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An exploration of card payment services in Mexico: A managerial and customer perspective

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Abstract

This study is rooted in trust theory to comprehensively understand the determinants of card payment usage in the context of Mexico. Thus, we employed a quantitative approach to investigate how attitude, security, trust, distrust, and intention aid the advancement of card payment usage in Mexico. Our findings show the direct and indirect determinants of card payment use and establish the interaction effects of trust and card payment advancement through gender. Consequently, this study moves the emerging mobile card payments literature forward by providing significant managerial, theoretical, and empirical contributions and assuaging feelings of distrust towards card payment services.

Keywords: card payment; trust; distrust; security; attitudes; bank services; economic growth; Mexico; emerging markets

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Introduction

Historically, there have been long-standing efforts to discard traditional cash payment methods in favour of electronic forms of payment. Over the years, the transition from cash to electronic payments has created several prospects and generated large quantum of financial transactions across the globe. Cash-based services costs are significantly higher than electronic payment services. Moreover, research has suggested that if electronic payments replace cash, the economic benefits to society could surpass 0.3 per cent of annual GDP (Humphrey, Kim et al. 2001; Humphrey, Willison et al. 2006; National bank 2012). Thus, given the potential benefits of using mobile card payment services, which are enormous, this study of card payment services in Mexico is highly relevant and timely.

Intentional information misuse poses a major threat to organizations, particularly financial organizations. For example, a report by United Nations in 2005 indicated that on a global level, up to a hundred billion dollars is lost annually through intentional information misuse that compromises information security. Similarly, when analyzing feedback from the 39% of respondents willing to participate in their survey, the Computer Security Institute's study in 2007 found losses in the average of \$345,000. However, given that only a fraction of privacy and information security breach is ever reported (Hoffer & Straub Jr, 1989), the statistics reported are likely, not reflective of the full scale of the problem. Furthermore, the fear of negative publicity and reputation damage will play a major role in hindering an organization's willingness to report the full extent of the problem (Hoffer & Straub, 1989; Richardson, 2007).

Given the general trend towards switching to electronic payment platforms and associated trust and security concerns, understanding consumers' attitudes and perceptions towards card payments and how organizations act to prevent privacy and information misuse is

imperative. Consequently, this study is guided by the overarching research question: How does consumer attitude and perception towards card payment services influence their behavior and usage intentions? To address this research question, we investigated four variables correlating to card payment usage intentions. These variables are attitude towards using card payment services, perceived security of card payment services, perceived trust of card payment services and perceived distrust of card payment services. Following this introduction, the structure of the paper proceeds with a review of the literature and hypotheses formulation. We then present our methodology, including instruments of data collection and analysis. Finally, the results are presented, and discussions are provided before concluding.

Literature Review and formulated hypotheses

The literature about card payment will be fully explored in this section. Many studies have examined the adoption of technology for payment services, particularly mobile payments. Furthermore, there have been calls for theoretically based quantitative studies of consumers' attitudes, perceived security, trust and distrust toward mobile payment services. We begin with an exploration of attitudes towards card payment services.

Attitudes towards card payment services

In the quest for innovative ways to a cashless economy, the earlier study examined the intersection of innovation policy, open innovation, and business model (Aranha & Carvalho, 2022). Card payment is one of the lifts from cash to a cashless economy amidst electronic mobile apps, mobile payment services, and virtual currencies. Many other studies have examined the adoption of technology for payment services, particularly mobile payments. Furthermore, there have been calls for theoretically based quantitative studies of consumers' attitudes toward mobile payment services. In their study, Dahlberg, Mallet et al. (2008) conducted an extensive review of literature related to

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research on mobile payment services. The authors combined Porter's (1980) five forces model and contingency theory (Zeithaml, 1988; Gardner, Johnson et al., 2000) to map out and organize their literature study. They determined that the most extensively studied areas included the role of technical security and trust and the consumer perspective on mobile payment services.

Further, de Oliveira & Malaquias (2022) observed the increase in electronic means of payment for transactions and examined the determinants and the potential effects of Digital Financial Services (DFS) adoption. The study shows the effect of satisfaction on business performance while employing DFS. Campos-Teixeira & Tello-Gamarrá, (2022) discovered six emerging themes in their bibliometric study and banking and financial services are one of them.

Table 1. Measurement for Card Payment

Card Payment variables and items
Attitude towards using card payment services (Oh and Xu 2003; Yang and Yoo 2004)
Using card payment services is a good idea
Using card payment services is wise
Using card payment services is beneficial
(Note: Item 4 was deleted because of low loading)
Intention to use card payment services (Kim, Mirusmonov et al. 2010)
Card payment services are a useful mode of payment
Using Card payment services makes the handling of payments easier
By using Card payment services, my choices as a consumer are improved (e.g., flexibility, speed)
(Note: Only 3, 4 and 6 loaded well)
Perceived security of Card payment services (Luarn and Lin 2005; Parasuraman, Zeithaml et al. 2005)
The risk of an unauthorized third party overseeing the payment process is low
The risk of abuse of usage information (e.g., names of business partners, payment amount) is low when using card payment services
(Note: items 3 and 4 did not meet the set criteria)
Trust (Gefen 2002; Moody, Galletta et al. 2014)
The card payment service providers keep their promises
The card payment service providers are genuine
(Note: Items 1 and 4 did not meet the set criteria)
Distrust (Mascarenhas, Cardozo et al. 2006; Dimoka 2010; Moody, Galletta et al. 2014)
I worry the card payment service providers are incapable
I have no confidence in the ability of the card payment service providers
I worry the card payment service providers are untruthful in their dealings
(Note: Item 1 was deleted due to low loading)
Advancement of card payment use (Constantiou, Damsgaard et al. 2007; López-Nicolás, Molina-Castillo et al. 2008; Tojib and Tsarenko 2012)
Based on my knowledge of the secured card payment platform, I wish to advance in using it
Based on my knowledge of automated control of anti-theft software, I wish to advance others in using card payment platform
Based on my knowledge of card payment trusted platform, I wish to help others to recover their trust
Based on my knowledge of the secured card payment platform, I wish to advance in using its services

Nevertheless, the impact of traditional payment services on mobile payment services growth and the impact of social and cultural factors on mobile payment services growth were two areas that the authors identified as understudied (Dahlberg et al., 2008, p. 178). Consequently, they suggested that while research has focused on consumer-to-consumer and business-to-consumer payments, business-to-business payments have yet to see much emphasis. As a result, the merchant's role in payment services has been somewhat neglected. Furthermore, the authors proposed that mobile payment services should not be studied separately but in conjunction with payment services portfolios. Lastly, their paper called for empirical studies conceived based on the theory since several conceptual studies already exist. However, few such conceptual studies are grounded in theory (Dahlberg et al., 2008). Therefore, this study hypothesized that:

H1: Attitudes towards card payment services will positively prompt the intention to use card payment services.

Perceived security of card payment services

Given that cybercriminals have a capacity and tendency to breach internet platforms resulting in financial transgressions, trust and security concerns are important considerations for individuals using mobile payment systems. Consequently, perceptions of good trust and security in mobile payment systems can boost confidence and enhance the adoption of mobile payment systems. The development and advancement of mobile payment systems may be largely contingent upon perceptions of payment systems being safe and secure. Consequently, several questions come to the fore. First, what factors determine or account for perceived trust and security amongst

mobile payment users? Moreover, how does the perception of security and trust (the presence or lack of it) affect users of mobile payment systems? To what extent do these trust and security concerns influence the decisions of individuals regarding whether to adopt mobile payments or not?

As privacy and information security across work and personal environments remain susceptible to continued violations by cyber criminals, scholarly attention to the security of card payment services has been of paramount importance. As a result, a major feature of privacy and information security research has been related to how users of electronic payment services can perform operations safely and securely. A predominant theory within this line of inquiry is the protection motivation theory (PMT), which is particularly potent in understanding how users can modify their usage of electronic payment services in ways that are more secure for themselves and their organizations. Nevertheless, notwithstanding significant headway made in this line of inquiry, especially regarding predicting security intentions, scholars need to pay more attention to actual security behaviors. In other words, how organizations implement security measures and how individuals themselves engage in safe behaviors to guard against security breaches of electronic payment services needs to be researched more in the literature. Given this gap, it is hypothesized that:

H2: Perceived security of card payment services will positively prompt the intention to use card payment services.

H6: Perceived security of card payment services will positively prompt the advancement of card payment services.

The perceived trust of card payment services

According to Mayer, Davis et al. (1995), trust is the inclination or tendency to be exposed to risks based on an expectation one has about a third party. The trustor believes this third party will carry out some function that is of value to them even though they have no means of controlling this third party. Trust seems to be related to one's ability to process information related to the benefits of trusting versus the consequences of not-trusting and then making a rational choice. Thus, Camp (2003) argue that trust leads to greater rewards while distrust allows one to evade losses. The implicit assumption is that an individual will trust another individual as long as the first individual has reasonable expectations and that the second individual will act according to his expectations. Considering this, therefore, trust in card payment services is the willingness of individuals to bear risks in the expectation that card payments will provide them with reliable, convenient, yet secure means of carrying out their financial transactions. Hence, we hypothesized that:

H3: Perceived trust in card payment services will positively prompt the perception of secured card payment services.

Perceived distrust of card payment services

There is a dearth in the understanding of distrust construct within the literature when compared to trust (McKnight & Chervany, 2001;

Dimoka, 2010). Furthermore, Schul, Mayo et al. (2008) suggests that "distrust is the mental system's signal that the environment is not normal-things may not be as they appear" (p. 1293). Distrust indicates that a customer doubts the honesty of a service provider and escalation of distrust can result in fear and anticipation of discomfort or danger. Besides, it can also lead to customer dissatisfaction and discourage motivation to be loyal. Distrust evolves from the betrayal of trust, and if not managed promptly, it can diffuse to attack a brand. Trust and distrust are paired as words and opposite. The earlier studies have treated trust and distrust as a coexistent state (Lewicki, McAllister et al. 1998; Kramer, 1999; Guha, Kumar et al. 2004; Masca-renhas, Kesavan et al. 2006).

The conceptualization of distrust is as important as trust. Braithwaite (1998) institutionalized distrust and enculturated trust to prevent trust violation. Whenever the trust in using banking cards is breached, distrust resumes and lowers the morale of the banking card users. This insight indicates a lack of interpersonal trust (Sitkin & Roth, 1993; Dimoka, 2010). As earlier studies conceptualized trust and distrust together, McKnight and Chervany (2001) argued that trust and distrust should be operationalized as separate concepts. In the same way, Moody, Lowry et al. (2017) assert that trust and distrust are separate components. Psychologically, Dimoka (2010) confirmed that trust and distrust activate different brain areas and have different effects. This study supports the argument that distrust should be a distinct construct from trust and hypothesizes that:

H4: Perceived distrust of card payment services will negatively decline the intention to use card payment services.

H5: Perceived distrust of card payment services will negatively decline the advancement to the use of card payment services.

Intention to use card payment services and advancement of card payment use

In technology product or service acceptance literature, especially in banking-related technologies, intention to use indicates the plan and willingness of banking card users to use a specified technology in the future. Preceding researchers have used different constructs to predict the behavioral intention of the technology. For instance, Luarn & Lin (2005) and Krishanan, Khin et al. (2016) used perceived usefulness, ease of use, credibility, self-efficacy, financial cost, relative advantage, risk, cost, and interactivity as predictors of behavioral intention to use mobile banking. All these factors are crucial for mobile banking acceptance. Kuo and Yen (2009) used the same constructs as Luarn & Lin (2005) to predict the behavioral intention to use 3G mobile value-added services but omitted credibility, self-efficacy and added personal innovativeness and attitude as direct and indirect predictors of behavioral intention. Abadi, Ranjbarian et al. (2012) consistently used perceived usefulness, ease of use, and attitude like the earlier researchers but added risk, subjective norms and behavioral control as predictors of behavioral intention to use mobile banking in Meli Bank.

Furthermore, the study of Shanmugam, Savarimuthu et al. (2014) aligns with the study of Luarn & Lin (2005) but differs with self-efficacy. They also differed in direct prediction and mediation effects. Besides, Chiu, Bool et al. (2017) also predict behavioral intention to use mobile banking with trust, infrastructure quality, perceived costs, privacy, security, and demographic factors. The authors also conducted moderation and mediation analysis. At the same time, Krishanan, Khin et al. (2016) used self-congruence, personal innovativeness, cognitive processing, affection, activation, and perceived risk to determine continuous usage intention. Intention to use also applies outside mobile banking. For example, Tang and Chiang (2009) and Lu & Yang (2014), have examined the intention to use mobile knowledge management and social networking with convenience, self-efficacy, an extension of task-technology fit and social-technology fit.

Cards are a point of contact for transactions between banking customers and the bank. Banking cards are particularly important for payments, and it has been improved drastically. The banks have introduced contactless cards that can be used as <tap and pay>. This banking innovation is useful for the social distancing introduced during the ongoing COVID-19. Because of the inevitability of banking cards, it is essential to examine their advancement. Hepola, Karjaluo-to et al. (2016) examined the continuous usage intention of mobile banking applications and measured the construct directly with cognitive process, affection, activation, and perceived risk. The study found that emotional and behavioral dimensions of consumer engagement are not strong determinants of continuous usage intention.

Furthermore, studies by Constantiou, Damsgaard et al. 2007; López-Nicolás, Molina-Castillo et al. 2008; Tojib & Tsarenko, 2012 have stressed the importance of technological advancement. The authors mentioned that it is predominant in mobile banking, video and pictures sharing, commerce, chat room, gaming, park services, self-service kiosks and airline ticket-purchasing technologies. According to López-Nicolás, Molina-Castillo et al. (2008) opine that one of the reasons for the advanced use of mobile services is a desire to enhance social status. However, Constantiou, Damsgaard et al. (2007) confirmed that integrating the Internet, email and PCs would facilitate advanced mobile service use. Due to the importance of intention construct, this study introduced intention to predict attitude, security, trust, and distrust of intention to use card payment services and hypothesized that: H7: The intention to use card payment services will positively advance card payment use.

Trust interaction effect

As indicated above, trust relates to the willingness of individuals to bear risks in the expectation that a third party will perform some function according to their expectations. Trust is important because it helps to eliminate feelings of uncertainty. Compared to traditional finance settings, there are greater risks and vulnerabilities associated with card payment services on an electronic platform.

Scholars point to trust building as encompassing three phases. These include initiating, maintaining and dissolving trust. The factors that determine trust will differ depending on the stage. Furthermore, an

understanding of trust may require identifying the conditions under which trust mechanisms become fragile. For any security situation, trust and trustworthiness are crucial. Nevertheless, trust and trustworthiness should not be misconstrued as meaning the same thing. While trustworthiness is a term applied to an entity to whom trust is ascribed, trust itself refers to placing trust in some entity. Nevertheless, scholars suggest that an individual's gender may influence their trust level in an entity. There is growing evidence suggesting that females tend to hold entities in higher levels of trust than males do. As a result, we propose the following hypothesis:

H8: The positive relationship between trust and advancement of card payment use would be stronger for females than males.

Trust Mediation

Perceived trust in card payment services relates to an assumption that service providers of card payments will facilitate card transactions efficiently and according to expectations (Tsiakis & Sthephanides, 2005; Mallat, 2007). Hence, individuals who perceive mobile payments as highly trustworthy are unlikely to view service providers as posing risks to them or as unreliable. Existing research shows that the higher the level of trust in card payments, the lower the perceived risks individuals will attach to the financial institution that provides the service. Therefore, the intention to use card payment services may be strongly influenced by the individuals' trust in card payment services.

According to Park and Yang (2006), an individual's trust in mobile payments from past internet service usage will strongly influence intentions to use. Thus, the attitude of individuals towards card payment services may be related to how secure they feel the service is (Linck, Pousttchi et al. 2006; Kousaridas, Parissis et al. 2008). For example, Kniberg (2002) suggested that individuals will be more willing to utilize insecure card payments if they trust the service provider. On the other hand, individuals will likely avoid secure card payment services if the service provider is a company that is not trusted. This submission implies that security is viewed as less important than trust (Tsiakis & Sthephanides, 2005) and that trust is needed for card payments to gain widespread acceptability. Consequently, we hypothesized that:

H9: Trust mediates the relationship between the intention to use card payment services and the advancement of card payment use.

Methodology

Mexico is a choice for this study as it is one of the focal countries in Latin America. Indeed, an extant study has categorized Mexico as an under-banked country. The study discovered limitations and flaws in the existing data on card payment and found that literacy, ethnicity, and rural dwelling can affect the use of a payment card (Huidobro Blanco, 2020). Moreover, given the gap in the existing studies, this study adopts a customer and managerial approach to balance the scenario in the card payment market.

The use of card payment services is increasing and declining in different parts of the world, which is a cause for concern. This study employed quantitative data to examine the advancement of card payment use services in Mexico. The study focused on a quantitative approach dwelling on customers' perception of card payment services advancement. Regarding the instrument questions, the study inferred from the existing literature to arrive at a valid measurement using a 5-point Likert scale. The measurement scales ranged from strongly disagree (1) to strongly agree (5). The study adopts attitude and four items from (Oh and Xu 2003; Van der Heijden, 2003; Yang & Yoo, 2004). The intention from (Kim, Mirusmonov et al. 2010). Perceived security from (Luarn & Lin, 2005; Parasuraman, Zeithaml et al. 2005). Trust from (Gefen, 2002; Moody, Lowry et al., 2017). Distrust from (Mascarenhas, Cardozo et al. 2006; Dimoka, 2010; Moody, Lowry et al. 2017) and Advancement from (Constantiou, Damsgaard et al. 2007; López-Nicolás, Molina-Castillo et al. 2008; Tojib & Tsarenko, 2012).

The card payment questionnaire was piloted and administered using Qualtrics, a popular Experience Management Software (EMS). The study launched the online survey on 22.04.2020 and gathered supplementary data on 10.07.2020 with participants' consent. Regarding the literacy impact stated earlier, this study employs a questionnaire targeting 300 young people in Mexico's Puebla environs.

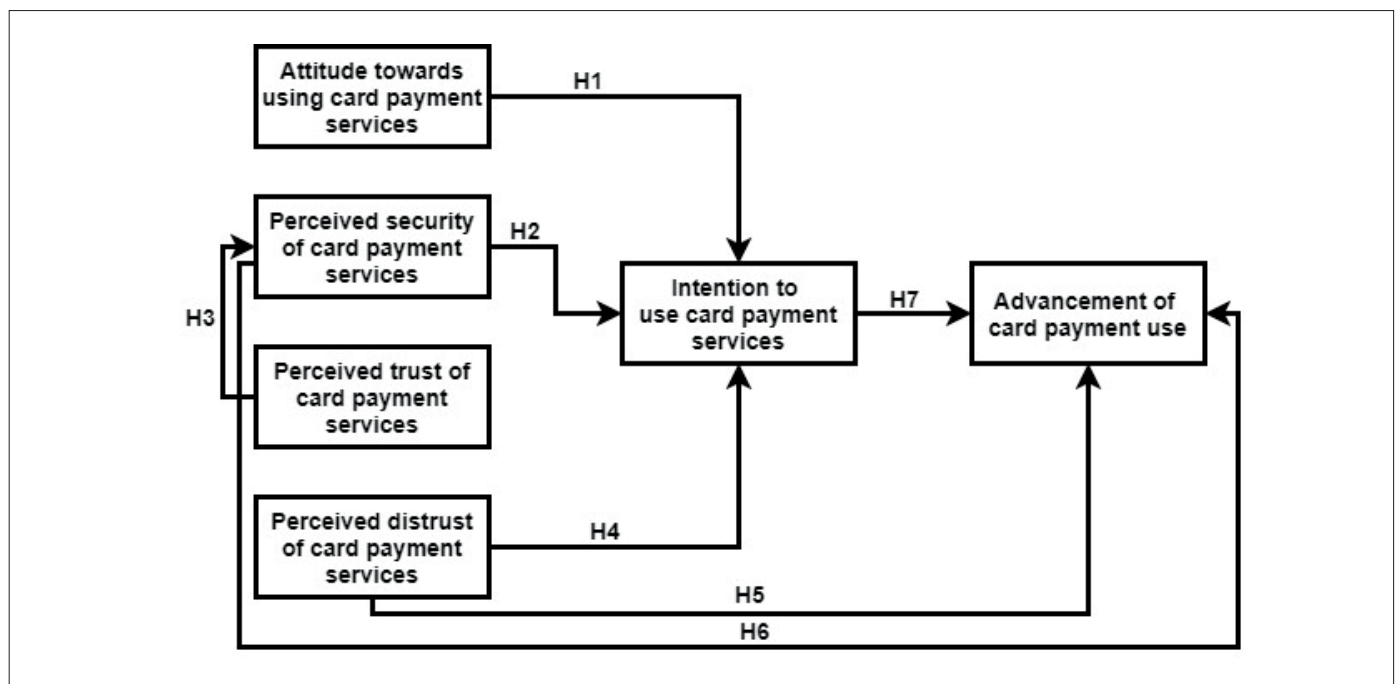
Two hundred and ten responses (n=210) were retrieved, which accounts for a 70% response Rate. Of the 210 responses, only 161 were found useful for data analysis. Forty-nine responses with partial responses were removed during the data cleaning process. Research involving young people's data is common in mobile payments research, given that young people tend to be technologically savvy.

For example, Xin, Techatassanasoontorn et al. (2015) study of customer trust antecedents in mobile payment adoption administered 302 questionnaires to undergraduate students from two universities in Auckland, New Zealand, while Gabriel & Moretti (2022) utilized similar students sample size of 318. The two earlier studies emphasized the importance of student data. Data analysis techniques, including structural equation modelling, mediation and moderation, importance and performance, were utilized in this study to achieve the set goals. Structural Equation Modelling is a rigorous data analysis, and some recent studies align with our choice (Niyawanont, 2022; Del Carpio, 2022). Lastly, the disruption and distractions imposed by the Covid 19 pandemic necessitated using a limited sample size (210 respondents) through convenience sampling. However, as this study's objective is not to portray representation through statistical generalization, the limited sample size is adequate and justified.

Results

This study defined the selected constructs and developed and specified the measurement model. Also designed a card payment services study to produce empirical results, assessed the measurement model's validity, specified the structural model, and tested the hypotheses with SmartPLS software (ver. 3.3.3) to ensure the quality criteria for the measurement items and structural relationship. The study employed attitude towards using card payment services, perceived security of card payment services, perceived trust of card payment services, perceived distrust of card payment services and intention to use card payment services as the independent variables. Also, utilizing advancement of card payment use as the dependent variable from substantiated theories, figure 1 shows the conceptual framework.

Figure 1. Card payment conceptual framework



Card Payment measurement model

The assessment of the measurement model (Outer Model) results for reliability and validity indicates that all the items for composite reliability align with the standard of 0.7. The results range between 0.867 and 0.967. Besides, all the items loaded correctly under each construct, and the items that did not meet the standard of 0.5 was removed from the data analysis. The card payment advancement has the lowest loading of 0.599, and the security has the highest loading of 0.973. The average variance extracted conforms to the thresholds

of 0.5, with the lower result of 0.624 and the highest of 0.936. Table 2 shows the details of the quality criteria results. Convergent and discriminant validity (see Table 3) are opposite to each other. Convergent validity ensures that the constructs that are supposed to relate together are related, while discriminant ensures that the constructs that are supposed not to relate together are not related. Table 3 shows the convergent validity as the composite reliability and average variance extracted of the items are greater than 0.7 and 0.5. On the other hand, discriminant validity is the square root of average variance extracted and highlighted as a bolded value in diagonal.

Table 2. Quality criteria for card payment model

Variable and items	Factor Loading	Mean	SD	f Square	Composite Reliability	Average Variance Extracted
Attitude						
AT1	0.765	4.21	0.984	1.851	0.899	0.748
AT2	0.921	4.07	0.930			
AT3	0.901	4.19	0.848			
Security						
SE1	0.961	2.89	0.942	0.100	0.967	0.936
SE2	0.973	2.96	0.944			
Trust						
TR2	0.915	3.42	0.884	0.242	0.917	0.847
TR3	0.933	3.36	0.877			
Distrust						
DI2	0.907	3.12	1.035	2.048	0.920	0.793
DI4	0.925	2.79	1.003			
Intention						
IN3	0.792	4.40	0.861	0.197	0.872	0.695
IN4	0.895	4.27	0.901			
IN6	0.810	4.12	0.886			
Advancement						
AD1	0.599	4.01	0.783		0.867	0.624
AD2	0.885	3.80	0.732			
AD3	0.831	3.80	0.807			
AD4	0.814	3.85	0.808			

Table 3. Card payment discriminant validity

Variable	1	2	3	4	5	6
Advancement (1)	0.790					
Attitude (2)	-0.013	0.865				
Distrust (3)	-0.772	0.410	0.916			
Security (4)	-0.083	0.330	0.256	0.967		
Trust (5)	0.580	0.318	-0.421	0.302	0.920	
Intention (6)	0.009	0.834	0.321	0.254	0.414	0.833

Table 4. Tested hypotheses results

HYP	Variable	Sample Mean	Standard Deviation	T Statistics	P Values	HYP Decision
H1	Attitude -> intention	0.850	0.039	21.530	0.001	Accepted
H2	Security -> intention	-0.021	0.043	0.484	0.628	Rejected
H3	Security -> Trust	0.302	0.116	2.597	0.009	Accepted
H4	Distrust -> intention	-0.023	0.032	0.701	0.484	Rejected
H5	Distrust -> Advancement	-0.878	0.035	24.951	0.001	Accepted
H6	Security -> Advancement	0.073	0.033	2.185	0.029	Accepted
H7	Intention -> Advancement	0.272	0.081	3.348	0.001	Accepted
H8	Trust*Gender -> Advancement	0.495	0.053	9.354	0.001	Accepted
H9	Advancement**Trust -> Intention	0.892	0.050	17.661	0.001	Accepted

Card payment structural model assessment

The assessment of structural model results (Inner Model) shows three coefficients of determination (R²). Perceived security had the lowest value (R² = 8.5%). In Figure 2, the advancement of card payment use had (R² = 66.8%) while the intention to use card payment services had (R² = 69.1%). Security R² is below the weak criteria of 0.25, while intention and card advancement are higher than the moderate thresholds of 0.50 (Hair, Ringle et al. 2011). The intention to use card payment services has the highest R². Table 2 shows that distrust had the highest effect size (2.048), while security had the lowest effect size (0.100). Seven (7) hypotheses were tested for the structural model, and out of the seven hypotheses, five were accepted, while two were rejected. Additionally, one (1) hypothesis tested for interaction or moderation effect, and another hypothesis tested for mediation effect. Table 4 shows the results of the tested hypotheses result. Hypothesis 1 (H1) shows the relationship between attitude towards card payment services and intention to use card payment services (Attitude -> intention, $\beta = 0.850$, $t = 21.530$, $p = 0.000$). The relationship is highly significant.

In addition, the security of card payment services relates to the intention to use card payment services (H2a) (Security -> Intention, $\beta = -0.021$, $t = 0.484$, $p = 0.628$). The relationship is insignificant. Security also predicts the trust level of using card payment services (H3) (Security -> Trust, $\beta = 0.302$, $t = 2.597$, $p = 0.009$). The relationship is significant. Besides, distrust also predicts the intention to use card payment services (H4a), (Distrust -> Intention, $\beta = -0.023$, $t = 0.701$, $p = 0.484$). The prediction is insignificant. Distrust also relates to advancement of card payment use services (H5b), (Distrust -> Advancement, $\beta = -0.878$, $t = 24.951$, $p = 0.000$). The result is highly negatively

significant. In H6b, the security of card payment services predicts advancement of card payment services use (Security -> Advancement, $\beta = 0.073$, $t = 2.185$, $p = 0.029$). The relationship is positive. Lastly, on the structural model, the intentional use of card payment services predicts the advancement of card payment services use (H7) (Intention -> Advancement, $\beta = 0.272$, $t = 3.348$, $p = 0.001$). The prediction is significant. Of all the seven hypotheses for the structural model, attitude and distrust have the highest explanatory power. Trust moderates between gender and card payment advancement (H8), (Trust*Gender -> Advancement), $\beta = 0.495$, $t = 9.354$, $p = 0.000$). Trust positively moderates the relationship between gender (male and female) and card payment services advancement use (see figure 3). Likewise, trust mediates between intention to use card payment services and card payment services advanced use (Advancement**Trust -> Intention), $\beta = 0.892$, $t = 17.661$, $p = 0.000$).

This study applied the concept of importance-performance map analysis (IPMA) to the context of card payment services to extend the findings of structural equation modelling, moderation and mediation. The study explored the idea of using IPMA to develop card payment services managerial implications. The study explored five constructs, and they are attitude, distrust, security, trust, and intention. The results show that intention to use card payment services is an expository construct (0.223), importance-wise. The attitude toward card payment services follows closely (0.176), while security (0.044) and trust (0.015) also follow each other closely. Distrust (-0.907) is lesser in value than the other constructs. The ranking of IPMA performance is a replica of the importance ranking. Intention (81.40%) is the most performing construct, closely followed by attitude (78.91%), then security (64.18%) and trust (59.53%), while distrust (55.51%) is the least performing construct (see figure 4).

Figure 2: Mediation of trust between intention and advancement of card

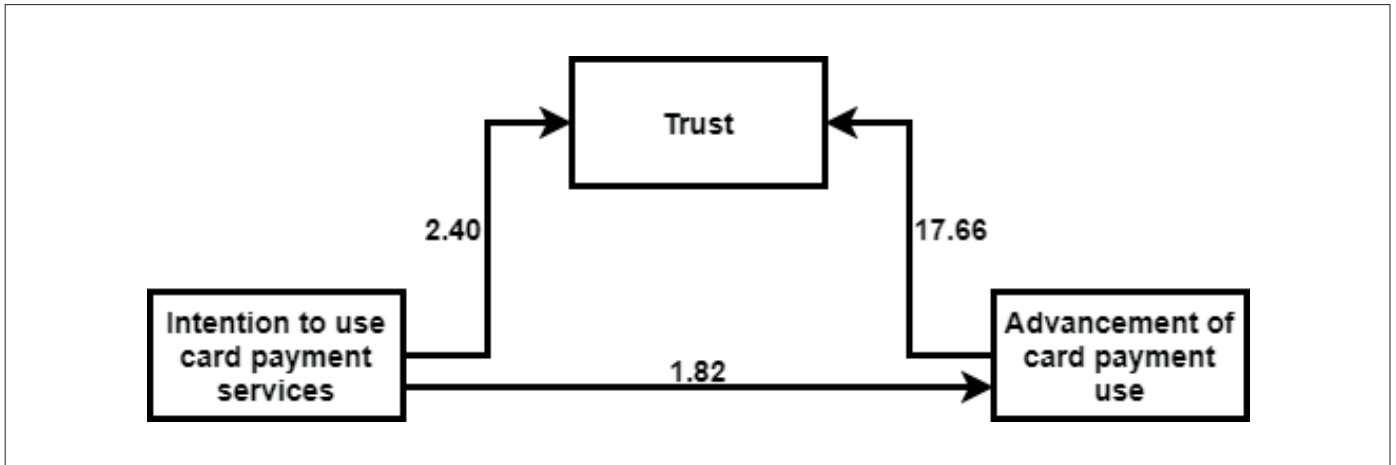


Figure 3. Interaction of trust and gender

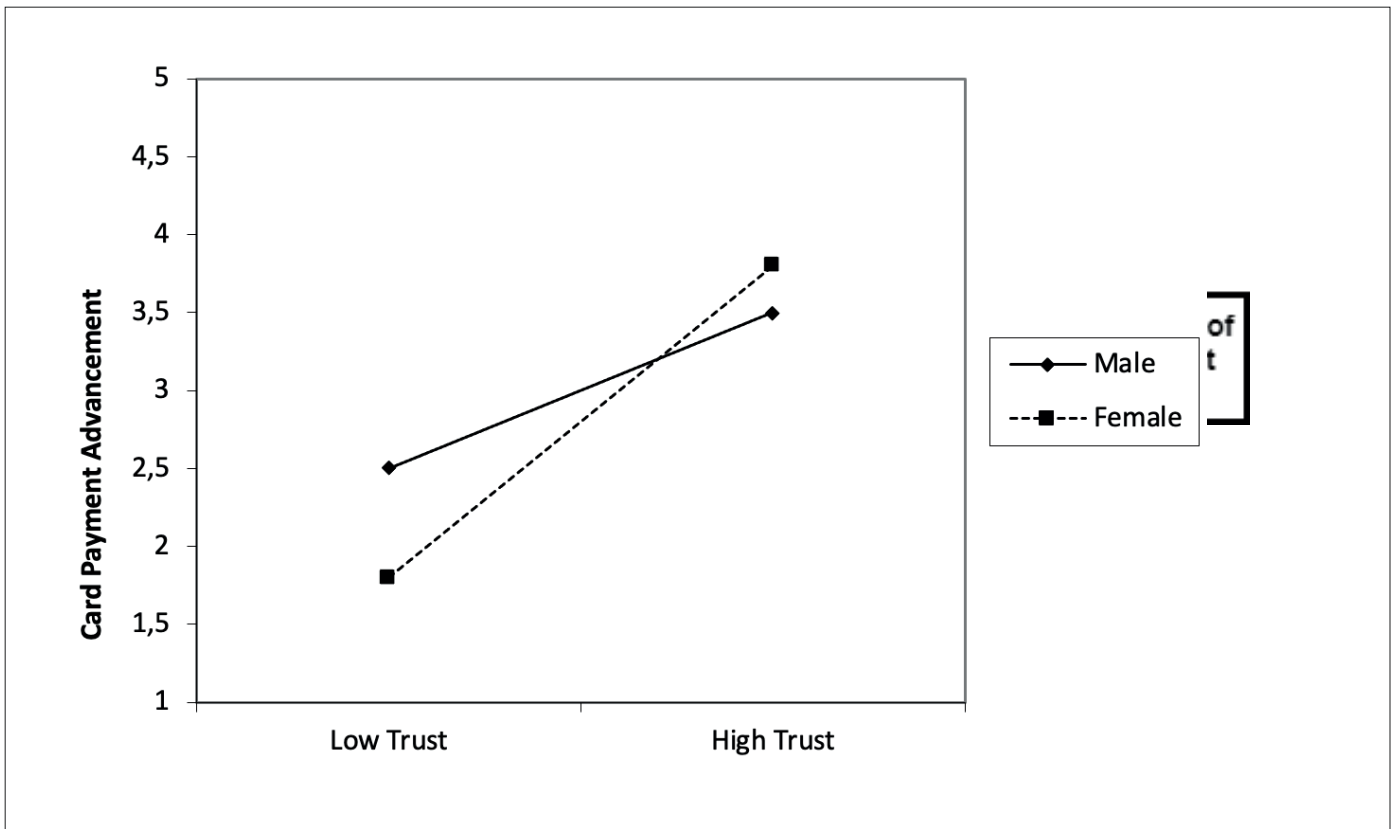
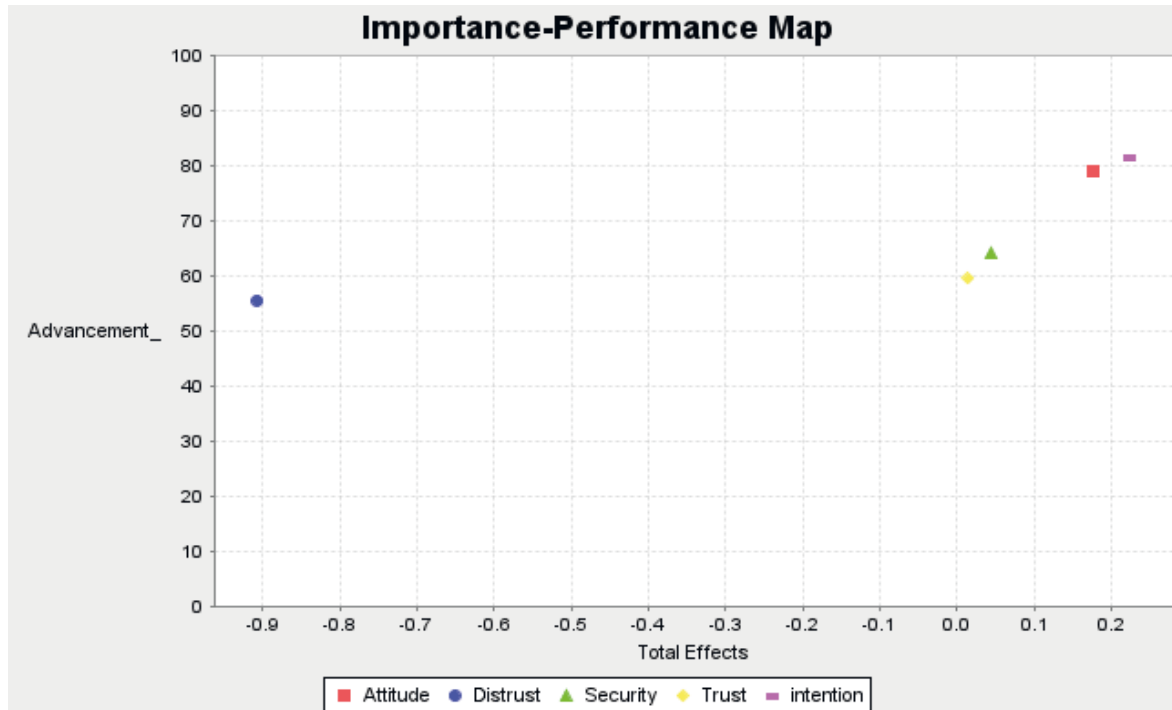


Figure 4. Importance-Performance Map for Card Payment variables

Conclusions

In conclusion, this study responds to the research questions from the reviewed literature. First, this study shows the direct and indirect determinants of the advancement of card payment use. Attitudes towards using card payment services directly predict intention to use card payment services. Also, perceived trust in card payment services relates to the perceived security of card payment services. Also, the perceived security of card payment services and perceived distrust of card payment services and intention to use card payment services directly associate with the advancement of card payment use. These results show the antecedents of the advancement of card payment used in Mexico because card payment is a global phenomenon. These antecedents promise to move card payment users to the advanced stage of usage.

Second, since trust did not predict intention to use card payment services in the study proposed model, trust was used as a mediator between intention to use card payment services and advancement of card payment use. The mediation was highly significant and indicated full mediation. The intention to use card payment services might increase the card payment users' chance of advancement of card payment use, but only through trust perception.

Third, this study established the interaction effects of trust and card payment advancement through gender. The results indicate that trust may increase card payment advancement more for women than men. That is gender moderates the causal effect of low and high trust on card payment advancement. This result assumes that gender mode-

rates the relationship between trust and card payment advancement. Fourth, this study clearly shows the most important and performing variable for managerial implication. The attitude toward card payment services is the most important variable in this study, while the intention to use card payment services is the most performing variable. This study extends the theory of trust by using a new framework to understand better the advancement of card payment used in the banking sector. Furthermore, this study unveiled the factors responsible for advancing card payment use. The study reveals the path to the advancement of card payment use in Mexico and explains the centrality of trust, distrust, intention and security with intervening mediation and interaction effects.

Theoretical Implications

This study extends the trust theory and contributes to the literature on card payment in an emerging economy. Card payment services is a follow-up to money deposit and withdrawal from the counter in the bank. The emergence of automated teller machines and online payment complements banking debit or credit cards. This study argues that banking cards are still relevant and a stepping stone to a full-blown cashless economy. Also, banking cards have been improved over the years, and it has the potential to contribute to the economic growth of nations. For example, Visa (2013) confirmed that banking cards stimulate economic growth by creating efficiencies in commerce with statistics that card usage stemmed the global Gross Domestic Product (GDP) by 983 billion within the space of four years (2008-2012) and this growth is at par with 1.9 million jobs creation.

The use of banking debit or credit cards has influenced consumer, merchants, and government transactions over the years. The shift from coins, checks and physical cash transactions to card payments is a turning point for electronic payment. Due to the importance of banking cards, Ponce, Seira et al. (2017) recommends the analysis of the causes and consequences of consumer demand patterns from a policy perspective and posit that the demand side may be responsible for Mexico's credit card market outcomes. This submission indicates the necessity of ethics and acceptable use policies that is compliant with consumer behaviour patterns, security, trust, distrust, and the intention to advance in using banking cards in the 21st century and beyond.

Despite the impact of card payments, card service providers still need to pay attention to the issue of distrust to compete with the disruption of Financial Technology (Fintech) globally. Interestingly, some card service providers have started adopting Fintech credit cards, such as Upgrade Visa. The Upgrade Visa is a hybrid card that combines balance transfer, cash-back rewards, and low annual percentage rate (APR) offers. Earlier studies have proposed a theoretical framework to investigate the antecedents and influences of trust and distrust and found that website design attributes determine consumers' trust and distrust (Ou & Sia, 2010). For example, Moody, Galletta et al. (2014) shows that situational abnormalities and suspicion are separate antecedents of distrust.

Further, ambivalence affects the truster's intentions in electronic commerce. It concludes that the coexistence of trust and distrust are separate constructs, and distrust has a much more significant impact on the truster's intentions than trust. Further, Saunders and Thornhill (2011) used a mixed methods design to probe the relevance of trust and distrust. They found that trust and distrust judgements and emotional responses directly associates with positive and negative change situations.

Besides, the constructs of trust and distrust are common in online banking studies (Benamati & Serva, 2007; McNeish, 2015). This study shows that distrust is the highest predictor of card payment advancement. In the ranking, attitude is this study's second-highest predictor of intention. There is a tendency for trust banking card payments to be less over time due to changes in card payment users' attitudes. Attitudes are the banking consumer's feelings, mindsets, or beliefs about their cards. Attitude tends to be positive or negative and sometimes neutral, but in psychology, it could be cognitive, behavioral, or emotional. In the study of Olaleye, Adeegbe et al. (2020) argued that neutral review is crucial for the banking service providers' consideration because it makes it difficult to know the direction of the consumer's attitudes. The customers that fall into this category are unemotional.

A positive attitude could be a card payment user's confidence, happiness, or sincerity, while a negative attitude could be anger, doubt and frustration. Ramayah, Noor et al. (2002) adopted a multi-attribute model in which cognitive evaluation of attributes and relative importance of attributes directly predicts the cardholder's attitude and in-

directly predicts the credit card usage level but did not pay attention to the trust variables. Qureshi, Rehman et al. (2018) combined the demographic factors and attitudinal variables of perceived benefits. The risks of using banking cards and their inquiry show demographic factors' insignificant impact. In contrast, attitudinal factors play a crucial role in using debit and credit cards.

On the other hand, Ismail, Amin et al. (2014) discovered the factors that influence attitudes towards credit card usage. The authors found knowledge, media awareness, perceptions, and family influence as the determinants of credit card usage. In this study, attitude predicts the intention to use banking card payment. Security is the determinant of trust in this study, which aligns with Ray, Ow et al. (2011), as they asserted that perceived security control influences trust.

Managerial Implications

In addition to theoretical contributions, several managerial and policy implications can be drawn from this study. First, this study will aid providers of mobile payment services in understanding the factors influencing consumers' intention to use card payments. Consequently, they can effectively develop ways to manage and improve these influencing factors. In this study, we examined attitudes towards using card payment services, perceived security, perceived trust and perceived distrust as they influence consumer intention to use card payment services. Thus, given the rich and compelling evidence that managers can use the card payment conceptual framework advanced in Fig. 1 of this paper to predict consumer intentions to use card payment services. This development importantly will allow managers to devise proactive measures to promote trust in card payment services and, conversely, assuage feelings of distrust towards card payment services. For example, as evidenced through this study that Mexican consumers tend not to trust digital products for security reasons, our Mexican Financial Institutions' approach to this problem provides essential learning points. Financial institutions can set up standing anti-fraud units that monitor transactions and address consumer trust concerns individually.

Secondly, this study has identified an attitude issue pointing to individuals' reluctance to use technology and card payments. Sizable chunks of consumers prefer a physical interface with the bank rather than doing so digitally. Given this, our findings have shown how financial institutions can educate consumers on the multiple benefits of using card payments. For example, by leveraging data mining, artificial intelligence, and behavioral economics, our Mexico Financial Institution managers can understand consumer spending patterns. The managers can thus offer products (like a credit card, Link card, NFC payments etc.) that more closely align with the consumer's needs. Moreover, digitizing payment cards where there is no physical card but online is an innovative yet secure solution that is likely to generate a positive attitude towards card payments and reduce distrust.

Furthermore, many consumers are suspicious of card payments because of the inability to understand some features of the product. Indeed,

they may have no use for such features. To this extent, practitioners can learn from Mexican Financial Institutions' innovative customer sensitization campaigns. Misplaced apprehensions can be significantly reduced by personalizing the customer's experience and providing only card payment features relevant to the customer's needs.

Lastly, the findings of this study of card payment services in Mexico can provide essential insights that will allow an understanding of the difference between Mexico and other countries regarding card payment adoption. Consequently, by comparing Mexico's card services versus the rest of the world, policymakers can identify areas that require critical intervention. For example, it might be prudent to consider strengthening Mexican anti-fraud regulations, so offenders are promptly prosecuted and sentenced. This measure is likely to increase confidence and trust in card payment services.

Limitations and future research directions

This study of card payment services in Mexico has limitations. First, this study investigated card payment services using survey data from young people in Puebla. As such, our data is primarily limited to student demography. Although young people are characterized as major users of card payment services, this population likely precludes the elderly and people who are not educated. However, age and education are likely to moderate the intention to use card payments. For example, older adults might be more reluctant to accept new technology for financial transactions than younger people. Consequently, a sample frame drawn from multiple segments of society will likely provide richer insights into the determinants of card payment services.

Secondly, the scope of our research study is limited to Mexico. One can expect the findings to change when the research context is extended to other countries, given the differences in technology adoption, advancement levels, and cultures across nations. As such, we do not attempt to generalize our findings beyond Mexico. However, future studies can incorporate datasets from multiple countries to examine card payment services and the determinants of their adoption. Such studies can undoubtedly lead to richer and more insightful results that can holistically add to the understanding of card payment services.

Third, our research relies on 161 survey questionnaires drawn from the sample frame amidst massive disruptions caused by the Covid-19 pandemic. A higher response rate likely yielded a statistically more compelling output.

Fourth, it would be interesting for future studies to compare their findings post-Covid-19 with the current study's findings. This study will allow for an objective assessment of the extent of Covid-19 disruption on card payment usage. Lastly, this research explored card payment services by examining four variables influencing the intention to use card payment services. These variables are attitude towards using card payment services, perceived security of card payment services, perceived trust of card payment service and perceived distrust of card payment services. Nevertheless, beyond the variables mentioned above, there are potentially other variables that may influence a customer's

intention to use card payment services. Thus, future studies can, with the aid of theoretical and empirical insights, advance and test a broader range of variables. This study will undoubtedly improve the understanding of card payment services.

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