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M-COMMERCE AND M-MARKETING: A RESEARCH AGENDA

Christine GONZALEZ*

christine.gonzalez@univ-rennes1.fr

Karine PICOT-COUCPEY

karine.picot@univ-rennes1.fr

Gérard CLIQUET

gerard.cliquet@univ-rennes1.fr

CREM (UMR CNRS 6211), Université de Rennes 1

* : corresponding author

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Abstract:

Today consumers are more spatially mobile, more experts about market offers and rely more on family and friend networks to find information about products or services. They also look for personalized information and services. Mobile phones, and particularly smartphone, have gradually become part of their everyday life and are increasingly used in their daily shopping activities. Retailer companies cannot disregard these changes in consumer behavior.

In this context, the purpose of this research is to review the development of m-commerce and m-marketing research over the last 10 years and propose a research agenda and research questions relevant for retailers. The objectives of the article are: (1) to clarify the concepts of mobile commerce and mobile marketing; (2) to understand how retailers can use mobile marketing and mobile commerce in order to increase sales and store traffic; (3) to understand how mobile marketing and mobile commerce will change consumer behavior and how consumer will react to smartphones and their use as marketing tools (such as payment tools and loyalty card); (4) to suggest research questions and propositions on the possible way forward.

The methodology of this article relies on a literature review in marketing and information system. Cases and examples from French and international companies in the services and retailing sectors are used as illustrations throughout the discussion.

While current research on mobile marketing and commerce focuses on consumer acceptance of the various tools mainly contactless payment, SMS advertising using models such as TAM and TPB, this article takes into account literature on consumer behavior, on relationship marketing and on services. It highlights research questions and provides a conceptual framework for studying mobile commerce and marketing.

M-COMMERCE AND M-MARKETING: A RESEARCH AGENDA

Introduction

Today consumers are more spatially mobile, more experts about market offers and rely more on family and friend networks to find information about products or services. They also look for personalized information and services (Maillet 2011). Moreover, mobile phones, and particularly smartphone, have gradually become part of their everyday life: according to ArcWorldwide, 50% of the American consumers will have a smartphone by Christmas 2011 (Rosen 2011) while 20% of French people had a smartphone in December 2010 (TNS Sofres 2010). Mobile phone plays an increasing role in consumption activities: 29% of French people use their mobile phone to connect to the Internet and 86% of “smartphoners” do so (TNS Sofres 2010); 60% of the time spent on smartphone is spent on new activities such as browsing on the web, using applications, social networking (Chien 2011); 73% of mobile shoppers favor using their smartphone to handle simple tasks in stores (Rosen 2011); 12% of French people have bought a product through their mobile phone (CCM Benchmark 2011). Retailer companies could not disregard these changes in consumer behavior. How can retailers take them into account and integrate new technologies or tools in order to maintain or even increase their sales and their physical or online store traffic?

A steadily growing body of literature on mobile commerce (m-commerce) and mobile marketing (m-marketing) has emerged in the marketing management and information systems fields. While previous work provides a range of interesting insights, it also exhibits important limitations mainly due to a lack of clear definitions and a fragmented approach leading to unclear frontiers of concepts. In this context, the purpose of this research is to review the development of m-commerce and m-marketing research over the last 10 years and propose a research agenda and research questions relevant for retailers. The objectives of the article are: (1) to clarify the concepts of m-commerce and m-marketing; (2) to understand how retailers

can use m-marketing and m-commerce in order to increase sales and store traffic; (3) to understand how m-marketing and m-commerce would change consumer behavior and how consumer would react to smartphones and their use as marketing tools (such as payment tools and loyalty card); (4) to suggest research questions and propositions on the possible way forward.

The paper is structured as follows. The first section discusses the concept of m-commerce from marketing and information systems literatures and cases. Then, the second section strives to clarify the concept m-marketing the same way. The third section finally presents two key features of a smartphone: ubiquity and affordance and what these characteristics imply for consumers. The impacts of ubiquity and perceived affordance on consumer behavior and on the adoption of m-commerce and m-marketing are discussed, as schemed in Figure 1.

Insert Figure 1 here

1. M-commerce

Consumer use of mobile phone as a retail channel is on the rise and is often referred to as “*the new service frontier*” (Kleijnen, de Ruyter & Wetzels 2007). In France, m-commerce accounted for 0.05% of French consumers’ total purchases in 2011: despite a marginal part today, the hypothesis of a tremendous increase up to 2015 is forecasted, with m-commerce multiplied by 26 (David 2011). In a study by KPMG in 22 countries, if 10% of the consumers surveyed indicated they used an online retailer’s site from their mobile phone in 2008, they were 28% in 2010 (KPMG 2010). Moreover, generation Y shoppers use their mobile phone to a greater extend as 64% of them used it to help conclude a sale, and 21% of them used it to compare Web prices with in store prices. Therefore, retailers and manufacturers need to understand consumer behavior to develop a mobile marketing strategy relevant for consumers and consistent with other multichannel operations.

Various definition of m-commerce can be found in the literature (Balasubramanian, Peterson & Jarvenpaa 2002; Ozok & Wei 2010; Pedersen 2005; Tiwar & Buse 2007). In essence, all agree on the key objective – sales performance – but technological evolutions have rendered obsolete some of them, especially the ones refereeing to wireless technological networks.

Today, m-commerce can be defined as “*any transaction, involving the transfer of ownership or rights to use goods and services, which is initiated and/or completed by using mobile access to computer-mediated networks with the help of an electronic device*” (Tiwari & Buse 2007). Hence, m-commerce is a monetary transaction for goods and services conducted via a mobile phone, a tablet or a PDA. In this perspective, m-commerce can be viewed as encompassing mobile shopping (m-shopping) and mobile payment (m-payment) (Tiwari, Buse & Herstatt 2006; Ozok & Wei 2010).

1.1. M-shopping

Considering the features of mobile devices, m-shopping is a form of “anytime and anywhere” shopping. These specific characteristics may influence the way consumer shop; the development of this new channel leads also to consider how it relates to existing ones.

Will consumers m-shop?

In m-marketing consumer behavior research, very extensive attention has been paid to initial adoption and acceptance issues (Varnali & Toker 2009). Determinants of mobile shopping acceptance are numerous; the key ones include acceptance of the mobile media itself, trust, demographics, social influence as well as delivery timing (Bigné, Ruiz & Sand 2005; Kleijnen, de Ruyter & Wetzels 2007; Varnali & Toker 2009). Inhibitors to adoption have been identified, among which consumer inertia to new technologies, economic barriers, mobile literacy and distrust of marketing and advertising practices (Shankar et al. 2010).

According to Bauer et al. (2005) and Kleijnen, de Ruyter and Wetzels 2007, consumer attitude towards m-shopping is influenced by hedonic and, to a lesser extent, by utilitarian values. A strong impact of the cultural context has been observed in the adoption and usage of m-services (Lee et al. 2002; Harris, Rettie & Kwan 2005). Actually, most of research has been conducted in North America, Asia and North-European Countries; Hofstede cultural dimensions have been observed as influencing determinants of adoption and acceptance of m-services by consumers (Choi et al. 2005; Sundvist, Frak & Puumalainen 2005).

***Research questions:** Would the observed determinants of adoption be validated in a French context? Indeed, given the observed differences in the adoption of m-services between different cultures, it would be of interest to conduct research in the French context about m-shopping acceptance.*

How will consumers m-shop?

If there are numerous and interesting research on why consumers adopt m-shopping (Varnali & Toker 2009), it is much more difficult to derive information on *how* consumers “m-shop”. Mobile consumer behavior research on mobile user shopping experiences is very scarce, if any: actually, we were unable to locate academic research on effective consumer shopping behavior. According Shankar et al. (2011), the traditional consumer purchase decisions process in five steps can be adapted to the shopping context and is then organized in seven steps; it is used as a line of reasoning to theoretically investigate the possible specificities of mobile consumer behaviors:

- **Need recognition:** mobile devices can stimulate it via m-advertising and m-services. Permanent contact with a brand is possible and information on new products or services can be easily provided.
- **Information search:** Shoppers may use mobile devices for pre-purchase information search or enduring search. According to Wang and Accar (2006) mobile technologies allow

consumers to have a certain degree of control when browsing and collecting product or service information. Mobile technologies can provide consumers access to information on products or services either from personal or non-personal sources as well as from commercial or non-commercial ones; the international joint commission GS1 provides an interesting example (insert 1). Effort has been devoted to understand the impact of the Internet especially of online decision aids on information search. According to Alba et al. (1997), Häubl and Trifts (2000) and Häubl and Murray (2006), using electronic product recommendation systems enables consumers to make shopping decisions with significantly less effort. Moreover, following Alba et al. (1997), as information search is different for search, experience and credence goods, the product type should be taken into account. Finally, it may be influenced by consumer's familiarity with product categories (Biswas 2004) as well as mobile tools (smartphones, applications, mobile website).

***Research questions:** How do consumer knowledge of the product category and familiarity with mobile tools influence search costs and search efficiency? Will the amount of search be more important or less important than in the Internet context given that mobile phones and smartphones can be used anywhere? Are there differences in information search for search, credence and experiential goods? How are mobile phones used to collect and store data? Research is needed in order to understand search costs and search efficiency and their impact on amount of search. In addition, it can be wondered if it may have an impact on consumer memory and learning: the phone may be used as a hard-disk via the creation of shopping lists.*

Insert 1- GS1

GS1– an international joint commission – is in the process of creating standards to deliver information about brands and products via mobile phones about their ecological footprint, their authenticity with the possibility to check for counterfeited products or their logistic supply chain.

Maillet (2011)

- **Mobile website choice:** To our knowledge, no research has been devoted to mobile website choice. However previous research showed the impact of variables such as e-store image, e-shopping value and perceived risk in the Internet context (Chang & Tseng 2011) or of interpersonal service quality perceptions, merchandise quality perceptions, monetary price perceptions, time/effort perceptions, psychic cost perceptions in the brick and mortar context (Baker & al. 2002).

Research questions: What are the antecedents of mobile website choice? What are the dimensions of mobile website image? What are the impacts of mobile website choice, shopping value and perceived risk on mobile website image? What are the impacts of merchandise quality perceptions, monetary price perceptions, time/effort perceptions, psychic cost perceptions on mobile website choice?

- **Evaluation of alternatives:** Effort has been also devoted to understand the impact of the Internet and in particular of online decision aids on the evaluation of alternatives. According Häubl and Murray (2008), using electronic product recommendation systems induce consumers to reduce their evoked set, to be more price sensitive, to buy an objectively superior product and to buy products that match their individual preferences more closely. Research is needed in order to understand the impact of the mobile device on decision process, decision quality and price sensitivity.

Research questions: will mobile technologies simplify the evaluations of alternatives? Is effort expanded greater or lower in the m-shopping context? Will m-shopping have an impact on price sensitivity? How can time delivery be important? How can other consumer opinions be taken into account?

- **Website visit:** In the Internet context, various conceptual frameworks have been used to understand the impact of website atmospherics on consumer navigation behavior. For example Eroglu, Machleit and Davies (2001) adapted the SOR Model to the web context and

Dailey (2004) used Hoffman and Novak (1996)'s flow model in order to understand the impact of navigational cues. Experts advise retailers to build “a mobile-friendly version of their website to allow content to load easily on the relatively tiny screens of iPhones, Blackberries, Android phones and the like now” (Dysart 2010). However to our knowledge, few research has been devoted to the mobiscap, defined here as the mobile environment (adapted from Bitner 1992). It appears that design aesthetics of a mobile website influence m-trust (Li & Yeh 2010) and m-loyalty (Cyr, Head & Ivanov 2006) through ease of use, usefulness and perceived enjoyment. Similarly no research exists on the impact of mobile devices on traditional website perception.

***Research questions:** what are the dimensions of mobile website perception? What is the impact of mobile website perception on internal states and approach/avoidance behavior? How is it possible to induce trust by manipulating mobile website and retailing factors? How does website visit on smaller screens change internal states and approach/avoidance behavior?*

- **Purchase:** It may also be a way to speed purchase decision in case of temporal pressure or customized offers. On the contrary, a purchase decision can be postponed if the consumer gets access to new information via his/her mobile phone;
- **Post-purchase evaluation:** at this stage, consumer analyses purchase consequences and how well the product or service has lived up to its potential.

***Research questions:** What could be the impacts of mobile devices on consumer satisfaction and dissatisfaction? Are there any impacts of mobile phone on complaint behavior? Would this retail channel modify the long-term relation with the brand?*

Unlike in the e-commerce where the consumer is “fully absorbed” in the shopping process (Helme-Guizon 2001), users may be engaged in other activities (e.g. cooking, traveling, or driving) while m-shopping; then the attention of the user is not fully devoted to shopping.

Research questions: *there is both a theoretical and a managerial need for an in-depth understanding of consumer purchase decision process in the context of m-shopping. Therefore, it would be of interest to implement research in an authentic m-shopping situation in order to explore the consumer m-purchase decision process. How is it possible to describe consumer behavior patterns for buying products or services on a smartphone? Is there any specificity? Which m-shopping experiences are consumers looking for?*

A cross channel perspective: how to integrate m-shopping, e-shopping and “brick and mortar”?

According to Ozok & Wei (2010) findings and conclusions in an American context, a cross-channel perspective should with no doubt be adopted. “*M-commerce should be a shopping medium complementary to classic e-commerce rather than a direct alternative to it*” (Ozok & Wei 2010, p. 111). In a retailer perspective, questions arise on the possible and necessary interactions between various points of contact with the consumer to prepare the transaction and perform it. These issues are modeled in Figure 2.

Figure 2 to be inserted here

Research questions: *Manufacturers and retailers face very crucial strategic issues. There are, as a consequence, very important avenues for future research. How is it possible to create synergies between the various contact points with the customer? How to appropriately (1) integrate mobile channel with others? (2) manage in synergy various channel? Answering these questions require to investigate consumer interests in patronizing a physical store and in using mobile as a shopping tool. What are the expectations of consumers towards physical, on-line and m-stores? On the basis of managerial studies conducted in the USA (Leo Burnett & Arc Worldwide 2011) it can be imagined that the roles played might vary according to the product categories. To*

what extent could mobile shopping and on-line shopping lead physical stores to favor the experiential dimension?

How will the mobile context change the decision process in other channels?

The consumer purchase decision process may be “extended”: as shopping is possible at anytime and anywhere, consumer might wait for the “good opportunity”, develop the information search stage and evaluation of alternative stage. Alternatively, mobile tools such as mobile website and above all branded applications could induce impulse purchases. Receiving location based advertising or location based services tailored to his/her current needs may induce excitement and in some cases a sense of synchronicity (Rook 1987) and thus induce an urge to buy impulsively.

Research questions: *What is the impact of mobile devices on the decision process?*

What is the impact of mobile shopping on emotions and impulse purchases?

Mobile devices can drive traffic to a store by helping to locate the nearest store. Existing tools such as mobile bar codes can be links between mobile stores and physical stores. In this context, retailers face a strategic need in generating conversions from one channel to another, in order not to lose contact with consumers.

Information search initiated on Internet can be pursued on the mobile phone or a purchase may be can be subsequently concluded via the m-store once a physical store or an on-line one have been patronized, or vice-versa. They could use mobile devices as a kind of “virtual salesperson” to conduct simple tasks in a store such as checking product availability or accessing information about the product (characteristics, price or consumer evaluations). For example, according to a study by Foresee (chainstoreage.com 2011), while at physical stores 69% of mobile shoppers use their phones to visit the store’s own web site and 46% use it to access a competitor’s website, shoppers use their phones to compare price information (56%),

to compare different products (46%), to check product specifications (35%) and to view product reviews (27%). Based Häubl & Murray (2008), we can assume that mobile tools such as mobile website, applications and mobile advertising could act as decision aids and have an impact on the decision process in-store. As a matter of fact, mobile devices would enable the consumer to compare the offers of various stores/retailers more efficiently and with less effort and may add price transparency in store with, for example, the Geocompare application (Insert 2).

***Research questions:** What is the impact of mobile devices (mobile website, applications) on the in-store decision process? Do mobile devices have an impact on effort expended and on decision quality? Do they have an impact on price sensitivity? Is the impact of m-shopping on price sensitivity similar across product category? Are there differences in information search for search, credence and experiential good, for search, credence and experiential attributes? How are mobile phone used to collect and store data?*

Insert 2- Geocompare application

“Geocompare enables consumers to compare (based on retailer’s web and mobile sites) prices from food products in store that are within 10 kilometers of its geographical position. Once the most attractive price selected, the application indicates the location of the proposed store. Among others functionalities, a functionality permit to create a shopping list and to identify the store offering the most competitive price for the basket and another functionality “good deals” detects (based on retailers web and mobile sites) promotions in the store close to the geographical location of the consumer.”

<http://www.lsa-conso.fr/exclusif-lsa-l-application-geocompare-un-comparateur-de-prix-alimentaires-sort-a-la-fin-novembre,117570>

Mobile may also modify how consumers relate to salesperson and their bargaining power. According to Vanhems (2010), the website of a click and mortar company modify salesperson job and the relationship between salesperson and clients. Moreover, salespersons indicate that expert clients are more self-confident, easier to deal with and to serve but that it is hard to make them change their mind about which product to buy. Salesperson also point out that consumers are seeking a congruency between the website and salesperson’s discourses and

consider the website discourses as being the truth. Research is needed in the mobile context: as consumers may behave “one eye on the shelf and the other on the mobile phone”. Investigating this topic is of key importance as informing employees and training employees to use mobile tools in their daily activity is necessary.

***Research questions:** What is the impact of mobile shopping on salespersons-clients relations, on salespersons well-being and satisfaction with their jobs? How will mobile shopping change salespersons job? How can mobile devices be used by salesperson as a sales tool?*

The development of social networks and of mobile technologies make two phenomena possible: the development of commercial activities on facebook (F-commerce) and the ability to consult opinions from other consumers about the products sold in stores as, for example, with The SnoopIt application (Insert3). In addition, F-commerce might found a perfect channel in mobile devices via the Facebook direct access touch multiplying on mobile phones (Raman 2011).

Insert 3-SnoopIt Application (tested by Quiksilver)

“The consumer takes a picture in the street, in a catalog, of the product that he likes. Product details appear with detailed information, related products and exclusive content. A function “fitting room” allow him to try virtually the tee-shirts. An area permits giving advice, consulting others ’advice and sharing them on social networks. Another function allows him to find the nearest store with the location of the phone, to check its opening hours and to calculate the route to get there.”
<http://www.itelios.com/snoopit/>

How will mobile marketing change the role fulfilled by physical stores?

As a conclusion, the roles fulfilled by, or even the essence of, physical stores could be renewed. Indeed, we can wonder if physical stores will not mainly become demonstration spaces where consumer can live experiences rather than sales spaces. Hence, *Google* operated a pop-up store in London Heathrow in 2005 where there was nothing to buy. In the same manner, the pure player *Spartoo* opened a pop-up store “Shoes & Spa” to showcase its

product range that were possible to buy on-line in the store and to offer foot cosmetic services to consumer; the fashion retailer *Aigle* is wondering whether they are going to continue to have stock at physical stores which would then become “fitting stores”. *Tesco QR Code Subway store* in Korea is another example, with the development of virtual grocery store in a subway station in Seoul: the virtual display is the same as in physical stores; simply scanning the QR code places the product in the online cart.

1.2. M-payment

Mobile-payment (m-payment) is thought to play a key role in the acceptance and success of m-commerce by providing a convenient, uncomplicated and secure method of payment. It provides a vital infrastructural foundation to m-commerce (Tiwari & Buse 2007). According to KPMG (2010), m-payment is rapidly adopted by consumers in the 22 countries studied.

M-payment refers to “payments that are made via mobile hand-held devices in order to purchase goods and services” (Tiwari, Buse & Herstatt 2006). M-payment is performed via a m-payment instrument which can be a mobile wallet, a mobile credit card or an account-based payment instruments mobilized via mobile services (Dahlberg et al 2008).

Classification of mobile payments

According to Pernet-Lubrano (2010), m-payment is a complex reality as it encompasses many different and sometimes competing categories. Overall, 3 categories of m-payment can be distinguished according to the location of the customer in relation to the retailer or manufacturer. Firstly, remote payment on the mobile corresponds to the payment for digital or physical goods via payment charged on the consumer’s bill, entering a CB or bank account number on a mobile web site, registering on retailers’ online stores or using electronic wallet. Secondly, proximity payments using the mobile devices at physical stores integrate contactless technologies so that payment is made when mobile user presents his/her mobile

phone near a receiving terminal. This solution is widely used in Japan while still at the trial stage in France. Thirdly, receiving payment via the mobile consists in using the mobile phone as a terminal to read credit cards. As an example, it is possible to accept credit cards on an iPhone, iPad or iPod Touch with no contract, monthly fees or merchant account required via Square by Apple.

Innovations in this field are numerous and some retailers, at the instance of Starbucks presented in Insert 4, are in the process of experiencing them.

Insert 4 – Starbucks experiments payment via QR code

Starbucks is experiencing payment via QR codes in 300 outlets in New York. The consumers in hurry can pay their coffee simply by scanning the QR code thanks to the Starbucks Card Mobile application linked to his/her client account. This system should help Starbucks to minimize its operating costs.

Source: <http://mashable.com/2010/10/24/starbucks-card-mobile-new-york/>

Determinants of m-payment acceptance

M-payment is today considered today as a viable solution in the German and North American context (Kleijnen, Wetzels & de Ruyter 2004; Tiwari, Buse & Herstatt 2006) as extensive studies, either quantitative or qualitative, have found convergent results on its acceptability by consumers. From a consumer perspective, the key determinants of m-payment acceptance appear to be security and trust (Mallat 2007) in a first stage and, in a second stage, gratuitousness, ease of use, convenience and privacy of personal data. If accepted, it seems limited to small amounts up to 50€. According to David (2011), in the French context, increasing confidence in m-payment is developing thanks to technological developments.

Research questions: *no extensive research has been identified in the French context.*

Yet, the cultural context has been observed to have impacts on m-shopping acceptance; the impact of culture on m-payment services has to be observed (Dahlberg & al 2008).

Then, it would be of interest to test the determinants of m-payment acceptance in France. The specific characteristics of the financial market structure may influence the

development of m-payment services. As a consequence it is important to investigate user adoption factors in a French context before launching a m-payment service.

2. M-marketing

M-marketing is defined here as “*any form of marketing, advertising and sales promotion activity aimed at consumers and conducted over a mobile channel (...). It encompasses m-promotion, m-loyalty, location-based marketing and m-advertising*” (Leppäniemi, Sinisalo & Karjaluoto 2006). We try to understand how m-marketing have an impact on strategic analysis, retail marketing strategy and retail tactical marketing.

2.1. M-Marketing and strategic analysis

M-marketing allows retailers to better understand consumer behavior and collect data on (1) consumer needs (shopping and buying motivations), (2) in-store experience, and (3) post-purchase processes (customer satisfaction, word of mouth, loyalty) in order to determine the target market and positioning and to adjust retail marketing strategy and operation management to increase store traffic and sales. It is possible to collect data on customer behavior (buying habits, shopping habits with mobile internet survey and to collect data on customer spatial behavior). Concerns on privacy and personal data security may also arise in the context of mobile internet surveys and of the use of geographical data by retailers. Research is needed to understand information privacy concern on information provision (refusal, misrepresentation), on private action (removal, negative word of mouth) and public action (complaining directly to online companies, complaining indirectly to third party organization) (Son & Sung 2007).

Research questions: *What are the drawbacks and motivations for participating in mobile survey? What is their impact on data quality? What are the determinants of willingness to provide personal data in the context of m-marketing?*

2.2. M-marketing and retail marketing strategy

M-marketing may change retail marketing strategy formulation at three levels: (1) market targeting by providing retailers with the opportunity of implementing a mobile one to one marketing, (2) location by allowing retailers to capture proximate mobile customers stemming from flow attraction (Cliquet 1997), (3) value delivery process i.e. choosing, providing and communicating the value.

From differentiated marketing to mobile one to one marketing

Traditional one to one marketing rely mainly on individual variables such as age, gender, buying history (Unni & Harmon 2007). The use of situational variables is less common. Belk (1975a; 1975b) defines situation as “*a locus in time and space*” and enhanced five dimensions: physical surroundings, social surroundings, temporal perspective, task definition and antecedent states. Thanks to “new technologies of location-enablement”, retailers are now able to collect or infer information on consumer’s situation and to combine it with knowledge on individual variables to adapt the retailing mix to each customer’s need at a particular time (Unni & Harmon 2007). Mobile one to one marketing consists in interacting with an individual customer, anywhere and anytime, and customizing the market offering (services, price, advertising, promotion etc.) by taking into account individual and situational variables. Previous research has documented the impact of CRM applications on consumer satisfaction (Mithas, Krishnan & Fornell 2005) and of satisfaction on cash flow and shareholder value (Gruca & Rego 2005; Grewal, Chandrashekar & Citrin 2010).

Research questions: *How will consumers react to mobile one to one marketing? How will it affect transactional and relational variables such as value, consumer satisfaction, service quality and trust? What will be the impact of mobile one to one marketing on qualitative and quantitative indicators of marketing performance? What will be the impact of mobile one to one marketing on financial results? What is the impact of*

product type on the links between the use of mobile one to one marketing and its qualitative and quantitative performances?

From capturing local shoppers to capturing proximate shoppers

According to Balasubramanian, Peterson and Jarvenppa (2002), m-marketing allows retailers to deliver a market offer not only to customers leaving or working in the customer catchment area but also to customers that are close to a retail outlet at a specific moment. As a consequence to consumer increased mobility, proximity marketing is emerging as a way to increase market share “*by delivering product and price information, promotional offers and services to the mobile phones of their customers based on an individual’s proximity to a physical location using location-enabling technologies*” (adapted from Haines 2008).

Research questions: *How will proximity marketing change competition between competitors in the retail industry? How will it affect market rivalry and competitive strategies? How will it change retailers’ strategies (location) and tactics (assortment, price, and services)?*

The m-value delivery process

Retailers must therefore consider the value of m-marketing tools for customers and on the impact of m-marketing on service and shopping value. Perceived value of mobile services (m-services) has been studied in the web context from two perspectives. In a global one, value results from a confrontation between benefits and sacrifices associated with consumption (Aurier, N’Goala & Evrard 2004). For example according to Kleijnen, de Ruyter and Wetzels (2007), the intention to use m-commerce results from a comparison between benefits (time convenience, use control and service compatibility) and costs (risk, cognitive effort). In an analytical perspective, Gummerus and Pihlström (in press) conducted a qualitative study and isolated two types of value: context value (time, location, lack of alternatives, uncertain

conditions) and in use value (emotional value, esteem value, monetary value, convenience value and performance value). Retailers need to understand which dimensions of value are favored by their target audience in order to choose which value to deliver and communicate and what is the impact of m-marketing on service and shopping value.

***Research questions:** Most studies deal with “m-services” in general, therefore further qualitative and quantitative studies are needed in order to understand the perceived value of specific tools such as applications, mobile site etc. What is the impact of geographic, demographic, psychographic and behavioral variables on m-marketing tools perceived value? What is the impact of m-marketing tools on service and shopping perceived value in general?*

2.3. M-marketing and retail tactical marketing

M-marketing can be used as a leverage of both entry marketing and exit marketing as illustrated in table 1 (Desmet 2002). It will have an impact on the retailing mix.

Insert table 1 here.

- **Mobile enhanced store atmosphere and merchandising.** M-marketing tools can be used to enhance store environment and merchandising. Examples of the use of m-marketing tools to enhance the store environment are QR codes: “two-dimensional image that can be created by a software application using textual information. Its content types include URL, text, phone number and SMS” (Dou & Li 2011). QR codes can be used to provide information about products or services. *Best Buy* has implemented enriched price tags. Each price tag has a QR code on it, which when scanned by the consumer’s smartphone, refers him/her to a product information sheet hosted on *Best Buy* mobile site. QR codes can also be used to enhance the entertainment dimension of the store. In February 2011, *Selfridges* displayed Hussein Chalayan’s *PUMA* collection “as a QR Coded artwork”, “Triangular steel rods of different heights displaying QR Codes, cities, districts and coordinates play on the travel

reference”, consumers can scan QR codes with a compatible smartphone and then have access to Google map locations (<http://2d-code.co.uk>). M-marketing tools such as QR codes, m-applications and m-website provide opportunity for a “gamification” of the shopping process (<http://www.5thfinger.com/whitepaper>). For example drawing on “treasure hunt” operations by McDonald’s and bwin.fr, one could imagine treasure hunts inside the store to win points with interactions between consumers participating to the operation via their mobile phone. Another use of mobile tools would be to allow clients to create their own musical atmosphere inside the store by downloading its own playlist from an application provided by the retailer.

Research questions: *What is the impact of mobile enhanced atmosphere and merchandising on (1) internal states and approach avoidance behavior (2) interactions with employees and other consumers?*

- **M-advertising.** Mobile advertising (m-advertising) is defined as “*any paid form of non-personal presentation and promotion of ideas, goods or services by an identified sponsor using mobile tools such as the mobile web, mobile application, mobile messaging and mobile video and TV*” (adapted from Kotler & al 2005) (table 2). Mobile phones have single users “*who keep the device with them most of the time*” (Cameron 2011) thus m-advertising offers retailers the opportunity to promote products and services in “*a personalized and interactive way*” (Smutkupt, Krairit & Esichaikul 2010). According to Altuna and Konuk (2009), attitude towards m-advertising has an informative, enjoyment and credibility dimension. However most research has investigated SMS or MMS advertising. In this context, various factors have been associated with advertising acceptance: brand trust, permission, control of personalization and content, frequency, time, technology ease of use (Caroll et al. 2007). Beneke et al. (2010) add attitude toward advertising, innovativeness and privacy concern. Attitude toward m-advertising tools such as mobile web, mobile application, mobile

messaging and mobile video and TV in one hand and attitude toward specific ad in the other hand are of great interest as can be m-advertising effectiveness.

Research questions: *What are the determinants and consequences of attitude toward m-advertising tools? What are the dimensions of m-ad perceptions? What is the impact of executional factors on m-advertising effectiveness (awareness, attitude toward the retailer, preference, intention to visit the store or to buy the store brand)? What are the determinants and consequences of ad credibility? What is the impact of situational- such as mood- and individual-such as involvement- variables on ad effectiveness?*

Insert 5- SMS Messaging - Fort Thunder Harley-Davidson & Central Texas Harley-Davidson dealerships

“Fort Thunder Harley-Davidson & Central Texas Harley-Davidson” dealerships wanted to expand the brand to new demographical segments, to “maintain conversations with loyal customers” and “to create awareness of the specials and events involved in each dealership”. “Through the use of mobile marketing with SMS, the dealerships were able to provide special deals, develop stronger loyalty and deeper conversations with both new customers and long-term customers. Additionally, through the use of text messaging, the dealerships were able to boost sales and increase visits to each store through VIP text memberships. Through this unique strategy, The Harley-Davidson dealerships were able to extend their reach to the largest demographic possible and build a robust database of loyal and engaged customers.”
<http://mmaglobal.com/studies/harley-davidson-extends-brand-loyalty-through-mobile>

- **M-Promotion.** Although a variety of promotional tactics such as sweepstakes, instant win promotions, contests etc. are available in the m-marketing context (Mobile Marketing Association 2007), research has focused on mobile coupons (m-coupons). According to the MMA (2007), “a mobile coupon is an electronic ticket solicited and/or delivered by mobile phone that can be exchanged for a financial discount or rebate when purchasing a product or a service.” (see insert 6). Receiving a m-coupon has a positive impact on store visit but no impact on additional purchases; it has to be noted that the coupon redemption rate is lower for m-coupon (36%) than for traditional coupon (81%) (Kondo, Uwadaira & Nakahara 2007). Research is needed in order to have a deeper understanding of how m-marketing work.

Research questions: *In the context of traditional marketing, De Pechpeyrou et al. (2006) highlight two antecedents of attitude towards promotion: hedonic and utilitarian*

benefits and perceived sincerity while Chandon, Laurent and Wansink (2000) isolated savings, quality, convenience, value expression, entertainment and exploration as benefits of traditional promotion: What are the benefits associated to m-promotion? What is the impact of m-promotion on consumer spending and on customer share? What is the impact of m-promotion on price perception and price sensitivity? What are the individual and situational determinants of consumer sensitivity to m-promotional offers?

Insert 6 – Franprix Applications

“Franprix is testing in Nice (France) a mobile application, which provides mobile coupons offered by brands. A dozen manufacturers participate to the test in Nice by issuing coupons, including Coca Cola, Unilever, Lactalis, Henkel and William Saurin. The client can download the coupons he wants on its mobile via the application. A specific point of sales advertising also signals in store the articles covered by these reductions. At the checkout, the consumer just approach its mobile phone to a specific contactless terminal connected to the cashier. The reduction amount is automatically calculated and subtracted from the total. The operation is fully detailed on the receipt. The coupons used are then automatically deleted from the mobile.”

<http://www.lsa-conso.fr/franprix-teste-le-coupon-sur-mobile-a-nice,117395>

- **M-services:** M-services include activities that retailers perform via m-marketing tools (sms, applications, m-web site etc.) that influence (1) the ease with which a potential customer can locate, shop and learn about the store’s offering, (2) the ease with which a transaction can be completed once the customer attempts to make a purchase, and (3) the customer’s satisfaction with the purchase (Dunn, Lusch & Griffith 2002) (see insert 7 and 8). Among m-services, location based services consist in “*offering customers products or services that are relevant to their current location, which would result in more traffic to local stores with immediate purchase*” (Smutkupt, Krairit & Esichaikul 2010). As illustrated in the example below, m-services could attract consumers in the store. Furthermore, m-services could function as risk relievers by providing information about the products, by giving access to other consumers ‘opinion etc. (Cases 2002) and have a negative impact on perceived risk. M-services may also increase service convenience by decreasing the time and effort needed to

decide how to obtain a product or a service (decision convenience), to effect a transaction (transaction convenience), to experience the service's core benefit (benefit convenience), to reinitiate the contact with the retailer (post-benefit convenience) (Berry, Seiders & Grewal 2002). M-services might have an impact on store quality and satisfaction (Rolland 2003). Finally m-services might enhance store experience by increasing the visit's playfulness and fun (hedonic value) and by facilitating the shopping task (utilitarian value) (Babin, Darden & Griffin 1994). However, as evidenced by the recent controversy on i-phone and i-pad users' geolocation, privacy concerns may arise, especially for location based services, and be a brake to adoption (de Reuver & Haaker 2009; Chiem & al. 2010).

***Research questions:** What is the impact of m-services on store frequentation, on decision, transaction, benefit, and post-benefit convenience, on service quality, on shopping value and satisfaction, on retailer service quality? What are the dimensions of m-service quality? What is the impact of privacy concern on intention to use m-services?*

Insert 7 - Migros Application

“This free application helps the client to plan its shopping and informs him on promotional deals. The Bar Code reader allows the client to find out prices and to get information about products. It also allows him to establish a virtual shopping list that can be exchanged with other people.”

<http://www.lsa-conso.fr/migros-lance-une-application-iphone-l-assistant-d-achats,121974>

Insert 8 - Intermarché Application

“With this application, the client can prepare shopping lists on its smartphone and share it with its contacts. Solicited by email or SMS, they can change it by drawing products on Intermarché assortment. It allows to add product to the shopping list by scanning the barcode and to have access to the promotions and prospectuses of the store. The client can geo-locate the nearest store and calculate the itinerary using the GPS included in the application. Information on the store is also available.”

<http://www.lsa-conso.fr/intermarche-lance-la-liste-de-courses-participative-sur-iphone,120304>

- **M-loyalty.** M-marketing may increase client loyalty. First mobile tools such as mobile website, applications or SMS may have an impact on contact, functional and social proximity (Damperat, 2006) by providing the consumer an easy and quick way to contact the retailer, by

providing consumers with tools to facilitate their daily life. Secondly mobile tools may increase store quality, shopping value and consumer satisfaction. As illustrated in the example below of the French grocery retailer Casino, mobile tools such as applications or mobile website may allow retailers to increase the impact of loyalty programs (see insert 9) on repeat purchase by enhancing marketing actions efficiency (providing virtual loyalty card, implementing location based promotions) and by providing greater economic, psychological and social rewards to the consumer ((Meyer-Waarden 2007; Mimouni & Volle 2010).

***Research questions:** What is the impact of mobile tools such as mobile website and applications on contact, functional and social proximity and on consumer loyalty? Mimouni and Volle (2010) isolated utilitarian (monetary savings, convenience), hedonic (exploration, entertainment) and symbolic (recognition, social) benefits of loyalty programs. What would be the benefits associated with mobile managed loyalty programs?*

Insert 9 - Casino Applications

<http://www.journaldunet.com/ebusiness/internet-mobile/casino-sur-iphone-1010.shtml>

“Applications offer seven services: nearest store location, shopping list use, promotion deals and a wine guide. Casino could also include a virtual version of its loyalty card and a couponing offer. The application will include consumer advices on a wide range of product. This application will also allow the consumer to see the status of his order placed via mescoursescasino.fr and add items via their mobile.”

Dealing several times with the fact that mobile phones and more specifically smartphones can be used anywhere at any time and with smartphone applications, this above research agenda highlights the need for research on two specific characteristics of m-commerce and m-marketing: ubiquity and affordance as shown in figure 1.

3. Smartphone and consumer behavior: between ubiquity and affordance

Sørensen (2010) showed by studying smartphone applications at work that mobile computing is now possible whereas most of research focuses on “traditional” mobile phone technology

which enables only phone calls, SMS, e-mails or MMS. Now all what one can do with a computer, can be done with a smartphone and this author considers that: “Even Bill Gates’s statement that “*Microsoft was founded with a vision of a computer on every desk, and in every home*” is now a conservative vision considering the range of everyday computing experiences” (Sørensen 2010, 277).

Every mobile phone user is not obviously a potential smartphone user. And if about 83%¹ of the French population has a mobile phone, it will take time before seeing such a proportion concerning smartphones, probably years. Sørensen (2010) uses an interesting concept: computing experiences. Experience can refer to one of the five personality dimensions called by psychologists the Big Five (Barrick and Mount 1991): Agreeableness, Conscientiousness, Emotional Stability (Neuroticism), Extraversion, and Openness to Experience which allow distinguishing individuals despite the difficulty to measure them (Biesanz and West 2004). Openness to experience is probably a key concept to understand why smartphones are used by some people and not others even though Extraversion and Conscientiousness can be also of interest as well. Agarwal and Prasad (1998) add another concept which can be useful to better understand information technology adoption: personal innovativeness.

But before dealing with personality dimensions and then with technology acceptance models in the case of smartphone, it is useful to come back to some of the main reasons which lead to use smartphone. Actually, using smartphone to shop in physical stores depends on at least two points: 1) the consumer ability to understand what s/he can do with this new electronic device which is first of all just a mobile phone; 2) the ability of smartphones to be seen as a new electronic device which is just partly a mobile phone but also, as its name “smartphone” suggests it, a clever way to live differently especially when shopping. The first point refers to ubiquity whereas the second deals with affordance.

¹ According to a study commissioned by the Autorité de régulation des communications électroniques et des postes (Arcep) and the Conseil général de l'industrie, de l'énergie et des technologies (CGIET) of France.

3.1. Ubiquity

Ubiquity is probably the main feature which can characterize the use of smartphones. As Sørensen (2010) explains it, smartphones enable users - and hence consumers - to do anything anywhere at any time. In other words, ubiquity should not be understood here as a way to be anywhere every time but to do something anywhere at any time: that is the reason why it is probably more appropriate to talk about shopping ubiquity which means that consumers can buy anything anywhere any time as if they were at home in front of their computer. Cox (2004) speaks about “u-commerce” when dealing with ubiquity and Internet shopping behaviour. He points out relationships between the concept of ubiquitous consumption and the marketing mix and shows that Internet enables a “more efficient adjustment of discrepancies between supply and demand” (Cox 2004 21). This author asserts that “Digital technology shifts the power from the marketer to the consumer” (Cox 2004, 24). Internet provides a huge amount of information about products and prices and is a marketing channel which can deliver goods and services on the one hand and advertisements on the other hand.

M-commerce reinforces these relationships because ubiquity is not only virtual but also real when shopping in physical stores. This feature addresses theoretical questions. Smartphones provide consumers with immediate information wherever they buy: at home through Internet and a computer or within the physical store with Internet and a smartphone. Information asymmetry is reduced and sometimes consumers show more skill about products than salespeople themselves. Marketing mix variables are all of them impacted by m-commerce: information about products, prices, places are much quicker available when needed and promotions can be received directly on smartphones (Okasaki and Barwise 2011; Unni and Harmon 2007). This evolution questions the traditional attraction models as well: because

consumers can be better and quicker informed on the best deals, trade areas can hardly keep the same shape.

This characteristic of ubiquity gives m-commerce the ability to question several marketing key points dealing with consumer behaviour, manufacturer's marketing mix and retailer's responses. Here are some of these research areas which are managerially and strategically important to investigate: 1) How do consumers react to information on products and prices when shopping in real stores? 2) How can manufacturers respond to these consumer reactions? 3) How can retailers attract news consumers? Behind these general questions linked to consequences of shopping ubiquity, appears a more specific need for further investigation for instance related to consumer behaviour which this paper is focusing on here: 1) Is shopping ubiquity a new opportunity for consumers to shop more, better or just differently? 2) Can consumer spatial behaviour be the same when s/he can get messages promoted better products or lower prices in other stores? 3) Given the smartphone is also more and more a means of payment (Dahlberg & al. 2008), how do consumer react if s/he can consult his/her bank account when shopping? These questions are just some of those which can be raised from a first investigation and hence show to which extent m-commerce can probably change consumer behaviour through shopping ubiquity. These questions have got yet only very partial responses from marketing researchers (Varnali & Toker 2010).

But if shopping ubiquity can probably be very attractive to consumers to improve their shopping behaviour, another characteristic related not to m-commerce but directly to the smartphone is of great interest: affordance.

3.2. Affordance

If ubiquity can qualify new mode of consumer behavior through the use of smartphones, affordance deals with the smartphone itself. This concept stems primarily from psychology and has been widely used in Human Computer Interactions (HCI). Being successful in

affordance is a sine qua non condition of technology adoption and a false affordance (Gaver 1991) can lead to no real perception of what can be done with an object. Affordance can be defined as the ability of a product (here a smartphone) to suggest what it is made for and was introduced by Gibson (1977).

Several research articles strive to define precisely affordance by distinguishing several aspects of that concept: Norman (1999) pointed out perceived affordance and real affordance whereas Gaver (1991) sees three categories: perceptible affordance, hidden affordance and false affordance. Hartson (2003) distinguishes four types of affordance: cognitive affordance (perceived affordance for Norman), physical affordance (real affordance for Norman), sensory affordance, and functional affordance. Hartson (2003) bases his classification on the User Action Framework (UAF) (Andre et al. 2001). The UAF model has been influenced by previous models like the stages-of-action model (Norman 1986) and the cognitive walkthrough (Lewis & al. 1990) proposed to solve some of the questions which are prominent when a new product appears in a market in order to know:

- “whether the user can determine what to do with the system to achieve a goal in the work domain;” (cognitive or perceived affordance)
- “how to do it in terms of user actions;” (physical or real affordance)
- “how easily the user can perform the required physical actions;” (sensory affordance)
- “(to a lesser extent in the cognitive walkthrough) how well the user can tell whether the actions were successful in moving toward task completion.” (functional affordance) (Hartson 2003)

Transferring these questions and this model in consumer behavior is of interest when dealing with a new technology which can change deeply the way consumers shop. Affordance is not just a binary idea which shows whether or not a new product can be used easily by users. It is

a way to improve this new product in order to avoid either hidden or false affordances (Gaver 1991) or sometimes redundant.

And research areas emerge beyond those posed above by Hartson (2003): 1) Is a smartphone perceived as a Consumer Shopping Support System (CSSS) by consumers? 2) Do smartphone applications help really consumers in improving their shopping efficiency (Ingene 1984)? 3) If brand new applications like payment possibilities are offered through smartphones, will they be understood by these devices?

Conclusion

This paper aims to synthesize knowledge on m-commerce and m-marketing and to deliver research tracks concerning these topics. We extend previous research:

- by taking into account marketing literature (1) on consumer behavior: decision process, shopping experience, attitude toward sales promotions and loyalty programs, situational variables, (2) on relationship marketing (consumer-brand relationship, proximity) and (3) on services (service convenience);
- by analyzing the impact of m-marketing and m-commerce on marketing management in the retail sector: situation analysis, targeting, positioning and store, price, assortment, communication and services decisions;
- by providing theoretical propositions and a research agenda.

We develop two prominent variables, ubiquity and affordance, stemming from information systems researches, which constitute bases for implementing models related not only to technology adoption but also to consumer behavior, retailer and manufacturer strategies as well.

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Figure 1: Characteristics of smartphones and impacts on consumer and retailer behaviors

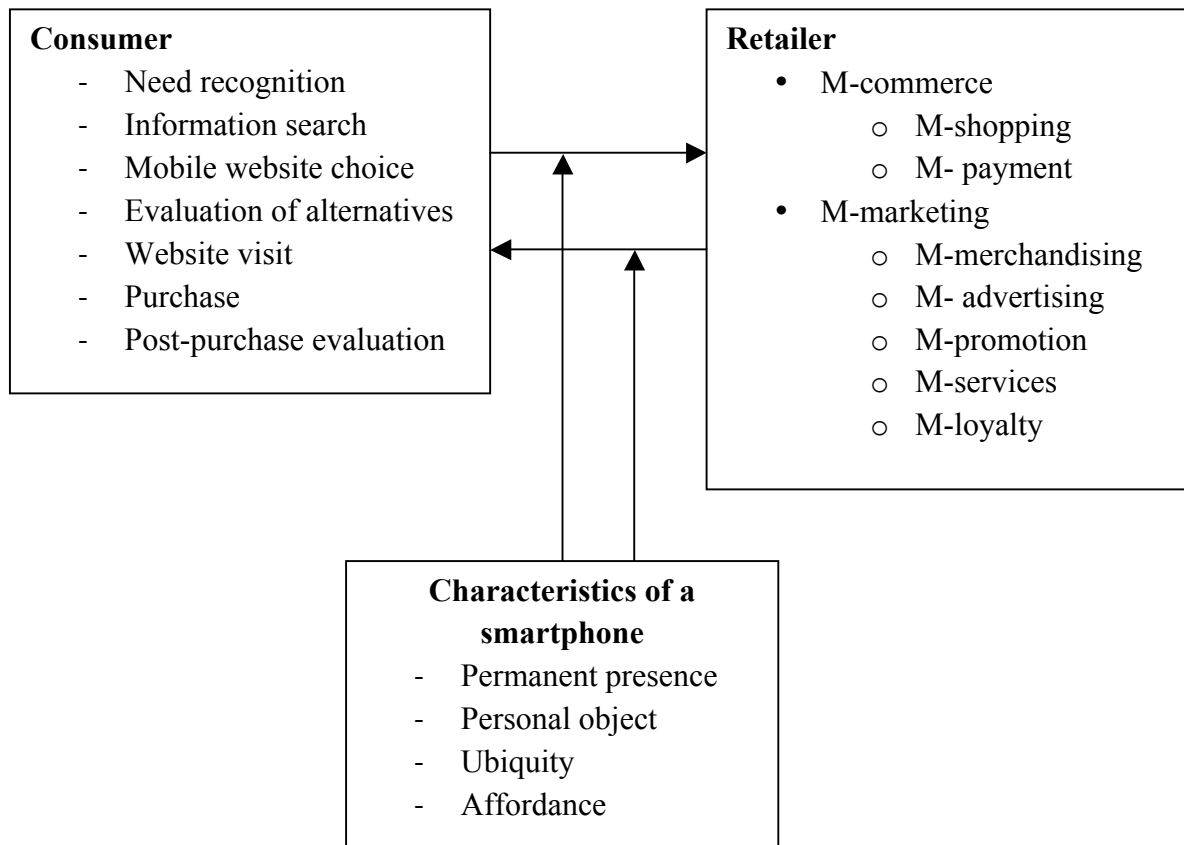


Figure 2 – Cross-channel approach of shopping, e-shopping and m-shopping

Source: adapted from Belvaux (2006)

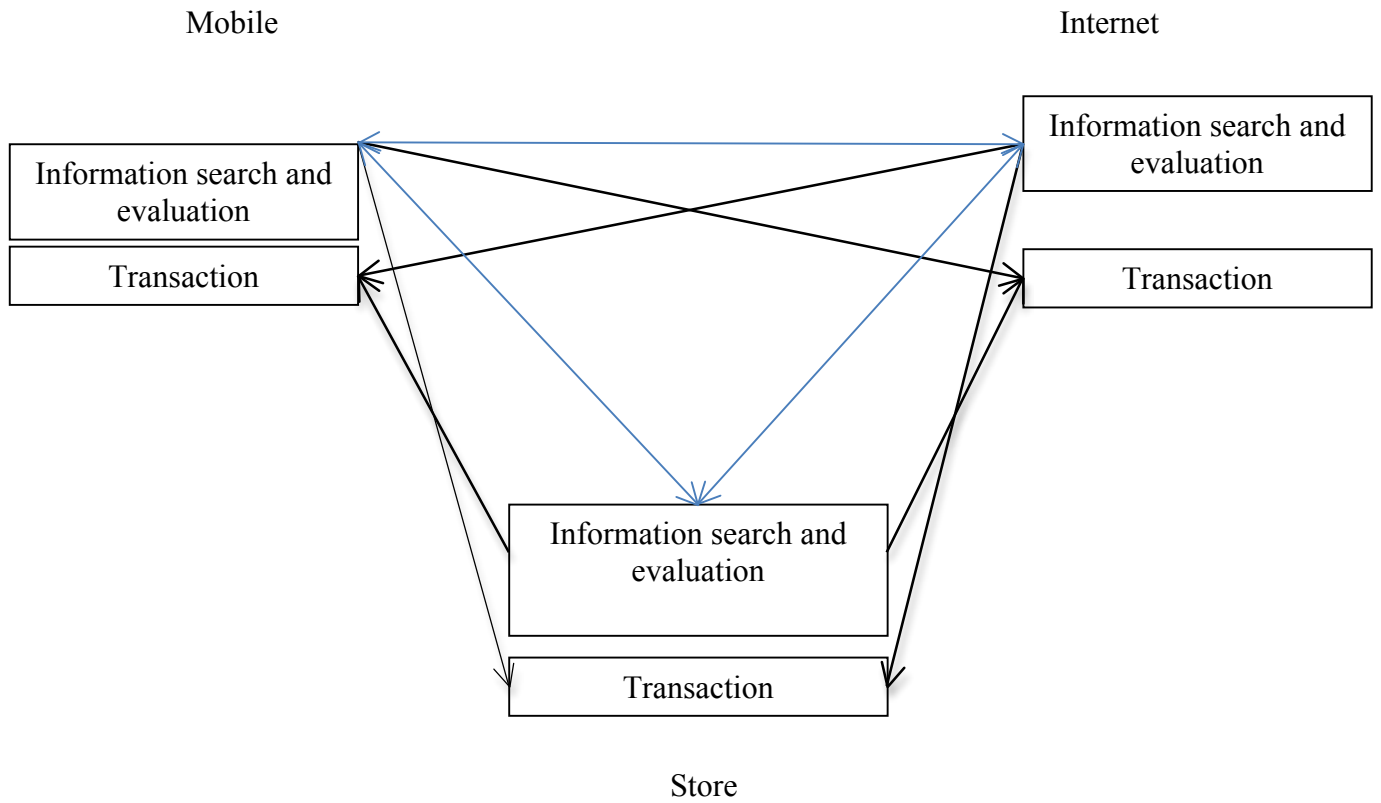


Table 1 – Dimensions of retailer marketing and mobile marketing tools

Dimensions of retailer marketing	Mobile Marketing tools
Entry marketing	Mobile promotion Mobile advertising Mobile services
Exit marketing	Mobile enhanced store atmosphere and merchandising Mobile promotion Mobile pricing Mobile services

Table 2 – Mobile advertising tools

Tools	Description	Advertising opportunities
Mobile web	“The mobile web is a channel for delivery of web content, which offers and formats content to users in awareness of the mobile context. The mobile context is characterized by the nature of personal user needs (e.g. updating your blog, accessing travel information, receiving news update), constraints of mobile phone (screen size, keypad input) and special capabilities (location)”	Banner ads on mobile web sites, text ads on mobile web site, branded mobile web site
Mobile applications	“Software and content that consumer download or find preinstalled on their mobile phone and then resides on the phone. Examples include applications such as games, news readers and lifestyle tools. Download are accessible only to consumers with appropriate mobile phone”	Ad placement within applications (banner, “splash pages) Branded applications
Mobile Messaging	“This category includes SMS and MMS. While SMS is limited to contain text, MMS can contain images, audio, and even video content”	Text ads (SMS) Animated images (MMS) Interactive dialogue
Mobile Video and TV	“Video and TV delivered over a mobile network to the mobile phone’s media player. Video may be downloaded or streamed and are usually accessed from a mobile web site or contained in an MMS message”.	Video ads Branded video

(From MMA, Mobile Advertising Overview, 2009)