International Journal of Innovation in Management , Economics and Development
Vol.2, NO.1 , P: 19 - 26
Received : 18 Jan 2020
Accepted : 22 March 2020

Investigating the relationship between online payment of bills and household consumption

Roghayeh Askari
M.Sc.,Organic Chemistry, Faculty of Basic Sciences, Payame Noor University, Isfahan, Iran
R.Askari1919@yahoo.com
Keramat Askari*
Master student, Financial Management, Faculty of Humanities, Islamic Azad University, Kazerun, Iran
Keramat.Askari.019@gmail.com

Abstract
Increasing advances in technology and mobile applications, on the one hand, saving time on home payments on the other, and crises such as the Covid-19 crisis and adherence to health protocols, are forcing households to pay their home payments, such as online bills, via mobile apps. Do. Making home payments online has advantages such as no traffic in cities and streets, no spread of infectious diseases such as Quaid-19. The purpose of this study was to investigate the relationship between online payment of bills and household consumption. The statistical population of this study was unlimited and based on Cochran's formula with an error rate of 0.07, the selected sample size was considered equal to 196 households. This research is applied and descriptive-survey. In order to test the hypotheses, 250 questionnaires were collected. In order to analyze the data and results, SPSS software version 26 was used. Pearson correlation coefficient was used to test the hypothesis. Findings show that there is a significant relationship between online payment of bills and household consumption and these two variables are directly related. This result indicates that the research hypothesis that there is a significant relationship between online payment of bills and household consumption has been confirmed.

Keywords: Online payment of bills, Covid-19, household consumption

1. Introduction

The global retail industry is undergoing transformation. The future of the retail industry will be very different. Online to offline and payment technology will bring value innovation. When digitalization moves across channel boundaries, online to offline channel retail will expand. Because consumers are not loyal to any channel, the retail industry must provide a seamless purchase experience for both online and offline channels. Global retailers must also actively invest in the online to off line experience. In 2019, up to 90% of global retail sales are still generated from physical stores and the top 250 rankings show that, despite the rapid development of e-commerce, offline channels still dominate the current retail industry [1].
However, in the future, the role of offline channels will change from providing goods to becoming a provider of service and living

solutions. Technology-assisted upgrades mean that consumers are becoming more accustomed to innovative technology, as well as gold flow and business models. Digitization has expanded to all stages of the consumer purchase journey and its impact is continuing to increase in fields such as mobile payment. Mobile payments are services that use mobile devices to make payments. The rapid development of payment models throughout the world means that market news and dynamics affect all walks of life [2].

The McKinsey report notes that global shipments of mobile devices will reach 3.9 billion in 2019 and 7.9 billion connected devices will be online.

In the Age of Retail 4.0, consumers can use the Internet anytime, anywhere, collect and pay and share information about purchasing decisions [3].

Financial development improves economic performance by equipping the resources generated by savers and directing them to profitable and high value-added economic activities. Many factors are involved in determining the level of financial development of countries, including card payments as part of electronic payments. The increasing dependence of people's lives on card payments and the move from traditional banking to electronic banking has made this sector potentially and actually play a role in the functioning of various sectors of the economy. Electronic banking tools include ATMs, sales terminals, various types of bank cards such as credit cards, debit cards and gift cards [4]. Due to the increasing number of Internet and social network services and online payment and billing programs on mobile phones, and due to recent illnesses such as the Covid-19 disease crisis and the implementation of health protocols by officials and the public, it has caused households to Take care of your finances and banking digitally at home, taking into account your health and saving time and money. The purpose of this study is to investigate the relationship between online payment of bills and household consumption and the research question is: "Is there a significant relationship between online payment of bills and household consumption?"

2. Research literature and research

One of the first attempts to reconcile this conflicting evidence of the consumption-income relationship was the relative income-income hypothesis, described by James Dosenbury (1949). Although this theory has hardly lost any trace of contemporary macroeconomics, it had a significant impact in the 1950s and 1960s. The relative income model is formulated in two types: cross-sectional version and serial-time version. These types correspond to the cross-sectional aspects and time series of the Kuznets paradox. In both cases, consumption of current income depends on certain income criteria that the household determines based on its past income or the income of other households around it.

In the cross-sectional version, Dosenbury used the idea of "keeping up with the Jones." He stated that a family's consumption depends not only on its current level of income, but also on its income relative to the subgroups. A population that identifies itself. The household will try to coordinate its spending with the rest of the group. Thus, lower-income households in the group spend more of their income to continue working, while higher-income households save more and consume less [5].

Today, many payments and financial transactions are done online. Payroll and insurance, online payment of bills and payment of loan installments are common examples of online payments.

Every year, the amount of online transactions increases compared to previous years and is more welcomed by customers. Central Bank statistics show that in Iran, the number of online payments and transactions has grown significantly in recent years [6].

[7], in his further explanation in a book entitled "E-commerce, a managerial perspective" states that e-commerce can be seen from the perspective of communication, services, business education and so on.

[8], in a study examined the role of experience in online shopping and customer knowledge about the use of information and security mechanisms. Security was addressed on the level of trust of Iranian customers. As the results of the data showed, the online shopping experience has an effect on the level of trust of Iranian customers and the more these experiences, the more positive effect has had on their trust. But the variables of purchase type, product type, purchase amount, website type and payment method did not have a significant effect on customer trust.

[9], in their paper entitled Service to Smallholder Farmers: Recent Developments in Digital Finance, found that digital financing is beneficial for rural households in Kenya through convenient payment channels and smoothing consumption. In addition, some researchers have discussed digital inclusion.

[10], in his paper entitled Determinants of Household Electricity Consumption in Taiwan, showed that the effect of demographic, socio-economic, and residential characteristics on household electricity consumption in Taiwan can be determined through number and change over time. According to this study, the main characteristics of those households that consume more electricity are higher income levels, more family members and the presence of the elderly in the family.

[11], in their paper entitled Financial Exceptions in Digital Financial Development, showed that regional differences in financial development in China are obvious. Financial development in rural areas is far behind economic growth. They showed that they defined excessive physical deprivation, deprivation assessment, conditional deprivation, price deprivation, marketing deprivation, and deprivation itself. Borrowing Borrowing is especially serious. Factors affecting deprivation of savings and deprivation of borrowing are different. They used the next analysis method to describe the situation of financial deprivation in central China. He said the financial rejection was the result of the natural selection of "rational factors" in financial institutions and the poor geographical environment in central China. The results show that rural residents who are deprived of mobile payment are less than those who are deprived of Internet loans. The second part is that we not only examine financial deprivation but also test the extent of financial deprivation in rural areas. We find that in mobile payments, there are more residents who have left to some extent than those who are seriously excluded. The opposite can be found in the online lending system. The third part is that we use the censored probe model to estimate the factors influencing financial deprivation. We know that these factors include home characteristics, digital financial infrastructure, understanding of digital finance, digital financial development, use of other financial products and services, and social environment.

[12], in their research entitled this article discusses digital finance and its effects on financial inclusion and financial stability. Digital finance through fintech providers has a positive impact on financial inclusion in emerging and advanced economies, and the convenience that digital finance provides to

low- and high-income individuals is often more valuable to them than cost.

In networks of working relationships such as trading arrangements, reliable working relations are formed through a complex pattern of current, past or expected future exchanges [13]. Because such arrangements create some form of dependence on another, there is vulnerability due to a lack of certainty on the actions of the other. Partnerships thus require a minimum level of trust to accept vulner ability since one cannot monitor all actions in exchanges [14, 15].

The opening of the global financial environment, the evolution of electronic market demand and changes in consumer behavior patterns are key factors that drive the growth of the global mobile payment market [16]. From a technological perspective, mobile payment refers to services that use mobile devices for payment. Consumers use mobile devices to pay for services and digital or physical goods without the need for cash, checks or credit cards [17]. Payment methods for mobile service operators and bankers have proliferated. Operators include financial institutions and banks that issue credit cards, Internet service companies (such as Google), mobile communication service operators, constructors of communication network infrastructure (Orange's w-HA) and multinational companies that produce mobile devices (Ericsson, BlackBerry and Apple) [18].

In terms of the market, mobile payment changes the way people consume, changes the business model for related industries and has an effect on national economies [19]. To take advantage of the business opportunities that global operations bring, governments in Europe and the United States have promoted the rapid development of mobile payments. The Danish Central Bank stopped printing banknotes and minting coins in 2014 and announced that it would stop banknote transactions in January 2016 and promote a nationwide digital payment mechanism. Future daily transactions will be paid by action or credit card [20]. Techcrunch reports that in 16 countries, the number of mobile currency accounts exceeds the number of traditional bank accounts [21]. Mobile payment is an important development for finance technology (FinTech) and an innovative business model for the retail industry [22].

Multi-channel was the first type of transaction method to become available when the Internet became a part a consumer alternative. This business model allows consumers to use different channels to communicate and purchase from a company, but the channels are disconnected and completely separate, so channels for multi-channel operators compete with each other and consumers choose an appropriate channel [23]. In terms of online to offline, multi channels work independently from one another and because there is to communication between the channels operators, consumers cannot move from one channel to another during the purchase journey [24]. The cross-channel business model is similar to that for multi-channel but the different channels for communication are connected for the cross-channel model. The key differences between multi and cross channels are that multi-channel involves a presence on one or more channels, such as a website and a mobile app, but cross-channel provides a seamless experience across a combination of several different channels [25].

3. Research Method

The present study is an applied research in terms of purpose. In terms of descriptive-survey method, it is a data collection tool and a questionnaire. This research has been done in terms of time dimension for a period of five years on the relationship between online

payment of bills and household consumption. In terms of research design, it has internal and external validity. The statistical population of the study was unlimited and the sample size was obtained using Cochran's formula with an error rate of 0.07 and a 95% confidence interval equal to 196. To collect data and information, 250 questionnaires were distributed among the specified sample size for normal data test Kolmogorov-Smirnov test was used and Pearson correlation coefficient test was used to test the hypotheses.

4. Finding

In this section, based on the information collected from the questionnaire, descriptive indicators of the variable of online payment of bills and the variable of household consumption 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. The common central and dispersion indices for the two variables of online payment of bills are calculated in Table 4-1 and household consumption in Table 4-2.

Table 4-1: Central indicators and dispersion for online payment of bills

Variable	Dimensions	Average	Median	Mod	Standard deviation	Min	Max
Online payment of bills		4/48	4/60	5/00	0/48	2/40	5/00

Table 4-2: Central Indicators and Dispersion for Household Consumption

Variable	Dimensions	Average	Median	Mod	Standard deviation	Min	Max
Household Consumption		3/58	3/69	5/00	0/88	1/38	5/00

4.1. Qualitative description of online payment of bills

Out of 191 people surveyed, 1 (0.5%) disagrees with online payment of bills, 4 (2.1%) refuse, 39 (20.4%) agree, and 147 (77.0%) strongly agree they evaluated .Many results are given in Table 3-4.

Table 4-3 Frequency distribution of online bill payment

Variable	Items	Frequency	Percent
Online payment of bills	**disagree**	1	0.5
	refuse	4	2.1
	agree	39	20.4
	strongly agree	147	77.0
	Total	191	100

4.2. Qualitative description of household consumption

Out of 191 people surveyed, 4 (2.1%) strongly disagree with household consumption, 27 (14.1%) disagree, 45 (23.6%) abstained, 64 (33.5%) agree, and 51 People (26.7%) completely agreed. Many results are given in Table 4-4.

Table 4-4: Frequency distribution of household consumption

Variable	Items	Frequency	Percent
Household Consumption	**strongly disagree**	4	2.1
	disagree	27	14.1
	refuse	45	23.6
	agree	64	33.5
	strongly agree	51	26.7
	Total	191	100

4.3 Inferential statistics

In the present study, the Pearson correlation coefficient test was used to perform the main hypothetical test that there is a significant relationship between online payment of bills and household consumption.

H_0: There is no significant relationship between online payment of bills and household consumption.

H_1: There is a significant relationship between online payment of bills and household consumption.

Pearson correlation coefficient was used to examine the relationship between online payment of bills and household consumption. The results of this test are shown in Table 4-5.

Table 4-5: Correlation coefficient between online payment of bills and household consumption

Variable	Household Consumption			Existence of a relationship	Relationship type
	Pearson correlation	meaning	Number		
Online payment of bills	0.418*	0.000	191	has it	Direct

* Significant at the 0.05 level

The correlation coefficient for the two variables under study is 0.418. The results of Pearson correlation test show that there is a significant relationship between online payment of bills and household consumption (significance level is less than 0.000). This relationship is direct. That is, an increase in one variable leads to another increase. Therefore, hypothesis H_0 is rejected and hypothesis H_1 is confirmed

5. Conclusion

Explaining the research hypothesis, it can be said that there is a significant and positive relationship between online payment of bills and household consumption, so that increasing online payment of bills leads to an increase in household consumption. Due to the coronary heart disease crisis and the recent health developments in the world in response to this disease, most households have turned to Android apps that do financial things online.

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