

## THE IMPACT OF ELECTRONIC PAYMENT METHODS ON ELECTRONIC MARKETING

Dr. Fayek B. Elteer\*



\*Corresponding Author: Dr. Fayek B. Elteer

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### SUMMARY

This study aims to investigate the impact of electronic payment methods on electronic marketing at the Republic Bank in Libya. The study includes the factor of electronic payment methods as an independent variable and the factor of electronic marketing as a dependent variable. To achieve this objective, the researcher employed the descriptive-analytical (quantitative) method, using Confirmatory Factor Analysis (CFA) to verify the structural validity of the study factors and Structural Equation Modeling (SEM-AMOS) for data analysis. The study targets all employees working at the Republic Bank, including the headquarters and branches in the Libyan capital, Tripoli. The study concluded with several findings, the most important of which is that there is a positive relationship between electronic payment methods and electronic marketing. The researcher recommends that commercial banks, particularly the Republic Bank, should pay more attention to policies and practices related to customer privacy to enhance electronic marketing in Libya. Additionally, policymakers within the bank should focus on technical aspects and infrastructure, which in turn would have a higher positive impact on the performance of electronic marketing.

**KEYWORDS:** Electronic Marketing, Marketing, Electronic Payment Methods.

### INTRODUCTION

In recent times, it has become essential to focus on information technology and keep up with its advancements due to their direct impact on improving services. This is especially true for companies involved in marketing or service provision, as these companies can follow their plans—whether short-term or long-term—with the required quality and efficiency. This technology facilitates the provision of necessary resources and services in the simplest and most accessible forms.

Since companies need marketing to reach consumers or clients, and marketing itself requires various tools and skills, electronic marketing and technology play a crucial role in the success and sustainability of companies in the market. Amidst the significant advancements in the world of technology and information, and the immense information revolution that now dominates all business sectors globally, especially commercial companies, coupled with fierce competition, it has become imperative to focus on electronic marketing. The service impact of electronic marketing has become more evident as it expands the market scope by accessing global markets and creating new markets that were previously

unattainable with traditional commerce. Furthermore, the increasing engagement of individuals and projects in the fields of communication and the development of the banking industry, reliant on computers and information technology, has led to the emergence of remote electronic transactions and e-commerce. This, in turn, has introduced challenges in transaction fulfillment and the search for ways to settle these transactions. Given the numerous and rapidly evolving electronic payment methods, a new form of money known as electronic money has emerged, which is considered one of the most important electronic payment methods. This new form of money represents a shift from the traditional notion of tangible currency with intrinsic value to an intangible form that requires no intermediary for transactions.

### Problem Statement

Despite the significant role that electronic payment methods play in enhancing electronic marketing, many organizations in developing countries, such as Libya, do not pay sufficient attention to these methods to ensure the effective performance of electronic marketing.

In fact, there are relatively few studies on electronic payment methods in Africa in general and Libya in

particular, compared to the extensive research conducted in Europe, America, and various parts of Asia. Moreover, the few studies conducted in the Libyan context have focused their investigations on business technology and electronic marketing while neglecting the importance of electronic payment methods (Yasser et al., 2011; Jaafar, 2012; Abdel Hamid et al., 2014; Fahd et al., 2014; Ozma, 2015). Therefore, the aim of the current study is to examine the impact of electronic payment methods on electronic marketing to bridge the aforementioned research gap.

### 3. Objectives of the Study

The primary objective of the current study is to examine the impact of electronic payment methods on electronic marketing at the Republic Bank in Libya. To achieve this objective, the following specific goals have been identified:

1. Verify the relationship between electronic payment methods and electronic marketing at the Republic Bank.
2. Verify the relationship between human resource management and employee performance through an intermediary variable.

### 4. Scope of the Study

This research aims to evaluate the direct impact of electronic payment methods on electronic marketing, specifically at the Republic Bank in Libya.

### 5. Literature Review

First: General Overview of Electronic Payment Methods  
According to Al-Barad, Sharif Saeed (2000), the global economic environment has witnessed significant changes at the beginning of this century, primarily characterized by the growing use of advanced communication and media technologies. Among the sectors that have benefited from this change is the banking sector, which has gradually adopted electronic payment methods, moving away from traditional methods that affected its growth and financial performance. The most important electronic payment methods and technologies include:

#### Electronic money

**Electronic checks** (Al-Buheisi, Essam, 2005)

#### Credit cards

#### Smart cards

**Modern banking methods of payment and settlement** (Abu Kamil, Saad Mohamed, 2011)

**Requirements for Electronic Payment Methods** (Abu Kamil, Saad Mohamed, 2011)

For the establishment and spread of electronic payment methods, several requirements must be met at both the national and global levels:

1. **Technical Infrastructure:** Communication means are the main pillar that can lead to the spread of electronic payment technologies, ensuring profitable electronic transactions and secure entry into the information age.

### 2. Legal and Regulatory Requirements

Providing a legal and regulatory environment is crucial for the effective functioning of electronic payment methods. Creating this environment requires the concerted efforts of governments, businesses, and consumers.

3. **Qualified Human Resources:** Developing human capital through education is essential as individuals acquire the necessary scientific foundations, which play a significant role in improving banking services.

4. **Performance Efficiency:** This refers to the effective performance of all technical, financial, marketing, and legal functions and activities related to electronic banking operations (Abu Kamil, Saad Mohamed, 2011).

5. **Entrepreneurship and Adaptation:** This involves having a proactive and entrepreneurial spirit to seize available opportunities and innovate in various fields.

6. **Objective Evaluation:** Electronic bank websites should assign specialized entities to provide consulting services in technology, marketing, law, and electronic publishing to evaluate the effectiveness and performance of their websites.

### Second: Electronic Marketing

**Electronic marketing is defined** as "the application of the internet and related digital technologies to achieve marketing objectives" (Basel, 2009).

It is also described as "the process of effective and efficient use and development (with a clear digital vision) of digital marketing resources (expertise, knowledge, individuals, databases, relationships, etc.) and the tools available on the internet to achieve a competitive advantage in the electronic business market." Additionally, it is defined as "managing the interaction between the organization and the consumer in the virtual environment to achieve mutual benefits. The virtual environment of electronic marketing relies primarily on internet technologies, and the electronic marketing process focuses not only on product transactions with the consumer but also on managing relationships between the organization and the consumer, as well as internal and external environmental elements" (Saud Abdullah, 2000).

From the above, we see that the concept of electronic marketing does not differ from other marketing concepts except in terms of the means of communication with customers, as it relies on the internet as a fast, easy, and cost-effective way to carry out all marketing activities such as advertising, sales, distribution, marketing research, product design, and pricing.

### Advantages of Electronic Marketing

Electronic marketing can be characterized by the following internet-related features, which must be understood for successful marketing operations (Mehdi Hussein, 2001):

#### (1) Targeted Transmission Capability

The internet enables institutions to identify their customers even before the purchase process because digital technology allows website visitors to identify themselves and provide information about their needs and desires before purchasing.

#### (2) Interactivity

This refers to the ability of customers to express their needs and desires directly to the institution in response to the institution's marketing communications.

#### (3) Memory

The ability to access databases containing information about specific customers, their past purchases, and preferences, allowing the marketing institution to use this information in real-time to personalize marketing offers (Salem, 1990).

#### (4) Control

The ability of customers to control the information they provide, disclosing only what they want without being forced to share confidential or unwanted information.

#### (5) Accessibility

The possibility for customers to obtain broader and more detailed information about the institution's products and values, and compare them with other competing products and prices.

### Hypotheses

To achieve the objectives of this study, the following research hypothesis has been formulated:

There is a statistically significant positive relationship between electronic payment methods and electronic marketing at the Republic Bank.

### Research Methodology

#### Data Collection

For this study, data were collected from both primary and secondary sources. The primary source consisted of a survey, while the secondary source included extensive desk research through library resources, various publications, and the global network. Regarding the survey, a questionnaire was developed to measure the impact of electronic payment methods on electronic marketing, based on a set of previous studies. The researcher used a five-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree.

A note explaining the researcher's intention to collect data was included. Subsequently, the researcher distributed a total of 455 questionnaires to the sample participants, with 407 returned, representing a response

rate of approximately 84%. Some returned questionnaires lacked important information and were thus excluded, leaving 381 questionnaires deemed usable for statistical analysis. The distribution and collection of questionnaires took place from October 2022 to March 2023.

### Sampling

The target population for this study consists of employees working at the Republic Bank in Tripoli, Libya. A random sample of 455 employees was selected to participate in the study, using a random sampling technique.

### Key Statistical Methods Used in This Study

To test the validity of the constructs and hypotheses, Structural Equation Modeling (AMOS) was used. The model's fit was assessed using four fit indices:

Comparative Fit Index (CFI)

Chi-Square Statistics (MacDonald & Marsh, 1990)

Root Mean Square Error of Approximation (RMSEA): Values between 0.08 to 0.10 indicate a mediocre fit (Browne & Cudeck, 1993), and models with RMSEA greater than 0.1 ( $> 0.1$ ) are not used (MacCallum et al., 1996).

Minimum Discrepancy per Degree of Freedom (CMIN/DF) or Normed Chi-Square (Marsh & Hocevar, 1985)

### 8.2 Construct Validity

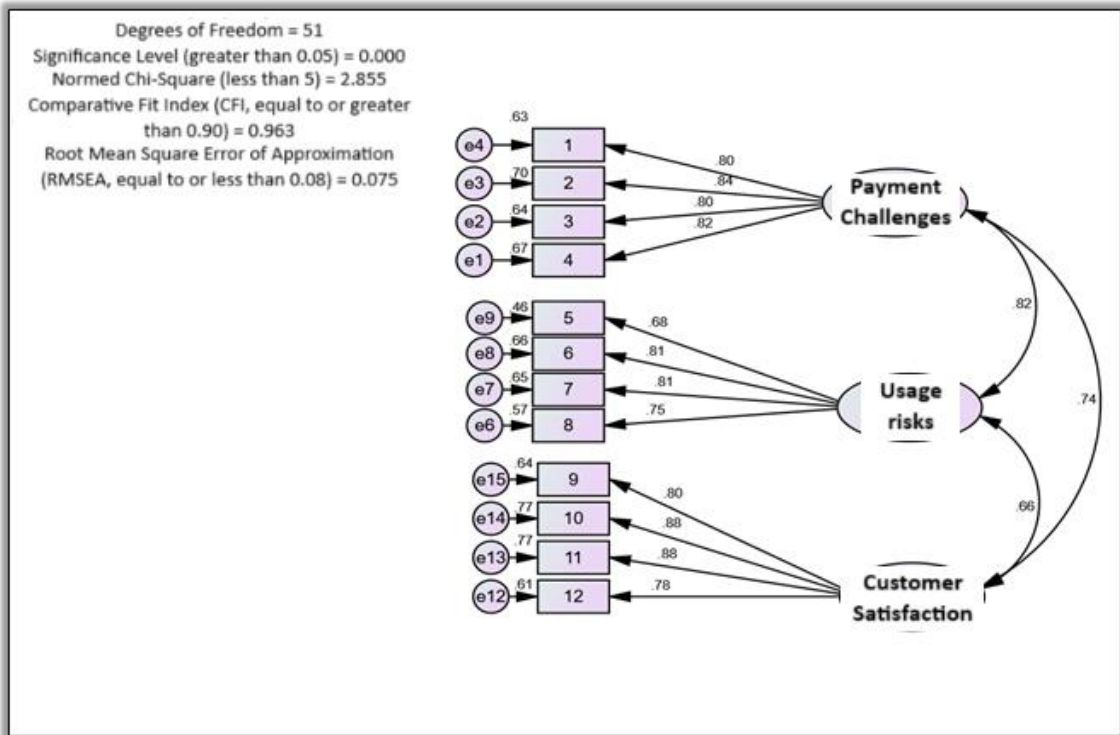
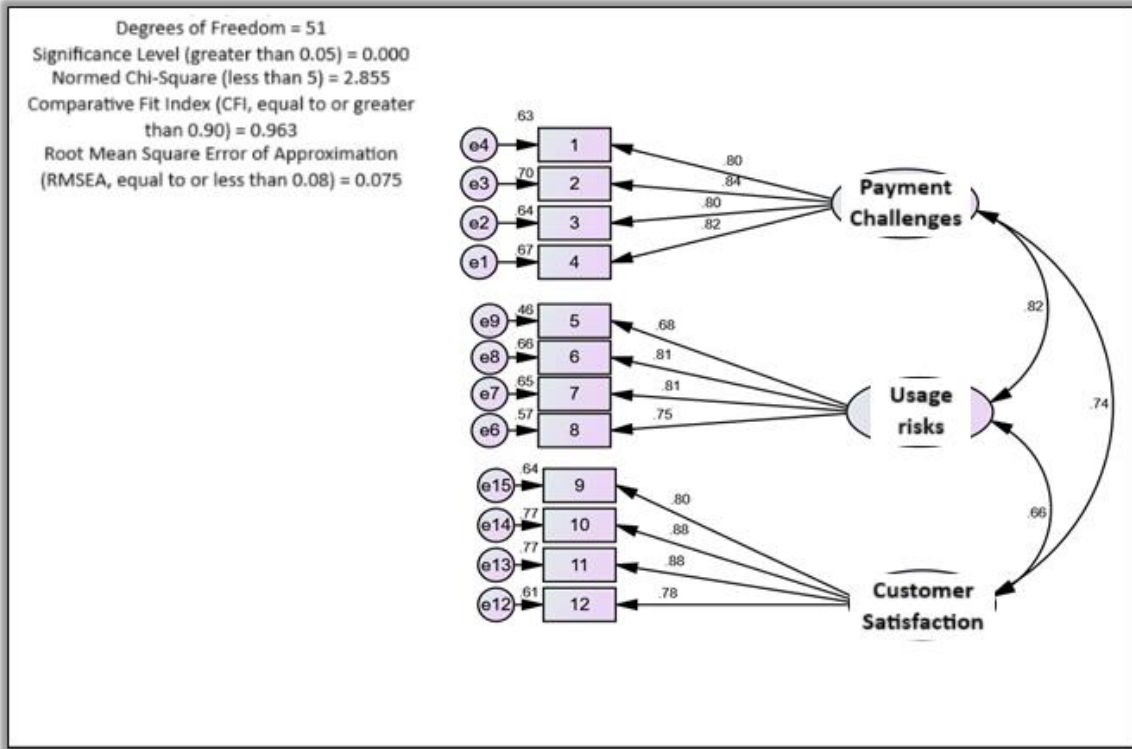
According to Hair, Black, Babin, Anderson, and Tatham (2006), composite reliability (CR) and average variance extracted (AVE) are used to determine convergent validity. A value equal to or greater than 0.5 ( $\geq 0.5$ ) for AVE and a composite reliability equal to or greater than 0.7 ( $\geq 0.7$ ) are recommended (Hair et al., 2006). Additionally, AVE values should be greater than the reading values.

### Data Analysis and Discussion of Results

#### Confirmatory Factor Analysis (CFA) for Variables and Measurement Scales

- CFA for Electronic Payment Methods:

The results of the final model fit for the electronic payment methods indicated that the normed chi-square (CMIN/DF) was 2.855, which did not exceed 5. The CFI was 0.963, which is higher than 0.90, and the RMSEA was 0.075, which is less than 0.080. These results demonstrate the adequacy of the final model fit for electronic payment methods.



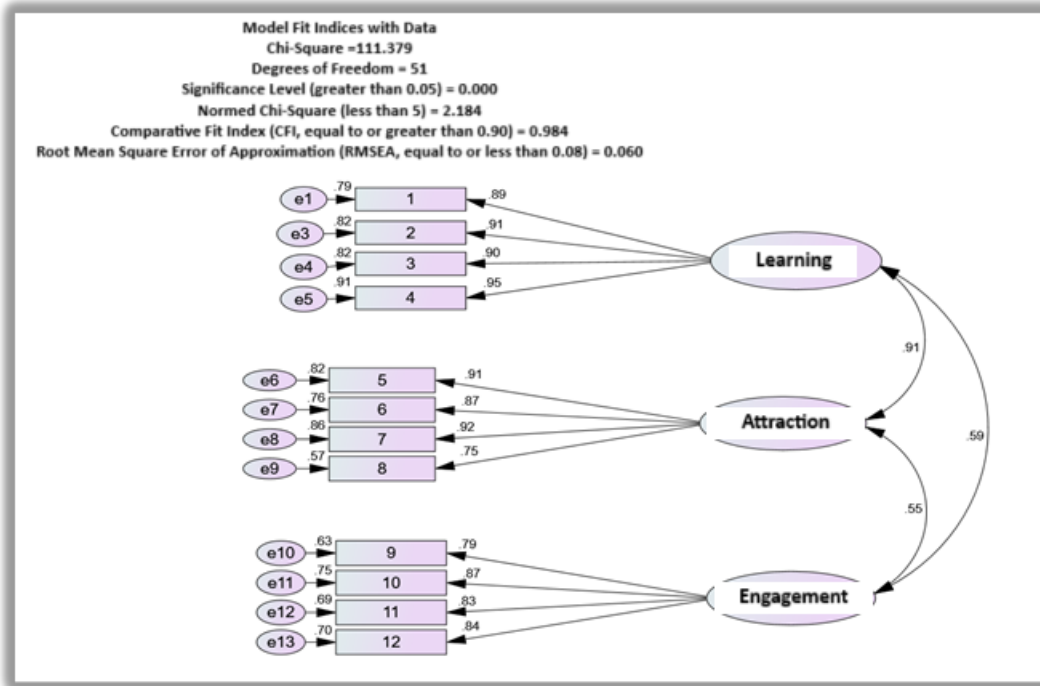
Model for Measuring Electronic Payment Methods

Correlation Matrix Between Latent Variables in the Electronic Payment Methods Scale

Latent Variables	Payment challenges	Usage risks	Client satisfaction
Payment challenges	1		
Usage risks	82.	1	
Client satisfaction	66.	.77	1

(CFA) Electronic Marketing  
 The results of the final model fit for the electronic marketing model showed that the normed chi-square (CMIN/DF) was 2.184, which did not exceed 5. The CFI

was 0.984, which is higher than 0.90, and the RMSEA was 0.060, which is less than 0.080. These results demonstrate the adequacy of the final model fit for the electronic marketing model.



**Model for Measuring Electronic Marketing**

Correlation Matrix Between Latent Variables in the Electronic Marketing Scale

Latent Variables	Learning	Attraction	Engagement
Learning	1		
Attraction	.91	1	
Engagement	.59	.56	1

Fit Indices for the Electronic Payment Methods Measurement Model

Fit Index	Value (Electronic Payment Methods Model)	Value (Electronic Marketing Model)	Accepted Threshold
Chi-Square ( $\chi^2$ )	145.585	111.379	---
Degrees of Freedom (df)	51	51	---
Significance Level (p-value)	0.000	0.000	Non-significant
Normed Chi-Square (CMIN/DF)	2.855	2.184	Less than 5
Comparative Fit Index (CFI)	0.963	0.984	Greater than 0.90
Root Mean Square Error of Approximation (RMSEA)	0.075	0.060	Less than 0.08

**Testing the Theoretical Model of the Study Using Integrated Structural Equation Modeling**

First: Testing the Standard Model

In this step, the validity of the study model designed by the researcher is confirmed. This model represents the extent to which the measures differ from each other through Structural Equation Modeling (SEM-AMOS). Additionally, it ensures that the proposed study model fits the sample data and verifies the validity of the hypothesis in the theoretical model.

The figure (Figure No. ...) illustrates the theoretical model of the study using Structural Equation Modeling with the AMOS program. It consists of the electronic payment methods model as an independent variable through several observable dimensions. Furthermore, the electronic marketing factor is included as a dependent variable, represented by a set of dimensions.



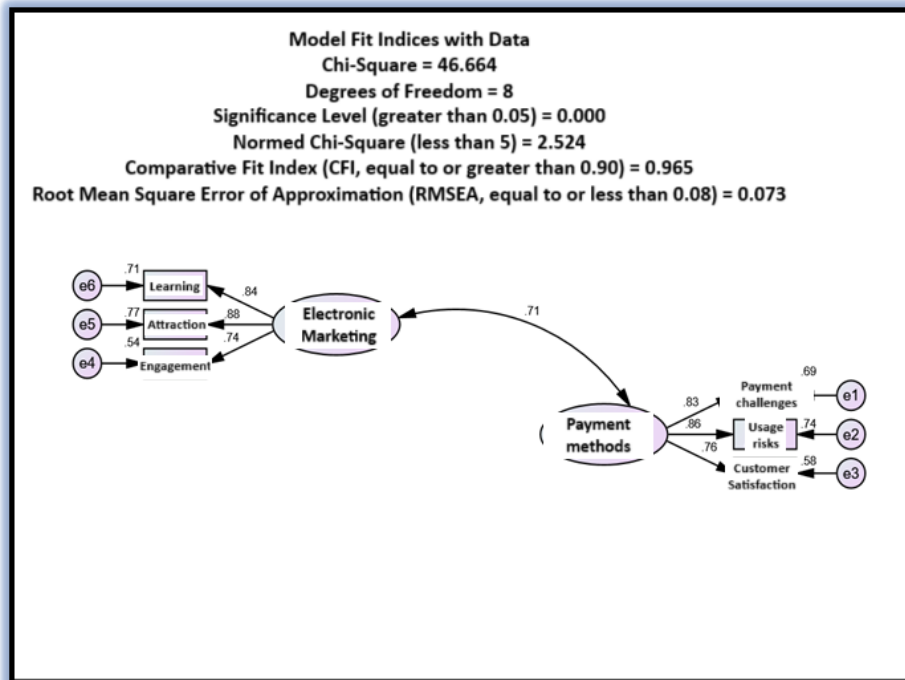


Figure No. (...) Main Standard Model Diagram Consisting of (Electronic Payment Methods, Electronic Marketing)  
 Source: Prepared by the researcher based on statistical analysis.

**b. Model Fit with Sample Data**

Based on the values and indicators of model fit with the sample data, presented in Table No. (...) and Figure No. (...), it is evident that there is a fit between the hypothetical model (Electronic Payment Methods, Electronic Marketing) and the collected data. This conclusion is drawn from the Chi-Square value of 46.664, degrees of freedom of 8, and a significance level of 0.000, indicating statistical significance.

The goodness of fit was tested using several indicators, including the normed Chi-Square (relative) value of 2.524, which is less than the specified standard of 5. The Comparative Fit Index (CFI) value was 0.965, which is greater than the benchmark of 0.90. This confirms that the hypothetical model in this study has correlations and relationships between the variables in the model, and it is

significantly different from the null model, which assumes no relationships between the factors (variables) in the model.

Additionally, the Root Mean Square Error of Approximation (RMSEA) value was 0.073, which is less than the benchmark of 0.080, as shown in Table No. (...) and Figure No. (...). This further confirms that the theoretical hypothetical model is represented in the overall population from which the data were collected.

In summary, these values and indicators suggest that the hypothetical theoretical model, consisting of two latent factors, fits the reality in the study environment based on the collected data. This allows for the verification of the efficiency of factor loadings and the internal paths or hypotheses in the theoretical model.

**Table No. (...) Fit Indices for the Model (Electronic Payment Methods, Electronic Marketing)**

Fit and Suitability Indices for the Model	Main Standard Model	Structural Equation Model	Value Indicating Good Fit (Accepted Standard)
	Indicator value	Indicator value	
Chi-Square (cmin)	46.664	46.664	
Degrees of Freedom (df)	8	8	
Significance Level (p)	0.000	0.000	Non-significant
Normed Chi-Square (cmin/df)	2.524	2.524	Less than (5)
Comparative Fit Index (cfi)	0.965	0.965	Greater than (0.90)
Root Mean Square Error of Approximation (Rmse)	0.073	0.073	Less than (0.080)

Source: Prepared by the researcher based on statistical analysis.

**Factor Loadings Efficiency in the Study Model**

Factor loading refers to the correlation between latent factors and the variables or dimensions they represent. For example, the relationship or correlation between the latent factor "electronic requirements" and its three dimensions. Here, these relationships should have a value of at least 0.50. From the model diagram, represented in Figure ( ), it is clear that all the loadings or correlations of the variables (represented by rectangles) and the latent factors (represented by ovals) were high and exceeded the specified benchmark of 0.50. These are referred to as factor loadings or standardized estimates. The values were high and ideal, ranging between 0.88 and 0.74, as shown in the results.

**Second: Testing the Structural Model of the Theoretical Study Model**

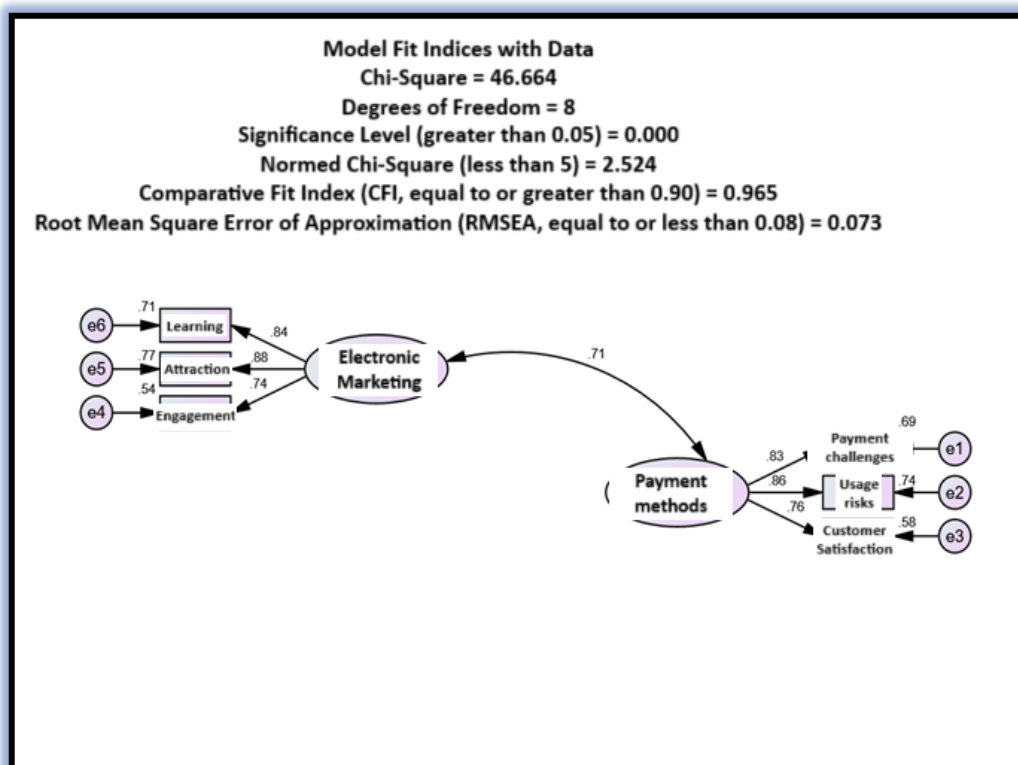
**a. Fit of the Structural Model with Sample Data**

The structural model (independent and dependent relationships) does not differ from the standard model (correlations) in terms of fit values and indices. Based on the values and fit indices of the structural model with the sample data, presented in Table ( ) and Figure ( ), it is evident that there is a fit between the hypothetical model (Electronic Payment Methods and Electronic Marketing) and the collected data. This is shown by a Chi-Square value of 46.664, degrees of freedom of 8, and a significance level of 0.000, indicating statistical significance. This implies that there are no differences between the hypothetical theoretical model and the data since the significance level was less than 0.05.

The quality of fit was also tested using several other indicators, including the normed Chi-Square (relative) value of 2.524, which was less than the specified standard of 5, and the Comparative Fit Index (CFI) value of 0.965, as shown in Table ( ) and Figure ( ). This was greater than the benchmark of 0.90, indicating and confirming that the hypothetical study model has correlations or relationships between its variables (Electronic Payment Methods and Electronic Marketing). It is significantly different from the null model, which assumes no correlations or relationships between the model's variables.

Additionally, the Root Mean Square Error of Approximation (RMSEA) value was 0.073, which is less than the benchmark of 0.08, confirming that the hypothetical model (Electronic Payment Methods and Electronic Marketing) is represented in the study population.

Based on these findings, it can be concluded that the indicator values suggest that the hypothetical theoretical model (structural) consisting of two latent factors (Electronic Payment Methods and Electronic Marketing) fits the reality in the study environment based on the collected data. Thus, the main hypothesis of the study can be verified.



**Figure (5-4): Structural Model Diagram Consisting of (Electronic Payment Methods and Electronic Marketing)**  
 Source: Prepared by the researcher based on statistical analysis.

### b. Testing the Main Hypothesis of the Model

After confirming the efficiency of the correlations or relationships between the observed variables and their latent factors, and subsequently the relationships and correlations between the latent variables in the study model, the hypothesis of the theoretical model is tested:

#### 1. Verification of the Main Hypothesis: This confirms the positive effect and relationship between electronic payment methods and electronic marketing

By examining the statistical analysis outputs (SEM), as clearly illustrated in Figure ( ), which shows the structural model diagram for the causal relationships between the study factors, and from Table ( ), which also shows the AMOS program outputs, the hypothesis was statistically significant. The value of the Critical Ratio

(C.R) was 17.253, which was higher than the benchmark of 1.964, indicating its presence in the hypothesis acceptance region and its distance from the rejection region. Additionally, the significance level (P) was 0.000, which is statistically significant and less than the benchmark for statistical significance (0.05). Furthermore, the path coefficient or standardized estimates value was 0.710 and had a positive direction, confirming that the focus on electronic payment methods is very important and has a 50% positive impact on electronic marketing. This means that the impact of electronic payment methods on electronic marketing was 50%, which is considered very high as it was more than 25% according to Cohen's classifications (Cohen, 2002).

**Table (14-4): Unstandardized and Standardized Parameters and Coefficients of the Model.**

Latent Construct	Effect	Latent Construct	Estimate	Standard Error (S.E.)	Critical Ratio (C.R.)	P-Value	Standardized Regression Weights	Result
Electronic Payment Methods	→	Electronic Marketing	0.541	0.08	17.253	0.000	0.71	Accept

### REFERENCES

1. Jaafar, Yasser, et al. (2011). The Impact of Technology on Electronic Marketing, Third Cairo Conference on Economics.
2. Abdel Hamid, et al. (2012). Paper presented at the Entrepreneurship Symposium, Alexandria, Egypt.
3. Fahd, et al. (2014). Fourth Commerce Conference, Sudan.
4. Ozma. (2015). Translated by Fareeda Mohamed Ahmed, Paper for the Fifth Economics Conference, Egypt.
5. Al-Barad, Sharif Saeed. (2000). E-Commerce and E-Government.
6. Al-Buheisi, Essam. (2005). Technology in Economy and Trade, 1st edition, Amman.
7. Abu Kamil, Saad Mohamed. (2011). Economic Information Systems, 2nd edition, Egypt.
8. Asl, Abdel Nour. (2009). E-Commerce and Payment Methods as an Approach to Change, Unpublished Master's Thesis, Tripoli, Libya.
9. Saud Abdullah. (2000). Modern Economy, 2nd edition, Sudan.
10. Mehdi Hussein. (2001). The Role of Communications in Economic Change, Unpublished Master's Thesis.
11. Salem, Abdullah. (1990). The Role of Modern Economy in Changing Trade Patterns, First Economics Conference, Sudan.
12. Marsh, H. W., and Hocevar, D. (1985). Translated by Mohamed Ahmed Mansour, Contemporary Global Economy, Jordan.
13. Cohen, J. (2002). Translated by Khaled Abdullah, Statistics for Social Research, Tunisia.