

# Strategic Imperatives of M-Commerce in Developing Countries

## Abstract

Despite the remarkable growth and promising future of mobile commerce, research has paid little attention to the factors determining its perceived value across developing countries. This study advances marketing literature, focusing on technology adoption, by providing a framework that incorporates a mode-specific enabler—ubiquity (time convenience and accessibility)—and two deterrents—perceived risk (financial risk and performance risk) and perceived cost—as antecedents of perceived value across developing countries. The moderating role of consumer innovativeness is also investigated. The results reveal that ubiquity has a positive impact on value, while risk and cost have a negative influence. The authors also find that innovativeness moderates the relationships between identified antecedents and value, apart from the relationship between cost and value. Results further show that value positively affects actual usage, and is strengthened by consumer innovativeness. The theoretical contributions of the study and the implications for marketing strategy formulation have been discussed.

Keywords: Consumer Innovativeness, Perceived Risk, M-commerce Usage

## Introduction

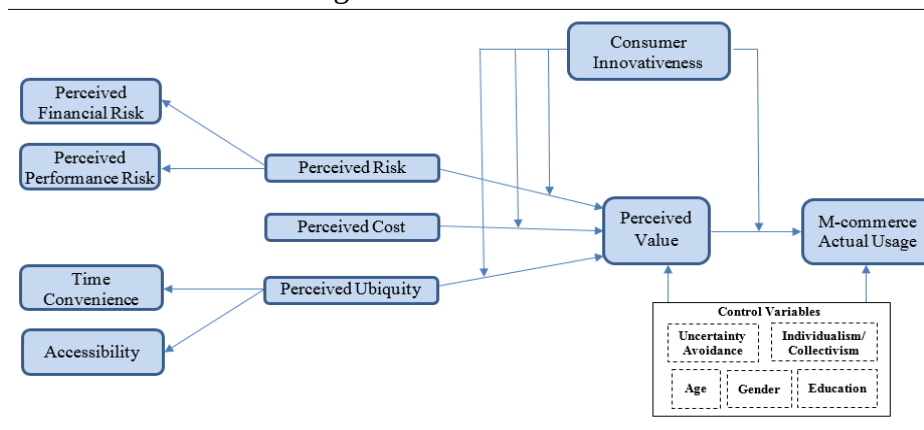
The ubiquity of smartphones, tablets, and high-speed internet in recent years has brought about a paradigm shift in marketing and a remarkable boost in mobile commerce (m-commerce). Industry projections estimate that by 2021, almost 73% of the \$3.6 trillion total e-commerce sales worldwide will be attributed to m-commerce (eMarketer, 2018). However, despite the plethora of interesting research avenues it provides and calls for increased academic investigation, research on the subject has been scant (Shankar et al., 2016). Furthermore, emerging economies with ample m-commerce scope, yet differing cultural and social dispositions, present an added dimension for researchers to explore (Ashraf, Thongpapanl, Menguc, & Northey, 2017). A clearer understanding of the factors underpinning technology and innovation adoption in emerging economies can help practitioners develop more effective marketing and strategies (Kitchen, Martin, & Chi-Ha, 2015). To address this research gap, we investigate a set of predictors—perceived risk, perceived financial costs, perceived ubiquity, and consumer innovativeness (CI)—of perceived m-commerce value and examine whether and how this value affects actual m-commerce usage in relatively unexplored, yet increasingly promising markets (i.e., India and Pakistan). It is integral to our study that we look at value as a function of both the costs and benefits, and personal traits of the consumer (Holbrook, 1999). Using extant literature, we develop a framework for the perceived value of m-commerce by providing a framework that incorporates a mode-specific enabler—ubiquity (time convenience and accessibility)—and two deterrents—perceived risk (financial risk and performance risk) and perceived cost—as antecedents of perceived value across developing countries. Further, while CI plays a pervasive role in technology adoption (Schuhmacher, Kuester, & Hultink, 2018), little is known about the interplay between CI and perceived risk, and its influence on m-commerce usage. This study, therefore, examines the interactive relationships between CI and specific costs and benefits that determine m-commerce value perception and actual usage.

## Conceptual Model

Ubiquity of m-commerce is defined as having the distinct ability to engage in commerce “anytime, anywhere” (Balasubramanian, Peterson, & Jarvenpaa, 2002), enabling time convenience and spatial flexibility, the key features of mobile commerce. Ubiquity is principally what distinguishes mobile internet from internet on personal computers (Okazaki & Mendez, 2013), and thus, m-commerce from e-commerce. By exploring the previous literature to develop our argument (e.g., Shankar & Balasubramanian, 2009), we propose that ubiquity will have a positive effect on m-commerce value perception. However, an element of perceived risk is still associated with digital commerce. In line with the previous literature on e-retailing, this study conceptualizes perceived risk associated with mobile commerce from the perspective of financial and performance risk (Chang & Tseng, 2013), and suggests that it will have a negative effect on m-commerce value perceptions. Similarly, perceived cost in an m-commerce context refers to an individual’s perception that using m-commerce is expensive (Zhang, Zhu, & Liu, 2012), and we expect it to negatively influence m-commerce value perceptions. Consumer innovativeness (CI) has been defined as the extent to which an individual is willing and open to try out a new information technology (Agarwal & Prasad, 1998). Based on Rogers’ (2003) diffusion of innovations theory, individuals, driven by their CI, react differently to new ideas and objects. In accordance with recent literature (Shuhmacher et al., 2018), we propose that CI will enhance the effect of the driver (ubiquity), and diminish the influence of the deterrents (perceived risk, cost). We also posit that CI will amplify the positive effect of perceived value on actual usage (see Figure 1).

- H1:** Ubiquity will have a positive effect on consumers’ m-commerce value perception.
- H2:** Perceived risk will have a negative effect on consumers’ m-commerce value perception.
- H3:** Perceived cost will have a negative effect on consumers’ m-commerce value perception.
- H4a:** Consumer innovativeness will moderate (enhance) the effect of ubiquity on perceived m-commerce value.
- H4b-c:** Consumer innovativeness will moderate (suppress) the effect of perceived risk and perceived cost on perceived m-commerce value.
- H4d:** Consumer innovativeness will moderate (enhance) the effect of perceived value on actual m-commerce usage.

Figure 1: Research Model



## Methodology

Data were collected through a professional online consumer panel provider in two stages. In stage one, we administered a questionnaire that included all variables, except actual usage behavior. We obtained responses from 488 mobile telecommunication customers using a smartphone in India (216) and Pakistan (272). In the second stage, surveys were conducted with the same participants and received 398 total responses: India (186) and Pakistan (212). In the second questionnaire, besides measuring actual usage behavior, we used a shortened format of the original questionnaire to assess the common method bias (Yli-Renko, Autio, & Sapienza, 2001). Partial Least Squares (PLS) modeling was employed to test the measurement and structural models.

We assessed convergent validity using (1) individual item reliability and (2) construct reliability. All the average of the variance extracted (AVE) scores exceeded the recommended value of .50 (Fornell & Larcker, 1981). Similarly, the composite reliability values for each of the scales used was well above the commonly used cutoff of .70, indicating that our measures are reliable. To assess discriminant validity, we conducted two tests. First, we used the cross-loading method (Chin, 1998) and calculated each item's loading on its own construct, and cross-loading on all other constructs. Each item had a higher loading on its intended construct than on its cross-loading with other constructs (cross-loading results are available upon request). Second, computing the Fornell–Larcker (1981) criterion, we find that the square root of AVE for each construct was higher than the correlations between it and all other constructs, and was greater than .50 for the overall model (see Table 2 for the discriminant validity results). In line with past research, we included five control variables: collectivism-individualism, uncertainty avoidance (Sharma, 2010), age, gender, and education (Ashraf et al., 2014).

## Results

In order to test whether or not the path coefficients differ significantly from zero in the model, we computed t-values using a nonparametric bootstrap procedure (Henseler, Ringle, & Sinkovics, 2009). For direct-effect relationships, we hypothesized that ubiquity will have a positive effect on perceived value (H1), whereas perceived risk (H2) and perceived cost (H3) will have a negative effect on perceived value. Our results provide strong support for the hypothesized linkages. Perceived ubiquity ( $\beta = .30, p < .01$ ), perceived risk ( $\beta = -.10, p < .05$ ), and cost ( $\beta = -.45, p < .01$ ) are not only significant predictors of perceived value, but are also in the expected directions, providing support for H1, H2, and H3. Likewise, our results indicate that perceived value is a significant and positive predictor of actual m-commerce usage ( $\beta = .71, p < .01$ ), providing support for H5.

For interaction-effect relationships, we posit in H4a that innovativeness will positively moderate the relationship between perceived ubiquity and perceived value, whereas we hypothesize in H4b and H4c that innovativeness will have a suppressing effect on the negative relationship between (1) perceived risk and perceived value and (2) perceived cost and perceived value. Finally, in H4d we propose that innovativeness will positively moderate the relationship between perceived value and actual m-commerce usage. We find that with the exception of H4c, all interaction effects are significant at  $p < .05$  (see Table 3). H4a ( $\beta = .14$ , strengthened), H4d ( $\beta = .07$ , strengthened), and H4b ( $\beta = .11$ , suppressed) are supported by the data. We did not find a

significant interaction effect for H4c ( $\beta = .06$ , suppressed); however, the effect found was opposite in sign to the direct effect of perceived cost. Our results also reveal that the variance explained ( $R^2$ ) in the endogenous variables perceived value ( $R^2 = .74$ ) and actual usage ( $R^2 = .72$ ) are high and acceptable.

### **Theoretical Implications**

By exploring the role of ubiquity along with perceived risk and perceived cost, we expand the overall nomological network related to m-commerce use. This study takes the first step in theorizing the moderating effect of CI on the ubiquity–value and risk-value relationship. A clearer conceptual understanding of emerging economies is important for the advancement of marketing strategy literature (Bang et al., 2016), and this study advances the literature by exploring the framework constituting perceived m-commerce value in that context.

### **Practical Implications**

This study holds significant managerial implications, by suggesting what shapes the perception of m-commerce value in these markets. Marketers operating or entering in emerging m-commerce markets can use the findings to focus on the drivers of m-commerce value, while attempting to mitigate the perception of perceived value. Moreover, consistent with extant literature (Shuhmacher et al., 2018), we demonstrate how marketing strategies focused on innovative consumers can help with the rapid adoption and acceptance of m-commerce in emerging markets.

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