

The Role of Materialism in Using Banking Applications Based on the Extended Theory of Planned Behavior

Mohammad Nazaripour^{1*} | Babak Zakizadeh² | Amir Mohammad Heidari³

Article Type:

Research Article

Mohammad Nazaripour

Corresponding Author, Associate Professor, Department of Accounting, Hazrat-e Masoumeh University, Qom, Iran.
E-mail: m.nazaripour@hmu.ac.ir

Babak Zakizadeh

Department of Management, Islamic Azad University Sanandaj Branch, Sanandaj, Iran.
E-mail: zakizadeh.babak@yahoo.com

Amir Mohammad Heidari

Department of Accounting, University of Kurdistan, Sanandaj, Iran.
E-mail: heidariamir1377@gmail.com

ABSTRACT

Banking applications serve as mobile tools enabling users to carry out essential banking tasks on their mobile devices. Materialism, defined as a focus on acquiring materialistic goods and physical comforts, is the central theme of this study, which investigates its influence on the use of banking applications. The research is grounded in the extended theory of planned behavior, with a practical and descriptive survey methodology. Data were collected from 282 users of banking apps via questionnaires, and the analysis was conducted using Structural Equation Modeling. The findings showed that attitude, subjective norms, and perceived behavioral control together explained 56% of the variance in behavioral intention. By incorporating the three dimensions of materialism—success, centrality, and happiness—the research extended the theory of planned behavior, increasing its effectiveness in explaining the intention to use banking apps. Moreover, the findings revealed that attitude played a mediating role between the three dimensions of materialism and the intention to use banking apps. Additionally, the subjective norms mediated the relationship between success and happiness and the intention to use the apps. However, perceived behavioral control did not act as a mediator between the dimensions of materialism and the intention to use mobile apps. These findings offer valuable insights for the users of banking apps, policymakers, and bank managers.

KEYWORDS

Banking Applications, Extended Theory of Planned Behavior, Materialism.

Spring & Summer (2024) 1(1): 51-69

Received 27 January 2024

Received in Revised form 20 February 2024

Accepted 25 February 2024

Available Online 20 March 2024

Cite this article: Nazaripour, M., Zakizadeh, B., & Heidari, A., M. (2024). The Role of Materialism in Using Banking Applications Based on the Extended Theory of Planned Behavior. *Journal of Knowledge Economy Studies (JKES)*, 1(1), 51-69.

DOI: <http://doi.org//10.22034/kes.2024.717153>

Publisher: Hazrat-e Masoumeh University

Introduction

Materialism, as a prevailing mindset, influences user behavior across various domains including banking applications (Ahamed & Limbu, 2018). Numerous studies in Economic Psychology and Marketing have examined how materialism affects consumers' purchasing, consumption, and saving behaviors (e.g., Fitzmaurice & Comegys, 2006; Donnelly et al., 2013; Helm et al., 2019). For instance, Pandya and Pandya (2020) investigated the compulsive buying behavior of consumers, while Kilbourne et al. (2005) analyzed the connection between materialism and individualistic values among consumers in the United States, Canada, and Germany. Additionally, research has been conducted on the interplay between materialism and consumer behavior in other countries including Turkey (Karabati & Cemalcilar, 2010) and Pakistan (Islam et al., 2017).

However, there is little research on the effects of materialism on the behavior of Iranian users of banking applications. Compared to collectivist cultures, materialism is more important in individualistic cultures (Watchravesringkan, 2012). This is encouraged in cultures that emphasize saving rather than borrowing (Ahamed & Limbu, 2018). Although, spirituality and idealism are ideologically emphasized in Asian countries, the evidence shows that materialism is growing in these countries (Tatzel, 2002). According to Jafari (2007), the tendency of Iranians towards materialism is increasing. In recent decades, materialism has increased in developing countries (Masoom & Moniruzzaman Sarker, 2017). Consequently, it is crucial to comprehend how materialism and its various dimensions influence users' attitudes and their engagement with banking applications in developing nations like Iran.

Materialism consists of three important values of success, centrality, and happiness. Having material goods is considered one of the success criteria for people, and therefore, its acquisition has become an important value in many people's lives. Furthermore, most believe owning more assets could bring more happiness (Isham et al., 2022). Furthermore, there is a positive correlation between materialism and both attitude and using banking applications (Cakarnis & D'Alessandro, 2015). However, in collectivist societies, responses to materialism might differ. For instance, the centrality dimension may hold less significance compared to dimensions such as success and happiness.

This study seeks to contribute to the existing literature by investigating the specific effects of the three dimensions of materialism on users' attitudes and behavioral intentions toward banking applications. These dimensions, previously examined in studies by Islam et al. (2010), Jayatilleke et al. (2018), and Mariano et al. (2022), are analyzed within the framework of Ajzen's (1991) theory of planned behavior. The research aims to assess whether the dimensions of materialism can act as precursors to the theory of planned behavior. It also examines how these dimensions of materialism indirectly influence the intention to use banking applications through the constructs of theory—attitudes, subjective norms, and perceived behavioral control.

Iranian society, predominantly collectivist which is marked by social complexities

(Shirkhodaie et al., 2016), includes a large, young, and educated population, making it an ideal setting to explore the impact of materialism on the attitudes and behavioral intentions of banking app users. This study makes three key contributions to the literature: (1) examining the intentions of Iranian consumers in using banking apps using the theory of planned behavior; (2) proposing an extended model of the theory by incorporating the dimensions of materialism as antecedents; (3) illustrating how the theory's constructs mediate the influence of the dimensions of materialism on behavioral intentions. These findings provide valuable insights for banks and policymakers in understanding the factors shaping user behavior, especially given the diversity of the users' material values.

Literature Review

The theory of reasoned action (Ajzen & Fishbein, 1980) and its later adaptation, the theory of planned behavior (Ajzen, 1991), emphasize the significant role of attitudes, subjective norms, and perceived behavioral control in shaping individuals' intentions and actions. Attitude refers to a person's overall positive or negative assessment of a behavior, while subjective norms involve the perceived social pressure to perform or avoid the behavior. The perceived behavioral control reflects how easy or difficult an individual believes it is to carry out the behavior. Both theories serve as effective frameworks for understanding various behaviors, including the adoption of banking applications (Aboelmaged & Gebba, 2013; Yousafzai et al., 2010).

This study presents an extended model that integrates the dimensions of materialism as antecedents to attitude, subjective norms, and perceived behavioral control, based on the theory of planned behavior. These constructs then serve as strong predictors of the intention to use banking applications.

Attitude refers to an individual's positive or negative evaluation of a specific behavior, including his/her perceptions of the potential outcomes of engaging in that behavior. Research has consistently shown that attitude is a strong predictor of behavioral intentions in various areas including the use of banking applications (Ajzen & Fishbein, 1980; Ajzen, 1991). Subjective norms represent the social expectations regarding appropriate behaviors and affect the intention to use banking apps positively. Perceived behavioral control reflects an individual's perception of how easy or difficult it is to perform the behavior (Li et al., 2023). This study aims to examine the positive effects of these three constructs from the theory of planned behavior on consumers' intentions to adopt banking applications. Therefore, the following hypothesis is proposed:

H1: Attitude, subjective norms, and perceived behavioral control positively influence consumers' intentions to use banking applications.

According to Ajzen (1991), new constructs can be integrated into the theory of planned behavior if they are supported by a strong theoretical foundation. This extension aims to offer a more accurate assessment of the individuals' behavioral intentions (Baker & White, 2010). Materialism has the theoretical basis needed to be considered as a potential

predictor within this framework. Belk (1985, p. 266) defines materialism as "the importance that a consumer places on material possessions", while Richins and Dawson (1992, p. 308) describe it as "a set of deeply held beliefs about the importance of possessions in one's life". Materialism, as a philosophical stance, asserts that only physical matter and its movements exist. It is a complex, multi-dimensional concept that incorporates both socio-cultural and individual perspectives (Sirgy, 1999). In this study, materialism is explored through three dimensions of success, centrality, and happiness (Richins, 2004). The success dimension posits that acquiring material goods is essential for achieving success in life. The centrality dimension suggests that the primary goal in life is to acquire material possessions. Lastly, the happiness dimension emphasizes that owning desirable items can enhance an individual's sense of well-being.

In order to apply the three dimensions of materialism to predict the intention to use banking applications, it is crucial to establish that these applications reflect materialistic values. Banking apps allow users to manage and transfer money, which inherently carries materialistic importance (Mishra et al., 2022). Money is a clear example of a material possession, serving as a powerful tool that enables individuals to efficiently carry out their financial activities (Tatzel, 2002). This highlights people's attitudes towards money, which corresponds with the first component of the theory of planned behavior. Therefore, a positive relationship exists between the dimensions of materialism and attitudes towards banking applications.

Furthermore, material possessions are often seen as symbols of ambition, linking materialism to aspirational behaviors (Goldsmith & Clark, 2012). In many cultures, consumerism is viewed as a reflection of ambition (Ahuvia & Wong, 1998). Individuals who score higher on the dimensions of materialism may perceive social norms as powerful drivers for accumulating wealth and acquiring material goods. On the other hand, those with lower levels of perceived behavioral control might find it challenging to engage in specific behaviors (Ajzen, 1991). As a result, the three dimensions of materialism could negatively affect the perceived control construct. Based on this reasoning, the following hypotheses are proposed:

H2: The success dimension is positively correlated with both attitude and subjective norms, while showing a negative correlation with perceived behavioral control.

H3: The centrality dimension has a positive relationship with attitude and subjective norms, but it has a negative relationship with perceived behavioral control.

H4: The happiness dimension is positively linked to attitude and subjective norms, yet it is negatively associated with perceived behavioral control.

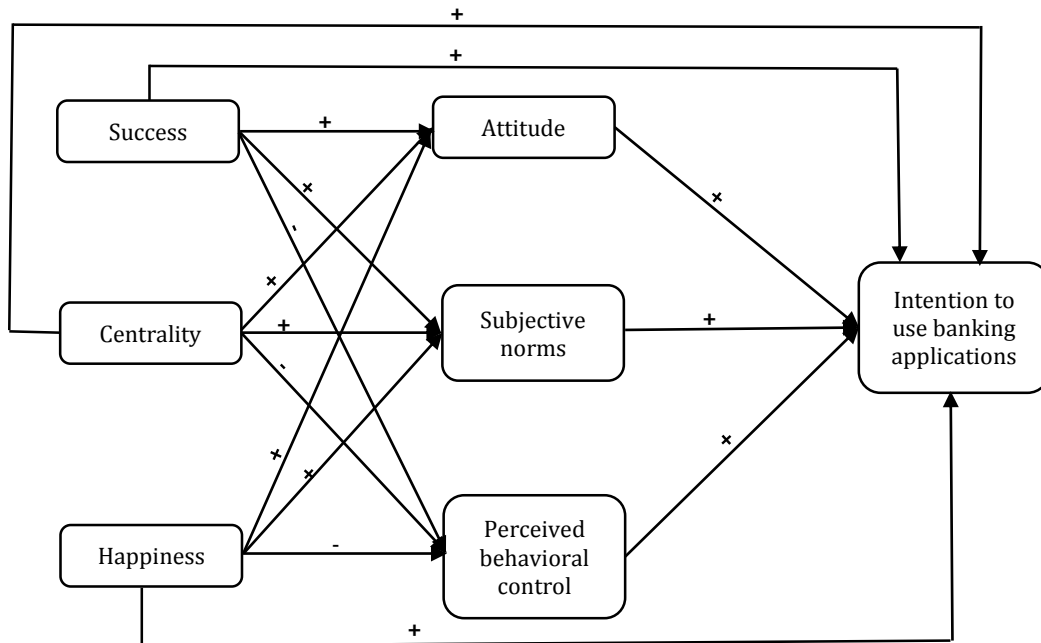
Several studies suggest that materialism impacts purchase intention positively (Heaney et al., 2005; Kaur et al., 2022), although some research indicates that materialism does not directly influence purchase intention (Nga et al., 2011). Given these conflicting results concerning the role of materialism in shaping consumer intentions and behaviors, this study seeks to explore both the direct and indirect effects of the dimensions of

materialism on the individuals' intentions. Therefore, the following hypotheses are proposed:

- H5:** The success, centrality, and happiness dimensions positively influence individuals' intention to use banking applications.
- H6:** Attitude acts as a mediator between success, centrality, and happiness and the intention to use banking applications.
- H7:** Subjective norms mediate the relationship between success, centrality, and happiness and the intention to use banking applications.
- H8:** Perceived behavioral control mediates the relationship between success, centrality, and happiness and the intention to use banking applications.

Based on the existing literature and the proposed hypotheses, the conceptual model for the research can be outlined as follows:

Figure 1.
The Conceptual Model



(Source: Researcher's Findings)

Methodology

This study utilized a cross-sectional method, employing non-probabilistic convenience sampling along with a snowball sampling technique. The target population consisted of mobile application users aged 18 and older from Kurdistan province. To determine the sample size, the following formula was applied (Alipour et al., 2012).

$$n = \frac{Z^2 \cdot p \cdot q}{\delta^2}$$

In this study, the questionnaire comprised 28 questions, excluding those related to demographics. Based on the aforementioned formula, the minimum and maximum sample sizes were established at 140 and 420, respectively. Additionally, several

researchers recommend that the sample size for Structural Equation Modeling should exceed 200 cases (Kline, 2023). Out of 291 distributed questionnaires, 282 were deemed usable. The data collection period spanned the second quarter of 2024. The questionnaire was a five-point Likert scale instrument (1 = strongly disagree to 5 = strongly agree), and respondents were assured of the anonymity of their answers, rendering any potential non-response bias irrelevant in this study (Rubin & Babbie, 2016).

This study focuses on two main constructs including the theory of planned behavior and materialism. The theory of planned behavior is divided into three sub-constructs of attitude, subjective norms, and perceived behavioral control. Questions pertaining to these constructs and behavioral intention were adopted from Ajzen (2006). Materialism is measured through three sub-constructs of success, centrality, and happiness, with questions derived from Richins (2004). Data analysis was conducted using Structural Equation Modeling techniques in SPSS (version 26) and AMOS (version 24) software.

Findings

Descriptive Statistics

In this section, descriptive statistics are mentioned first.

Table 1.
Demographic Description of the Survey Sample

Variable	Category	%	Variable	Category	%
Gender	Male	52.1	Marital status	Single	47.2
	Female	47.9		Married	52.8
Age	Under 30 years old	20.2	Education	Diploma and below	16.7
	٣٠-٤٠ □□□□ □□□	37.2		Associate	11.7
	٤٠-٥٠ □□□□ □□□	30.1		Bachelor	45.0
	Above 50 years old	12.5		Master and above	26.6

Note: the sample size was 282 accountants

(Source: Researcher's Findings)

Table 1 shows that 52.1% of the respondents were male and 47.9% were female. The largest group of participants (45.0%) held a Bachelor degree. Furthermore, most respondents (52.8%) were married, and a notable proportion (37.2%) was between the ages of 30 and 40 years.

Before testing the model and the research hypotheses, it is important to verify the model's reliability and validity. Composite reliability (CR) was used to assess the reliability of the constructs, while convergent and divergent validity were used to evaluate the model's overall validity. Composite reliability measures the internal consistency of a construct, convergent validity indicates the degree to which the items within a construct are correlated and consistent, and divergent validity evaluates how well the items distinguish between different constructs. The results of the reliability and validity of the model are provided in Table 2.

Table 2.
The Reliability and Validity of the Research Model

		ATT	CEN	HAP	SUC	BINT	PBC	SBN
Attitude	ATT	0.746						
Centrality	CEN	0.299	0.725					
Happiness	HAP	0.336	0.299	0.723				
Success	SUC	0.394	0.298	0.151	0.728			
Behavioral Intentions	BINT	0.720	0.425	0.394	0.503	0.746		
Perceived Behavioral Control	PBC	0.383	0.077	-0.055	0.079	0.601	0.737	
Subjective Norms	SBN	0.564	0.207	0.280	0.228	0.685	0.600	0.746
CR		0.833	0.815	0.808	0.818	0.834	0.826	0.833
AVE		0.557	0.526	0.522	0.530	0.556	0.543	0.557
MSV		0.518	0.181	0.155	0.253	0.518	0.361	0.469
ASV		0.223	0.083	0.077	0.096	0.323	0.147	0.220

Note: The calculations were done using the macro designed by James Gaskin and in Excel software.

(Source: Researcher's Findings)

Table 3.
Minimum Requirements for Reliability and Validity Indicators

Index	Threshold Value
Composite Reliability (CR)	CR>0.7
Convergent Validity	AVE>0.5 ; CR>AVE
Divergent Validity	MSV < AVE ; ASV < AVE

(Source: Researcher's Findings)

Since the values presented in Table 2 exceed the threshold values outlined in Table 3, the reliability and validity of the research model are considered satisfactory. Specifically, all values of composite reliability (CR) are above 0.7, and all extracted (AVE) values of average variance are greater than 0.5. Moreover, both the maximum shared variance (MSV) and average shared variance (ASV) are lower than the AVE, confirming the model's divergent validity.

Another method to assess divergent validity is shown on the right side of Table 2. This involves comparing the values along the main diagonal of the matrix to those below and to the left. If the values on the diagonal are higher, it indicates that the constructs have a stronger relationship with their own indicators than with other constructs, further validating the model's divergent validity.

Goodness of Fit: The goodness of fit evaluates how closely the theoretical model matches the empirical data. Various indicators can be used to assess this alignment. Table 4 presents the results of the model fit indices. According to Hair et al. (2010), the research model is considered to have a good fit if at least three or four fit indices exceed the recommended threshold values.

Table 4.
Various Indicators of the Model Fit

Index	$\frac{X^2}{df}$	RMSEA	RMR	GFI	CFI	IFI
Threshold Value	≤ 3	≤ 0.05	≤ 0.05	≥ 0.90	≥ 0.90	≥ 0.90
Calculated value	1.383	0.037	0.018	0.904	.966	0.966
Result	Desirable	Desirable	Desirable	Desirable	Desirable	Desirable

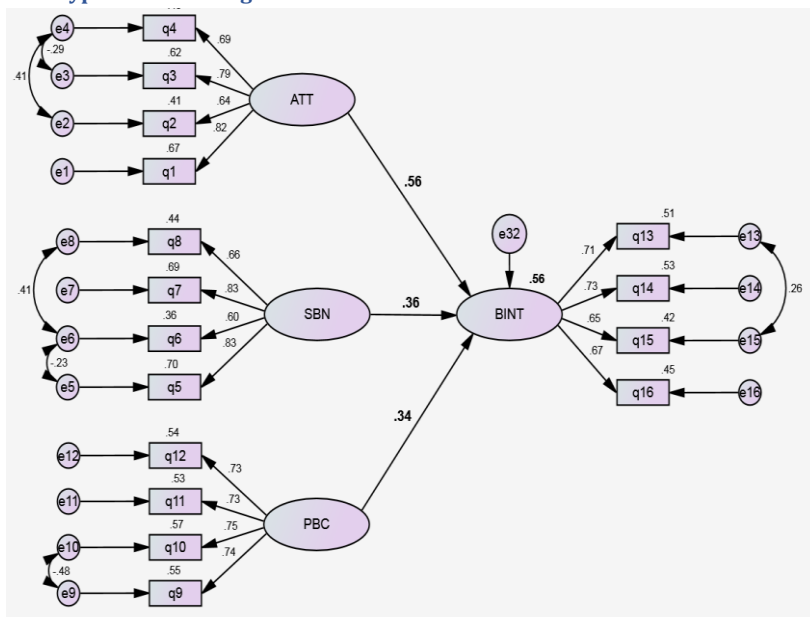
(Source: Researcher's Findings)

According to Table 4, the values of the calculated indices are higher than the threshold value, and therefore, the model fits well.

Hypothesis Testing

After ensuring the adequacy of the model fit, the research hypotheses can be tested. Figure 2 and Table 5 show the results of the first hypothesis testing:

Figure 2.
The Results of the First Hypothesis Testing



(Source: Researcher's Findings)

Table 5.
The Results of the First Hypothesis Testing

Relationship	B	Beta	C.R.	P
ATT → BINT	0.413	0.563	7.773	0.000
SBN → BINT	0.233	0.362	5.597	0.000
PBC → BINT	0.255	0.338	5.139	0.000

(Source: Researcher's Findings)

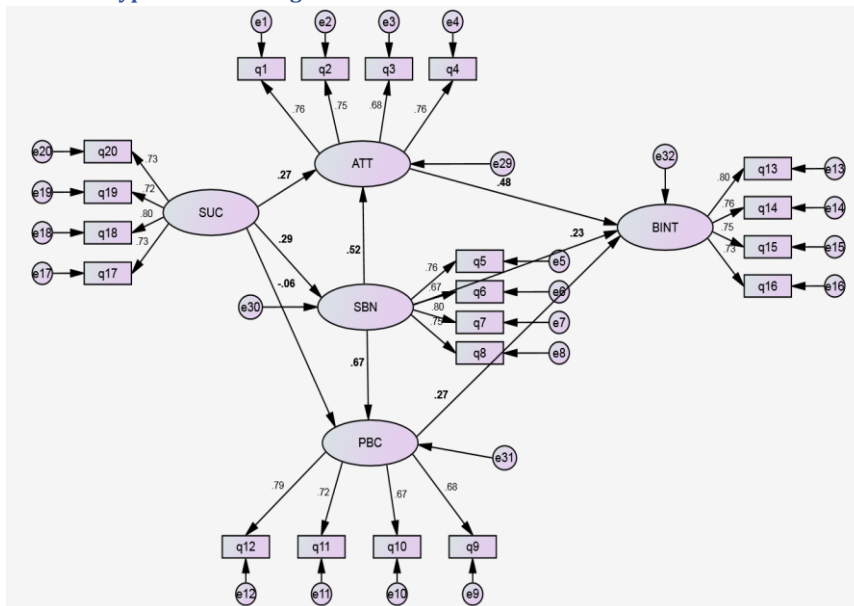
Table 5 shows that the first research hypothesis is confirmed, at 99% confidence level. Unstandardized coefficients (B) are the default coefficients obtained from the analysis of the main variables. These coefficients are indicated in terms of units and have a real scale.

According to Table 5, the dependent variable (behavioral intention) increases by 0.413, 0.233, and 0.255 units, respectively, per unit increase in attitude, subjective norms, and perceived behavioral control.

Standardized coefficients (beta) are calculated based on standardized data so that in this case, the variance of independent and dependent variables is equal to one. The standardized coefficient shows the effect of the independent variables on the dependent variable. The higher the value of this coefficient, the more effective it will be. According to Table 5, the highest impact rate belongs to the attitude (0.56), and the lowest one to the perceived behavioral control (0.33).

Figure 3 and Table 6 show the results of the second hypothesis testing.

Figure 3.
The Results of the Second Hypothesis Testing



(Source: Researcher's Findings)

Table 6.
The Results of the Second Hypothesis Testing

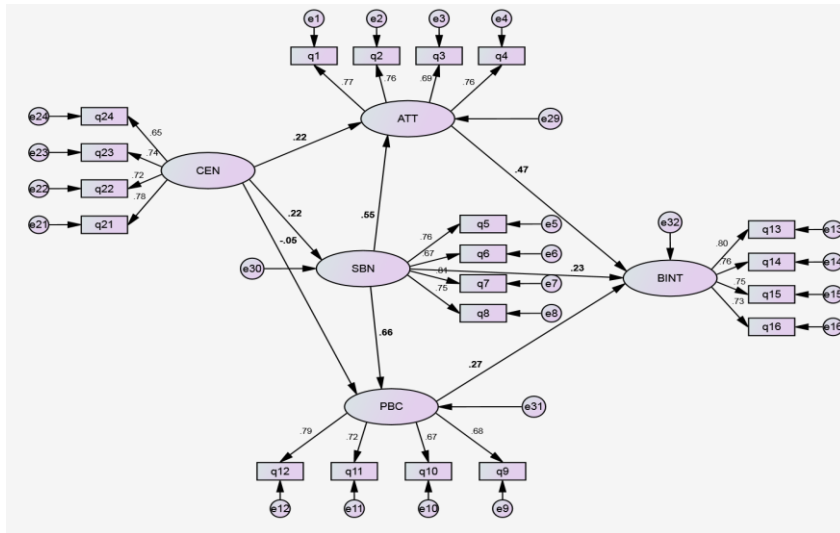
Relationship		B	Beta	C.R.	P	
SUC	→	ATT	0.291	0.268	4.055	0.000
SUC	→	SBN	0.346	0.287	3.960	0.000
SUC	→	PBC	-0.064	-0.062	-0.950	0.342

(Source: Researcher's Findings)

According to Table 6, success has a significant positive effect on attitude and subjective norms. But it has no significant effect on perceived behavioral controls. Table 6 shows that for one unit increase in success, attitude and mental norms increase by 0.29 and 0.34 units, respectively.

Figure 4 and Table 7 show the results of the third hypothesis testing.

Figure 4.
The Results of the Third Hypothesis Testing



(Source: Researcher's Findings)

Table 7.
The Results of the Third Hypothesis Testing

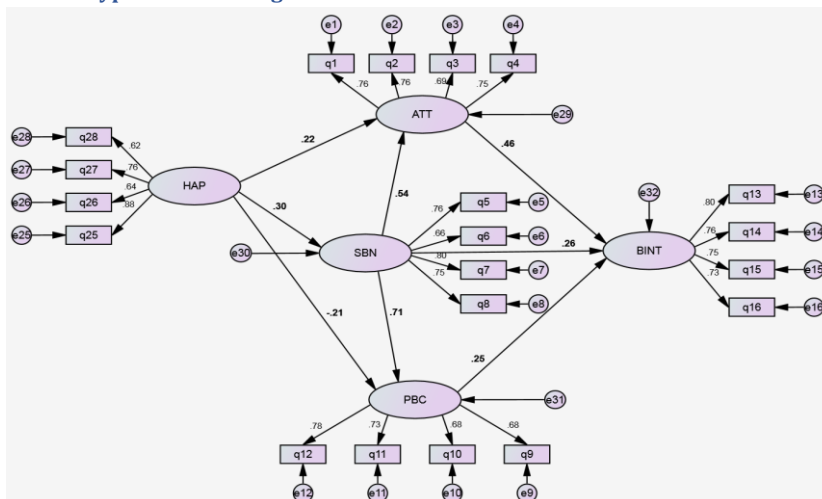
Relationship		B	Beta	C.R.	P
CEN	→ ATT	0.230	0.219	3.386	0.000
CEN	→ SBN	0.254	0.217	3.006	0.003
CEN	→ PBC	-0.053	-0.053	-0.826	0.409

(Source: Researcher's Findings)

According to Table 7, centrality has a significant positive effect on attitude and subjective norms. But it has no significant effect on perceived behavioral controls. Table 7 shows that for one unit increase in success, attitude, and mental norms increase by 0.23 and 0.25 units, respectively.

Figure 5 and Table 8 show the results of the fourth hypothesis testing.

Figure 5.
The Results of the Fourth Hypothesis Testing



(Source: Researcher's Findings)

Table 8.
The Results of the Fourth Hypothesis Testing

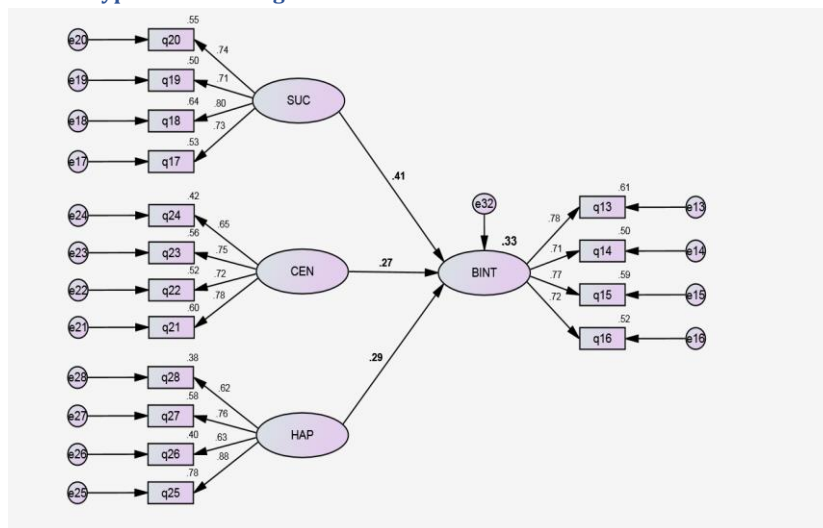
Relationship			B	Beta	C.R.	P
HAP	➔	ATT	0.208	0.217	3.371	0.000
HAP	➔	SBN	0.319	0.298	4.224	0.000
HAP	➔	PBC	-0.196	-0.214	-3.231	0.001

(Source: Researcher's Findings)

As shown in Table 8, happiness has a significant positive impact on both attitude and subjective norms. Additionally, it has a significant negative effect on perceived behavioral control. The table indicates that a one-unit increase in success results in an increase of 0.20 units in attitude and 0.29 units in subjective norms. Conversely, a one-unit rise in happiness leads to a decrease of 0.19 units in perceived behavioral control.

Figure 6 and Table 9 show the results of the fifth hypothesis testing.

Figure 6.
The Results of the Fourth Hypothesis Testing



(Source: Researcher's Findings)

Table 9.
The Results of the Fourth Hypothesis Testing

Relationship			B	Beta	C.R.	P
SUC	➔	BINT	0.410	0.413	5.905	0.000
CEN	➔	BINT	0.259	0.270	4.082	0.000
HAP	➔	BINT	0.252	0.290	4.510	0.000

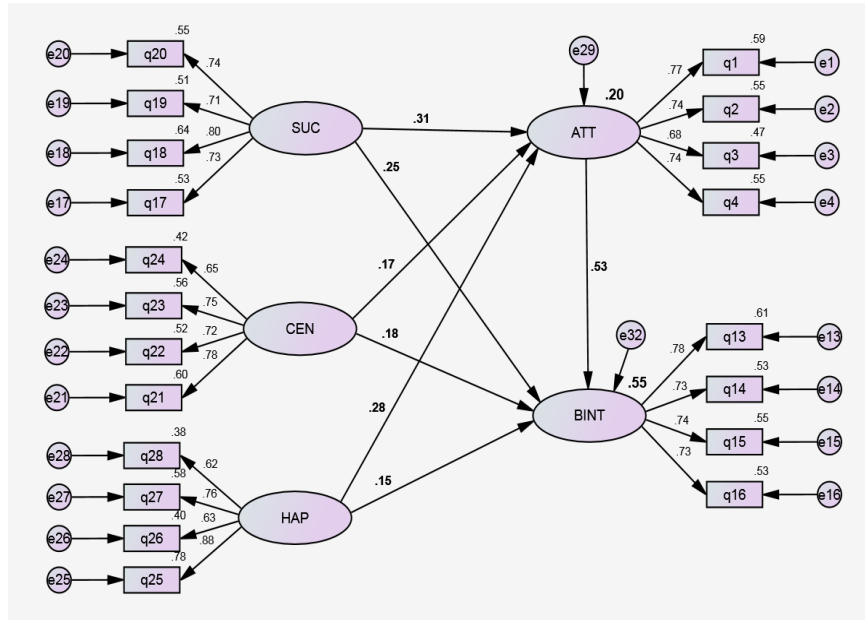
(Source: Researcher's Findings)

As indicated in Table 5, success, centrality, and happiness influence individuals' intention to use mobile applications significantly. According to Table 9, a one-unit increase in success, centrality, and happiness leads to an increase of 0.41, 0.259, and 0.25 units, respectively, in people's behavioral intention.

Figure 7 and Table 10 display the results of testing the sixth hypothesis, which explores the mediating role of the attitude variable. As indicated by the fifth hypothesis, a

significant relationship exists between materialism (the independent variable) and the intention to use banking applications (the dependent variable). Therefore, it is appropriate to evaluate the mediating effect of the attitude variable in this relationship.

Figure 7.
The Mediating Effect of Attitude Variable



(Source: Researcher's Findings)

Table 10.
The Mediating Effect of the Attitude Variable (ATT)

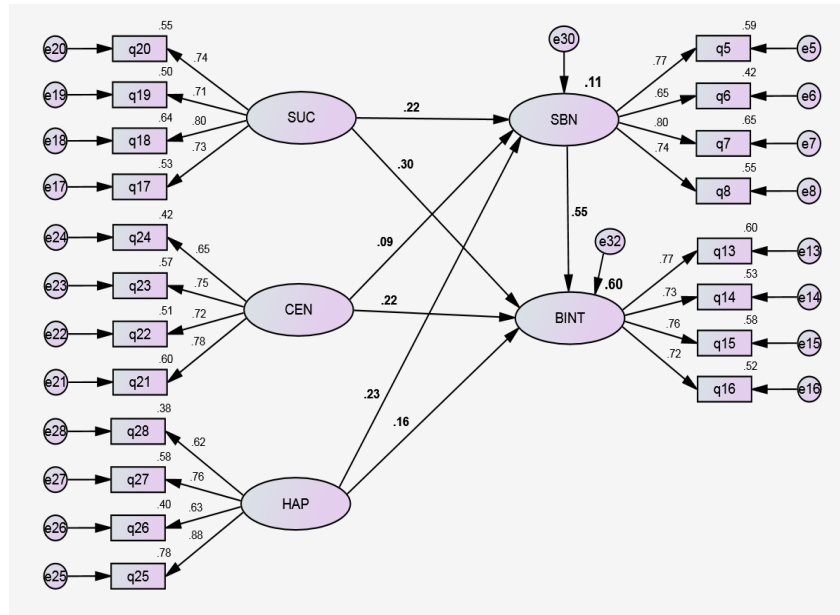
Relationship			Direct Effect		Indirect Effect		Total Effect		Type of Mediation
			Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	
SUC	→	BINT	0.246	0.001	0.165	0.001	0.411	0.000	Partial
CEN	→	BINT	0.170	0.003	0.086	0.014	0.257	0.001	Partial
HAP	→	BINT	0.126	0.010	0.127	0.001	0.254	0.001	Partial

(Source: Researcher's Findings)

Figure 7 and Table 10 display the results of testing the sixth hypothesis, which explores the mediating role of the attitude variable. To assess a variable's mediating effect, it is crucial to first confirm a statistically significant relationship between the independent and dependent variables. As indicated by the fifth hypothesis, a significant relationship exists between materialism (the independent variable) and the intention to use banking applications (the dependent variable). Therefore, it is appropriate to evaluate the mediating effect of the attitude variable in this relationship.

Figure 8 and Table 11 present the results of testing the seventh hypothesis, which examines the mediating role of the subjective norms variable. As indicated in the fifth hypothesis, a significant relationship exists between materialism (the independent variable) and the intention to use banking applications (the dependent variable). Hence, the mediating effect of the subjective norms variable on this relationship can be assessed.

Figure 8.
The Mediating Effect of Subjective Norms Variable



(Source: Researcher's Findings)

Table 11.
The Mediating Effect of Subjective Norms (SBN)

Relationship			Direct Effect		Indirect Effect		Total Effect		Type of Mediation
			Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	
SUC	→	BINT	0.291	0.001	0.116	0.003	0.407	0.000	Partial
CEN	→	BINT	0.207	0.001	0.048	0.234	0.255	0.001	NIR
HAP	→	BINT	0.139	0.005	0.110	0.001	0.249	0.001	Partial

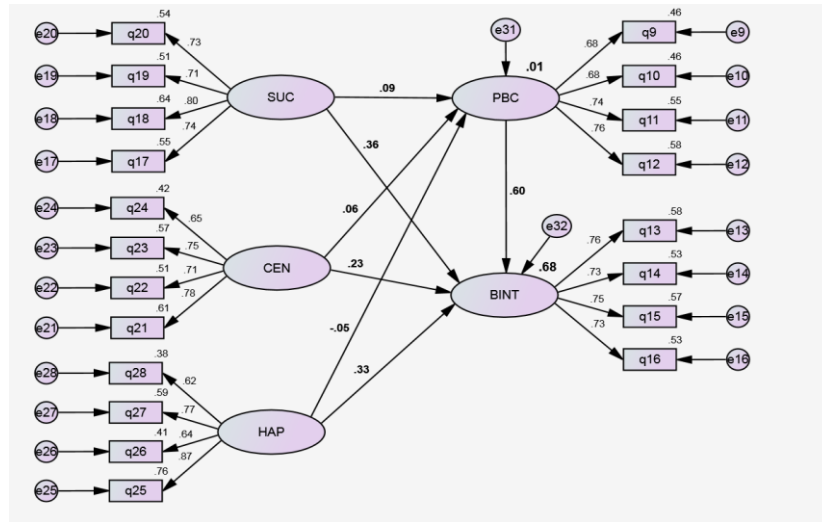
Note: NIR stands for the natural indirect effect

(Source: Researcher's Findings)

Subjective norms act as a mediator in the relationship between success and happiness concerning the intention to use banking applications, but they do not mediate the relationship between centrality and the intention to use these applications. For example, the path coefficient between happiness and individuals' intention to use banking applications is 0.24, with 0.11 attributed to the direct effect and 0.13 to the indirect effect.

Figure 9 and Table 12 display the results of testing the eighth hypothesis, which explores the mediating role of the perceived behavioral control variable. As shown in the fifth hypothesis, there is a significant relationship between materialism (the independent variable) and the intention to use banking applications (the dependent variable). Therefore, the mediating effect of the perceived behavioral control variable on this relationship can be evaluated.

Figure 9.
The Mediating Effect of the Perceived Behavioural Control Variable



(Source: Researcher's Findings)

Table 12
The Mediating Effect of the Perceived Behavioural Control Variable (PBC)

Relationship			Direct Effect		Indirect Effect		Total Effect		Type of Mediation
			Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	
SUC	→	BINT	0.346	0.001	0.054	0.151	0.400	0.000	NIR
CEN	→	BINT	0.219	0.001	0.032	0.523	0.251	0.001	NIR
HAP	→	BINT	0.279	0.001	-0.027	0.481	0.253	0.001	NIR

Note: NIR stands for the natural indirect effect

(Source: Researcher's Findings)

Since the indirect effect in all three relationships is not significant, therefore, the perceived behavioral controls do not have a mediating effect on these relationships. There is only a direct relationship here.

Discussion and Conclusion

This study provides strong evidence for using the theory of planned behavior in predicting the behaviors of banking application users. The constructs of attitude, subjective norms, and perceived behavioral control explain about 56% of the variance in behavioral intention (see Figure 1). As a result, banks can utilize the theory of planned behavior to understand the factors influencing the users' intentions. In line with previous research, attitude emerged as a more powerful predictor of behavioral intention (Ajzen, 1991; Arvola et al., 2008).

Subjective norms reflect a wide range of social influences, including those from family, friends, peers, and colleagues, which can sometimes be conflicting (Melnik et al., 2010). Nonetheless, this study shows that subjective norms are also a significant predictor of behavioral intention. This finding is consistent with findings from other studies (e.g., Jermisittiparsert et al., 2023; Li et al., 2023).

The present study extends the theory of planned behavior by integrating three dimensions of materialism. The results demonstrate that this expanded model effectively

explains how these dimensions of materialism influence using banking applications. However, the impact of each dimension on the intention to use banking applications varies.

Among the dimensions, success emerges as the most significant one, showing a strong positive correlation with attitude, subjective norms, and behavioral intention. On the other hand, it presents a negative but statistically insignificant relationship with perceived behavioral control (as shown in the second hypothesis). These findings align with previous studies by Watson (2003) and Hurst et al. (2013), which also found a positive association between success and attitude. Moreover, success boosts the users' attitudes toward banking applications by reinforcing economic incentives.

The centrality dimension revealed a significant positive correlation with attitude, subjective norms, and behavioral intention. However, it also showed a non-significant negative link with perceived behavioral control (as discussed in the third hypothesis). This suggests that centrality may drive individuals to prioritize material possessions and wealth as key life objectives, positioning banking applications as useful tools to achieve this goal.

Similarly, the happiness dimension demonstrated a significant positive connection with attitude, subjective norms, and behavioral intention, but also exhibited a significant negative relationship with perceived behavioral control (as outlined in the fourth hypothesis). When wealth and material consumption are viewed as essential for a happy life, this outlook can lead to dissatisfaction with current life circumstances and overall well-being. Additionally, happiness is closely associated with the perception of social approval (i.e., social norms). Social comparison can boost feelings of happiness by motivating the individuals to pursue wealth or higher income (Coleman, 2019). Therefore, it is logical to observe a significant positive relationship between happiness and social norms.

This study emphasizes the important role of materialism in shaping the attitudes and behavioral intentions of users of banking applications. The results suggest that the success dimension has a particularly strong impact. Individuals who place greater importance on this aspect of materialism tend to hold more favorable attitudes toward banking applications, which in turn leads to a higher likelihood of using these applications in different contexts.

These findings provide valuable insights into the materialistic values that drive banking application users. Banks can leverage this knowledge by focusing on various dimensions of materialism that influence the users' attitudes and, consequently, their behavioral intentions. Materialistic users are more inclined to engage with banking applications, allowing banks to implement targeted strategies that promote responsible use among these individuals. By demonstrating the relevance of the theory of planned behavior in various contexts, this research highlights the significance of attitude, subjective norms, and perceived behavioral control as key factors in influencing the intention to use banking applications. Additionally, the findings can help banks and financial advisors gain a deeper understanding of customer attitudes and behaviors.

The results of this study show that the constructs of the theory of planned behavior serve as effective mediators in the relationship between various dimensions of materialism and the intention to use banking applications. Both attitude and subjective norms successfully mediated the relationships between success and centrality with behavioral intention, whereas perceived behavioral control did not have a significant mediating effect in this context. Furthermore, the research uncovered that subjective norms play a mediating role in linking different dimensions of materialism to behavioral intention, influenced by attitudes and perceived behavioral control. This emphasizes the impact of social norms—whether approval or disapproval—on the other constructs of the theory of planned behavior. Similarly, social norms were found to mediate the connection between happiness and behavioral intention through attitude and perceived behavioral control.

This study supports the theoretical extension of the theory of planned behavior (Ajzen, 1991) by incorporating the dimensions of materialism as the predictors of the theory's constructs. The findings illustrate that the dimensions of materialism—success, centrality, and happiness—have significant causal effects on the constructs of the theory of planned behavior. Moreover, the study suggests that these dimensions can shape the individuals' intentions to use banking applications by influencing their attitudes, subjective norms, and perceived behavioral control, offering important insights for managerial strategies.

Limitations and Recommendations

While the current study offers valuable experimental and managerial insights, it also has several limitations that warrant further exploration by future researchers.

Sample Population: The study mainly concentrated on residents of Kurdistan province. Had the sample population included individuals from across the entire country, the results might have differed. As a result, the findings should be interpreted carefully. Future studies should seek to incorporate participants from smaller towns and villages, as their views on dimensions of materialism could differ substantially from those of individuals living in larger cities.

Causality Issues: The use of cross-sectional data in this research poses challenges in establishing causality. Longitudinal studies would be beneficial as they allow for time series analysis, offering more accurate insights into the relationships among variables over time.

Perceptions of Materialism: Materialism is commonly linked to negative personality traits, such as selfishness, self-centeredness, and extrinsic motivation (Van Boven et al., 2010). However, this study focused on socially desirable responses, implementing measures to ensure anonymity and minimize socially desirable biases. Future research could offer valuable insights by examining the economic, social, and psychological impacts of materialism in a more comprehensive manner, considering both its positive and negative aspects.

REFERENCES

- Aboelmaged, M., & Gebba, T. R. (2013). Mobile banking adoption: an examination of technology acceptance model and theory of planned behavior. *International journal of business research and development*, 2(1).
- Ahamed, A. J., & Limbu, Y. B. (2018). Dimensions of materialism and credit card usage: an application and extension of the theory of planned behavior in Bangladesh. *Journal of Financial Services Marketing*, 23, 200-209.
- Ahuvia, A., & Wong, N. (1998). The effect of cultural orientation in luxury consumption. *Advances in Consumer Research*, 25(1), 29-32.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Ajzen, I. (2006). *Constructing a theory of planned behavior questionnaire*. University of Massachusetts Amherst.
- Ajzen, I., and M. Fishbein. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice Hall.
- Alipour Shirsavar, H., Gilaninia, S., & Mohammadi Almani, A. (2012). A Study of factors influencing positive word of mouth in the Iranian banking industry. *Middle-East Journal of Scientific Research*, 11(4), 454-460.
- Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the Theory of Planned Behaviour. *Appetite*, 50(2-3), 443-454.
- Baker, R. K., & White, K. M. (2010). Predicting adolescents' use of social networking sites from an extended theory of planned behaviour perspective. *Computers in Human Behavior*, 26(6), 1591-1597.
- Belk, R. W. (1985). Materialism: Trait aspects of living in the material world. *Journal of Consumer research*, 12(3), 265-280.
- Cakarnis, J., & D'Alessandro, S. P. (2015). Does knowing overcome wanting? The impact of consumer knowledge and materialism upon credit card selection with young consumers. *Young Consumers*, 16(1), 50-70.
- Coleman, M. (2019). Exploring the relationship between wealth and happiness in an international context. *Intuition: The BYU Undergraduate Journal of Psychology*, 14(2), 5.
- Donnelly, G., Ksendzova, M., & Howell, R. T. (2013). Sadness, identity, and plastic in over-shopping: The interplay of materialism, poor credit management, and emotional buying motives in predicting compulsive buying. *Journal of Economic Psychology*, 39, 113-125.
- Fitzmaurice, J., & Comegys, C. (2006). Materialism and social consumption. *Journal of marketing theory and practice*, 14(4), 287-299.
- Goldsmith, R. E., & Clark, R. A. (2012). Materialism, status consumption, and consumer independence. *The Journal of social psychology*, 152(1), 43-60.
- Hair Joseph, F., Black William, C., Babin Barry, J., & Anderson Rolph, E. (2010). *Multivariate data analysis: A global perspective*.
- Heaney, J. G., Goldsmith, R. E., & Jusoh, W. J. W. (2005). Status consumption among Malaysian consumers: Exploring its relationships with materialism and attention-to-social-comparison-information. *Journal of International Consumer Marketing*, 17(4), 83-98.
- Helm, S., Serido, J., Ahn, S. Y., Ligon, V., & Shim, S. (2019). Materialist values, financial and pro-environmental behaviors, and well-being. *Young Consumers*, 20(4), 264-284.
- Hurst, M., Dittmar, H., Bond, R., & Kasser, T. (2013). The relationship between materialistic values and environmental attitudes and behaviors: A meta-analysis. *Journal of Environmental Psychology*, 36, 257-269.
- Isham, A., Verfuether, C., Armstrong, A., Elf, P., Gatersleben, B., & Jackson, T. (2022). The

- problematic role of materialistic values in the pursuit of sustainable well-being. *International journal of environmental research and public health*, 19(6), 3673.
- Islam, R., Islam, R., & Mazumder, T. (2010). Mobile application and its global impact. *International Journal of Engineering & Technology*, 10(6), 72-78.
- Islam, T., Wei, J., Sheikh, Z., Hameed, Z., & Azam, R. I. (2017). Determinants of compulsive buying behavior among young adults: The mediating role of materialism. *Journal of adolescence*, 61, 117-130.
- Jafari, A. (2007). Two tales of a city: An exploratory study of cultural consumption among Iranian youth. *Iranian Studies*, 40(3), 367-383.
- Jayatilleke, B. G., Ranawaka, G. R., Wijesekera, C., & Kumarasinha, M. C. (2018). Development of mobile application through design-based research. *Asian Association of Open Universities Journal*, 13(2), 145-168.
- Jermstittiparsert, K., Wongsuwan, N., & Akkaya, B. (2023). Subjective norms and behavioural intention of e-banking adoption: mediating role of perceived usefulness. In *Two Faces of Digital Transformation: Technological Opportunities versus Social Threats*. Emerald Publishing Limited, Leeds, 177-193.
- Karabati, S., & Cemalcilar, Z. (2010). Values, materialism, and well-being: A study with Turkish university students. *Journal of economic psychology*, 31(4), 624-633.
- Kaur, J., Parida, R., Ghosh, S., & Lavuri, R. (2022). Impact of materialism on purchase intention of sustainable luxury goods: an empirical study in India. *Society and Business Review*, 17(1), 22-44.
- Kilbourne, W., Grünhagen, M., & Foley, J. (2005). A cross-cultural examination of the relationship between materialism and individual values. *Journal of Economic Psychology*, 26(5), 624-641.
- Kline, R. B. (2023). *Principles and practice of structural equation modeling*. Guilford publications, NewYork.
- Li, X., Dai, J., Zhu, X., Li, J., He, J., Huang, Y., & Shen, Q. (2023). Mechanism of attitude, subjective norms, and perceived behavioral control influence the green development behavior of construction enterprises. *Humanities and Social Sciences Communications*, 10(1), 1-13.
- Mariano, A. M., Silva, M. C., Mello, T. M., & Santos, M. R. (2022). The importance of mobile applications for companies' brand image: A study using structural equations. *Procedia Computer Science*, 214, 1128-1135.
- Masoom, M. R., & Moniruzzaman Sarker, M. (2017). Rising materialism in the developing economy: Assessing materialistic value orientation in contemporary Bangladesh. *Cogent Business & Management*, 4(1), 1345049.
- Melnyk, V., van Herpen, E., & Van Trijp, J. C. M. (2010). The influence of social norms in consumer decision making: A meta-analysis. *Advances in consumer research*, 37, 463-464.
- Mishra, V., Walsh, I., & Srivastava, A. (2022). Merchants' adoption of mobile payment in emerging economies: the case of unorganised retailers in India. *European Journal of Information Systems*, 31(1), 74-90.
- Nga, J. K., Yong, L. H., & Sellappan, R. (2011). The influence of image consciousness, materialism and compulsive spending on credit card usage intentions among youth. *Young Consumers*, 12(3), 243-253.
- Pandya, P., & Pandya, K. (2020). An empirical study of compulsive buying behaviour of consumers. *Alochana Chakra J*, 9(6), 4102-4114.
- Richins, M. L. (2004). The material values scale: A re-inquiry into its measurement properties and the development of a short form. *Journal of Consumer Research*, 31, 209-219.
- Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its

- measurement: Scale development and validation. *Journal of consumer research*, 19(3), 303-316.
- Rubin, A, & Babbie, ER (2016). *Empowerment series: Research methods for social work*. Cengage Learning.
- Shirkhodaei, M., Ghasemi Hamdani, I., Habibnejad Lojandi, L. (2016). The effect of the value of pluralism, trust, quality and risk perception in the consumer's intention to purchase organic products (Case study: consumers of organic products Hormozgan Province). *Journal of Hormozgan Cultural Research Review*, 7(12), 75-89. (In Persian).
- Sirgy, M. J. (1999). Materialism: The construct, measures, antecedents, and consequences. *Academy of Marketing Studies Journal*, 3(2), 78-110.
- Tatzel, M. (2002). "Money worlds" and well-being: An integration of money dispositions, materialism and price-related behavior. *Journal of Economic Psychology*, 23(1), 103-126.
- Van Boven, L., Campbell, M. C., & Gilovich, T. (2010). Stigmatizing materialism: On stereotypes and impressions of materialistic and experiential pursuits. *Personality and Social Psychology Bulletin*, 36(4), 551-563.
- Watchravesringkan, K. (2012). Cross-cultural equivalence of materialistic values scale (MVS): An exploratory study between the United States and Thailand. *Journal of Targeting, Measurement and Analysis for Marketing*, 20, 235-253.
- Watson, J. J. (2003). The relationship of materialism to spending tendencies, saving, and debt. *Journal of economic psychology*, 24(6), 723-739.
- Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2010). Explaining internet banking behavior: theory of reasoned action, theory of planned behavior, or technology acceptance model? *Journal of applied social psychology*, 40(5), 1172-1202.