XX SEMEAD
Seminários em Administração
novembro de 2017
ISSN 2177-3866

SHOPPING ON THE GO: A BIBLIOGRAPHIC RESEARCH ON MOBILE COMMERCE

DIANA SINCLAIR PEREIRA BRANISSO
PONTIFÍCIA UNIVERSIDADE CATÓLICA DO RIO DE JANEIRO (PUC-RIO)
dibranisso@yahoo.com

SHOPPING ON THE GO: A BIBLIOGRAPHIC RESEARCH ON MOBILE COMMERCE

1. Introduction

This study intends to evaluate the latest development and trends of researches on mobile commerce and its diverse facets. The research on mobile commerce has increased steadily over the years since 2000, with a surge in 2008 and another in 2013 (Hew, 2016). Mobile devices such as smartphones and tablets are becoming essential in daily life (Pantano & Priporas, 2016; Hew, 2016) and enable various types of mobile services besides communication, such as entertainment, location-based services, mobile banking, mobile payments and mobile commerce. The latter is the focus of this study.

Mobile technologies are enabling consumers to experience shopping differently, and marketers are increasingly aware of the urge to deliver new marketing strategies (Pantano & Priporas, 2016). In order to understand how these strategies must change, marketers must first understand how consumer's attitudes have changed towards the shopping technologies advances.

The mobile devices adoption was not followed at the same pace for the mobile commerce adoption. In Brazil, whilst there are 70 million smartphones, less than 10% of these owners (5.5 million) perform any sort of mobile purchases (B2W Digital Report, 2016). In densely populated markets like India, China and Brazil, a growing demand for online shopping represents a huge growth potential for e-retailing.

In the US, the majority of online buying occurs on desktops computers, which account for 79% of all online sales, with $86.6 billion spent in the 2016 4Q. However, mobile commerce contributed with a steady significantly higher growth rate, of 45% compared to 2015 (Lella, 2017). Mobile is fast becoming the "the channel that will shape the future of retail" (Fulgoni and Lipsivian, 2016, p. 346)

The impact of the mobile scenario on consumers' shopping experience is still underdeveloped (Shankar et al, 2016; Pantano and Priporas, 2016). This study intends to be helpful by identifying main theories, paradigms and constructs involved in mobile commerce, possible research cliques and potential research directions for future studies. This study follows the path recommend by Hew (2016) on his previous bibliometric evaluation of mobile commerce: to perform a further content analysis, both quantitatively and qualitatively, in this field.

2. Review of the Literature

Businesses are extending their reach to the customers throughout mobile commerce, with the popularity of this sales channel increasing among customers. However, from late 1990's onwards, technologies have advanced in a furious pace (Parasuraman and Colby, 2015), involving social media, automation, mobile payments and the rise of mobile commerce. Understanding the latest advances of mobile commerce and what lies ahead of it is essential for both scholars and marketers in grasping the essentials of today's digital consumer.

Traditional retail, e-commerce, m-commerce

Mobile commerce is not the same as electronic commerce (Maity, and Dass, 2014), even though they have many similarities. The construct mobile can encompass the device, the technology,

the channel or other aspects. Regarding the device, mobile is any centrally connected portable device that can be used in motion, such as a smartphone or a tablet (Shankar et al, 2016). M-commerce is a subcategory of e-commerce, but with some specific settings (pros and cons) that justify its specific study. Fact is m-commerce and e-commerce bring consumers different shopping experiences (Tang et al, 2016).

Both e-commerce and m-commerce enable the customer to engage in new shopping related activities such as creating shopping lists; performing deeper search, query and comparison of products; browsing e-catalogs; and sharing post purchase information through social networks (Pantano & Priporas, 2016; Tang et al, 2016).

Also, both have in common the separation of the moment of purchase and the moment of collection/consumption, removing the traditional space and time boundaries of traditional retail settings (Pantano & Priporas, 2016). It is the anytime-anywhere-shopping era. However, mobile shopping allows the customers to purchase when they are on the move, with no temporal or spatial constrainsts (Tang et al, 2016), whereas e-commerce requires a sitting area for the PC or notebook, which may impose when-where restrictions.

It does not mean, though, that the online and offline retail are following separated paths. The boundaries are fluid, with many convergence possibilities. For instance, friendly mobile retail sites or apps can accelerate the shopper search, with the purchase or delivery made in-store (Shankar et al, 2016). Therefore, the company's offline operational capacity is just as important, in order to fulfil the online purchase (Tang et al, 2016).

Whereas time and space restrictions were removed, other boundaries were added. There are now technological boundaries, including the ability to use the technology and the consumer's knowledge to deal with it (Pantano & Priporas, 2016; Tang et al, 2016). San-Martín, Prodanova & Catalán (2016) refer to it in their research as perceived control, regarded as the ability of the consumer to perform m-shopping. If companies do not want these boundaries to become walls, mobile commerce should incorporate a few guidelines.

Mobile shopping has to be easy (user-friendly interface and simple transaction process) and cost-effective (good prices) in order to attract customers (Tang et al, 2016). Going one-step further, mobile shopping should be fun and pleasant, since hedonic motivations such as perceived entertainment are so important in m-commerce that it may even provide a better explanation for technology adoption than utilitarian ones, such as usefulness (Van der Heijden, 2004). Entertainment in mobile shopping is important for achieving satisfaction and positive word-of-mouth (San-Martín, Prodanova & Catalán, 2016). In order to be fun and pleasant, the m-site design "should facilitate opportunity for interactivity between the customer and the company, or between several customers" and give the option for viewing images (San-Martín, Prodanova & Catalán, 2016, p. 609).

Mobile commerce is based on lower media richness then e-commerce, due to smaller screens (Pantano & Priporas, 2016). Media richness is related to the ability to communicate information to the customer via text, audio, video and face-to-face communications. This may vary across channels and within a channel (Maity and Dass, 2014). For instance, a mobile channel with audio/video is richer than a text-only one. Due to this lack of physical inspection of goods and face-to-face interaction, mobile commerce requires further cognitive effort from consumers (Maity and Dass, 2014). To overcome such limitation, m-commerce resorts to retail apps, which influences the perceived value of mobile channel usage and mobile service consumption (Kang, Mun, & Johnson, 2015). Otherwise, the lack of user-friendly interfaces in smaller screens may turn into discomfort and inconvenience.

This limitation of information space (small keyboards and small screens) can make mobile shopping mentally and physically strenuous, hence cognitively costly (Sohn, Seegebarth and Moritz, 2017). Therefore, mobile shopping seems to be more convenient for ordering habitual products, those that require lesser amount of evaluation and consideration, in sum, simple decision making tasks (Wang, Malthouse, and Krishnamurthi 2015; Shankar et al, 2016; Maity, and Dass, 2014). Indeed, m-commerce is ideal for performing one task at a time, whereas e-commerce allows performing tasks simultaneously (Maity and Dass, 2014; Pantano & Priporas, 2016).

In comparison with e-commerce, m-commerce offers additional benefits, such as ubiquitous connectivity, automatic customization, contactless point of sales and enhanced customer agility. Ubiquity, due to the portability fact, is related to the possibility to accessing information anytime and anywhere. This instant connectivity represents one of the keys advantages of shopping via smartphone (Hubert et al, 2017), and mobility is one of the may differentiating factors compared to regular online shopping. Instant connectivity significantly relates to perceived ease of use, showing that time convenience and mobility are unique benefits to be explored (Maity and Dass, 2014; Hubert et al, 2017).

Another benefit are its unique services, mainly related to the possibility of real-time location based offerings (Faqih and Jaradat, 2015; Gupta and Arora, 2017). Such offering come in personalized messages based on user's selected preferences, requiring less effort in seeking information (Eastin et al., 2016). The systems are already able to adapt its behavior to individual usage, automatically recognizing some information about the customers (Pantano & Priporas, 2016). Indeed, mobile is the most personal device customers own, and as such, one of the richest source of data for retail conversion (Fulgoni and Lipsivian, 2016).

Call for m-commerce research in Marketing

The m-commerce research is still most prominent amongst IT journals, according to Hew's (2016) analysis of the 10 most productive journals in mobile commerce research from 2000-2015. Leading the rank in number of publication counts, comes the *International Journal of Mobile Communications*. In the impact factor criteria, there is the *Computers in Human Behavior*. Whereas in total cites, we have the *Information & Management* journal, followed by *Computers in Human Behavior*. The work published in *Information & Management* has been able to deliver enormous impact, considering the ration between number of citations and number of publications.

Mobile shopping occupies only the 7th position in number of specific m-commerce applications researches (Hew, 2016). Mobile payment, mobile banking and mobile advertisement still attract much more attention from researchers.

3. Methodology

In order to spot seminal articles, as well as the most cited authors in this field of study, as well as collaboration patterns, a previous bibliometric analysis of the timespan 2014-2017 was performed. A bibliometric assessment allows the evaluation of quantity (by assessing the numbers of publications) and quality (by looking at citations received) of the published research (Bakri and Willett, 2011). Bibliometrics aims at understanding the production of knowledge. Dealing with the *status quo* allows us to envisage advances to be made in certain fields of

knowledge (Teixeira, Iwamoto and Medeiros, 2013). The research used the BibExcel Software for the bibliometric analysis.

The data was gathered from Web of Science (WoS) Database in May, 2017. A ‘‘Basic Search” was conducted by specifying ‘‘mobile commerce” or ‘‘m-commerce” or “mobile shopping” under three different ‘‘Topic” fields, with timespan 2014-2017. The search was further limited to journal articles published in English, resulting in a sample of 199 articles. At this point, the bibliometric analysis started.

In a second stage of the research, the abstracts of the research sample were analyzed. Articles related to mobile payment, mobile marketing (i.e, locational targeting), mobile banking, or B2B commerce where discarded. Those identified as most relevant to the topic (mobile commerce) where to be analyzed in greater depth, in a total of 26 articles.

A third stage of the research was a qualitative content analysis, as indicated by Hew (2016) as a follow up for his previous bibliometric evaluation.

4. Results

The bibliometric analysis showed that the 10 most cited authors over the 2014-2017 period are as follows in table 1 below. As per the analysis, the seminal theories continue to influence current researchers. The first influential theory dates back to the 1970’s. According to Fishbein and Ajzen’s (1975) theory of reasoned action (TRA), intention represents the tendency to perform certain behavior and is preceded by social influences, personal beliefs and motivations. The reasoned action model has been successful in predicting and explaining behavioral intention by the influence of subjective norms and customer’s attitude. Over a decade later, Davis (1989) introduced an adaptation of TRA, the technology acceptance model (TAM), to explain computer usage behavior, and then proposed it to explain and predict the acceptance and use of information technology. Davis’ model (1989) has been the most cited amongst mobile commerce researchers. Davis, Bagozzi, and Warshaw (1989) proposed a seminal study to understand why people accept or reject computers, by measuring intention-usage correlation within a 14 weeks window. There was a strong influence of perceived usefulness and a smaller yet significant effect of ease of use.

Venkatesh and Davis (2000) present a theoretical extension of the Technology Acceptance Model (TAM), using longitudinal data, referred as TAM2. According to the model, two types of processes influence user acceptance of technology: social influence processes and cognitive instrumental processes. In 2003, Venkatesh *et al* performed an extensive comparison of eight technology acceptance models and their extensions. They merged TAM to develop the Unified Theory of Acceptance and Use of Technology (UTAUT), a model to address new technology introductions.

Wu and Wang’s (2005) work was one of the firsts to extend Davis’s (1989) Technology Acceptance Model for mobile commerce. Surprisingly, perceived ease of use did not affect behavioral intent, but compatibility did. Later (2012), Chong, Chan and Ooi also studied consumer intention to adopt mobile service extending TAM and the Diffusion of Innovation Model (Rogers, 2003), including constructs such as trust, cost, and social influence. Lin and Wang (2006) were pioneers in addressing customer loyalty in mobile commerce.

Regarding methods, we have two seminal works. The first is Fornell and Larcker’s (1981) paper on Structural Equation Models. Indeed, the majority of the mobile commerce researches are positivistic quantitative papers using such method. The other is Podkasoff et al (2003) work on behavioral research biases, providing a framework to evaluate the potential biasing effects of

method variance. This seems very coherent, since Fishbein and Ajzen's (1975) behavioral model is still so influential to current researchers.

The seminal proposed models were simple yet powerful tools for analyzing the determinants of technology acceptance. No wonder they have kept their influence almost three decades later. Comparing the analysis of citations with the co-citations matrix (table 2), a consistency among the most influential authors is observed. The co-citation matrix in table 2 displays four main pairing patterns: Fishbein and Ajzen (1975) and Davis (1989); Davis (1989) and Venkatesh (2000, 2003, 2012); Davis (1989) and Wu (2005); Fishbein and Ajzen (1975) and Venkatesh (2000).

Cites	Author	Year	Title	Journal
38	Davis, F. D.	1989	Perceived usefulness, perceived ease of use, and user acceptance of information technology.	MIS Quarterly
36	Fornell, C., & Larcker, D. F.	1981	Evaluating Structural Equation Models with Unobservable Variables and Measurement Error	Journal of Marketing Research
25	Venkatesh, V., & Davis, F. D.	2000	A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies.	Management Science
23	Davis, F. D., Bagozzi, R. P., & Warshaw, P. R.	1989	User acceptance of computer technology: a comparison of two theoretical models	Management Science
23	Wu, J.H. & Wang, SC	2005	What drives mobile commerce? An empirical evaluation of the revised technology acceptance model.	Information & Management
20	Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D.	2003	User acceptance of information technology: toward a unified view.	MIS Quarterly
20	Fishbein, M., & Ajzen, I.	1975	Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research.	(book) Addison-Wesley
19	Lin, H., & Wang, Y.	2006	An examination of the determinants of customer loyalty in mobile commerce contexts.	Information & Management
18	Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P.	2003	Common method biases in behavioral research: A critical review of the literature and recommended remedies.	Journal of Applied Psychology
15	Chong, A. Y., Chan, F. T., & Ooi, K.	2012	Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia.	Decision Support Systems

Table 1: Most cited authors in mobile commerce. Timespan 2014-2017.

	Anderson J, 1988	Balasubramanian S, 2002	Chong A, 2012	Cyr D, 2006	Davis F, 1989	Davis F, 1989	Davis F, 1992	Fishbein M, 1975	Fornell C, 1981	Gefen D, 2003	Li Y, 2010	Lin H, 2006	Luarn P, 2005	Podsakoff P, 2003	Rogers E, 1995	Siau K, 2003	Venkatesh V, 2000	Venkatesh V, 2003	Venkatesh V, 2012	Wu J, 2005
Anderson J, 1988	0	3	1	1	4	4	3	5	7	1	3	4	4	7	3	3	3	3	0	3
Balasubramanian S, 2002	3	0	1	0	4	5	3	3	7	1	1	0	3	2	3	2	2	1	1	4
Chong A, 2012	1	1	0	0	8	2	3	5	8	1	3	4	3	1	3	2	5	5	6	6
Cyr D, 2006	1	0	0	0	4	6	2	1	4	4	6	7	0	2	2	2	5	1	0	1
Davis F, 1989	4	4	8	4	0	0	10	16	14	7	6	4	9	7	7	4	17	14	9	13
Davis F, 1989	4	5	2	6	0	0	7	6	8	4	6	5	6	5	5	1	11	5	1	7
Davis F, 1992	3	3	3	2	10	7	0	7	7	1	3	3	4	4	6	2	6	4	0	4
Fishbein M, 1975	5	3	5	1	16	6	7	0	9	3	3	5	4	6	7	4	13	9	3	6
Fornell C, 1981	7	7	8	4	14	8	7	9	0	5	3	11	8	8	6	4	9	8	8	9
Gefen D, 2003	1	1	1	4	7	4	1	3	5	0	3	4	5	2	1	4	6	3	0	2
Li Y, 2010	3	1	3	6	6	6	3	3	5	3	0	4	3	1	2	3	3	2	1	2
Lin H, 2006	4	0	4	7	4	5	3	5	11	4	4	0	3	6	3	3	6	3	1	4
Luarn P, 2005	4	3	3	0	9	6	4	4	8	5	3	3	0	5	3	1	4	6	2	6
Podsakoff P, 2003	7	2	1	2	7	5	4	6	8	2	1	6	5	0	4	3	6	3	1	3
Rogers E, 1995	3	3	3	2	7	5	6	7	6	1	2	3	3	4	0	1	5	5	0	5
Siau K, 2003	3	2	2	2	4	1	2	4	4	4	3	3	1	3	1	0	3	1	1	2
Venkatesh V, 2000	3	5	5	5	17	11	6	13	9	6	3	6	4	6	5	3	0	11	4	6
Venkatesh V, 2003	3	1	5	1	14	5	4	9	8	3	2	5	6	3	5	1	11	0	6	5
Venkatesh V, 2012	0	1	6	0	9	1	0	3	8	0	1	1	2	1	0	1	4	6	0	5
Wu J, 2005	3	4	6	1	13	7	4	6	9	2	2	4	6	3	5	2	6	5	5	0

Table 2: Co-citation matrix in mobile commerce. Timespan 2014-2017.

The content analysis identified four main research areas: mobile shopping acceptance and adoption; mobile shopping journey; value creation; post adoption and satisfaction.

Mobile Shopping Acceptance and Adoption

Seminal theories examining acceptance of new technologies such as Diffusion of Innovation Theory (Rogers, 1983), Technology Acceptance Model - TAM (Davis, 1989) and Unified Theory of Acceptance and Use of Technology - UTAUT (Venkatesh et al., 2003) are the core to the majority of researches regarding mobile shopping adoption (San-Martín, Prodanova & Catalán, 2016; Hubert et al, 2017; Gupta and Arora, 2017). Such studies extended those models with new constructs for evaluating and measuring the willingness of acceptance of mobile shopping.

In a quest for a more comprehensive framework in mobile shopping acceptance, recent studies added different factors to the seminal technology acceptance theories. For instance, Parasuraman and Colby (2015, p.59) updated their Technology Readiness Index, a "scale to measure people's propensity to embrace and use cutting-edge technologies".

On one hand, we have factors that enhance mobile shopping adoption, either having a positive effect or working as key mediating mechanisms. On the other, we have the factors that curtail such technology adoption, such as perceived risks.

Mobile adoption intention is strongly affected by perceptions of usefulness (utilitarian performance expectancy) and ease of use (effort expectancy) (Groß,2015; Pantano and Priporas, 2016), especially regarding the apps (Tang et al, 2016). Greater instant connectivity and greater hedonic motivation are associated with greater perceived usefulness and greater perceived ease of use of mobile shopping applications (Hubert et al, 2017). However, due to with the technical limitations of mobile shopping technologies compared to desktop-based e-commerce technologies, such as smaller screens, contextual marketing may affect negatively the perceived ease of use (Hubert et al, 2017).

Consumers' intrinsic characteristics also affect the mobile adoption intention. Consumers that feel overwhelmed by technology and that are skeptical about its correct functioning are inhibited to adopt new technologies (Parasuraman and Colby, 2015). Whereas consumers that have a positive view of technology (Gupta and Arora, 2017; Parasuraman and Colby, 2015), such as tech pioneers and influential leaders, are motivated to adopt technology innovations (Parasuraman and Colby, 2015). M-commerce is supported by consumer innovativeness and personal attachment towards mobile technologies (Pantano and Priporas, 2016). Mobile trust influences consumers' intention to engage in mobile shopping (Giovaninni et al, 2015). Trust in online commerce plays an important part on trust in mobile commerce. Online trust involves technology and the entity deploying it (Boyd, 2003). The consumer's perception of lack of physical contact – the "dehumanizing effect" (Parasuraman and Colby, 2015, p.62) is still ambiguous, working as a driver for some and as an inhibitor to others (Parasuraman and Colby, 2015; Chaparro-Pelaez, Agudo-Peregrina, & Pascual-Miguel, 2016).

There are differences in consumers according to the stages of adoption in a technology's life cycle (Rogers, 2003; Parasuraman and Colby, 2015). New technologies require that not only companies master new skills, but also customers (Parasuraman and Colby, 2015), taking the perceived ease of use to a new level. Customers still experience anxiety and lack of confidence in using mobile shopping (Gupta and Arora, 2017). Unified theory has introduced habit as a predictor of usage of mobile internet by consumers (Venkatesh et al., 2012). Habit relates to more automatic cognitive processes (Lin and Wang, 2006) and therefore is associated with

greater perceived usefulness and greater perceived ease of use of mobile shopping applications. Mobile shopping is prevalent in low-consideration contexts. It is not suitable for higher involvement categories, at least not as a primary touch point (Wang, Malthouse, and Krishnamurthi, 2015). Habit has a positive effect on customer loyalty. Repeated mobile purchase is product of prior habitual usage (Lin and Wang, 2006).

Resistance factors are mainly related to a range of risk facets such as financial costs, performance, discomfort and concerns with both security and privacy. Risk avoidance (Pantano & Priporas, 2016) and lack of trust play an important role in limiting the consumer's acceptance of the mobile shopping technology. Risk is a well-established mediator in mobile shopping acceptance (Hubert et al, 2017; Parasuraman and Colby, 2015). A major factor inhibiting mobile commerce adoption is security risk, as consumers worry about losing their mobile devices and disclosing private information. Different risk facets affect negatively the intention to adopt mobile shopping.

	Constructs	Authors
Personal benefits (drivers / motivators)	instant connectivity	Hubert et al, 2017
	contextual value	Hubert et al, 2017
	hedonic motivation	Hubert et al, 2017
	perceived usefulness	Tang et al, 2016; Hubert et al, 2017
	perceived ease of use	Tang et al, 2016; Hubert et al, 2017
	price saving	Gupta and Arora, 2017
	perceived enjoyment	San Martín, 2015
	convenience	Wang et al, 2015; Gupta and Arora, 2017
	trust	Giovaninni et al, 2015
Customer characteristics	habit	Hubert et al, 2017; Venkatesh et al., 2012
	optimism	Parasuraman and Colby, 2015
	innovativeness	Parasuraman and Colby, 2015
Risk facets (barriers / inhibitors)	financial costs (money loss /perceived high price)	Hubert et al, 2017; Tang et al, 2016
	performance / self-efficacy	Hubert et al, 2017; Gupta and Arora, 2017
	inconvenience / discomfort	Tang et al, 2016; Parasuraman and Colby, 2015
	security risk	Hubert et al, 2017; Tang et al, 2016; Parasuraman and Colby, 2015
	privacy risk	Tang et al, 2016

Table 3: Constructs related to mobile shopping acceptance and adoption

Gupta and Arora (2017) pointed out that the reasons to adopt mobile shopping are very context specific and may vary across countries. Indeed, in India the majority of consumers used mobile shopping with the "cash on delivery" option, whereas in Italy, they opted for in-store pickup delivery (Pantano and Priporas, 2016). Cross-cultural differences affecting mobile shopping can be a fruitful research avenue (Gupta and Arora, 2017).

Hubert et al (2017) research investigates whether there are m-shopping acceptance drivers that are context sensitive and others that matter independent of the context, by analyzing three mobile shopping application types: location sensitivity, time criticality, and extent of control.

When mobile shopping make use of location information, customers consider it to be better designed (Hubert et al, 2017).

Tang et al (2016) applied a novel approach to mobile shopping adoption when they analyzed this phenomenon within the perspective of channel migration, using the push-pull-mooring theory (PPM). Based on human migration studies, this theory suggests that there are negative factors at the origin that push people away, while positive factors at the destination act to pull people toward them, plus mooring factors which facilitate or inhibit their decisions to migrate. Tang et al's model (2016) tested traditional internet channel's inconvenience and perceived high price as push factors; perceived usefulness and perceived ease of use of mobile shopping as pull factors and hi switching costs and low security/privacy as mooring factors in analyzing antecedents influencing consumers' decisions on migrating from online shopping (pc based) to mobile shopping. Switching cost was not significant in the results, but security was, in accordance with other mobile technology acceptance studies (San-Martín, Prodanova & Catalán, 2016; Hubert et al, 2017).

Gupta and Arora (2017) brought new lenses to mobile shopping adoption using behavioral reasoning theory, analyzing "reasons for" and "reasons against". Consumers undertake cost-benefit tradeoffs in purchasing decisions. Before that, Maity and Dass (2014) had also applied behavioral reasoning theory, conjoint with media richness theory, in order to investigate the impact of media richness on consumers' channel choice of in-store, e-commerce or m-commerce. Consumers would rather adopt the mobile channel for shopping in simpler decision-making tasks, due to low media richness (Maity and Dass, 2014). Mobile shopping adoption is the most densely populated avenue of research in mobile commerce.

Mobile shopping journey

According to Shankar et al (2016), the mobile shopping journey involves four key entities, i.e., shopper, employee, organization, and mobile technology; and three broad stages, i.e., before, during and after purchase.

Mobile shopping combines interactivity and instantaneity, which may lead the shopper to abandon or accelerate shopping plans more easily (Shankar et al, 2016), thus requiring a larger use of mobile coupons and contextual offers.

Mobile shoppers expect to fulfil their utilitarian/functional needs as well as believe this channel to provide enjoyment and social/self-expression opportunities (Shankar et al, 2016). Indeed, mobile shopping expresses a dynamic lifestyle (Pantano & Priporas, 2016). Therefore, an app that stands out in the crowd should balance functional, hedonic and social affiliation needs (Shankar et al, 2016).

When referring to mobile technology, two main issues arise: convergence and wearables (Shankar et al, 2016). For instance, Amazon became the digital arm of many small offline companies. Such as that, other convergences are about to emerge. Indeed, Pantano and Priporas (2016) findings highlight the importance of integrating physical retail settings with mobile opportunities. Picking up the purchases at collection points was a perceived benefit, for avoiding delivering issues and allowing consumers the check the merchandise, this way reducing risks (Pantano & Priporas, 2016). As to wearables such as smart watches or glasses, they are making mobile shopping more interesting and challenging (Shankar et al, 2016). For instance, wearables can provide augmented reality for a mobile shopping experience.

Value Creation to consumers in mobile shopping

Understanding how mobile shopping creates value to consumers is essential for marketing insights (Pantano & Priporas, 2016), by interpreting the fundamental meanings attached to consumer behavior in m-commerce.

When it comes to mobile phone use, simple statistics may be misleading. Hence, the depth of qualitative studies, such as ethnographic ones, may provide more insightful research findings (Belk, 2013). Pantano & Priporas (2016) conducted in-depth interviews with 29 Italian consumers aged between 25 and 35 years old (older members of Generation Y) with experience of mobile retailing in order to better understand value creation in mobile shopping.

The first motivation to consumers regarding mobile shopping is to save time, avoiding queues, for instance (m-commerce as a time saver). Another is the easiness to use ad hoc promotions via apps, thus saving them money (Pantano & Priporas, 2016; Lin and Wang, 2006).

Post adoption and satisfaction

The instantaneity inherent to mobile shopping is also very handy when it comes to post purchase evaluation. It is very easy to share opinions, photos and videos in social media platforms using mobile devices (Shankar et al, 2016). Therefore, the word of mouth (WOM) is crucial in understanding m-shopping diffusion (San-Martín, Prodanova & Catalán, 2016). Scholars that study mobile commerce post adoption and satisfaction seek the reasons that make a customer pleased with mobile shopping to the point of recommending it.

Media richness also influences post purchase evaluation (Maity, and Dass, 2014). Increasing visual complexity, i.e, using videos and animated pictures, has a negative impact in customers' satisfaction in mobile shopping (Sohn, Seegebarth and Moritz, 2017). Both the content and the tasks to be performed have to be tailored to the channel in order to provide customer satisfaction. With space limitation in mobile devices, information must be limited to the core and tasks should be simple (Maity, and Dass, 2014).

The higher the perceived visual complexity of a mobile online shop is, the higher the perceived time and effort costs for customers. As perceived sacrifices or costs lower customers' value perceptions, a crowded mobile shop has a negative impact on online shopping experiences. Making a mobile responsive website is not enough (Sohn, Seegebarth and Moritz, 2017).

Antecedents of satisfaction with the experience with mobile shopping (post purchase evaluation) include (San-Martín, Prodanova & Catalán, 2016): perceived entertainment; subjective norms (reflecting group influence); and perceived control (confidence to use the technology and the necessary resources to do so). Customer satisfaction plays a crucial role in mobile commerce loyalty (Lin and Wang, 2006).

5. Discussion and final considerations

The analysis provided an overview on how this field of research has developed, bringing to light both traditions and trends. The technology acceptance model (Davis, 1989) has emerged as the conceptual basis for most of the m-shopping adoption studies, opening up the path to a number of studies concerned with this shift in consumer shopping behavior. Mobile shopping adoption is a scale, with benefits pending on one side, risks pending on the other, with context and customer characteristics in between. The challenge remains on offering risk reduction measures, such as money back guarantees (Hubert et al, 2017); increased benefits, such as discounts; and reinsurance, such as positive WOM; all in line with the company's overall

profitability. It is a challenge to embed confidence and comfort in the new technology based shopping options. San-Martín, Prodanova & Catalán (2016) reinforce that satisfaction with the mobile shopping experience has a positive impact in m-shopping adoption, but Pantano & Priporas (2016) go one step further, searching for the benefits that create such satisfaction. In common, most studies show that convenience is key to mobile.

Addressing limitations, the research further noticed that it could have included the topic "mobile retailing", since the shift in the shopping paradigm has been so deep that has even coined new expressions such as e-tailing. Another limitation regards the use of a single database – Web of Science. The use of other databases should provide further insights.

All those mobile shopping studies provided rich managerial recommendations. In order to reinforce the subjective norms (reflecting group influence) that positively affect m-commerce adoption, San-Martín, Prodanova & Catalán (2016) suggest the use of testimonials as a promotional tool. Besides using for endorsement, this user-generated content may help increase the mobile shopper's engagement (Shankar et al, 2016).

Hubert et al (2017) research showed that customers still have to develop the habit of mobile shopping; therefore, firms should provide temporary discounts and other incentives to stimulate repeated m-shopping behavior. Indeed, Shankar et al (2016) reinforce that unexpected promotions enhance the sense of serendipity in the mobile shopping process, which helps increasing consumer engagement.

Directions for future research

Thought mobile shopping adoption, including drivers and barriers, has been vastly researched, there are still many fruitful research avenues to be followed. For instance, some authors (San-Martín, Prodanova & Catalán, 2016; Tang et al, 2016) suggest evaluating differences in behavior when shopping online for different products. Since understanding channel choice is essential for multichannel marketing strategies, there is still room for further cross-channel studies (Maity, and Dass, 2014) regarding adoption and satisfaction. Another interesting research path they pointed out regards how to use community-driven processes to influence consumer's choice, instead of the traditional advertising and promotions pack (Shankar et al, 2016). Thinking ahead, another research path is shopping via voice-controlled intelligent personal assistant, such as Siri or Alexa.

Other research path can dig deeper into mobile shopping affecting in-store retail experience, investigating if mobile channel would increase retail sales or whether it is just shifting consumers from one channel to another. In which cases does convergence apply? The channel integration study is even more challenging since Giovaninni et al (2015) posed that offline trust had no observable effect on mobile trust, making this a harder to build bridge. Shankar et al (2016) suggest a few research paths related to mobile shopper, mainly regarding apps design and usage, and consumer engagement in mobile shopping. Regarding consumer characteristic, most studies contemplate experienced and early adopters mobile shoppers, according to Rogers's (2003) theory of diffusion of innovations. There is still room for analyzing the late adopters, those consumer groups that are not that experienced or technology savvy. Maity and Dass (2014) studied experience (food) and search (airline) products. Since "product type moderates the effect of media richness on information search" (p. 44), they recommend analyzing the moderating effect of other type of products such as durable and frequently purchased products in choosing among in-store, e-commerce or m-commerce shopping experience.

Further qualitative research should encompass cross-country investigations at a similar mobile retailing stages comparing consumers' experiences, in order to verify and extend the current

findings regarding value creation in mobile shopping in Italy (Pantano & Priporas, 2016). Other recommended qualitative study regards whether people's values and emotions are related to their technology readiness and how they affect the technology adoption (Parasuraman and Colby, 2015). Another possible research path is relating mobile commerce with lifestyle and consumer characteristics.

Mobile is a digital paradigm shift in retail. Retailers should be on their way to adopt a mobile mind-set if they wish to perform a successful omnichannel strategy. Hopefully, the new research avenues that are widely open in mobile commerce will benefit the millions of customers who are yet to experience the benefits of mobile shopping.

REFERENCES

Bakri, A., Willett, P., (2011). Computer science research in Malaysia: a bibliometric analysis. *Aslib Proc.* 63, 321–335.

Belk, R. W. (2013) "Consumer insights for developing markets", *Journal of Indian Business Research*, Vol. 5 Issue: 1, pp.6-9.

Boyd, J. (2003). The rhetorical construction of trust online. *Communication Theory*, 13(4), 392-410.

B2W Digital Quarterly Report, 2016 (April 18th, 20017) Retrieved from: https://www.b2wdigital.com/institucional/comercio-eletronico-no-brasil.

Chaparro-Pelaez, J., Agudo-Peregrina, A. F., & Pascual-Miguel, F. J. (2016). Conjoint analysis of drivers and inhibitors of e-commerce adoption. *Journal Of Business Research*, (4), 1277.

Chong, A. Y., Chan, F. T., & Ooi, K. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support Systems*, 5334-43.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance Of Computer Technology: A Comparison Of Two Theoretical Models. *Management Science*, 35(8), 982.

Eastin, M.S., Brinson, N.H., Doorey, A., Wilcox, G., (2016). Living in a big data world: predicting mobile commerce activity through privacy concerns. *Comput. Hum. Behav.* 58, 214–220.

Faqih, K.M.S., Jaradat, M.-I.R.M., (2015). Assessing the moderating effect of gender differences and individualism-collectivism at individual-level on the adoption of mobile commerce technology: TAM3 perspective. J. *Retail. Consum.* Serv. 22, 37–52.

Fishbein, M., & Ajzen, I. (1975). Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Reading, MA: *Addison-Wesley*

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal Of Marketing Research* (JMR), 18(1), 39-50

Fulgoni, G. M., & Lipsivian, A. (2016). The Future of Retail Is Mobile. *Journal of Advertising Research*, 56(4), 346-351.

Giovannini, C. J. ; Ferreira, J. B. ; Silva, J. F. ; Ferreira, D. B. (2015) The Effects of Trust Transference, Mobile Attributes and Enjoyment on Mobile Trust. *BAR. Brazilian Administration Review*, v. 12, p. 88-108.

Groß, M. (2015) "Mobile shopping: a classification framework and literature review", *International Journal of Retail & Distribution Management*, Vol. 43 Issue: 3, pp.221-241.

Gupta, A., & Arora, N. (2017). Understanding determinants and barriers of mobile shopping adoption using behavioral reasoning theory. *Journal Of Retailing And Consumer Service*s, 1.

Hew, J. (2016) Hall of fame for mobile commerce and its applications: A bibliometric evaluation of a decade and a half (2000-2015) *Telematics and Informatics* Volume 34, Issue 1, 1 February 2017, Pages 43-66

Hubert W, Sohn S, Eberhardt T, et al. (2017) Acceptance of Smartphone-Based Mobile Shopping: Mobile Benefits, Customer Characteristics, Perceived Risks, and the Impact of Application Context. *Psychology & Marketing* [serial online]. 2017;(2):175. Available from: Academic OneFile, Ipswich, MA.

Hubert, M., Blut, M., Brock, C., Backhaus, C., & Eberhardt, T. (2017). Acceptance of Smartphone-Based Mobile Shopping: Mobile Benefits, Customer Characteristics, Perceived Risks, and the Impact of Application Context. *Psychology & Marketing*, (2), 175.

Kang, J.-Y. M., Mun, J. M., & Johnson, K. K. P. (2015). In-store mobile usage: downloading and usage intention toward mobile location-based retail apps. *Computers in Human Behaviour*, 46, 210-217.

Lella, Adam (February 2017). ComScore Reports Retrieved from: https://www.comscore.com/Insights/Press-Releases/2017/2/comScore-Reports-109-Billion-in-Q4-2016-Total-Digital-US-Retail-E-Commerce-Spending-Up-18-Percent-vs-Year-Ago

Lin, H., & Wang, Y. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. *Information & Management*, (3). 271.

Maity, M., and Dass, M. (2014). Consumer decision-making across modern and traditional channels: E-commerce, m-commerce, in-store. *Decision Support Systems*, 61(1), 34-46.

Rogers, E. (2003). *Diffusion of Innovations* (5th ed.)New York: Free Press.

Pantano, E., & Priporas, C. (2016). Full length article: The effect of mobile retailing on consumers' purchasing experiences: A dynamic perspective. *Computers In Human Behavior*, 61548-555.

Parasuraman, A., & Colby, C. (2015). An Updated and Streamlined Technology Readiness Index: TRI 2.0. *Journal Of Service Research*, 18(1), 59-74.

Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, (5), 879

Shankar, V., Kleijnen, M., Ramanathan, S., Rizley, R., Holland, S., & Morrissey, S. (2016). Mobile Shopper Marketing: Key Issues, Current Insights, and Future Research Avenues. *Journal of Interactive Marketing*, 3

Sohn, S., Seegebarth, B., & Moritz, M. (2017). The Impact of Perceived Visual Complexity of Mobile Online Shops on User's Satisfaction. *Psychology & Marketing*, 34(2), 195-214.

Sonia San-Martín, Jana Prodanova, Blanca López Catalán, (2016) "What makes services customers say “buy it with a mobile phone”?", *Journal of Services Marketing*, Vol. 30 Issue: 6, pp.601-614.

Tang, D., Yang, Y.,Yan, Y. and Zhou, M. (2016) ‘What determines online consumers to migrate from PCs to mobile devices? – An empirical approach on consumers’ internet cross-channel behaviours’, Int. J. *Services Technology and Management*,Vol. 22, Nos. 1/2, pp.46–62.

Teixeira, M. L. M.; Iwamoto, H. M.; Medeiros, A. L.(2013) . Bibliometric studies (?) In business administration: discussing the transposition of purpos. *Administração: Ensino e Pesquisa (RAEP),* v. 14, p. 423-452.

Van der Heijden, H. (2004), “User acceptance of hedonic information systems”, *MIS Quarterly*, Vol. 28 No. 4, pp. 695-704.

Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, (2), 186.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance Of Information Technology: Toward A Unified View. *MIS Quarterly*, 27(3), 425-478

Venkatesh, V., Thong, J. Y. L., Xu, X. (2012) Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly* Vol. 36 No. 1 pp. 157-178.

Wang, R. J., Malthouse, E. C., & Krishnamurthi, L. (2015). On the Go: How Mobile Shopping Affects Customer Purchase Behavior. *Journal of Retailing*, (2). 217

Wu, J., & Wang, S. (2005). What drives mobile commerce? An empirical evaluation of the revised technology acceptance model. *Information & Management*, 42719-729.