying the determinants of reception, usage, and forwarding of mobile viral content. This result helps researchers and marketers to better understand the critical components of mobile viral marketing strategies and prepares the ground for further research in this emerging field.

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Introduction

Mobile marketing has the potential to tackle marketers' major challenge today: getting attention from consumers (Barwise and Strong, 2002; Pousttchi and Wiedemann, 2006). The marketing instrument offers three basic marketing strategies – push, pull, and viral strategies. In push strategies marketers address consumers to distribute or to communicate content. In pull strategies consumers explicitly request content from marketers. In viral strategies information exchange occurs between consumers. The latter strategy is known as mobile word-of-mouth (WOM) or *mobile viral marketing* (Wiedemann, 2007).

WOM refers to oral, person-to-person communication between a communicator and a recipient who perceives the respective message as non-commercial although the subject is a brand, product, or service (Arndt, 1967). Since the early 1950s researchers have shown that WOM not only influences consumers' choices and purchase decisions (Katz and Lazarsfeld, 1955), but also shapes pre-usage attitudes (Herr *et al*., 1991) and even post-usage perceptions of a product or service (Bone, 1992).

In recent years consumers' communication environment has been considerably changed and enriched, following the development of information and communication technologies such as the fixed Internet. As a result, WOM has gained new significance (Helm, 2000). In 1997, the venture capitalist Steve Jurvetson originally used the term 'viral marketing' as 'network-enhanced word of mouth' describing the marketing strategy of the free email service Hotmail (Jurvetson, 1997). By appending an advertising message to every outbound email, 'Get your free email at Hotmail', the service signed up over 12 million subscribers in its first one and a half years (Montgomery, 2001). This example illustrates the nature of viral marketing as a communication and distribution concept (Helm, 2000).

The rapid growth of cell phone ownership has opened up a new arena for WOM communication, *mobile viral marketing*. Like its counterpart on the fixed Internet – termed in this paper as *electronic viral marketing* – mobile viral marketing is based on WOM and can be understood as a communication and distribution concept. The term 'viral' describes a type of marketing that infects customers with an advertising message which passes from one customer to the next 'like a rampant flu virus' (Montgomery, 2001: 93). Since an epidemic may be local and can be global the metaphor may be used regardless of the

scale of diffusion which is achieved via a mobile viral marketing strategy.

Following these considerations *mobile viral marketing* is defined as a concept for distribution or communication. This type of marketing relies on consumers to transmit mobile viral content via mobile communication techniques and mobile devices to other consumers in their social sphere and to animate these contacts to also transmit the content (Wiedemann, 2007). Such content is defined as *mobile viral content* and refers especially to mobile services or ads. The mobile viral content is carried by the *mobile vector*. In epidemiology, a vector is an organism that does not cause disease by itself but spreads infection by conveying pathogens from one host to another. Translating this idea into mobile viral marketing a *mobile vector* carries the mobile viral content, for example, as a text or a link using the Wireless Application Protocol (WAP). The first form uses pure text messages such as short message service (SMS); the second uses *WAP push messages*, a specially formatted type of message that either directly connects the browser to a mobile website or provides a link. Individuals transmitting mobile viral content are termed as *communicators*; whereas, individuals receiving such content are termed as *recipients* (Pousttchi and Wiedemann, 2007). Note, in this paper we concentrate on unsolicited referrals, that is, they are sent to recipients who are not looking for mobile viral content, and hence who are not *a priori* willing to pay attention to them.

Literature on mobile viral marketing has focused mainly on outcomes or potentials of mobile viral strategies. As stated by several studies (Jelassi and Enders, 2004; I-play, 2005; Intuitive Media Research Services, 2006), mobile viral marketing helps to expand the number of recipients significantly, increases the impact of marketing communication at low company expense, and reduces the distribution expenses at mobile business-to-consumer services. A prior study (Marini and Wiedemann, 2006) has reported that personal messages sent by friends gain more credibility than those coming directly from the self-interested advertiser. In addition, consumers who get the initial message from a familiar recommender proved to participate more frequently in a campaign as initial contacts. Although there is some evidence on the usefulness of mobile viral marketing from the marketers' perspective, it is surprising to find relatively few studies directed at the systematic examination of the motivations, attitudes, and behaviors of consumers engaged in this marketing instrument (Chen *et al*., 2008; Wiedemann *et al*., 2008). As a consequence, marketers are not able to tap the full potential of mobile viral marketing outlined above.

This paper aims to answer the following research question: '*What are the motivations, attitudes, and behaviors of actors within mobile viral marketing social networks?*' Underpinning this aim, the principal objective is to develop a detailed understanding of mobile viral marketing processes that include receiving, using, and forwarding mobile viral content. In answering the research question, we describe the empirical findings that emerged from a grounded theory study. The grounded theory approach was useful here because it especially allows a focus on processes and actions of consumers associated with change (Strauss and Corbin, 1990). Although the findings of this study are detailed and particularistic, a more general explanation can also be produced from the results. As suggested by Glaser and Strauss (1967) we generalize the theoretical categories by combining the inductive results generated by the study with insights from existing formal theories from information systems research and marketing research. The outcome is a general conceptualization of mobile viral marketing processes.

The paper makes three principal contributions. First, the paper generates a grounded understanding of mobile viral marketing. Such an understanding has been absent from the research and practice discourses on mobile marketing (Okazaki, 2005). Second, a theoretical framework is developed that illustrates the motivations, attitudes, and behaviors of communicators and recipients of mobile viral content. Thus, the proposed framework helps researchers and marketers better understand the critical components of mobile viral marketing. Only by this understanding can marketers hope to tap effectively into the rich vein of communication and advocacy (Phelps *et al*., 2004). Moreover, the framework prepares the ground for further research in this emerging field, especially for quantitative research. Third, the paper integrates a specific grounded theory with the more formal insights available from information systems research and marketing literature, developing a more general framework that will allow researchers and practitioners to explain, anticipate, and evaluate mobile viral marketing strategies.

The paper is organized as follows. The next section specifies the details of the grounded theory study. Afterwards, we present and discuss our empirical findings and develop a theoretical framework. Based on this we provide implications for practice and research. Finally, in the last section, we conclude our results and provide an outlook.

Methodology

Grounded theory

The *grounded theory methodology* is an 'inductive, theory discovery methodology that allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data' (Martin and Turner, 1986: 141). Moreover, grounded theory allows for 'the generation of theories of process, sequence, and change pertaining to organizations, positions, and social interaction' (Glaser and Strauss, 1967: 114).

The grounded theory approach turned out to be particularly useful for our research on mobile viral marketing, because research on mobile viral marketing is rare (Okazaki, 2005). Although research that examines these issues for electronic viral marketing (e.g., Phelps *et al*., 2004) and WOM (e.g., Bone, 1992) does exist we argue that the derived findings are not adequate for mobile commerce solutions. These solutions differ from offline and electronic commerce solutions due to the particular characteristics and limitations of mobile communication techniques (Bazijanec *et al*., 2004). Consequently, we argue that interpersonal influence in mobile viral marketing differs from that in WOM and electronic viral marketing.

Therefore, the previous research on WOM and electronic viral marketing provides helpful information as a starting point but no adequate answer for the research question at hand.

Data gathering

During the period between August 2006 and November 2007, data were collected by two trained interviewers in 17 focus groups and 53 individual in-depth interviews. Following the technique of theoretical sampling (Glaser and Strauss, 1967), in four interview rounds a sample of 57 German consumers was interviewed.

Guided by the ideas that emerged during the data analysis the *theoretical sampling* focused on the selection of different mobile viral marketing strategies and participants with different profiles. Because the purpose of the research was to generate a theory applicable to various mobile viral marketing strategies, we analyzed in the first and second round two general types of mobile viral marketing strategies. According to Pousttchi and Wiedemann (2007), mobile marketing campaigns with low network externalities represent the communication concept of mobile viral marketing. For instance, mobile greeting cards or mobile short films were provided as examples in the first interview round. In contrast, mobile services with high network externalities represent the distribution concept of mobile viral marketing. For instance, mobile instant messengers or mobile communities were provided as examples in the second interview round. In both rounds we started with graduate IS students to obtain the first relevant categories and grounded opinions. After an analysis of gathered data we interviewed respondents with different demographic profiles to gain a deeper understanding of emerged categories and find more relevant categories and, especially, more concepts. Furthermore, we wanted to avoid that our findings are based on a student sample characterized by a good understanding of mobile commerce. During the third interview round we verified most of the emerged relationships from selective coding against actual data. In doing so, differences were sought in further characteristics of mobile viral marketing strategies (Wiedemann, 2007) that relate to emerged categories. Examples are strategies with low *vs* high added value for recipient (related to attitudinal conditions in the second partial model), strategies inducing none *vs* high cost for the communicator or recipient (related to the categories perceived cost in all three partial models), or strategies based on different enabling technologies (related to various categories). In the fourth round, we focused on the verification of relationships regarding recipients' and communicators' characteristics. We interviewed step-by-step respondents with different age, gender, mobile technology usage, strength of personality, and self-efficacy. The reason was that we assumed that the interpersonal influence might be different within some of these personal contexts. However, only the last category proved to be important in a mobile viral marketing process.

The *sample* can be described as follows. The average age was 27.4 years, ranging from 15 to 61 years. Twenty-six (45.6%) of all participants were female and 31 (54.4%) were male. Fourteen percent of the respondents took part in three interview rounds, 38.6% in two interview rounds, and 47.4% in one interview round. Within a particular round no participant of a focus group took part in an in-depth interview and the other way round.

Data analysis

The data analysis followed the descriptions of how to generate a grounded theory set out by Strauss and Corbin (1990). After the first step of iterative data analysis, known as *open coding*, emergent concepts and categories suggested by the data were selected and named after the in-depth interviews and focus groups. Concepts derived from coding are the basic units of analysis and not the actual data *per se*. Categories are higher in level and more abstract than the concepts they represent. In the next step, known as *axial coding*, we put those data back together in new ways by making connections between the categories. The last step, known as *selective coding*, involves the integration of the categories to form the theoretical framework. We selected the core categories (i.e., the central phenomena of the theoretical model), related them to other categories, and validated these relationships (for the present) with data.

Having completed this, literature on information systems research and marketing research, especially on mobile service and mobile marketing acceptance as well as WOM and electronic viral marketing, were examined to place the findings within the context of existing theories. This discussion is provided, where relevant, throughout the findings section.

To ensure that data were saturated (Glaser and Strauss, 1967), first, we asked each respondent whether he or she had further concepts or categories in mind. At a later date of the study, no new aspects were mentioned. Second, we found that all of the paradigm elements have been accounted for. Third, the relationships between categories have been established and validated through interviews or literature.

Validity and reliability

Our strategies to minimize threats to validity addressed most of the items included in the validity checklist of Maxwell (1996). We used triangulation collecting data from focus group interviews, individual in-depth interviews, and literature. To establish inter-coder reliability 20 interviews were selected at random and coded by the two coders. Considering the random error of measurement the observed Krippendorf's inter-coder reliability was respectable ($R = 91.7$; Krippendorf, 1980). Finally, we use examples of quotations from interviews which aim at providing the reader a chance to follow the researchers' logic from data to interpretation and analysis. All quotes are translated from German into English.

Theory building

The empirical insights and the theoretical analysis obtained from the grounded theory approach will be presented in the next sections. We first show the structure of the theoretical framework and then its three partial models, that is, the *receipt, usage*, and *forwarding model*.

Theoretical framework

The main purpose of this research is to identify factors that impact the willingness to receive, use, and forward mobile viral content. Based on the data, we developed a basic model for depicting a typical mobile viral marketing process (Figure 1) arranged according to the paradigm model (Strauss and Corbin, 1990). The advantage of this model is seen in the complexity reduction of the investigated object. Moreover, before an understanding of *why* something happens can develop, an understanding of *what* is happening must occur.

The first stage concerns the recipient's response to the receipt of a mobile vector and the decision to open or delete. The receipt of the mobile vector is seen as the *causal condition* of the model. As the category intention to open was the primary issue in the first stage, it was chosen as the *core category*. The intention has an impact on the actual behavior (receipt), that is, the *action/interaction strategy*. Three types of *intervening conditions* lead to the intention to open: security-related conditions dealing with the risk perception of the recipient, social conditions dealing with his or her relationship to the communicator of the content, and resource-based conditions dealing with the recipient's perceived control of the receipt. Action and interaction (taken in response to a phenomenon) have certain outcomes or *consequences*. The consequence of one set of actions can become part of the conditions affecting the next set of action/interactions occurring in a sequence (Strauss and Corbin, 1990). This is the case in our model. One consequence can be the deletion of the mobile vector. Another consequence can be the opening of the mobile vector.

If opened, the second stage concerns the circumstances under what recipients rely on recommendations and use the mobile viral content. The *core category* intention to use impacts the actual behavior *(action/interaction strategy)*. Three types of *intervening conditions* lead to the phenomenon: social conditions describe interpersonal influences, attitudinal conditions arise from the personal assessment of the content, resource-based conditions refer to the recipients' perceived behavioral control of its usage. Depending on the action/interaction strategy one *consequence* can be the intention to forward the mobile viral content, which is the focus of this paper. Another consequence can be the continued use without forwarding. Finally, the third consequence can be the deletion of the mobile viral content after the first usage.

On condition that the mobile content is used (or at least viewed), the third stage deals with the decision whether to forward the content to others. Similar to the previous stages, the *core category*, that is, intention to forward is related to the actual behavior *(action/interaction strategy)*. The intention is influenced by social, attitudinal, resourced-based, consumption-based, and personal conditions (*intervening conditions*). In case of forwarding, the *consequence* is the receipt of the mobile vector by a further recipient. Otherwise the mobile viral process ends.

It is important to note that the stages throughout the process are interdependent. This is perhaps most obvious if one considers the decision to open or delete the mobile vector. However, if the loop from stage one to three is repeated, the mobile viral effect will arise.

Next, we discuss each component of the theoretical framework in detail, showing how the interview data supported the identification of each component.

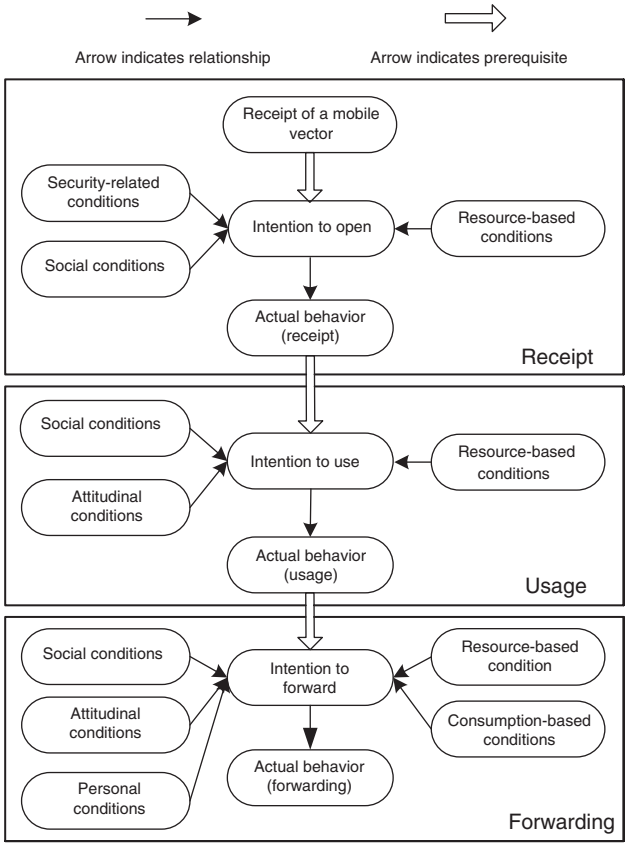

Figure 1 Basic model of a mobile viral marketing process.

Receipt model

In this section, we discuss the categories and their conceptual relationships within the receipt model which is depicted in Figure 2.

Receipt of a mobile vector

The first information shown on the mobile device display is the only cue for recipients' decision to open the mobile vector. As we will see later, we have to take into account two characteristics of mobile vectors that have consequences for recipients' behavior: (1) The enabling technology can differ among WAP Push, mobile email, multimedia message (multimedia message service, MMS), or text message (SMS) (Wiedemann, 2007). (2) The sender of the vector can be a consumer or a company. If a consumer forwards a mobile vector, modern mobile devices of recipients will display the mobile telephone number (Mobile Subscriber ISDN, MSISDN) or, in case of mobile email, the email address of the communicator. Additionally, if stored in the address book, the name is shown. In opposite to this, a company is the sender within campaigns applying a send-to-a-friend option. This option of a mobile application or WAP site allows communicators to pass the content on to others by sending the MSISDN of the recipient to the company. The latter 'in turn' sends the content to the recipient. As a

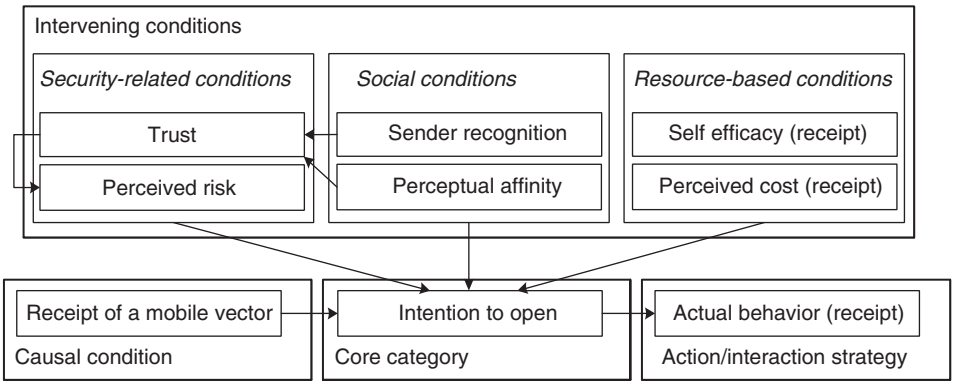

Figure 2 Receipt model.

result, recipients' mobile device typically displays a short code (i.e., a phone numbers with only four to six digits), and in some cases, the name of the company.

Intention to open

'I don't open all SMS or MMS I get, because often it is just mobile spam which I delete without reading.' This comment of a respondent highlights that people do not open all messages received via mobile phones. The intention to open was chosen as core category as it was seen as the primary issue of the first stage. A behavioral intention can best be interpreted as the strength of intention to try performing a certain behavior (Ajzen, 1988). The fact that consumers delete some text messages before reading them has already been shown in mobile marketing studies (Barwise and Strong, 2002).

Actual behavior (receipt)

Actual behavior (receipt) refers to the action that occurs as a result of the intention to open. It is obvious that actual behavior (receipt) consists of opening or deleting the mobile vector. In accordance with the theory of reasoned action (Fishbein and Ajzen, 1975), the theory of planned behavior (Ajzen, 1991), and the technology acceptance model (Davis, 1989), we propose that the intention has a direct effect on *actual behavior (receipt)*. 'As a general rule, the stronger the intention to engage in a behavior, the more likely should be its performance.' (Ajzen, 1991: 181) This link is supported by mobile marketing research, for example, Tsang *et al*. (2004) and Karjaluoto *et al*. (2008).

Security-based conditions

Security-based conditions are the first set of intervening conditions of the receipt model that we have identified. These include two categories (Figure 2).

Perceived risk

Our data demonstrated that consumer behavior in mobile viral marketing is strongly influenced by individual risk perception. Perceived risk is defined as 'the amount that would be lost (i.e., that which is at stake) if the consequences of an act were not favorable, and the individual's subjective feeling of certainty that the consequences will be unfavorable' (Cunningham, 1967: 83). This category includes statements where the respondents believed that data manipulation, unauthorized access to the mobile device, and unwanted tracking of usage patterns could be a result of opening a mobile vector. For example, respondents were afraid of computer viruses on their cell phones. Other informants stated that the use of highly personalized and context-based technology is particularly prone to risk perception. Participants were generally aware of the privacy issues, including whether their personal information could be used to market new services to them. Interestingly, respondents who had a technical background and understood mobile technologies had higher levels of confidence in security than others. Thus, the lack of adequate knowledge on technology induces risks in terms of data security and privacy. These findings are consistent with marketing literature that has suggested that consumers' risk perceptions can strongly determine their behavior (Mitchell, 1999). Bauer *et al*. (2005) have provided evidence that this is also the case with mobile marketing. Thus, we propose that perceived risk is negatively related with intention to open.

Trust

This category resulted from typical phrases of the respondents such as 'if the message provides no kind of confidence, I will delete it.' Moreover, most respondents said they would not open an SMS received from an unknown or dubious source in contrast to an SMS received from a 'trusted friend' or a 'trusted third party.' In principle, they could not imagine that they received unfavorable mobile viral content from known persons. As a result, the trust problem occurs typically within campaigns using send-to-a-friend options. Here recipients do not know that the mobile vector is actually sent by a communicator they normally trust. During discussions of send-to-a-friend options many respondents mentioned that they would open only mobile vectors received from well-established brands. We verified the relationships between trust and intention to open with a closed question in the third interview round. All 16 respondents confirmed that this category is crucial for their behavioral intention. In the context of mobile marketing, Karjaluoto *et al*. (2008)

showed that trust is positively associated with the intention to receive mobile ads. A deeper analysis of the category revealed that it is also interwoven with perceived risk. If the content comes from a 'trusted source' the perceived risk is low or not existent. For instance, participants did not express reservations regarding data security and privacy issues when they would receive the content from a friend. These findings are supported by past literature that has shown the positive relationship between trust and acceptance of new technologies (e.g., Gefen *et al*., 2003). In general, the more the trust there is, the lower the perceived risk is, the more willing people are to adopt new technologies. Trust can reduce complexity especially when innovations are being considered (Gefen, 2002). As shown by our data, this is the case when recipients receive mobile vectors based on unfamiliar enabling technologies such as WAP Push.

Social conditions

Social conditions are the second set of intervening conditions of the receipt model that we have identified. These include the two categories (Figure 2).

Sender recognition

This category was developed as a result of answers like 'I open all SMS from my acquaintances.' In contrast, the receipt of a mobile vector from an unknown source was viewed critically. Furthermore, we provided 16 informants with two alternative situations regarding the receipt of an SMS. The first situation showed a known MSISDN and a name of an imaginary friend; the second situation showed a short code with the name of an unknown firm. All respondents would read the first SMS, but only three respondents would read the second SMS (mainly out of curiosity). In this context, a typical statement was: 'If the sender is someone I know, for example a friend, I assume that the message comes from a reliable source.' Thus, the recognition of the sender induces trust; it is of particular importance for high intention to open and trust that the sender can be identified.

Perceptual affinity

As seen above, the most often cited justification for opening a mobile vector was the fact that the communicator is a friend. The respondents argued that they expect personal relevant content from friends. Typical responses were: 'we have the same humor and interests' or 'we are on the same wavelength.' In the third interview all 16 respondents affirmed that similarity of interests and preferences with those of the communicators were important for the decision to open a mobile vector. Based on such data, the category perceptual affinity was defined as the degree to which recipients and communicators are similar in terms of values, likes, dislikes, and experience (de Bruyn and Lilien, 2008). In line with de Bruyn and Lilien (2008), who have studied unsolicited email referrals, we argue that the fact that the communicator and the recipient have similar tastes serves as a cue for the recipient that the content in question may be of interest. Therefore, intention to open is positively associated with perceptual affinity. Moreover, we argue that perceptual affinity is connected with trust. The respondents claimed that they had confidence in homophilious individuals like friends and acquaintances.

Resource-based conditions

Resource-based conditions reflect the internal and external constraints on behavior and encompass two categories (Figure 2).

Self-efficacy (receipt)

This category is based on interviews with respondents who mainly used their cell phones for voice communication. They stated that they were not familiar with enabling technologies such as MMS or WAP. Self-efficacy is concerned with 'judgments of how well one can execute courses of action required to deal with prospective situations' (Bandura, 1982: 122). To gain deeper insight into the impact of this category, we measured the self-efficacy of eight informants with items adapted from Compeau and Higgins (1995). Additionally, the subjects were asked to indicate whether they were able to open different types of mobile vectors. Afterwards, Pearson's product-moment correlation coefficients were calculated between intention to open and self-efficacy and reached values up to $r = 0.78$. Particularly, informants with less self-efficacy only accepted 'easy technologies' like SMS.

Perceived cost (receipt)

Facilitating conditions reflect the availability of resources needed to engage in a behavior. In our theoretical framework they are covered by perceived cost (receipt), that is, the degree to which a recipient believes that receiving a mobile vector would be expensive. In the first stage, costs will typically arise if WAP Push is used (in some countries also the receipt of an SMS or MMS is charged). The recipients have to pay a data volume fee for transmission, because monthly flat-fees are not a common practice in most countries. A typical phrase was 'If I have any costs, like with WAP, I won't open it.' To understand the effect of the category we asked respondents to assess the importance of costs for their decision to open mobile vectors, especially with WAP Push. All of them stated that costs were a crucial factor for the decision to open mobile viral content. For instance, an explanation was 'paying money is a knockout criterion.' Moreover, some argued that they would call or speak with the communicator firstly in order to 'read up on the download or service.' From the consumer's perspective, the cost concern is typically one of the most important issues in mobile service usage, especially in the first adoption stage (Wu and Wang, 2005).

According to the theory of planned behavior (Ajzen, 1991), perceived behavioral control reflects the internal and external constraints on behavior and, thus, encompasses two components: self-efficacy and facilitating conditions. As shown above, these conditions cover the categories self-efficacy (receipt) and perceived cost (receipt). Ajzen (1991) has assumed that consumers' perceived behavioral control has motivational implications for intention as well as behavior. As we only examined intentions and not actual behavior, we included the first proposition in the theoretical framework and neglected the second.

Usage model

In this section, we discuss the categories and their conceptual relationships within the usage model that is depicted in Figure 3.

Intention to use

The receipt of the mobile vector represents the causal condition of the usage model as it leads to the occurrence of the core category, intention to use. Intention to use is defined as the strength of intention to try using the mobile viral content.

Actual behavior (usage)

Depending on the type of the mobile viral content (Wiedemann, 2007), the actual behavior (usage) refers to using a mobile application, watching a video, listening to a voice message, viewing an image, or reading a text. However, according to the interview data, the content type did not play a decisive role, given that other conditions of the usage model are fulfilled. As in the receipt model, we propose that the intention has a direct effect on actual behavior (usage).

Social conditions

Social conditions describe the interpersonal influences on intended use and include four categories (Figure 3).

Perceptual affinity

When respondents described a possible communicator, in nearly all interviews 'friends' ranked first. As a result of the use of questioning (Strauss and Corbin, 1990), we derived the category perceptual affinity, which was already explained above. The question put to 16 participants in the third interview round was: 'Are similarities of interests and preferences with those of the communicators important for your decision to use a recommended mobile viral content?' Only one respondent did not agree. The others expected that the content was 'then really relevant' to them. Brown and Reingen (1987) and Gilly *et al*. (1998) have identified perceptual affinity as an important antecedent of WOM influence. Moreover, the source-attractiveness model (McCracken, 1989) can be related to this finding. The model suggests that a message depends for its effectiveness chiefly on the familiarity, likability, and/or similarity of the source. Thus, we propose that perceptual affinity is positively related with intention to use.

Expertise of communicator

Some respondents argued they would rely on 'computer experts,' 'competent people,' and 'somebody, who has a clue.' These comments suggest that expertise of communicator is an influence factor on the acceptance decision. A communicator can be said to possess a high degree of expertise, from the recipient's perspective, if by virtue of 'his or her occupation, social training, or experience is in a unique position' (Schiffman and Kanuk, 1997: 335). During interviews in the third interview round we gained a deeper insight into the relationship between this category and intention to use. Except one informant, who overstated his own expertise, all other 15 consented that communicator's expertise would influence their intended use, especially when the mobile viral content is a complex application. The role of experts has been one of the more widely investigated topics of WOM research (de Bruyn and Lilien, 2008). Consumers are more inclined to seek the advice from, and be influenced by, experts than by non-experts (Gilly *et al*., 1998). Our study shows that there are reasons to believe that this finding will hold in a mobile viral marketing context.

Subjective norm (usage)

'If I received a mobile application from somebody who is really important for me, I will surely give it a try.' As this comment illustrates, participants' perceptions of peer pressure influences the indented use. Based on such comments, we developed the category subjective norm (usage) that is defined as 'the person's perception that most people who are important to him think he should or should not perform the behavior in question' (Fishbein and Ajzen, 1975: 302). We asked 16 informants to think about whether they would use a content that is recommended by their referent others. In the majority of cases, respondents agreed that social influences exist. This finding is supported by Fishbein and Ajzen (1975) and Ajzen (1991) who have showed that subjective norm influences behavioral intention directly. This is also in line with mobile marketing research (Bauer *et al*., 2005; Karjaluoto and Alatalo, 2007).

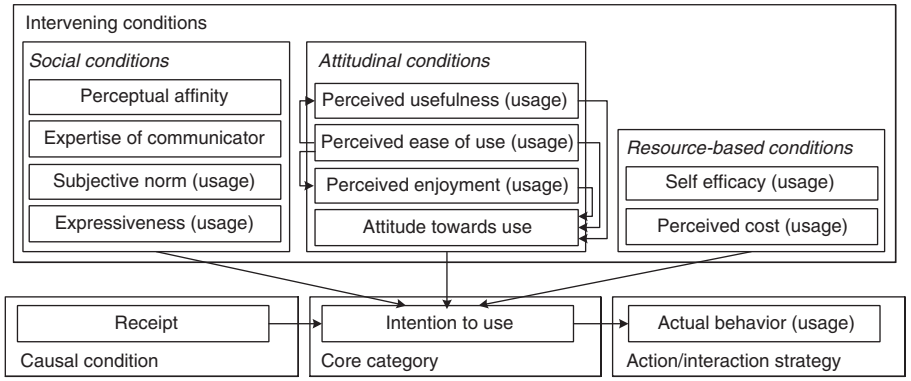

Figure 3 Usage model.

Expressiveness (usage)
This category was motivated by literature in the later phase of our study. The impression management theory states that individuals establish and maintain impressions that are congruent with the perceptions they want to convey to their public (Goffman, 1959). Ling and Yttri (2005) have found out that cell phones are a way in which people can display their knowledge of current fashion and thus garner status and influence. According to Nysveen *et al*. (2005), intention to use mobile services is affected by expressiveness – the degree to which a user perceives a mobile service as suitable for expressing his or her emotions and social or personal identity. Owing to these findings we asked informants of the third interview round how they think about this category. Interestingly, no participant of a focus group ($n = 10$) agreed that he or she would use mobile viral content because of 'style' or 'image' purposes. However, most of them indicated that this category might be of importance for other people. A plausible explanation may be that the appropriateness of mobile viral content for social prestige is judged in the real world from day-to-day observations of users' lifestyles in one's social environment. It is possible that our stimuli (e.g., wall papers of football clubs and daily soap-operas) did not provide for such opportunity. Nonetheless, due to the statements of informants about other people and literature, the expressiveness category is included in our theoretical framework. We assume that the higher the expressiveness (usage) the higher is the intention to use.

Attitudinal conditions

Now we present the attitudinal conditions that describe behavioral attitudes of the recipients and their motivations to use the mobile viral content. These conditions include four categories (Figure 3).

Perceived usefulness (usage)
'The recommended mobile services should be useful.' The perception of usefulness clearly influences the acceptance, as the above comment illustrates. We define perceived usefulness (usage) as the degree to which a recipient believes that using a mobile viral content would enhance his or her performance (Davis, 1989). The literature on technology acceptance underlines the importance of this category (e.g., Venkatesh and Davis, 2000). Past literature on mobile marketing has shown that the marketing instrument is effective only when it creates a win-win situation for both – consumer and advertiser (Kavassalis *et al*., 2002; Bauer *et al*., 2005). As respondents argued that this category is an essential driver of usage intention, it is important to understand its determinants. On this account interviewers asked informants to specify the term 'usefulness' and, additionally, to describe when a content is not useful. As a result, we developed three concepts. The concept perceived efficiency added value (usage) resulted from phrases like 'saving time and money.' This concept is described by Bazijanec *et al*. (2004) as the increasing of speed or cost-effectiveness of using a mobile application. The concept irritation was developed as respondents attached importance to the 'scale and obtrusiveness of advertisement.' Irritation arises when 'advertising employs techniques that annoy, offend, insult, or are overly manipulative' (Ducoffe, 1996: 23). However, a short advertising message, like 'sponsored by XYZ.com' is acceptable for most of the respondents. Finally, the concept perceived network size emerged when we discussed mobile services with high level of network externalities, such as mobile instant messaging services. Many participants were quick to state that it was important 'how many friends already use the service.' As a result, we refer to the concept perceived network size as a 'belief about how size influences potential benefits of the network' (Song and Walden, 2007: 52).

Perceived ease of use (usage)
'The complexity of a mobile service deters me from using it.' Ease of use was frequently cited by respondents and closely linked to intention to use. Perceived ease of use (usage) describes the degree to which a person believes that using the mobile viral content would be free of effort (Davis, 1989). When discussing recommended WAP sites one informant argued: 'WAP services bring no real benefit, because the cell phone and the bandwidth are too small and you have to fiddle around with the service a lot.' Such comments indicated that perceived ease of use (usage) is an important variable that influences perceived usefulness (usage): the easier a mobile viral content is to use the more useful it can be. Based on these findings and the technology acceptance literature (Davis, 1989; Venkatesh and Davis, 2000), we propose that perceived ease of use (usage) is positively associated with intention to use mobile viral content and its perceived usefulness.

Perceived enjoyment (usage)
This category was derived from phrases like 'fun' or 'pleasure through playing.' Enjoyment is defined as the intrinsic reward derived through the use of the technology or service studied (Igbaria *et al*., 1996). We found very positive responses of informants to funny and amusing examples. Thus, campaigns based around entertainment, surprise, and joy have a big impact on intended use. This proposition is also supported by Tsang *et al*. (2004) and Bauer *et al*. (2005) who identified entertainment value as one of the strongest driver of mobile marketing acceptance. Moreover, this category also affects perceived ease of use (usage). For example, one respondent argued that 'easy services amuse me.' Others argued that it would be no pleasurable experience if mobile applications are complex. Therefore, the easier a mobile viral content is to use the more enjoyable it can be.

Attitude towards use
In each interview during the first and second interview round, participants were asked to think about desired characteristics of a mobile viral content from their point of view. Categorizing phrases like 'good,' 'interesting,' or 'cool' results in the category attitude towards use. Attitude is defined as the individual's positive or negative feelings about performing a behavior (Fishbein and Ajzen, 1975). In the third interview round we examined the relationships of this category and the other attitudinal categories. We discussed with 16 respondents the question if they would

assess a mobile viral content favorable on condition that it is useful, easy to use, and enjoyable. As expected, no respondent disagreed. Therefore, we propose that usefulness, ease of use, and enjoyment have positive effects on attitude towards using a mobile viral content. These propositions are supported by acceptance literature, for example, by Nysveen *et al.* (2005).

Resource-based conditions

Based on the same arguments and similar analysis as in the receipt model, the usage model includes two resource-based conditions (Figure 3). In opposite to the receipt model, these categories relate to the intention to use.

Self-efficacy (usage)

'I find this technology quite unfamiliar. Thus, it may be a big deal for me to use such services.' This comment is representative of many others, suggesting that a person's self-efficacy affects the decision whether or not to accept a mobile viral content. The main reasons cited for low self-efficacy (usage) were fear of new technology and lack of experience. The judgment of individual's capability to use information systems and the ability to apply these skills to broader tasks were found to play a significant role in shaping individual's behavior in terms of use (Compeau and Higgins, 1995; Mort and Drennan, 2005).

Perceived cost (usage)

This category is somewhat different from the perceived cost (receipt) category; within the second stage it is possible that recipients have to pay the cost for further data transmission (e.g., with mobile instant messengers), basic fees, or transaction-based fees for usage. Owing to our interview data, costs are a significant inhibitor for mobile viral content usage as the following statement illustrates: 'If someone recommends a service like "mobile skype" to me, usage must be free of charge.' One reason that was found in our interview data is that users were accustomed to 'content for free mentality' due to their usage of stationary Internet. Therefore we propose the higher the cost of usage the lower is the intention to use. This assumption is supported by Pagani (2004) who have found out that price is an important determinant influencing mobile services adoption. Moreover, research on electronic viral marketing (Helm, 2000) and mobile viral marketing (Pousttchi and Wiedemann, 2007) has suggested that viral content should be offered for free.

Forwarding model

In this section, we discuss the categories and their conceptual relationships within the forwarding model that is depicted in Figure 4.

Intention to forward

It is obvious that the recommendation of mobile viral content requires using (or at least viewing the content). Therefore, this was seen as a causal condition of the forwarding model as it leads to the occurrence of the core category intention to forward. Intention to forward is defined as the strength of intention to try forwarding the mobile viral content.

Actual behavior (forwarding)

Owing to the same arguments as in the previous models, we assume for the forwarding model that the core category directly influences the actual behavior (forwarding). This actual behavior means transmitting content via mobile communication techniques and mobile devices (Wiedemann, 2007). Further, it is also possible in terms of traditional WOM to speak about the content positively or

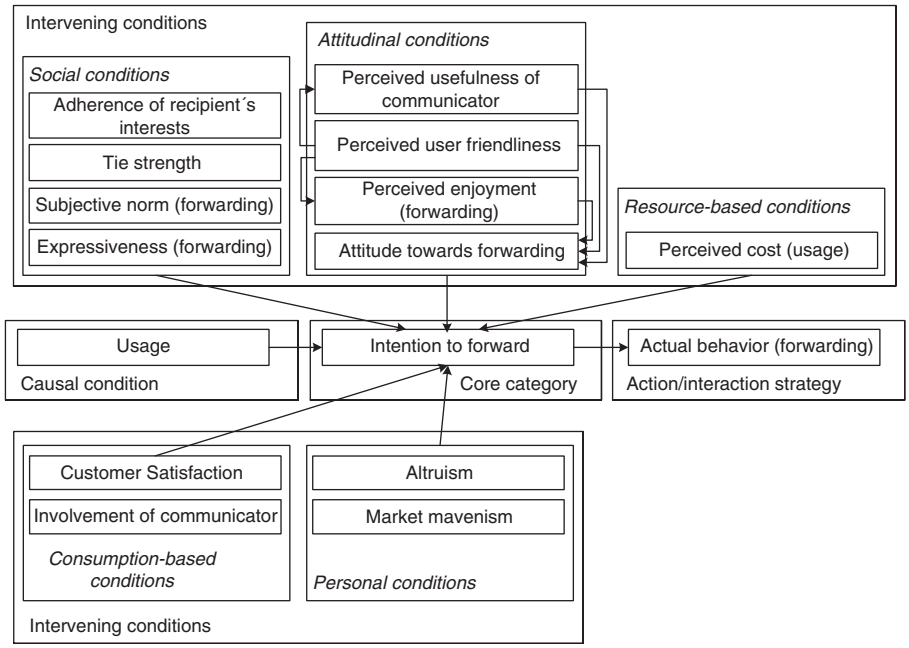

Figure 4 Forwarding model.

negatively (Chen *et al*., 2008). However, we do not examine these both action/interaction strategies because of our narrow definition of mobile viral marketing that requires transmitting the content with mobile devices.

Social conditions

In the forwarding model, social conditions emphasize the determinants of intention to forward that consider the recipients and their anticipated response to the recommendation. These conditions include the four categories that influence intention to forward (Figure 4).

Adherence of recipient's interests

This category was derived from discussions about recipients and their anticipated perception of communicator's behavior. As a result, we developed three concepts. The concept expected involvement of recipient resulted from statements like 'if I know that it is interesting for anybody I will forward it.' The concept expected usefulness for recipient resulted from statements like 'there must be a certain kind of benefit for my friend.' The concept responsibility for recipient's privacy resulted from statements like 'I would not divulge the personal cell number of my friends as I don't want that they will be overwhelmed by unsolicited spam SMS.' This comment illustrates that users reluctantly give the MSISDN of peers to marketers due to privacy concerns. Overall, the data revealed that a strong understanding of forwarding etiquette exists. Thus, we expect that adhering to recipient's interests will facilitate forwarding intention. This proposition is supported by the reference group theory, which was applied in mobile marketing research by Karjaluoto *et al*. (2008). The theory posits that individuals are influenced by groups they believe are important and use these groups as a guide as to how they should behave (e.g., Dawason and Chatman, 2001).

Tie strength

This category was motivated by respondents' descriptions of potential recipients. Comments that are classified under strong ties include family members, friends, or neighbors. Strong ties were described during the interviews with comments like: 'you spend much time together,' 'I know them for years,' 'I like them very much,' 'these are my best friends,' or 'we aid one another.' When the recipient is identified as merely an acquaintance, colleague, or neighbor, but primarily an acquaintance, the tie is classified as weak (Brown and Reingen, 1987). The category tie strength describes the combination of the amount of time, degree of emotional intensity, level of intimacy, and degree of reciprocity between two individuals (Granovetter, 1973). Information of a sensitive or personal nature is more likely to be shared by strong ties than by weak ties (Norman and Russell, 2006). Given the very personal nature of a mobile device, as stated by the informants, this assumption can be applied to mobile viral marketing as well. Therefore, we argue that strong ties positively influence the likelihood that forwarding occurs. This proposition is supported by WOM research: for example, Bone (1992) has shown that there is a strong relationship between tie strength and the likelihood to generate WOM.

Subjective norm (forwarding)

While investigating the potential reactions of recipients on the mobile viral content, informants argued that they would not recommend any content that might 'damage their good reputation.' Based on these findings, in the third interview round, interviewers asked participants to think about a so-called happy slapping video showing an attack of an unsuspecting victim; as expected, none of the 16 participants would forward such kind of content. Respondents worried about being perceived unfavorably or differently; hence, they only undertake actions consistent with social norm. Moreover, the fear of being criticized by others is reinforced due to the very personal nature of mobile devices. As a result, forwarding intention is strongly influenced by peer pressure. Subjective norm (forwarding) is similar to, but conceptually distinct from, the category subjective norm (usage). The former is defined as the communicator's perception that most people who are important to him think he should or should not forward the mobile viral content.

Expressiveness (forwarding)

'I think some users try to improve their image when they recommend mobile services.' Others argued that recommendations allow communicators to gain attention, to show their expert status, and to assert their innovativeness. The category expressiveness (forwarding) is referred to as the degree to which a communicator perceives forwarding mobile viral content as suitable for expressing his or her emotions and social or personal identity. Wojnicki and Godes (2004) have proposed a theory of WOM as impression management where, amongst others, a consumer's category-specific subjective expertise influences the amount of WOM generated. Sundaram *et al*. (1998) have found out that consumers have the need to share their positive consumption experiences through interpersonal communication in an endeavor to enhance their image among others by projecting themselves as intelligent shoppers. Dichter (1966) has reported similar findings. Thus, we expect that expressiveness (forwarding) will facilitate forwarding intention.

Attitudinal conditions

During the course of this study we found similar attitudinal conditions and their relationships in the forwarding model as in the usage model. These attitudinal conditions include four categories (Figure 4).

Perceived usefulness of communicator

'I will forward a mobile ad if there is a benefit for me.' As this comment illustrates respondents' perceptions of usefulness would clearly influence their forwarding intention. We define perceived usefulness of communicator as the degree to which a communicator believes that forwarding a mobile viral content would enhance his or her performance (Davis, 1989). To gain more insights in this category we asked informants to specify the term 'usefulness' and developed four concepts. The concept perceived efficiency added value (forwarding) result from phrases like 'due to a recommendation I should save time or money.' Thus, this concept refers to the degree to

which forwarding mobile viral content increases speed or cost-effectiveness of an operation. The concept reward is defined as extrinsic motivation that is based on tangible (e.g., free SMS) or intangible compensation (e.g., public praise on a mobile community) as a sign of appreciation of the recommendation (Wiedemann, 2007). The concept includes positive responses such as 'sure, I like incentives' and 'a reward is a good cause.' However, some respondents argued that a reward will be not necessary, for example, if they are 'able to do someone a favor.' Other respondents argued that they would not 'sell' their friends. Further examination of this concept revealed that younger respondents tended towards being more impressible to rewards, maybe due to their affinity to mobile gimmicks. However, more research is required for a better understanding of this concept. The concept perceived enhancement of network size emerged in discussions of mobile services with high level of network externalities such as mobile chat services. The informants explained that it was important to convince other people in their social sphere of adopting such services to expand the installed base. The reason is that the value of the service increases with the additional number of users (Katz and Shapiro, 1985). The concept perceived social benefit was derived from an analysis of the mobile viral marketing strategies in which informants had already participated. Commercial MMS greeting cards, for example, for Christmas or birthday were mentioned most frequently. Respondents reasoned their forwarding behavior because 'it was a simple way to contact people.' Based on these results, perceived social benefit is defined as the degree to which a communicator perceives forwarding mobile viral content as suitable for maintaining interpersonal connectivity.

Perceived user friendliness
This category includes the concepts perceived ease of use (forwarding) and perceived expenditure of time. Informants asked for 'easy' and 'simple' forwarding mechanisms. Thus, the concept perceived ease of use (forwarding) refers to the degree to which a person believes that forwarding mobile viral content would be free of effort (Davis, 1989). Perceived expenditure of time was developed after discussions of mobile videos when the transmission via Bluetooth takes long. As a result, the perception of time of the pass-along process negatively influences the intention to forward.

Perceived enjoyment (forwarding)
'I forward mobile ads if they are funny and there is a kind of fun factor.' Such comments indicated that perceived enjoyment (forwarding) is an important variable that influences forwarding intention. The category is defined in analogy to the category in the usage model but refers to the forwarding of mobile viral content.

Attitude towards forwarding
This category resulted from categorizing general evaluations of the provided examples. The attitude describes the individual's positive or negative feelings about performing a behavior (Fishbein and Ajzen, 1975). According to our data, this category does not only influence the forwarding intention but is also influenced by the three attitudinal conditions described in this section.

Resource-based conditions

Perceived cost (forwarding)
The forwarding model comprises only one resource-based condition as a determinant of intention to forward, that is, the perceived cost (forwarding). Self-efficacy is not included because we can assume that an individual who receives and uses mobile viral content should be able to forward this content. The category perceived cost (forwarding) refers to the degree to which a user believes that the forwarding of mobile viral content would be expensive. Costs typically arise when enabling technologies such as SMS or MMS are used or a premium fee is charged for the forwarding process. Premium fees were seldom accepted by respondents. Moreover, respondents affirmed cost as a major inhibitor of mobile viral marketing.

Consumption-based conditions
Consumption-based conditions of forwarding intention include two categories (Figure 4).

Customer satisfaction
'I must feel some satisfaction with the application before I'm going to recommend it to peers.' The nature of satisfaction was described by users of mobile applications with words such as 'happiness,' 'good feeling,' or 'pleasure.' Therefore, customer satisfaction is defined as a pleasurable level of consumption-related fulfillment (Oliver, 1997). We asked 16 informants about the general importance of satisfaction for mobile viral marketing in the third interview round. Most respondents determined satisfaction as an important antecedent of their forwarding intention. When providing a negative example, that is, a mobile instant messenger that delays messages and typically activates dissatisfaction, all respondents would refuse a recommendation. Customer satisfaction plays a critical role in studies of WOM behavior as it affects individual motivations to recommend products or services (e.g., Swan and Oliver, 1989; Chen *et al*., 2008). Based on our data and the WOM literature, we propose that the higher the customer satisfaction, which derives from mobile viral content, the higher is the intention to forward this content.

Involvement of communicator
Comments by respondents revealed that the personal relevance of the content is necessary for the decision to forward. As stated by the participants, involvement elicits strong emotions that drive a person to do more than just use the mobile viral content for their own consumption. Zaichkowsky (1985) explains involvement as a perceived relevance of an object by a person based on his or her inherent needs, values, and interests. For our work, this person refers to the communicator. To gain further insight into this category, in the third interview round we asked respondents to rate the importance of involvement regarding their forwarding intention. The result was ambiguous as only seven of 16 informants stated that personal relevance

would influence their forwarding intention. The other respondents argued that they would forward content, for example, because of altruistic motives or when 'a friend is interested.' However, supported by WOM literature (Dichter, 1966; Sundaram *et al*., 1998), we propose the higher the level of communicator's involvement the more likely he or she will share mobile viral content with others.

Personal conditions

Personal conditions embrace the personal context of the communicator such as market mavenism and altruism that influence intention to forward. Other personal conditions, such as gender and age, seem to have less importance for mobile viral marketing (Wiedemann *et al*., 2008).

Market mavenism

Marketing scholars examining the phenomenon of WOM have used different profiles designed to identify possible change agents who may influence people in such a way as to encourage them to buy products and services. First, opinion leaders were identified, who are characterized among others by high personality strength (Weimann, 1991). Second, market mavens were identified, who are referred to as 'individuals who have information about many kinds of products, places to shop, and other facets of markets, and initiate discussions with consumers and respond to requests from consumers for market information' (Feick and Price, 1987: 85). Applying the Strength of Personality Scale (Weimann, 1991) and comparing the results with forwarding intentions in five examples, only a weak positive correlation was measured ($r = 0.12$), which suggests a low positive relationship between these categories. However, results from an online survey showed that market mavenism is positively associated with intention to forward mobile viral content (Wiedemann *et al*., 2008). Thus, the market mavenism category is better suited for mobile viral marketing.

Altruism

Respondents indicated that they would forward mobile viral content to give something to or help others. This resulted in the category altruism that is referred to as the intention to benefit others as an expression of internal values, regardless of social or motivational reinforcement (Feick *et al*., 1995). In the third interview round we provided an SMS that included an appeal for funds for tsunami victims. Eleven of 16 participants would forward the SMS to give aid. Thus, the desire to help others may be a motivation for forwarding mobile viral content. Sundaram *et al*. (1998) have suggested altruism as a motivation for positive and negative WOM communication. Analyzing WOM on Web-based opinion platforms Hennig-Thurau *et al*. (2004) identified a group they referred to as true altruists, as they appear to be both strongly motivated by helping other consumers and companies. We propose that the higher the level of communicator's altruism the more likely he or she will share mobile viral content with others.

Implications for practice and research

This section assesses the contribution of the theoretical framework and findings, both for the management of mobile viral marketing strategies and future research.

What do our results imply for managerial practice? By providing practitioners with some insight into the use of mobile viral marketing in view of consumers, the framework serves as a basis from which the mobile marketers can manage what is typically a poorly understood, complex, and dynamic situation. Our results suggest that the whole process in mobile viral marketing including all three stages has to be considered.

Regarding the first stage our findings explicate a substantial influence of trust and perceived risk on a successful mobile viral marketing process. Especially for mobile viral marketing strategies using send-to-a-friend options a predominant focus on trust creation and risk reduction is imperative for creating mobile vectors. Regarding the second stage the findings highlight that from a social perspective we can assume that within mobile viral marketing the similar psychological forces are at work as within WOM.

Regarding the category expressiveness it is recommendable that marketers put significant resources into designing and delivering mobile viral content that is timely, up-to-date, and personalized according to individual user identities. As mobile viral content is, in essence, an information technology, it was no surprise that intention to use is explained in part by the technology acceptance model (Davis, 1989). Our findings tell marketers that basic requirements for acceptance of information technology, such as usefulness and ease of use, are also essential for mobile viral content – a fact that seems not always to be considered in mobile viral campaigns so far. Moreover, the findings suggest creating amusing and enjoyable mobile viral content.

Regarding the third stage our results show that communicators tend to be very selective in choosing recipients of the mobile viral content. Adherence of recipients' interests and subjective norm in view of communicators have large impact on the intention to forward. As shown, the attitude towards forwarding can be influenced by perceived usefulness, for example, rewards. However, viral marketing hinges on the strong need of communicators to be perceived as persons communicating with peers in a funny way, as well-informed helpers, or as experts of a particular topic in their social network and not perceived as paid agents of the advertiser (Subramani and Rajagopalan, 2003). Mobile viral marketing strategies that make too overt attempts to designate communicators to promote products and services are likely to upset the balance and reduce the effectiveness of the approach. Companies would do well to reflect on this fact very carefully.

In all the three stages perceived cost was seen as an inhibitor for mobile viral effects. Therefore, we argue that mobile viral marketing has to cause less cost for consumers, otherwise they reject the marketing instrument.

From a theoretical standpoint, the results contribute to the existing literature in a number of ways. First, the paper makes a contribution to mobile marketing literature by providing insights into the drivers of mobile viral effects. Second, this paper specifies an explicit structure for

influences on consumer behavior in mobile viral marketing. Third, this study has demonstrated the validity of existing theories like the theory of planned behavior, the theory of reasoned action, or the technology acceptance model for research in the area of mobile viral marketing.

However, further work is necessary regarding to what extent the categories impact the behavior in mobile viral marketing. Therefore, the next step in our research is testing the emerged grounded theory applying a quantitative methodology (requiring a stage-by-stage approach due to the complexity of the framework). This further research would allow for deeper empirical analysis of mobile viral marketing strategies. Our future research will begin to tackle these challenges. We hope that these issues will also be given attention by other researchers in this area.

Conclusion

The starting point for our consideration was the fact that understanding the motivations, attitudes, and behaviors of those receiving, using, and forwarding mobile viral content is necessary to implement effective mobile viral marketing. In this paper we explored the phenomenon using the grounded theory approach. We derived a number of determinants that influence behavior in mobile viral processes and presented a grounded theory explaining mobile viral effects.

The major impact of the framework is threefold. The first is that it investigates an unexplored area in mobile commerce research. The second is that it helps marketers to better understand the critical elements of mobile viral marketing and allows predicting whether a mobile viral marketing campaign could be successful. The third is that the proposed theory provides researchers a useful first step to better understand the users' behavior in mobile viral marketing. Nevertheless, it is clear that a great deal of additional research is necessary to obtain a more satisfactory understanding of mobile viral marketing processes.

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