The Effects of Trust Transference, Mobile Attributes and Enjoyment on Mobile Trust

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**Abstract**

Trust is essential in building relationships. In mobile commerce, as in electronic commerce, trust is even more valuable given the absence of human contact and direct observation of the service provider. This study proposes a model for trust building that incorporates trust transference and unique factors present on mobile commerce. Data used were collected in an online survey and analyzed via structural equations modeling. Results suggest that trust transferred from online contexts and ease of use have significant effects on mobile trust formation, while also indicating that mobile trust influences consumers’ attitude and intention to purchase using mobile devices.
Introduction

It's probable that the Internet is the most important innovation of the last fifty years, as it allows interactions and transactions to take place without time and space limitations. Online shopping, along with other computer-mediated transactions characterized by faceless and intangible factors, is greatly affected by fear and anxiety. In such a context, lack of trust can be considered the utmost barrier preventing online transactions from taking place (Beldad, de Jong, & Steehouder, 2010). Knowing what is the nature of trust, particularly in online environments, and what are its determinants becomes essential to the building of competitive advantage and the acquisition and retention of consumers.

More recently, developments in technology have enabled entities to establish pervasive electronic presence anytime, anywhere via mobile devices. As the quantity of such devices multiplies, a huge number of adopters subscribe to service providers, and thus become a growing market for mobile transactions, communications and promotion (Shankar, Venkatesh, Hofacker, & Naik, 2010; Varnali & Toker, 2010). Mobile devices present themselves as very personal devices, which may provide firms with unrivalled possibilities to build and maintain one-to-one relationships with their customers. A set of unique features such as ubiquity, constant reach ability, personalization, and localization (Camponovo, Pigneur, Rangone, & Renga, 2005) allows the identification of each user and their geographical position by tracking the specific ID of a mobile device. These developments in the consumer environment have made mobile marketing research an attractive perspective. Despite the unique benefits of mobile services, overcoming trust issues is also a major obstacle for their adoption, with many customers feeling as uncomfortable to share personal information and conduct transactions over wireless portable devices as they feel about doing so over wired desktops, or perhaps more.

If trust is more difficult to build in the mobile environment because of mobile commerce’s greater uncertainties and risks (Siau, Sheng, Nah, & Davis, 2004), a possible way to solve trust building issues would be transferring trust from existing channels to m-commerce. According to Stewart (2003), consumer trust can be transferred from one context to another and that could turn previously extant channels into powerful tools for building trust. On the other hand, if trust transference alone was sufficient for success, brick and click retailers should excel in their mobile retail and outperform purely online retailers, what, however is not always the case (Kuan & Bock, 2006). Empirical studies indicate that several factors are determinants of trust and perceptions of trustworthiness in online and mobile exchanges (Bart, Shankar, Sultan, & Urban, 2005; Beldad et al, 2010). Therefore, there must be other factors that impact on customer trust, with some of them possibly being exclusive to mobile contexts.

This study proposes a framework that incorporates trust transference and mobile services’ unique characteristics to more general factors in an attempt to identify relevant trust determinants in mobile commerce contexts. In order to construct a relevant framework this research builds its basis on the (1) Theory of Reasoned Action (Fishbein & Ajzen, 1975), the (2) Categorization theory (Cohen & Basu, 1987), and the (3) Innovation Diffusion Theory (Rogers, 1983), as well as on the Technology Acceptance Model (Davis, 1989; Venkatesh & Davis, 2000), and the Web Trust Model (McKnight, Choudhury, & Kacmar, 2002). By adding mobile specific factors and trust transference to existing theories and models, this study intends to improve the understanding of mobile trust formation and open new venues for researching mobile trust and addressing mobile transactions trust issues.
Theoretical Background and Hypotheses

Trust

Trust is a concept that is under constant discussion and different definitions have emerged from each of the disciplines which have examined it (Urban et al., 2009; Beldad et al, 2010). Generally speaking, trust definitions can be divided in two major streams. One stream treats trust as an expectation regarding the behavior of an interaction partner (Morgan & Hunt, 1994; Garbarino & Johnson, 1999), whereas the other considers it to be a psychological state comprising acceptance of and exposure to vulnerability (Rousseau, Sitkin, Burt and Camerer, 1998; Mayer, Davis, & Schoorman, 1995). In addition, trust definitions have evolved over to a point were some consistency can be reached by focusing on three of its dimensions: integrity/credibility, ability/competence and benevolence (Urban et al., 2009). Whereas credibility, integrity, ability and competence dimensions are connected to the provider’s transactional behavior and its structural and technological capacities, benevolence is directly connected to consumers’ beliefs of provider’s good will and intentions (Hwang & Kim, 2007).

Online Trust

Using offline expectation-based definitions of trust as a starting point, researchers have elaborated upon one another's definitions and emphasized the specific characteristics of online environments to form online trust definitions. Connotations of credibility, integrity, reliability, confidence and benevolence, characteristics of offline trust, were preserved in its online counterpart, but new connotations were added, such as the inclusion of consumer perceptions on a website’s credibility (Bart et al., 2005).

Nevertheless, there are also important differences between online and offline trust regarding its objects. Whereas offline trust is directed to people or organizations only, online trust involves technology (hardware, software and the internet) and the entity deploying it (Boyd, 2003). In short, online trust is built when individuals or organizations form positive impressions of an online interaction means and are willing to accept vulnerability in dealing with it. Another difference is that, in online transactions, research indicates that trust appears to directly affect purchase intention and behavior (Shankar, Urban, & Sultan, 2002), whereas in offline transactions trust mediates the decision process but not actual purchase behavior (Doney, Cannon, & Mullen, 1998).

Mobile Trust

Mobile contexts are similar to online contexts, but they are not the same. Similarly to online transactions, mobile transactions involve not only people and organizations, but also the technologies applied by them during their interactions with consumers. However, mobile services rely on cellular telecommunications networks and mobile devices, having some features that are not present in similar online services. Characteristics such as mobility, ubiquity, and contextual offers are exclusive to mobile contexts (Lee, 2005; Shankar & Balasubramanian, 2009). On the other hand, limitations due to the specifics of cellular networks and mobile devices, such as slower speed, simpler functions, small screens and network instability, band together to build greater uncertainties and risks that prevent consumers from using mobile services and commerce (Siau et al., 2004; Lee, 2005).

Using Lee’s (2005) definition as a starting point this study defines mobile trust as one’s willingness to accept vulnerability while interacting with another through a mobile device given extant expectations regarding intentions and behavior of the other part.
Trust, Attitudes, Intentions and Behavior

Fishbein and Ajzen’s (1975) theory of reasoned action (TRA) provides background to understanding the relationship between attitudes, intentions and behaviors based on the premise that human beings make decisions based on the information available. According to the theory the best determinant of an individual’s behavior is intent, which is the representation of one’s readiness to perform a certain behavior. Intention is preceded by subjective norms (social influences and motivations) and attitude (personal beliefs). McKnight, Choudhury and Kacmar (2002) applied a more parsimonious version of the TRA and proposed a Web Trust Model (WTM) that postulates that trust beliefs lead to trusting intentions, which in turn influence trust-related behaviors, including personal information disclosure and monetary transactions.

Supported by TRA and the WTM, and assuming that a purchase is a trust dependent behavior (Hoffman, Novak, & Peralta, 1999; Beldad et al., 2010), this study proposes that trust works as a mediator between consumer’s cognitive evaluations, attitude and purchase intention, thus presenting a direct effect on consumer’s attitude and intention towards the use of mobile commerce services.

Hypothesis 1: Trust in mobile commerce has a positive direct effect on the consumer’s attitude towards using mobile devices to make a purchase.

Hypothesis 2: Trust in mobile commerce has a positive direct effect on the consumer’s intention to use a mobile device to make a purchase.

Hypothesis 3: Consumer’s attitude towards using mobile devices to make a purchase has a positive direct effect on his intention to use a mobile device to make a purchase.

Trust Determinants

Empirical studies have indicated that several factors are determinants of trust and perceptions of trustworthiness in online exchanges. Propensity to trust, experience and proficiency in technology usage, perceived ease of use, information quality, graphical characteristics, customization and personalization, privacy and security, third-party guarantees, reputation and offline presence are all relevant determinants to trust (Kim, Ferrin, & Rao, 2008; Urban et al., 2009; Lin, Lu, Wang, & Wei, 2011; Beldad et al., 2010).

Regarding mobile services, studies have examined determinants and consequences of trust and found that (1) trust can be predicted by perceived ease of use and disposition to trust (Zhang & Mao, 2008), (2) trust increases behavioral intention to accept advertising (Zhang & Mao, 2008), and that (3) perceived components of interactivity, such as responsiveness, connectedness, ubiquity and contextual offer have strong and significant effect on customer trust (Lee, 2005).

Trust transference

According to Lin, Lu, Wang and Wei (2011) trust transfer is a cognitive process that may arise from one familiar context to a new context or from one trusted entity to an unknown entity. Categorization theory suggests that consumers’ knowledge of products or brands is stored in memory as structures (Cohen & Basu, 1987). These memory structures regard similarly perceived objects as belonging to a common category and associated object-based knowledge. Therefore, if a new instance appears to belong to a previously defined category, the evaluations and perceptions associated with that category can be transferred to the new occurrence. Based on categorization theory mobile services can then be viewed as...
being similar to other online or offline services. In short, if consumers trust a certain service or provider, this trust could be transferred to its mobile version.

Marketing and e-commerce research indicate that trust transference can occur both intra-channel, when trust is transferred from an entity to another in the same channel (Stewart, 2003; Stewart 2006; Ballester and Espallardo, 2008), and inter-channel, when trust is transferred from one context to another, mainly offline to online (Kuan & Bock, 2007; Hahn & Kim, 2009) or from online to mobile (Lin et al., 2011).

Multiple studies point out that offline presence enhances online trust but, first and foremost, it is word-of-mouth which exerts dominant effect in such cases, not offline trust (Kuan & Bock, 2007). So, while offline trust is transferred to online contexts it does not play a major role in online trust formation. However, Lin et al. (2011) found that trust in online brokerage services is significantly related to the initial trust in mobile brokerage services. It is clear that online trust can be transferred to mobile environments and seems to be an important determinant of trust in mobile contexts. Based on the categorization theory and previous empirical evidence regarding trust transfer, this study proposes that trust built in offline and online channels is partially transferred to the mobile channel.

**Hypothesis 4:** Trust in online commerce has a positive direct effect on trust in mobile commerce.

**Hypothesis 5:** Trust in offline commerce has a positive direct effect on trust in mobile commerce.

**Ease of Use and Usefulness**

The technology acceptance model (TAM) states that there are two especially important determinants influencing a system’s usage: Perceived usefulness and perceived ease-of-use (Davis, 1989). Davis (1989) defines the first, perceived usefulness, as the degree a person believes that using a particular system would enhance his or her performance; and the second, perceived ease-of-use, as the degree to which a person believes that using a particular system would be free of effort.

Diffusion of innovations theory also suggests prominent roles for both usefulness and ease-of-use. Characteristics of innovations help to explain their different rates of adoption. Among these characteristics of innovations are relative advantage, defined as the degree to which an innovation is perceived as better than the idea it supersedes, and complexity, defined as the degree to which an innovation is perceived as difficult to understand and use (Rogers, 2003). There is a clear parallel between perceived usefulness and relative advantage, and between perceived ease-of-use and complexity.

Mobile services are obviously both innovations and technology systems. Therefore, perceived ease-of-use and perceived usefulness should play important roles as trust determinants in technology mediated interactions, acting as buffers to perceived risks and boosters to confidence. This study proposes that both perceived usefulness and perceived ease-of-use are determinants of trust in mobile commerce contexts.

**Hypothesis 6:** Perceived usefulness has a positive direct effect on trust in mobile commerce.

**Hypothesis 7:** Perceived ease-of-use has a positive direct effect on trust in mobile commerce.

What's more, in face of technological and interactive constrains, such as small keyboard, small screen, limited time spam, and multitasking, the use of mobile devices can be both mentally and physically strenuous (Zhang & Mao, 2008; Gao, Rohm, Sultan, & Huang, 2012). Therefore, the perception that a mobile transaction is easy and uncomplicated would increase perceptions of benefits regarding mobile commerce and improve attitude towards it.
Based on that, this study proposes that perceived ease-of-use will also be a predictor of perceived usefulness.

**Hypothesis 8**: Perceived ease-of-use has a positive direct effect on perceived usefulness.

**Mobility and Contextual Offer**

Due to the mobile characteristics of wireless devices and networks, mobile commerce services operate in a very different context from e-commerce (Siau, Lim, & Shen, 2001). Mobility, the possibility to access services and make transactions in real time, even while commuting or traveling, is a significant differentiating characteristic of mobile services (Siau & Chen, 2003) and it can reduce consumer perceptions of social and psychological risks, thus enhancing trust (Lee, McGoldrick, Keeling, & Doherty, 2003).

Another significant advantage of mobile commerce are contextual offers. At first, “context” has three aspects: a personal context, a time context and an environmental context (Kim, Kim, Lee, Chae, & Choi, 2002). Next, Figge (2004) adds the concept of “situation dependency” which represents the spatial, personal and temporal contexts associated to mobile services access. In sum, the concept of contextual offers applies to specific mobile features that enable the delivery of customized, relationship-based, timely, and location specific packets of information or offerings to users (Lee, 2005).

Both mobility and contextual offers are present in mobile commerce. This study proposes that these two mobile specific characteristics are important determinants of trust in mobile commerce.

**Hypothesis 9**: Perceived mobility has a positive direct effect on trust in mobile commerce.

**Hypothesis 10**: Perceived contextual offers have a positive direct effect on trust in mobile commerce.

**Enjoyment**

As the Internet is often used not only for work but also for entertainment and pleasure, it can be argued that entertaining features should play an important role in its adoption and use. Different studies have consistently demonstrated that employing dimensions of entertainment to TAM seems to add a significant predictor to the intention to use as well as attitude towards the adoption of a technology (Zhang & Mao, 2008). Enjoyment refers to an individual’s subjective experience of a human–computer interaction, defined as the extent to which an individual believes that the activity of using a product or service is perceived as enjoyable in its own right, apart from any performance consequences that may be anticipated (Zhang, Zhu, & Liu, 2012). Hence, perceived enjoyment is argued to be a direct determinant of attitude and intentions toward technologies (Nysveen, Pedersen, & Thorbjornsen, 2005; Zhang et al., 2012). Thus, this study proposes that mobile commerce has a dimension of entertainment and pleasure, regarding both the use of the Internet and the shopping experience, and that dimension affects trust building.

**Hypothesis 11**: Perceived enjoyment has a positive direct effect on trust in mobile commerce.

Figure 1 shows the model proposed by this study combining trust determinants, trust, trust transference between channels and intention to purchase via mobile devices.
Method

In order to test the proposed hypotheses, this study made use of a cross-sectional survey with a non-probabilistic sample of the population of interest. The majority of studies on consumer behavior and trust have used this same method (Kuan & Bock, 2007; Kim et al. 2008; Lin et al. 2011; Zhou, 2011; Zhang et al., 2012).

Although the goal of this study is not to evaluate a particular innovation, authors consider important to limit what devices can be used to provide mobile commerce services in order to better evaluate responses. Thus, only smartphones, tablets and cellular phones with internet connection were considered mobile devices.

Operationalization of variables

This study used the following scales already developed and tested in extant literature for measuring all constructs involved in the model to ensure their reliability and validity: a three-item scale to measure Mobile, Online and Brick-and-Mortar Trust (Kuan & Bock, 2007); a three-item scale to measure Perceived Usefulness (Kim, Mirusmonov, & Lee, 2010); a four-item scale for Perceived Ease of Use (Nysveen, Pedersen, & Thorbjornsen, 2005); a three-item scale for Perceived Mobility (Kim et al., 2010); a three-item scale to measure Perceived Contextual Offer (Lee, 2005); a four-item scale to measure Perceived Enjoyment (Nysveen et al., 2005); a three-item scale to assess Attitude towards using mobile devices to make a purchase (Lee, 2005); and a three-item scale to assess Intention to use a mobile device to make a purchase (Khalifa & Shen, 2008). The questionnaire was translated into Portuguese and then back translated into English to ensure items were worded as close as possible to their original versions in English. After pretesting, the final research instrument consisted of a total of 32 items measured by five-point Likert scales, three control items and six items related to demographic variables.

Sample and Data Collection Procedures

The study population comprised Brazilian undergraduate students living in Rio de Janeiro and their personal connections contacted via social networks (Facebook and LinkedIn). Kulviwat et al. (2007) highlight the fact that a "young, tech elite" should be an
interesting market segment for the introduction of new technologies because their adoption and use influences what other more conservative groups eventually do, emphasizing that members of this elite group average twenty-two years of age and spend more than average on technology related products and services. Undergraduate students fit this definition, representing a meaningful group for studies on consumer behavior related to new technologies (Lee, Ha, & Widdows, 2011).

A sample of 427 respondents was obtained. 179 questionnaires were eliminated because of missing data, age or not having access to a mobile device, resulting in a final sample comprised of 248 valid questionnaires. All questionnaires were administered via an online survey website. The average age of the survey participants was 21.9 years old, with a standard deviation of 3.51. The majority of the sample was female (52.8%), single (86.3%), and 66.5% belonged to upper class.

Results

Test for Common Method Variance

Since both dependent and independent variables in this study were opinions collected from the same respondents; common method variance could pose a problem. As suggested by Podsakoff and Organ (1986), this study employed Harman's one-factor test to examine how present such bias was on survey data. The results of principal component analysis indicated the presence of twelve factors with eigenvalue greater than 1, whilst none of the factors accounted for almost all variance (the factor that explained the most captured only 30% of the total variance). Given such outcome, common method variance seems not to be an issue in this case (Podsakoff, & Organ, 1986).

Measurement Model

The first step in the analysis of the data was a confirmatory factor analysis (CFA) to test the validity, unidimensionality and reliability of the scales used in the measurement model. The final measurement model, with 32 indicators, showed good fit indexes (RMSEA = 0.060 with C.I. of 0.056 to 0.064, SRMR = 0.056, CFI = 0.918, IFI = 0.919, TLI = 0.909, $\chi^2$/df = 2.32, $\chi^2$ = 1613.75, df = 695).

Face validity of the employed scales was achieved by reliance on scales already used in the literature. Furthermore, the correlation matrix between constructs shows that those relate positively with each other. Given that all correlations are positive and consistent with the related theory (Hair Black, Babin, & Anderson, 2009), it can be said that the constructs exhibit nomological validity.

Average variance extracted (AVE) for each construct was calculated in order to test convergent validity. Calculated AVE values were between 0.66 and 0.83, estimates greater than 0.50, indicating convergent validity as suggested by Fornell and Larcker (1981). Moreover, used scales met the minimum standards of reliability, with all scales presenting values between 0.76 and 0.95 for the alpha coefficient and between 0.80 and 0.95 for composite reliability (Nunnally & Bernstein, 1994).

To verify discriminant validity, Fornell and Larcker (1981) suggest comparing the average variance extracted (AVE) with the shared variance (the squared correlation coefficient) between all pairs of constructs. All shared variances were lower than the AVE by the items measuring the constructs, thus indicating adequate discriminant validity.

Structural Model
To test the proposed model and the research hypotheses, the study employed structural equation modeling (SEM). In SEM, the significance of the estimated coefficients for the hypothesized relationships in the model indicates whether the relationship between constructs appears to hold true or not (Byrne, 2010). All indices indicated good fit of the model to the data. The ratio \( \chi^2/df \) was 2.70 (\( \chi^2 = 1308.45 \) df = 484), lower than the value of 3.0 suggested by Byrne (2010). Moreover, the incremental fit indexes were greater than 0.90, with a CFI of 0.91, a TLI of 0.90, and an IFI of 0.91. In turn, the absolute fit indexes were below the 0.08 cutoff established in the literature (Hu & Bentler, 1999; Byrne, 2010; Hair et al., 2009), also indicating a good fit of the model, with RMSEA at 0.073 (C.I. 0.068 to 0.078) and SRMR at 0.076.

Verification of each of the research hypotheses was performed with an analysis of magnitude, sign and significance of the standardized path coefficients (Byrne, 2010; Kulviwat et al., 2007). The estimated path coefficients, together with the research hypotheses and associated significance levels, appear in Table 1.

<table>
<thead>
<tr>
<th>Path</th>
<th>Standardized Coefficient</th>
<th>p-value</th>
<th>Hypothesis Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Mobile Trust ( \rightarrow ) Attitude</td>
<td>0.47</td>
<td>&lt; 0.001</td>
<td>YES</td>
</tr>
<tr>
<td>H2: Mobile Trust ( \rightarrow ) Intention</td>
<td>0.20</td>
<td>&lt; 0.001</td>
<td>YES</td>
</tr>
<tr>
<td>H3: Attitude ( \rightarrow ) Intention</td>
<td>0.76</td>
<td>&lt; 0.001</td>
<td>YES</td>
</tr>
<tr>
<td>H4: Offline Trust ( \rightarrow ) Mobile Trust</td>
<td>-0.01</td>
<td>0.971</td>
<td>NO</td>
</tr>
<tr>
<td>H5: Online Trust ( \rightarrow ) Mobile Trust</td>
<td>0.41</td>
<td>&lt; 0.001</td>
<td>YES</td>
</tr>
<tr>
<td>H6: Ease of Use ( \rightarrow ) Mobile Trust</td>
<td>0.37</td>
<td>&lt; 0.001</td>
<td>YES</td>
</tr>
<tr>
<td>H7: Usefulness ( \rightarrow ) Mobile Trust</td>
<td>0.14</td>
<td>0.088</td>
<td>NO</td>
</tr>
<tr>
<td>H8: Ease of Use ( \rightarrow ) Usefulness</td>
<td>0.62</td>
<td>&lt; 0.001</td>
<td>YES</td>
</tr>
<tr>
<td>H9: Mobility ( \rightarrow ) Mobile Trust</td>
<td>-0.03</td>
<td>0.639</td>
<td>NO</td>
</tr>
<tr>
<td>H10: Contextual Offer ( \rightarrow ) Mobile Trust</td>
<td>0.09</td>
<td>0.128</td>
<td>NO</td>
</tr>
<tr>
<td>H11: Enjoyment ( \rightarrow ) Mobile Trust</td>
<td>0.02</td>
<td>0.718</td>
<td>NO</td>
</tr>
</tbody>
</table>

Discussion

**Trust, Attitude and Intention to Purchase**

The results establish trust as an important antecedent to young consumers’ attitude towards purchasing via mobile devices, indicating that trust plays an important part in how consumers build their views about mobile commercial transactions and, in a lesser degree, how ready they are to purchase via mobile devices. The effects revealed are consistent with those observed by other researchers (Lee, 2005; Kuan & Bock, 2006; Kim et al., 2008; Dimitriadis & Kyrezis, 2010; Lu et al. 2011; Zhou, 2011) for trust effects on attitude and intention separately.

**Trust Transference**

As also seen by Lin et al. (2011) and Lu et al. (2011), online trust presented a direct positive effect on mobile trust. The results seem to indicate that offline trust plays no part as a mobile trust antecedent whereas online trust plays an important part. Previous studies show
that offline trust has little effect over online trust and that other factors have greater influence (Kuan & Bock, 2007). Thus, it’s possible that offline trust also has no observable effect on mobile trust. A few possible explanations for this occurrence could be (1) the absence of strong offline brands among mobile commerce sites and applications, (2) the impossibility for consumers to perceive their shopping experience offline and via mobile devices as belonging to the same category, thus making previous knowledge and evaluations not transferable according to categorization theory (Cohen & Basu, 1987), and (3) the reasonable chance that most mobile commerce services only share any similarity with online ones, making categorization impossible with offline commerce.

**Ease of Use and Usefulness**

Both the direct positive effect of ease of use on mobile trust and the insignificant effect of usefulness on trust found are consistent with results observed by Dimitriadis and Kyrezis (2010) regarding banking operations via telephones in contrast with online operations. Mobile devices may now be so familiar to consumers that they are perceived as useful no matter its application, but perhaps their use as a commercial transaction platform is still surrounded by uncertainty, thus making ease of use, but not usefulness, a relevant antecedent to trust. The direct positive effect of ease of use on usefulness is consistent with effects seem by other studies (Kim et al., 2010; Gao et al. 2012) and reinforces notions that fast and simple operations increase consumers’ perception of a technology’s usefulness.

**Mobility and Contextual Offer**

Both mobility and contextual offer presented insignificant effects on trust. This result contradicts previous studies regarding the effects of mobility and contextual offer on consumers’ trust (Lee, 2005; Lee & Jun, 2007; Lin et al., 2011), but it’s possible that Brazilian consumers perceive mobility and contextual offer as irrelevant differentials regarding purchases via mobile devices because of specific characteristics of Brazilian mobile services and Brazilian mobile offers. Lee (2005) considers mobility a relevant factor in trust building when it facilitates communications between provider and consumer. Given that, mobile network quality and speed might affect the relevance of mobility, Brazilian consumers might not yet consciously recognize the advantages of being able to purchase something at any time or place because of the country’s notoriously unreliable mobile networks infrastructure and services. Regarding contextual offer, Lee and Jun (2007) and Lee (2005) affirm that a contextual offer is dependent of its perceived value, which requires the offer to be aligned to a real need for a service, information or product. So, unless consumers can see some relevance on the content of offers received, those offers become meaningless or, even worse, are perceived as a privacy invasion. Since the vast majority of mobile offers in Brazil seem to be related only to the advertising of mobile carriers’ products, billing or swindling schemes instead of seeking to attend consumer needs while being mindful of their contexts, it seems that Brazilian consumers consider contextual offers irrelevant at the time of the study.

**Enjoyment**

No significant effect of enjoyment on trust was found. At first, this finding seems to contradict previous studies (Hwang & Kim, 2007), but Chung and Tan (2004) affirm that, in order to enjoy something, consumers evaluate its content, response and ease of use. Furthermore, Wang and Wang (2010) reinforce that concept and add to it by suggesting that mobile devices’ lack of feedback and speed may interfere on users’ perceived enjoyment negatively. Moreover, the reliability of the mobile networks may render enjoyment perception
null. On the other hand, according to Hwang and Kim (2007), it seems that enjoyment does not affect benevolence dimension of trust, only impacting upon trust dimensions related to the provider’s transactional behavior. This study, given its general approach towards mobile commerce sites and applications, in which no brands or specified sites or applications are used as reference, may have put more focus on the benevolence side of trust, reducing the importance of the institutional and transactional dimensions of the construct, which might otherwise have been impacted by perceived enjoyment.

Conclusions and Implications

Theoretical Implications

This study confirms the importance of utilitarian constructs on trust formation regarding mobile devices and services as also observed by Dimitriadis and Kyrezis (2010) in connection with banking operations via telephones, and verifies the occurrence of trust transference from online commerce services to mobile commerce services, which is consistent with results observed by Lin et al. (2011) regarding mobile brokerage services.

It also offers relevant contribution for extant literature by verifying trust influence on consumers’ attitude towards mobile commerce and their intention to purchase via mobile devices in a more general sense, which is similar to Lee’s (2005) findings for services consumers are already familiar with.

It’s important to highlight that this study evaluates trust transference effects on mobile trust and mobile trust effects on attitude and intention without the use of reference organizations, institutions or brands, thus removing biases related to their influence.

Practical Implications

Providers should keep in mind that simple and responsible interfaces are important in mobile commerce transactions. Consumers shouldn’t waste their time trying to find the right products or making the purchase. Utilizing processes similar to those employed online during product search and payment via mobile devices may present a relevant competitive advantage. Furthermore, since trust plays a considerable influence on consumers’ attitude and intentions related to mobile commerce, a good practice might be to promote trust via clear return and privacy policies or employing visual displays of security and quality certifications.

Limitations and Future Research

An important limitation of the study relates to the collection and processing of data. Regarding the external validity of the results, it is quite possible that relationships found in this study do not apply exactly as presented to other types of consumers. In addition, this study is based on conceptual questions, not on reference services, service providers or brands; thus it’s possible that some findings are a result of consumers’ inability to connect abstract concepts to real life experiences. This might have led to the unexpected results found here for mobility, contextual offer and enjoyment.

The replication of the model with consumers with different profiles and from other cultural clusters would be relevant to validate and expand the scope of the results. Future research may also explore other scales for the employed constructs or try other constructs that are conceptually similar, comparing results with those obtained here. A controlled experiment using specific service providers and brands could be applied to elucidate their influence on the constructs tested. Finally, it would be interesting to investigate possible moderating effects of certain demographic variables (e.g. gender, income, age).
References


