

Influencing Factors on the Adoption of Online Payment Systems among the Elderly and Middle Aged people

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Abstract. The continuous technological revolution has opened new business avenues and payment systems that most of the population have accepted, especially the younger generation. This study aims to explore and highlight the factors limiting the adoption of online payment systems among the elderly and middle-aged people. The study considers the influence of technological advancements and social media platforms on online payment adoption. Face-to-face interviews were used as the main tool for collecting data from 35 participants, out of which 22 reported using online payment systems. The data collected was analyzed using the Three Scheme Comparison Table. The results from study showed that online payment adoption among the elderly and middle-aged people is limited by various factors, including age, gender, occupation, area of residence, and income. The study also found that the majority of the participants who adopted online payment systems had a monthly income, which suggests that financial stability may be a key factor in the adoption of online payment systems. However, technological advancements, such as the increased availability of mobile phones and access to the internet, have positively influenced the adoption of online payment systems among the participants especially in urban areas.

Keywords: Online payment systems; technology; social media.

1. Introduction

Technology has greatly revolutionized the way people communicate, consume, and transact with each other. Social media and online payment systems are two areas where technology has made significant strides. Social media is a virtual network platform where people can share thoughts, ideas, and comments. Social media has become integral to our daily lives, allowing individuals to connect, share information, and participate in online communities [1]. Platforms such as Facebook, Twitter, and Instagram have provided a platform for people to communicate with others, exchange ideas, and collaborate on projects. In recent years, social media has also become a powerful tool for businesses, allowing them to reach a wider audience, engage with customers, build brand awareness, and create a virtual business without any physical addresses, thus necessitating the need for online payment systems [2]. Online payment systems, on the other hand, refer to platforms that enable the electronic transfer of funds between parties. Thanks to their convenience, online payment systems have also gained popularity in recent years. These platforms allow users to make payments for goods and services, transfer money, and receive payments electronically. This has eliminated the need for physical cash, making transactions faster, easier, and more secure. Online payment systems have also opened up new business opportunities, allowing individuals and businesses to reach a global audience and offer their products and services to customers worldwide [3]. Various questions have been raised on the reasons limiting the elderly and the middle-aged from using online payment systems. This essay analyzes the impact of multiple factors that hinder this adoption, including age, gender, living area, and income.

In compared to other financial technical developments, online payment, especially the use of mobile payment is a relatively new invention. Financial service companies now have the chance to boost company efficiency and market share due to the proliferation of smartphones. Financial customers now have easier access to financial goods. While there are various advantages to this new financial service, utilization has not yet reached the anticipated level. Electronic payment systems have begun to displace cash payment methods in recent years. With the COVID-19 epidemic

impacting the world in 2020, online purchase got increasingly popular, as did the desire for next-generation payment solutions. QR digital payment system adoption [4], e-money [5], and central bank digital currencies [6] are recent research. While mobile phone subscribers constitute 96% of the worldwide population, mobile phone users constitute 8% [7]. In comparison to the number of mobile phones registered worldwide, the number of persons utilizing online payment systems appears to be rather low especially among the middle aged and the elderly.

According to research, the elderly and middle-aged adults have been found to be less likely to adopt online payment systems due to factors such as lack of technological literacy, security concerns, and perceived difficulty in using online payment systems. The elderly may face age-related limitations such as visual impairment and mobility issues that may further hinder their adoption of these systems.

Elderly tends to perceive online payment systems as complex and may be hesitant to use them due to security concerns. This fear may stem from a lack of trust in the security measures of online payment systems, which may leave them vulnerable to fraud and identity theft. As a result, the elderly may prefer traditional payment methods that they perceive as safer and more reliable [8].

Similarly, it was found that middle-aged adults are less likely to adopt online payment systems due to a lack of understanding and awareness of the benefits of these systems. This lack of awareness may stem from a lack of exposure to technology and digital payments in their daily lives, as well as a lack of confidence in using new technology [9].

2. Research Method

2.1. Data Source

Face-to-face interviews was chosen for this study was as it offered the most convenient way of gathering data. Although using an online questionnaire was a much more convenient option because it is relatively cheaper and can reach a vast pool, many of the respondents could not fill out the questionnaires on their phones due to a lack of knowledge of using the internet properly, internet connections, and undesirable environment.

2.2. Questionnaire Introduction

The data collected by the questionnaire was based on the usage online payment system by the elderly and the variables that affect their usage such as age, monthly income, gender, area of residence and education level. The questions on the questionnaire were designed to extract these information from the respondents.

2.3. Method Description

The first step in using face-to-face interviews as a data collection method is to identify and recruit eligible participants. In this case individuals who fall within the age range of 45-75 years old were the ideal respondents. Participants were recruited through various means, including advertisements in local newspapers, social media, and setting up spaces in community centers. Once participants were identified and recruited, the next step involved scheduling interviews with them. During the interview, a series of questions from the questionnaire were asked and it aimed to gather detailed information about the participants' experience using online payment systems, including any challenges they may have faced and their perceptions of the security of these systems. Face-to-face interviews provide researchers with an opportunity to build rapport with participants and establish trust, which can help to elicit more detailed and honest responses.

2.4. Data Analysis

The data collected was recorded and analyzed using the three scheme comparison. A three scheme comparison is a method of analyzing and comparing three different options or alternatives. It involves

evaluating and contrasting each option's features, benefits, and drawbacks to identifying the most suitable or preferable. A three scheme comparison typically consists in creating a table or matrix with three columns representing each option and multiple rows representing different criteria for comparison. The criteria can be qualitative or quantitative, and in this case, this paper uses gender, age, degree of education, cohabiting, spouse or number of offspring, occupation, and income per month. A scheme comparison allows for a more objective and comprehensive assessment of the options. It can help make an informed decision by comparing each option against the same set of criteria. Two three scheme comparison charts were made, the first one compared and analyzed the gender, online payment and the residential residence of the respondents.

3. Results and Discussion

According to Table 1 below, the research was conducted through an interview with 35 respondents aged between 25 and 71 years, with 16 women and 19 men participating in the survey. Out of the 35 respondents, 22 of them used online payment systems. It was observed that most of the respondents who used online payment systems lived in urban areas and had a higher level of education.

In terms of education level, all the respondents who used online payment systems had at least a high school education, with only three of them not having any level of education. Out of the 22 respondents who used online payment systems, 10 had college as the highest level of education, followed by two who had high school as the highest level of education. The following results were derived from table 1. Note that 51.4% (9 out of 16) of the women interviewed used online payment systems, while 48.6% (7 out of 16) did not. 68.4% (13 out of 19) of the men interviewed used online payment systems, while 31.6% (6 out of 19) did not. 62.9% (22 out of 35) of all respondents used online payment systems, while 37.1% (13 out of 35) did not. As table 2 shows.

Table 1. Total respondents

	Using online payment	Not using online payment system
Age	Women 40 years, men 38 years	Women 55 years, men 50 years
Gender	9 women, 13 men	10 women, 3 men
Income	19 had monthly income, 3 did not	All did not have a monthly income
Education level	18 college attendees	7 below college attendees
Residence	22 urban	13 rural

Table 2. Scheme comparison of people using online payment

Comparison points	Scheme 1(Men)	Scheme 2 (women)
1.	13	9
2.	38	40
3.	13	9
4.	0	0
5.	13	6
6.	0	3
7.	10	8
8.	3	1

A comparison key consisting of eight different categories consisting of the following was used in the scheme comparison: one was for the total number of respondents, two was for average age of the respondents, three was for residence in urban areas, four was for residence in rural areas, five was for monthly income with employment, six was for monthly income without employment, seven was for education level with a college degree, and lastly, eight was for education level below a college degree. These categories were used to compare various demographic groups and their characteristics. Total

number refers to the overall quantity of individuals within each group, while average age provides insight into the typical age range of members. Residence in urban and rural areas distinguishes between where individuals live, and monthly income with and without employment indicates how much money they earn. Lastly, the education level categories differentiate between those who have obtained a college degree and those who have not. As table 3 shows.

Table 3. Scheme comparison of people not using online payment

Comparison points	Scheme 1(Men)	Scheme 2 (women)
1.	6	7
2.	50	55
3.	3	3
4.	3	4
5.	6	0
6.	0	7
7.	4	0
8.	2	7

Table 4. Women’s results

		ONLINEPAYMENT USERS
AVERAGE AGE	YES	40 years
	NO	55 years
RESIDENTIAL AREA	URBAN	9
	RURAL	7
	COLLEGE	8
EDUCATION	NON-COLLEGE	1

The women’s results were summarized in Table 4 below using a three scheme comparison of average age, residential areas and level of education against the usage of online payment platforms; Of the 16 women interviewed, 9 used online payment systems, and they all lived in urban areas. All of them, except one, had college as their highest level of education. They averaged a total age of 40, with the youngest being 26 and the eldest being 61. They also had a monthly income apart from three respondents. None of the remaining seven female respondents who did not use online payment systems recorded college as their highest level of education. They all had no monthly income, and four of the Seven lived in rural areas. They also had an average age of 55 years.

Table 5. Men’s result

		TOTAL PARTICIPANTS
GENDER	MALE	19
	FEMALE	16
ONLINE PAYMENT	YES	9 WOMEN
		13 MEN
	NO	10 WOMEN
		3 MEN
RESIDENTIAL AREA	URBAN	22
	RURAL	13

The men’s results were also summarized in table 5 above using a three schemes comparison of average age, residential areas and level of education against the usage of online payment platforms. Out of the 19 male respondents, 13 of them used online payment systems, and all of them lived in

urban areas. Two people had high school as their highest level of education, 10 had college as the highest level, and only one did not have high school or college as the highest level of education. They all had a monthly income and averaged 38 years among them. The six male respondents who do not use online payment systems average 50 years, all with monthly income, three living in rural areas, and the other three residing in urban areas. Only two of them did not have a higher level of education past high school.

4. Conclusion

According to the study, men and women are more likely to use online payment systems at the same rate as it shows. Educated people are also more likely to use online payment systems than uneducated people because they understand them better. All the respondents who used online payment systems live in rural areas as they are more common and widely accepted as a mode of payment than in rural areas. Rural areas may also have limited internet connectivity, making it difficult to use online payment systems. Although mobile payment in China has more than 80% of consumers, online payment is still unpopular among middle-aged and older adults. The data shows that the average age of the respondents using online payment systems is 39 years. Older individuals may be less familiar with technology and feel more comfortable using traditional payment methods. Lower monthly income may restrict access to online payment methods, as the available data shows.

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