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Investigating the Effect of Electronic Payment on Household Consumption

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Abstract

The aim of this study was to investigate the effect of electronic payment on household consumption. The statistical population of this study is unlimited. Therefore, the sample size was obtained using Cochran's formula with an error of 0.06 and a confidence level of 267 at 95% confidence level. The realm of time is from 1394-1399. The research is applied in terms of purpose and descriptive-survey in terms of research method. The data collection tool in this research is a questionnaire. 300 questionnaires were distributed among the selected sample size. In order to analyze the data and results, SPSS software version 26 was used. Kolmogorov-Smirnov test was used to normalize the research data and Pearson correlation coefficient was used to test the research hypothesis and analysis of variance was used to measure the effect. Findings show that there is a significant effect between electronic payment and household consumption. Therefore, the research hypothesis was proved and the research question was answered.

Keyword: Cochran's formula; electronic payment; household consumption; Kolmogorov-Smirnov test

1. Introduction

Throughout history, different types of change units have been used. Money has been an essential part of humanity for 3,000 years. Before the invention of money, trade was practiced through the exchange of goods, called the exchange system. This is a direct trade in goods and services. Even today, some people or governments often use barter to exchange goods and services. The first official coinage was invented in the 5th century by King Aliats in Lydia. The coins are made of electrome, a mixture of naturally occurring silver and gold, sealed with images that act as cults. Money is not created as a currency by states. Money was created because people who wanted to trade their goods found a means of exchange. Money becomes more useful when more people start using it as a medium of exchange

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(Schlichter, 2011), as the economy changes and needs, the shape of money changes into banknotes. It is easier to produce, transport and store.

Precious metals and commodities. In a business system, banks play a major role in the development of money. The history of the banking system dates back to around 2000 BC, when the first loans were taken between grain merchants and merchants who transported goods through Assyria and Babylon. The first official report of transactions and commercial papers was prepared in temples and palaces. Hammurabi Code, one of the first known legislators, governed the laws that govern a kind of banking system. Applying the law of Hammurabi to our modern financial banking system is not easy, yet it remains a fundamental point. Before and now, the financial system becomes the headquarters. In the ancient world, these offices were temples, while today they are central banks (Kelly, 2014).

The microfinance sector in developing countries, along with the diversification of services, including IT-related services that these institutions have been providing to their clients since the 1990s, has seen a significant increase in the number of microfinance institutions (Buckley, 1997). Introducing innovative forms of ICT services by micro-financial institutions to provide financial services to all segments of society is an important element in improving previous business processes. Therefore, it brings automation to manual forms of doing business. The ability of the best method to optimize the use of information and communication technology has been the main criterion for promoting the promotion and strengthening of future economic mobility in developing countries [4].

The use of mobile communication technology has been identified in several studies that play a key role in automation of payment transactions (Choi et al., 2006; Roy, 2004; Agarwal et al. (2017) found that debt reduction programs designed to improve the household balance sheet have a significant impact on a wide range of economic outcomes. DiMaggio et al. Found that reducing the federal budget rate from 6.4 percent to about 3.1 percent could lead to a $ 940 per month mortgage rebate, which would increase car consumption by an average of 35 percent, and the overall MPC estimated 0.8. Becomes. More precisely, determining a mortgage contract works similar to settling a debt balance, and adjusting a downward swap mortgage payment is similar to paying a down payment. Our empirical evidence shows that the MPC for temporary mortgage payment changes is only half the size of the MPC for permanent mortgage determination. These findings enrich the literature by comparing the impact of different loan reform policies on household consumption in normal economic times. In addition, it has potentially important implications for policymakers when designing and evaluating the effectiveness of consumption-enhancing policies during economic recovery (Di Maggio, 2017).

This article seeks to show a significant relationship between electronic payment and household consumption. Due to the crisis of Covid-19 disease and the observance of health protocols by the authorities and the people, households have become more inclined to do their banking affairs electronically through online payment gateways as well as mobile applications such as mobile banks, apps, etc. and have caused a decrease. It was a waste of time. Now the research question is whether there is a significant effect between electronic payment and household consumption?

2. Literature and research background

Studies on the factors influencing technology adoption are critical to the development of new and existing ICT products and services worldwide. This is very important for technology transfer from developed to developing countries. Technology is often transferred in developing countries without considering the unique attitudes and characteristics of users. There is a growing literature that points to the fact that advances in the development of electronic mobile payment systems are expected to replace coins and paper (Maurer, 2008).

Rahman and Bignall (2001) adds to the need for research to begin evaluating such systems according to user organization. Money is useless without trade, and trade is only possible if you own private property. In socialist and communist systems, where all resources are controlled and used by the state,

there will be no need for exchange. In contrast to communism, the capitalist system can be described as "a social system based on the explicit recognition of private property and the contractual exchange between owners of private property." This means that money is a commitment to the capitalist economic system. In modern economic systems, money has three functions: exchange intermediary, reserve value, and unit of account.

- Intermediary of exchange: Money can be exchanged with goods and services.
- Value storage: Money can be used to transfer purchasing power from the present to the future.
- Unit of account: Goods and services are transferred in terms of currency.

The currencies used today are Fiat currencies, where the currency is issued by the government and its supply is managed by a central bank. Fiat currency has no real value unless supported by power. This money is called money because it is supported by a government as a legal instrument. The value of Fiat value depends on social status, well-being and future expectations. If the trust in the currency is lost for various reasons, it means that the money may be blocked. Historical monetary policy experiences have shown that delegating control of monetary policy to governments may lead to the reversal of undesirable decisions. The government may want to increase the money supply to solve the recession. This can destroy trust and increase general price stability in an economy (Franco, 2015). Online banking, which can be defined as the provision of information or services by a bank to its customers via the Internet (Daniel, 1999). It has been one of the most important developments in the financial services sector in recent years (Floh and Treiblmaier, 2006). Electronic banking technology includes a variety of services, from ATM services and direct deposit to automatic bill payment, electronic funds transfer and banking banking (Kolodinsky et al., 2004). Internet banking enables fast transactions, accessibility, time and cost savings through the provision of free paper and complete and up-to-date transactions (Gan, 2006), where Internet banking is no longer a competitive advantage but a competitive necessity for it is the banks.

The banking sector must recognize that e-banking acceptance must be managed with the dual purpose of creating a useful service and building a secure relationship with customers. The explicit nature of the customer relationship with the bank is to obtain useful and efficient e-banking services, the trust of the customer and its predecessors is an essential aspect of this relationship and contributes to its value (Yousafzai et al., 2010). Understanding more is the banking system, where there are factors that affect the acceptance of new products. Factors that influence consumer behavior in product use, age of coverage, life cycle, occupation, lifestyle and financial behavior, individual preferences, including behavioral intention to use information technology. It is believed that culture, social life, personal and psychological factors also influence people's preferences. Consumer preferences in using e-cards for payment are measured by their tools, such as improving e-card usability (Kim et al., 2005), product profit as well as price, and physical product features.

One of the determinants of household consumption is liquidity constraints (Hayashi, 1985; Li et al., 2016). In the literature on life cycle perpetual income theory (Modigliani and Cao, 2004), Atanasio and Weber show that liquidity constraints are one of the main factors in explaining the failure of life cycle models in predicting household consumption (Attanasio and Weber, 2010). Japli and Pagano show that households in economically less affluent areas are likely to suffer from limited liquidity. And financial development increases consumer demand by making it easier to obtain consumer credit (Jappelli and Pagano, 1989). Gerlach and Bachta also show that the difference between the loan rate and the deposit rate, as a measure of the degree of credit stress, is always negatively correlated with total consumption.

Several articles have examined the important relationship between economic development and consumption growth (Bacchetta and Gerlach, 1997). The research hypothesis is electronic payment has a significant effect on household consumption.

3. Methodology

The present study is an applied research in terms of purpose. It is a descriptive survey method. This study has been conducted in terms of time dimension over a period of five years on the impact of electronic payment and household consumption. According to the research plan, considering that this plan is one of the important issues of the selected geographical area, therefore, it has internal validity, and according to the research subject, this plan can also have external validity and generalize it. The statistical population used in this study is unlimited. The sample size determined by the Cochran's formula, taking into account the 95% confidence level and the maximum error of 0.06, the sample size reaches 267 people. The sampling method is cluster random. Therefore, 300 questionnaires were distributed among the selected sample size. In order to collect data in the present study, the following two methods have been used: 1) Library method: In this method, to collect data related to the theoretical part, from books, articles, dissertations and scientific resources and computer search on sites. And various databases such as Science Direct, El Zivar, Quarterly Journal of Consumer Behavior Studies of Kurdistan University, comprehensive portfolio of humanities, etc. are used. 2) Field method: In this method, by designing a questionnaire and distributing it among the statistical sample, the required data on the subject is collected. Before the complete distribution of this questionnaire was distributed and completed among 30 qualified people to determine the Cronbach's alpha coefficient, the alpha coefficient obtained for the research questionnaire was 0.91. Since $\alpha \geq 0 / 9$ is obtained, this coefficient is in excellent range and suffering.

4. Research Findings

In the present study, a questionnaire has been developed for conducting research entitled "Assessing the effect of electronic payment on household consumption". This chapter consists of two main parts: data description and data analysis. In the data description section, the research variables were described by frequency distribution and descriptive statistics. In the data analysis section, the research hypotheses were examined. Before testing the hypotheses, the normality (having a normal distribution) of the studied variables was checked by a sample of Kolmogorov-Smirnov test and then appropriate statistical tests were used. Spss software version 26 was used for data analysis and the significance level was considered 0.05. It should be noted that all surveys in this chapter are based on 267 questionnaires collected.

4.1. Quantitative and qualitative descriptive statistics

In this section, based on the information collected from the questionnaire, descriptive indicators of electronic payment variable and household consumption variable are presented. For this purpose, the numbers 1 to 5 are considered for strongly disagree and strongly agree, respectively, then the numbers related to the questions of each dimension are averaged. Common central and dispersion indices such as mean, median, mode, standard deviation, minimum and maximum for all components of the two variables of electronic payment are calculated in Table 1 and household consumption in Table 2.

Table 1. Central indicators and dispersion for electronic payment

Variable	Dimensions	Average	Median	Mod	Standard deviation	Min	Max
electronic payment		4.22	4.40	5.00	0.83	1.00	5.00

Table 2. Central Indicators and Dispersion for Household Consumption

Variable	Dimensions	Average	Median	Mod	Standard deviation	Min	Max
Household Consumption		3.61	3.84	4.00	0.98	1.00	5.00

4.2. Qualitative description of electronic payment

Out of 267 people surveyed, 5 (1.9%) completely disagree with electronic payment, 10 (3.8%) disagree, 18 (6.7%) have no opinion, 97 (36.3%) agree and 137 People (51.3%) completely agreed. Many results are given in Table 3.

Table 3. Frequency distribution of electronic payment

Variable	Items	Frequency	Percent
electronic payment	strongly disagree	5	1.9
	disagree	10	3.8
	refuse	18	6.7
	agree	97	36.3
	strongly agree	137	51.3
	Total	267	100

4.3. Qualitative description of household consumption

Out of 267 people surveyed, 9 (3.4%) completely disagree with household consumption, 35 (12.8%) disagree, 60 (22.3%) have no opinion, 89 (33.2%) agree and 74 people (27.5%) completely agreed. Many results are given in Table 4.

Table 4. Frequency distribution of household consumption

Variable	Items	Frequency	Percent
Household Consumption	strongly disagree	9	3.4
	disagree	35	12.8
	refuse	60	22.3
	agree	89	33.2
	strongly agree	74	27.5
	Total	267	100

4.4. Inferential statistics

In the present study, Pearson correlation coefficient was used to test the hypothesis.

Hypothesis H0: There is no significant relationship between electronic payment and household consumption.

Hypothesis H1: There is a significant relationship between electronic payment and household consumption.

Table 5. Pearson correlation coefficient test results

Hypothesis title	Pearson	Existence of a relationship	Result
There is a significant relationship between electronic payment and household consumption	0.629	Has it	Verification

As can be seen in Table 5, the Pearson correlation coefficient has been obtained at the significance level of 0.000, 0.629, and since the significance level is less than 0.05, the relationship between the two variables is significant. H1's assertion that there is a significant relationship between electronic payment and household consumption is confirmed. Now, in order to investigate the effect of electronic payment on the household consumption variable and also to find the linear equation (relationship) between these two variables, we use linear regression. The results obtained from the analysis of variance table are in accordance with Table 6. Analysis of variance indicates that the regression model is significant (significance level less than 0.05).

Table 6. Analysis of variance

Model	Sum of squares	Degrees of freedom	Average of squares	Statistics F	meaning
Regression	101.376	1	101.376		
Left over	154.649	256	0.584	173.714	<0.000*
Total	256.025	266			

Dependent variable: household consumption * at the level of 0.05 significant

We included household consumption as a dependent variable and electronic payment as an independent variable in the model. The regression coefficients and other information are shown in Table 7.

Table 7. Regression coefficients between electronic payment and household consumption

	Non-standardized coefficient		Standardized beta	t	P value	R
	Beta coefficient	The standard error				
Constant	0.506	0.24		2.107	0.036	0.629
Electronic payment	*0.735	0.056	0.629	13.180	0.000	

Dependent variable: household consumption * at the level of 0.05 significant

Since the value (significance level) for the constant value P is greater than 0.05, the presence of a constant value in the regression equation is not significant. Electronic payment has a coefficient of 0.735. According to P, the value obtained for this variable (P value less than 0.05) the existence of electronic payment in the regression equation is significant. Therefore, the linear regression equation can be expressed as follows:

Equation: Electronic payment * 0.735 = household consumption

5 Conclusion

In explaining the main hypothesis, it can be said that there is a significant relationship and effect between electronic payment and household consumption. Due to the prevalence of Covid-19 disease and due to the observance of health protocols in the community, households try to do their daily chores such as paying bills, mobile phone expenses, credit charges, buying internet packages, paying installments, etc., relying on Avoid electronic payments from unnecessary outflows. Therefore, recognizing the relationship between these two variables can have dramatic consequences on household consumption. The results of this study are consistent with Daniel (1999) entitled "Providing e-Banking Services in the UK and the Republic of Ireland" and Floh and Treiblmaier (2006) entitled "What Keeps an E-Banking Customer Loyal?" Multi-group analysis of the moderating role of consumer characteristics on e-loyalty in the financial services industry. Social Science Research Network. It is suggested that in future research, the dimensions of electronic payment be measured with the dimensions of household consumption and demographic variables be used.

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