

Are we all the same when migrating to mobile pay? A PPM analysis of generational mobile usage intention

Briana M. Martinez, Baylor University, USA
Laura McAndrews, University of Georgia, USA

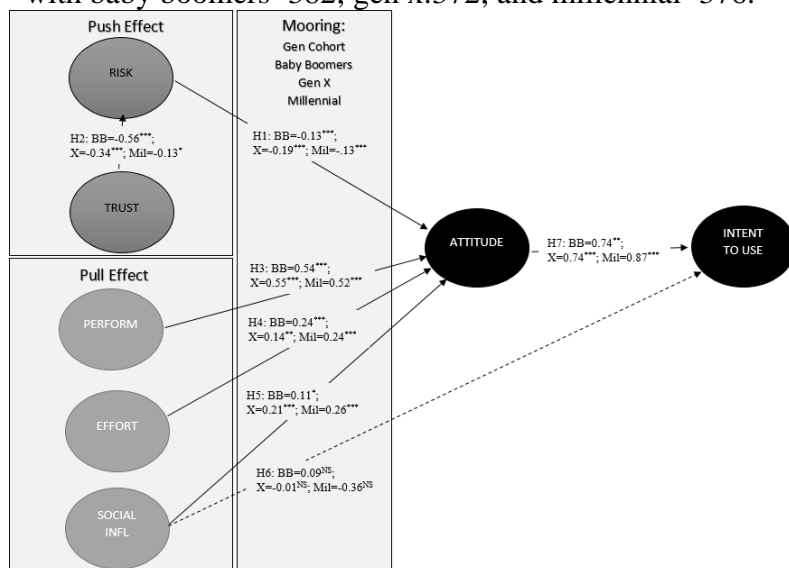
Keywords: Mobile pay, push-pull-mooring theory, UTAUT

Introduction. The U.S. mobile payment market is valued at 465.1 billion dollars (Walk-Morris, 2021). However, despite the projected 49% growth by 2023, the U.S. market still falls behind China and many other Asian countries (Walk-Morris, 2021). Mobile pay uses a mobile device to complete commercial transactions (Au and Kauffman, 2008). However, regardless of the increasing population of smartphone users, U.S. consumers are not switching to m-pay at the rate initially believed. Additionally, the onset and continued aftermath of the covid-19 pandemic resulted in fashion retailers and consumers seeking digital solutions. Thus, retailers must understand what motivates and inhibits consumers' migration to mobile pay. Research has shown the barriers to adoption and usage, as well as some of the most significant predictors of behavioral intentions for mobile commerce (Shaw & Sergueeva, 2019), mobile banking (Muñoz- Leiva, Climent-Climent, & Liébana-Cabanillas, 2017), and mobile payment (Cao & Niu, 2019) through the usage of many technology theories. Drawing upon the push-pull-mooring theory, this study examines risk and trust, UTAUT on attitude and intention to use mobile pay through a generational cohort lens.

Hypotheses Development. The Push-Pull-Mooring (PPM) theory (Moon, 1995) developed as a migration theory to explain why people leave. Due to the parallels between human migration and consumer switching behavior, PPM has been utilized in consumer behavior and marketing research (Quan et al., 2023; Loh et al., 2021). U.S. consumers' behavioral intentions with mobile pay are similar to human migration as consumers shift away from traditional payment methods. In the context of mobile payment intention behavior, the beginning point for migration is conventional payment methods, and the destination is mobile payments. Additionally, the reduction of usage of traditional payment accompanied by an increase in mobile payment usage is considered the switching behavior from traditional to mobile payments. PPM conceptualized human migration as an effect of three factors: push factors, pull factors, and mooring factors. Several studies have shown the influence of PPM effects in using a new service (Cai et al., 2022; Gao & Shao, 2022; Yu & Chen, 2022). Push factors are negative influences that drive users to leave traditional payments. In previous studies (Quan et al., 2023; Hseih, 2021; Loh et al., 2021), risk and trust were examined as push-oriented effects as consumer perception of high risk and low trust in mobile payment providers may negatively influence a consumer's attitude and intention towards mobile payment (H1 & H2). Pull factors influence consumers toward alternative services or products and are created by positive factors

of alternative payment methods. UTAUT also suggests consumers' intentions toward technology are affected by various factors (Venkatesh et al., 2012). Two of the most prevalent and robust predictors of UTAUTs are performance and effort expectancy, which are analyzed as the pull factor (Lin et al., 2021; Yoon & Lim, 2021). Performance expectancy is consumers' perception of the usefulness of the technology (H3), and effort expectancy is the ease of use with which a consumer can utilize the technology (H4). Additionally, from UTAUT, social influence is the extent to which a consumer's social circle believes they need to use the technology and has been shown to influence attitude and behavioral intentions positively (Wu et al., 2022; Hsieh, 2021) (H5; H6). Furthermore, to better understand the complexity of the U.S. mobile pay marketplace and from the theory of reasoned action, attitudes towards mobile payment should influence consumers' intention to use mobile pay (Quan et al., 2023) (H7). Mooring factors are situational and personal factors that can keep consumers with the current service or assist in switching to an alternative payment method (Fan et al., 2021). Mooring factors moderate all paths. Consumers identify with a generational cohort sharing similar values and ideas, and their belonging to a specific cohort will affect their attitudes and intentions toward products and services such as mobile payment (Wu et al., 2022). Thus generational cohort serves as the mooring factor in this study.

Method. An online survey administered through Qualtric collected responses in June 2021 to test the influence of trust, risk, and UTAUT2 on attitude and use intention adapted from Venkatesh et al. (2012) and measured on a 7-point Likert scale. The sample consisted of U.S. adults who owned a smartphone with m-pay capability. The sample description was 65.8 percent female, 84.9 percent white with a mean age of 50 years, totaling 1,130 respondents with baby boomers=382; gen x:372; and millennial=376.



Results. After the measurement model was found to have reliability and validity, the SEM results were found to have a good model fit CMIN/df = 2.26, $p=0.0$, RMSEA=.033, TFI=.96, CFI=.96. To test moderation with generational cohort, a multi-group SEM was performed in Amos 29. Risk was found to have a negative impact on attitude (baby boomers $\beta = -.13$; gen x $\beta = -.19$; millennial $\beta = -.13$, all at $p = .001$). Trust had a negative

impact on Risk (baby boomers $\beta = -.56$; gen x $\beta = -.34$, both at $p < .001$; millennial $\beta = -.13$, $p < .05$). Performance (baby boomers $\beta = .54$; gen x $\beta = .55$; millennial $\beta = .52$, all at $p < .001$), Effort (baby boomers $\beta = .28$, $p < .001$, ; gen x $\beta = .14$, $p < .01$; millennial $\beta = .24$, $p < .001$) and Social Influence (baby boomers $\beta = .11$, $p < .05$; gen x $\beta = .21$, $p < .01$; millennial $\beta = .26$, $p < .001$) had positive impact on Attitude. Therefore, H1-5 was supported for all generational cohorts. Social influence did not significantly impact usage intention (baby boomers $\beta = .09$, $p = .09$; gen x $\beta = -.01$, $p = .83$; millennial $\beta = -.04$, $p = .52$); therefore, H6 was rejected. Finally, attitude had a positive impact on usage intention (baby boomers $\beta = .74$, $p < .001$; gen x $\beta = .74$, $p < .01$; millennial $\beta = .87$, $p < .001$), supporting H7.

Discussion. The study's results had several implications. First, the results showed that the pull effects are more impactful than the push effects on attitude. When present, UTAT factors have a more substantial influence on attitude, impacting use intention. Second, social influence needs attitude as a mediator, as social alone did not significantly impact behavioral intentions. Third, all moderation effects of the mooring factors of generational cohorts were supported. The difference lies in the strength of the relationship; specifically, baby boomers had the most impact of trust to risk; gen x had the lowest impact on attitude, and baby boomers had the lowest impact of social influence on attitude. Finally, a pre covid study (Martinez & McAndrew, 2022) of mobile pay usage intention demonstrated a significant difference between the generations; however, post-pandemic, these findings show that for consumers' migration to mobile pay, generational cohorts are not a factor anymore.

References

- Au, Y. A. & Kauffman, R. J. (2008). The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. *Electronic commerce research and applications*, 7 (2), 141-164.
- Cai, X., Cebollada, J., & Cortinas, M. (2022). From traditional gaming to mobile gaming: Video game players' switching behaviour. *Entertainment Computing*, 40, 100445.
- Cao, Q., & Niu, X. (2019). Integrating context-awareness and UTAUT to explain Alipay user adoption. *International Journal of Industrial Ergonomics*, 69, 9-13.
- Fan, L., Zhang, X., Rai, L., & Du, Y. (2021). Mobile payment: the next frontier of payment systems?-an empirical study based on push-pull-mooring framework. *Journal of theoretical and applied electronic commerce research*, 16(2), 155-169.
- Gao, S., & Shao, B. (2022). Why Do Consumers Switch to Biodegradable Plastic Consumption?The Effect of Push, Pull and Mooring on the Plastic Consumption Intention of Young Consumers. *Sustainability*, 14(23), 15819.
- Hsieh, P. J. (2021). Understanding medical consumers' intentions to switch from cash payment to medical mobile payment: A perspective of technology migration. *Technological Forecasting and Social Change*, 173, 121074.

- Lin, C. L., Jin, Y. Q., Zhao, Q., Yu, S. W., & Su, Y. S. (2021). Factors influence students' switching behavior to online learning under COVID-19 pandemic: A push-pull-mooring model perspective. *The Asia-Pacific Education Researcher*, 30, 229-245.
- Loh, X. M., Lee, V. H., Tan, G. W. H., Ooi, K. B., & Dwivedi, Y. K. (2021). Switching from cash to mobile payment: what's the hold-up?. *Internet Research*, 31(1), 376-399.
- Martinez, B. M., & McAndrews, L. E. (2022). Do you take...? The effect of mobile payment solutions on use intention: an application of UTAUT2. *Journal of Marketing Analytics*, 1-12.
- Moon, B. (1995). Paradigms in migration research: exploring 'moorings' as a schema. *Progress in human geography*, 19(4), 504-524.
- Muñoz-Leiva, F., Climent-Climent, S., & Liébana-Cabanillas, F. (2017). Determinants of intention to use the mobile banking apps: An extension of the classic TAM model. *Spanish Journal of Marketing*, 21(1), 25-38.
- Quan, W., Moon, H., Kim, S. S., & Han, H. (2023). Mobile, traditional, and cryptocurrency payments influence consumer trust, attitude, and destination choice: Chinese versus Koreans. *International Journal of Hospitality Management*, 108, 103363.
- Shaw, N., & Sergueeva, K. (2019). The non-monetary benefits of mobile commerce: Extending UTAUT2 with perceived value. *International Journal of Information Management*, 45, 44-55.
- Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS quarterly*, 36(1), 157-178.
- Walk-Morris, T. (2021). More retailer mobile apps offer PayPal than Apple Pay: report. <https://www.retaildive.com/news/more-retailer-mobile-apps-offer-paypal-than-apple-pay-report/598364/#:~:text=Incognia%2C%20a%20location%20identity%20company,report%20shared%20with%20Retail%20Dive> (Accessed 8 July 2021)
- Wu, B., An, X., Wang, C., & Shin, H. Y. (2022). Extending UTAUT with national identity and fairness to understand user adoption of DCEP in China. *Scientific Reports*, 12(1), 6856.
- Yoon, C., & Lim, D. (2021). Customers' intentions to switch to internet-only banks: Perspective of the Push-Pull-Mooring model. *Sustainability*, 13(14), 8062.
- Yu, S. Y., & Chen, D. C. (2022). Consumers' Switching from Cash to Mobile Payment under the Fear of COVID-19 in Taiwan. *Sustainability*, 14(14), 8489.