CREDIT CARD USE FOR PAYMENT PURPOSES: AN EXPLORATION OF INFLUENCING FACTORS AMONG TUNISIAN

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Abstract:
Tunisian use of credit cards for payment purposes is acutely misused. This research investigates explaining factors. It builds on the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) to propose a theoretical model to explain Tunisian customers’ intention to use credit card. Influencing effects of perceived usefulness, perceived ease of use, subjective norms, perceived behavior control, and attitude are examined. Data was collected using a face-to-face administered survey. The proposed model was tested by mean of PLS-SEM approach. Results show that perceived usefulness, perceived ease of use, subjective norm, perceived behavior control, and attitude are prominent predictors of the behavioral intention to use credit card for payment purposes. The findings may provide Tunisian companies’ decision makers information that could be useful in creating a positive attitude toward credit card and attracting customers to use it more frequently.

Key words: Credit card, TAM, TPB, Perceived Usefulness, Perceived Ease of Use, Subjective Norms, Perceived Behavior Control, Attitude, Behavioral Intention

Consumer behavior face ecologically packaged products

Resumé:

Mots clés: Carte de crédit, TAM, TPE, Facilité d’Utilisation Perçue, Normes Subjectives, Contrôle Comportemental Perçu, Attitude, Intentions de Comportement

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Introduction:

To raise Gross Domestic Product (GDP) growth, the government possesses various means including increasing the consumer spending. To increase domestic spending, payment means plays an important role. The use of credit cards has already become a convenient way to expand purchasing power (Braunsberger et al., 2004; Foscht et al., 2010). The wide availability of credit cards has enabled customers to purchase products/services that might not have been possible otherwise. The governments encouraged credit purchase to help increase consumer expenditures without increasing wages (Zafar, 2010).

Chakravorti (2003) further affirms that credit cards provide benefits to customers and merchants that are not provided by other payment instruments. This explains the explosive growth in number and value of credit card transactions over the last twenty years, although the first cards were reported to be introduced in the 1950s (Durkin and Price, 2000). Credit cards were first issued in the USA in the early twentieth century (Zafar, 2010). Since then, they have become a major system for exchange of transactions (or payments) that stimulates household and personal spending even in many developing countries of the world (Watkins, 2000).

The consumer credit card experience is a topic that has been little studied in mainstream consumer behavior (Sotiropoulos and d’Astous 2012). Moreover, these studies were conducted in Western countries and there is a paucity of such research in emerging market economies, which includes Tunisia.

This paper explores factors affecting credit card use for payment purposes in Tunisia. This research builds on the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) to propose a theoretical model to explain Tunisian customers’ intention to use credit card. Accordingly, influencing effects of perceived usefulness, perceived ease of use, subjective norm, perceived behavior control, and attitude are examined.

We begin by describing the conceptual framework. Next, we present our research model and provide supporting literature to specify a range of testable hypotheses involving the relationship of model constructs. The methodology is presented and we discuss the results. Then, we provide managerial implications. Finally, we conclude with a description of the research limitations and suggestions for future research.

OVERVIEW OF CONCEPTUAL FRAMEWORK

Credit Cards Use in Tunisia

The credit card use in Tunisia involves a twofold interpretation, one optimistic and the other pessimistic. According to Monétique Tunisie, at December 31, 2013, more than 2.4 million cards were in circulation among the clients of Tunisian banks. The number of ATM is 1,939 and the number of affiliate vendors is 13,958 (ClicToPay, 2013). There is an increase in
the use of credit cards in Tunisia compared to previous years. In 2008, the number of bank cards was 1,870,125, the number of ATMs was 1,246, and the number of affiliate vendors was 13,284 during the same period. Contrariwise, we should be pessimistic if we know that in Tunisia, only about 16% of credit card transactions are carried out for payment purposes (ClicToPay, 2013). In addition, the situation is worrying if we compare it with others countries, specifically industrial ones. For instance, in 2014, in France, there were 82 million credit cards in circulation, the number of ATM was more than 58,540, and 46.9% of payments are made by credit card (Fédération Bancaire Française, 2014). In Brazil, in 2011, there were 207.4 Million credit cards in circulation (Credit Cards, 2012). Brazil has 159,898 ATMs, and transactions with credit cards represented 58% of sector revenues in this country (Latin Link, 2013).

Credit cards are a popular medium of payment for consumers today. Tunisia seems as yet primarily a cash based society. For achieving an economic growth, Tunisian authorities should encourage the use of credit cards. Credit cards serve as a payment device in lieu of cash or checks for millions of routine purchases as well as for many transactions that would otherwise be inconvenient or perhaps impossible (Teoh et al, 2013). Credit cards play an important role in the cycle of increased consumption and production. The proliferation of sectors such as e-commerce and e-banking is conditioned largely by the use of credit cards.

**Technology Acceptance Model**

There is an increasingly strong interest in understanding individuals’ beliefs about technology and, ultimately, determining the success or failure of such technologies. The most widely applied theory in this context, the Technology Acceptance Model (TAM) (Davis et al., 1989), hypothesizes that a person’s acceptance of new technology is determined by his voluntary intention to use that technology (Yousafzai and Yani-de-Soriano, 2012).

TAM, introduced by Davis (1986), postulates that the acceptance of any technology is influenced by two variables: perceived usefulness and perceived ease of use. Perceived usefulness is defined as the degree to which the person believes that the use of technology will increase its performance (Davis, 1989). Perceived usefulness is similar to the relative advantage of the innovation that is to say the extent to which innovation allows better task performance (Agarwal et al., 1998). Perceived ease of use is defined as the degree to which the person believes that the use of technology requires no effort (Davis, 1989). Perceived ease of use is the opposite of the complexity of the innovation (Mathieson, 1991). These variables influence the attitude of the user of the technology. The behavioral intention is influenced by attitude and perceived usefulness. Perceived ease of use is less important than the perceived usefulness (Gardner and Amoroso, 2004).

**Theory of Planned Behavior**

Introduced by Fishbein and Ajzen (1975), the theory of reasoned action assumes that the behavior of an individual depends on the strength of its intention to carry out the behavior. In turn, the strength of intentions is influenced by the attitude of the person toward the behavior and subjective norms. Attitude is defined by Fishbein and Ajzen (1975) as the affective evaluation of the implementation of behavior. Subjective norms refer to the motivation of the individual to comply with others. For Cao and Zhang (2004), the major limitation of this theory is to consider the behavior is
under the control of the individual and the intention is the only determinant of behavior.

The theory of planned behavior (TPB) tends to complete the limits of the theory of reasoned action. Besides subjective norms and attitudes, Ajzen (1991) has introduced a new variable, perceived behavioral control. Taylor and Todd (1995) define the new variable as the perceptions of internal and external constraints that affect behavior. This variable influences the intention but also has a direct effect on behavior (Agarwal et al., 1998). This theory has been applied in several domains (Venkatesh et al., 2003).

The TPB model has been verified empirically in the psychology literature (Ajzen, 1991; Ajzen and Madden, 1986) and marketing literature (Bagozzi et al., 1992; Taylor and Todd, 1995). The idea of behavior being a function of attitudinal, behavioral control, and social norms is a well-accepted one in psychology and consumer research (Ajzen and Gilbert-Cote, 2008).

RESEARCH MODEL AND HYPOTHESES

Research Model

Based on the literature review and an integration of TAM and TPB, a model assessing the intentions to use credit cards for payment was developed. The model consists of five constructs that we posit to have an effect on intentions to use credit card for payment. These constructs include perceived usefulness, perceived ease of use, subjective norm and perceived behavioral control as independent variables. Attitude towards credit card was used as intervening variables, and behavioral intentions to use credit cards for payment as the dependent variable. We will test the strength of the hypothesized relationships embedded in the theoretical model and the robustness of the model in predicting customers’ intention to use credit cards for payment in Tunisia.

Figure 1. The proposed research model

Hypotheses about TAM Constructs

The TAM proposes that beliefs about perceived usefulness and ease of use of a new technology are essential in determining the attitude, intention, and final adoption behavior (Yousafzai and Yanzide-Soriano, 2012). Thus, individuals will form positive intention about behaviors, which they believe will increase their efficiency and are easy to learn or use (Koenig-Lewis et al., 2010).

Many researchers have empirically proven that perceived usefulness and perceived ease of use exert a significant and positive effect on attitude towards using IT or associated systems (Venkatesh and Bala, 2008; Davis, 1989; Venkatesh and Davis, 2000). Various other studies (Davis, 1986, 1989) also pointed that perceived ease of use can influence perceived usefulness because other thing being equal the easier the technology is to use the more useful it can be (Kesharwani and Singh Bisht, 2012). Fishbein (1963)’s behavioral intention theory, and other empirical studies (Ajzen, 1991, Davis et al., 1989; Fishbein and Ajzen, 1975) have clearly supported the proposition that attitudes are strongly predictive of corresponding behavioral intention (Yang and Jolly, 2009). We, therefore, postulate that:

H1. Perceived usefulness positively influences the intention to use credit card for payment.
H2. Perceived usefulness positively influences attitude towards the use of credit card for payment. H3. Perceived ease of use positively influences the perceived usefulness of credit card for payment. H4. Perceived ease of use positively influences attitude towards the use of credit card for payment. H5. Attitude positively influences the intention to use credit card for payment.

Hypotheses about TPB Constructs

According to TPB, attitude, subjective norms, and perceived behavioral control are the elements that help understand the reasons of individual actions (Kim et al 2011). The TPB provides the final word for a number of authors who had previously pointed out that individual’s behavior is frequently determined by some factors beyond their own control (Bandura, 1977; Crespo and Bosque, 2008).

Researchers have found that consumers’ behavioral intentions to perform a particular action are a function of a subjective norm (Yang and Jolly, 2009). Subjective norm is included as a direct determinant of behavioral intentions (Fishbein and Ajzen, 1975). Consumers may believe that family, friends, and peer groups favor certain behaviors, and their beliefs influence their behavioral intentions (Pavlou and Chai, 2002).

Three decades of credit card research have given rise to different key findings; first, that there are benefits to using credit cards; second, that attitudes and self-control are important antecedent factors (Sotiropoulos and Astous, 2013).

The idea of behavior being a function of attitudinal, behavioral control, and social norms is a well-accepted one in psychology and consumer research (e.g., Ajzen and Gilbert-Cote, 2008). The idea that social norms have a weak or insignificant effect on intended behavior appears to be counterintuitive (Sotiropoulos and Astous, 2013). Consequently, we hypothesize that:

H6. Subjective norm positively influences the intention to use credit card for payment.

H7. Perceived behavior control positively influences the intention to use credit card for payment.

METHODOLOGY

Data Collection and Sample

A face-to-face administered survey was conducted to test the hypothesized relationships. The questionnaire brings together scales assessing perceived usefulness, perceived ease of use, subjective norm, perceived behavioral control, attitude, and behavioral intention to use credit card. Participants were approached in a real situation where the service process takes place. Customers were questioned before they leave shopping stores such as supermarkets and minimarkets. The research was conducted in the southern part of Tunisia. Due to the difficulty in using a probability sampling, the sample was recruited with a convenience sampling method.

Measurements

The items of the survey were adapted from the prior literature review. Perceived usefulness and perceived ease of use were adopted from Davis (1989). Perceived usefulness was assessed by means of four items (e.g., ‘Overall, I think that using the credit card is advantageous’). Perceived ease of use was measured by means of six items (e.g., ‘I would find credit card easy to use’). Subjective norm was assessed by means of four items adapted from Taylor.
and Todd (1995) and Shih and Fang (2004) (e.g., ‘Most people who are important to me would think I should use credit card’). Perceived behavioral control was evaluated with five items from the work of Taylor and Todd (1995) (e.g., ‘I have the ability to make use of credit card’). Behavioral intention to use credit card was measured by means of the three items scale of Cheng, Lam and Yeung (2006). (e.g., ‘I would use the credit card for my payment needs’). The scales adopted for measuring perceived usefulness, perceived ease of use, subjective norm, perceived behavioral control, and behavioral intention were a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Attitude towards credit card use was assessed with two items adapted from Cheng, Lam and Yeung (2006) (e.g., ‘Good/bad’) and three items adapted from Riemenschneider, Harrison, and Mykytyn (2003) (e.g., ‘In my opinion, it is desirable for everyone to use credit card’). It is a seven-point scale.

RESULTS

Sample Composition

A total of 100 respondents completed the survey. Forty-five percent were male. The average age of the respondents was 38.5 years. Seventy-seven percent are married and have at least one child (69 %). Most respondents were well educated (university level, 67 %). The most frequent occupations were high-level managers (10 %), intermediate level managers (38 %), intellectual occupations (13 %), independents (18 %), and workers (11 %). Twenty-four percent of respondents earn annual incomes of TND 6000 (about $3,800) or less, 59 % of them earn annual incomes of TND 6000-TND 12000 (about $7,600), and only 17 % earn annual incomes of TND 12000 or more. The majority of them (47 %) have used their cards more than 3 years. About two-thirds of the respondents (64 %) indicate that they use their credit card for payment purposes at least in occasional manner, 19 % use it moderately, 14 % use it often, and 3 % of them do so quite often or always. All of the respondents use their credit card for banking operations, 76 % use it in stores, 37 % use it for bills payment, and 18 % use it for Internet purchasing. Additional demographic and credit card use statistics are shown in Table 1.

Table 1. The survey sample composition (N=100)

Measurement Model Evaluation

Structural Equation Modelling (SEM) was conducted using a Partial Least Squares (PLS) procedure. The PLS-SEM analysis was run in the SmartPLS (version 2.0-M3 Beta) software package (Ringle et al., 2005). The data were analyzed in two stages: the measurement model and the structural model (Anderson and Gerbing, 1988). In this research, PLS-SEM approach was preferred as the data analysis technic choice because of the sample size is rather small (Chin and Newstead, 1999; Hair et al., 2012). The measurement items used in this study are shown in table 2. Reflective indicators were used to operationalize each construct in the model since the indicators for each construct were expected to measure the same underlying phenomenon, to reflect the meaning of the construct, and to be highly correlated (Baxter, 2009; Chin, 1998). The t-values were estimated using the bootstrap resampling procedure. Following Hair et al. (2012; 2011), the number of bootstrap samples was set equal to 5000, with each bootstrap sample containing the same number of observations as the original sample.
Besides, we allowed for individual sign changes in the bootstrap procedure. As all scales are reflective, indicator reliability, internal consistency reliability, convergent validity and discriminant validity were examined for each construct (Hair et al. 2012; 2011). A summary of the measures is provided in table 2 and table 3.

The Indicator reliability was examined by measuring the outer loadings on all items in the model. All indicators are significantly associated with their respective constructs (p < 0.001), and all standardized indicator loadings are well above the critical threshold of 0.70 ranged from 0.70 to 0.92, showing satisfactory indicator reliability (Hair et al. 2012; 2011; Hulland, 1999).

The Internal consistency reliability was estimated using Cronbach’s alpha and composite reliability. The Cronbach’s alpha values of the constructs ranged from 0.76 to 0.90. The composite reliability values ranged from 0.85 to 0.93. Both measures should be equal to or greater than 0.70. Thus, all the scales used in this research exceed this threshold (Bagozzi and Yi, 1988; Hair et al. 2012; 2011).

The convergent validity was evaluated by means of the constructs’ Average Variance Extracted (AVE). For all constructs, the AVE values are above the critical value of 0.50, indicating sufficient convergent validity (Bagozzi and Yi, 1988; Hair et al. 2012; 2011).

Discriminant validity was assessed based on the Fornell-Larcker-Criterion (Fornell and Larcker, 1981) and the cross loadings of indicators (Chin 1998; Grégoire and Fisher 2006). The square roots of the AVE values of the involved constructs is greater than the correlations between the construct and any other. All items loaded more highly on their respective constructs than other constructs in the model. So, proof for discriminant validity is obtained.

| Table 2. Indicators of reliability and validity of measurement scales (N = 100) |
| Table 3. Indicators of discriminant validity of constructs (Correlation coefficient matrix; N = 100) |

**Structural Model Evaluation and Hypotheses Testing**

To test the hypotheses and proposed conceptual model, a path analysis was conducted. The exogenous variables were perceived ease of use, subjective norm, and perceived behavioral control. The endogenous variables were perceived usefulness, attitude towards credit card, and behavioral intention to use credit card. Key statistics for the final structural model evaluation are reported in table 4 and figure 2.

To assess the quality of our structural model, we evaluated predictive relevance using the Stone-Geisser-Criterion (Q²) (Geisser, 1975; Stone, 1974), derived through the SmartPLS blindfolding procedure with an omission distance of 7. The cross-validated redundancy Q² values are larger than zero for perceived usefulness (0.25), attitude towards credit card (0.31), and intention to use credit card (0.48). Accordingly, the exogenous constructs have predictive relevance for the endogenous constructs (Hair et al. 2012; 2011), indicating that the predictive relevance of the structural model was satisfactory.

The seven hypothesized relationships between the latent constructs were statistically significant. As expected, perceived usefulness has a significant and positive effect on the intention to use credit card (β = 0.311; t-value = 3.568; p < 0.01) and on the attitude towards credit card (β = 0.206; t-value = 2.554; p < 0.05).
These results lead us to accept the hypothesis H1 and H2. Similarly, perceived ease of use has a significant and positive effect on the perceived usefulness ($\beta = 0.624$; $t$-value = 11.227; $p < 0.01$) and on the attitude towards credit card ($\beta = 0.628$; $t$-value = 9.298; $p < 0.01$). These results lead us to accept the hypothesis H3 and H4. In addition, the intention to use credit card was positively determined by attitude towards credit card ($\beta = 0.177$; $t$-value = 1.979; $p < 0.05$), subjective norm ($\beta = 0.298$; $t$-value = 3.448; $p < 0.01$), and perceived behavioral control ($\beta = 0.215$; $t$-value = 2.141; $p < 0.05$). This suggests support for hypothesis H5, H6, and H7.

The analysis reveals substantial to moderate $R^2$ values (Hair et al. 2011). The variance in the perceived usefulness accounted for 39% by the perceived ease of use ($R^2 = 0.39$). The variance in the attitude towards credit card accounted for 60% by the perceived usefulness and the perceived ease of use ($R^2 = 0.60$). The variance in the intention to use credit card accounted for 66% by the perceived usefulness, the attitude towards credit card, subjective norm and the perceived behavioral control ($R^2 = 0.66$).

Overall, our results show that the proposed research model has a rather high explanatory power and indicate that the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) frameworks are valuable in explaining Tunisian consumers’ attitudes and intentions to use credit card.

**Table 4. Results of Hypotheses Testing (N = 100)**

**Structural Model Evaluation and Hypotheses Testing**

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**Table 4. Results of Hypotheses Testing (N = 100)**

**Figure 2. Structural model**

**DISCUSSION AND IMPLICATIONS**

This study adopted the TAM and TPB to examine the intention to use credit cards for payment in Tunisia. First, the results from this study indicate perceived usefulness has a significant and positive effect on the intention to use credit card and on the attitude towards credit card. This is consistent with the TAM, the model adopted by several studies like, for instance the Yousafzai and Yani-de-Soriano’s (2012) research conducted on internet banking adoption. Perceived ease of use has a significant and positive effect on the perceived usefulness and on the attitude towards credit cards. This is also similar to the TAM model and specifically in coherence with the studies of Venkatesh and Bala (2008) and of Kesharwani and Singh Bisht (2012) conducted on internet banking adoption in India.

Furthermore, the results of this study show that the intention to use credit cards was positively determined by attitude towards credit cards, subjective norm, and perceived behavioral control. These results are coherent with TPB model. According to TPB, attitude, subjective norms, and perceived behavioral control are the elements that help understand the reasons of individual actions (Kim et al 2011). These results are also consistent with the finding of Yang and Jolly (2009) conducted on mobile data service and Sotiropoulos and Astous (2013) conducted on credit cards overspending.

The results of this study have many implications for future credit cards research. The results show that the attitude towards credit cards is determined by perceived usefulness and perceived ease of use. The government and specifically the managers should support the consumers to use credit card through positively influencing their attitude. They can achieve this target by organizing awareness company where they explain the value of use credit cards. Bank advisors can play an important role by explaining and bringing the average credit card in the consumer’s mind.

On the other hand, intention to use credit card was positively determined by attitude towards credit card, subjective norm, and perceived behavioral control. Bank managers can also use a video for credit card use demonstration. This effort may enhance perceived behavioral control of consumer. Using virtual community to promote the advantages of credit card may have an important role in enhancing the intention to use this means of payment.
LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Like any research, the actually one presents some limitations that open up future directions. Both the use of a convenience sample and the relatively small size of the sample make it difficult to determine the external validity of the results. The conceptual model is basic. Therefore, future research should explain the intent and behavior of credit card payment by adding other variables such as perceived risk, perceived benefits, and individual characteristics. Such investigations will facilitate our understanding of this universal phenomenon. Future research should further investigate the behaviors associated with credit cards use by means of qualitative technics to obtain a deeper understanding of influencing factors.

REFERENCES


Davis, F. D. (1986). A technology acceptance model for empirically testing new end-user information systems, Phd Dissertation, Massachusetts Institute of Technology, Sloan School of Management.


Les annexes:

*Figure 1. The proposed research model*

![Diagram showing the proposed research model](image)

*Table 1. The survey sample composition (N=100)*

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<tbody>
<tr>
<td>Banking operations (cash withdrawals, account balance)</td>
<td>Yes = 100; No = 00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stores buying</td>
<td>Yes = 76; No = 24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bills payment (phone, electricity, gas, water...)</td>
<td>Yes = 37; No = 63</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet buying</td>
<td>Yes = 18; No = 82</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Indicators of reliability and validity of measurement scales (N = 100)
**Subjective Norm**

Most people, who are important to me, would think that I should use credit card for paying.

The people who influence my decisions would think that I should use credit card for paying.

Most people who are important to me would think that credit card for paying is a good idea.

Most people who are important to me would think I should use credit card for paying.

**Perceived Behavior Control**

I would be able to use credit card for paying.

I have the resources necessary to make use of credit card for paying.

I have the knowledge necessary to make use of credit card for paying.

I have the ability to make use of credit card for paying.

Using credit card for paying would be entirely within my control.

**Attitude towards credit card**

I think that using credit card is pleasant.

In my opinion, it is desirable to everyone to use credit card.

Using credit is: Effective – Ineffective.

Using credit is: Good – Bad.

Using credit is: Harmful – Helpful.

**Intention to use credit card for payment**

I would use the credit card for my payment needs.

Using the credit card for handling my purchases is something I would do.

I would see myself using the credit card for handling my payments.

Note: AVE: Average Variance Extracted; CR: Composite Reliability; *: all t-values are significant at 0.001.

| Table 3. Indicators of discriminant validity of constructs (Correlation coefficient matrix; N = 100) |
|---|---|---|---|---|---|---|
| **Constructs** | **PU** | **PEOU** | **SN** | **PBC** | **A** | **I** |
| Perceived usefulness (PU) | 0.845 |  |  |  |  |  |
| Perceived ease of use (PEOU) | 0.619 | 0.846 |  |  |  |  |
| Subjective norm (SN) | 0.385 | 0.514 | 0.837 |  |  |  |
| Perceived behavior control (PBC) | 0.584 | 0.690 | 0.596 | 0.836 |  |  |
| Attitude (A) | 0.555 | 0.651 | 0.378 | 0.586 | 0.762 |  |
| Intention to use credit card (I) | 0.655 | 0.720 | 0.625 | 0.680 | 0.530 | 0.888 |

Note: The diagonal elements show the square root of the Average Variance Extracted; the off diagonal elements show the correlations between the constructs.
Table 4. Results of Hypotheses Testing (N = 100)

<table>
<thead>
<tr>
<th>Path</th>
<th>Hypotheses</th>
<th>Path Coefficient (β)</th>
<th>t-value</th>
<th>Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness → Intention to use credit card</td>
<td>H.1</td>
<td>0.311</td>
<td>3.568***</td>
<td>Accepted</td>
</tr>
<tr>
<td>Perceived Usefulness → Attitudes</td>
<td>H.2</td>
<td>0.206</td>
<td>2.554**</td>
<td>Accepted</td>
</tr>
<tr>
<td>Perceived Ease Of Use → Perceived Usefulness</td>
<td>H.3</td>
<td>0.624</td>
<td>11.227***</td>
<td>Accepted</td>
</tr>
<tr>
<td>Perceived Ease Of Use → Attitude</td>
<td>H.4</td>
<td>0.628</td>
<td>9.298***</td>
<td>Accepted</td>
</tr>
<tr>
<td>Attitude → Intention to use credit card</td>
<td>H.5</td>
<td>0.177</td>
<td>1.979**</td>
<td>Accepted</td>
</tr>
<tr>
<td>Subjective Norm → Intention to use credit card</td>
<td>H.6</td>
<td>0.298</td>
<td>3.448***</td>
<td>Accepted</td>
</tr>
<tr>
<td>Perceived Behavior Control → Intention to use credit card</td>
<td>H.7</td>
<td>0.215</td>
<td>2.141**</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

\[ R^2 \text{ Perceived Usefulness} = 0.39; \text{ Attitude} = 0.60; \text{ Intention to use credit card} = 0.66 \]

\[ Q^2 \text{ Perceived Usefulness} = 0.25; \text{ Attitude} = 0.31; \text{ Intention to use credit card} = 0.48 \]

Note: ***: \( p < 0.01 \); **: \( p < 0.05 \); *: \( p < 0.10 \)

Figure 2. Structural model

***: \( p < 0.01 \); **: \( p < 0.05 \); *: \( p < 0.10 \)