ENHANCING DIGITAL LITERACY OF SENIOR CITIZENS

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As information and communication technology (ICT) becomes part of our life, we need to understand how to effectively use it. Especially, when internet can be reached by all, money transaction and buying products/services through online platform becomes normal. Because of this, digital technology can help to complete our needs. This research, thus, aims to analyze senior citizens behavior and to enhance their digital literacy. Population of this research is Thai senior citizens who are aged 60 and over. 35 samples are selected using purposive sampling method. Then data has been collected using questionnaire via online

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platform. Statistics used in this research include average, mean, frequency, standard deviation, and t-test. The results show that senior customers often use digital technology when they transfer money to another account and purchase products online. The product/service they brought normally is household goods, food, and drink. After the seniors learn how to use digital technology from our instructional media, they have increased a digital literacy rate significantly at statistical level of .01.

Keywords: aging society, digital literacy, ICT, senior citizen

Introduction

Currently, information and communication technology (ICT) influences our decision making. There are many innovative technologies emerge every year to response with changing behavior of consumers. Recently, areas such as communication, financing, banking, as well as healthcare have applied information and communication technology as a medium tool connecting with customers. Especially, the COVID-19 pandemic has changed the way people live their life to be more relying on the online world.

For instance, cashless society, online social media, and applications – ranking from a personal financial management, income and expense statement, and healthcare application – have become integrated with human life. Although ICT provides benefits to our life, it may not be the case for elders. Senior citizens found that using application is too complicated for them and need a hard effort to understand it (Chaladkid & Jeerapattanatorn, 2020). Due to it is hard to understand, risks such as financial fraud may occur when using these ICT (Mayoungpong & Tayen, 2016).

To reduce risks associated with ICT for senior citizens, this research aims to study and analyze ICT usage behavior of senior citizens and enhance digital literacy for promoting ICT safety usage among these senior citizens.

Objectives of the study:

1. To study and analyze ICT usage behavior of senior citizens.
2. To promote digital literacy skills of senior citizens.

Research Methodology

The research is a social science research using a questionnaire to collect data. Population includes those seniors whose age over 60 years old. Due to the COVID-19 pandemic, there is a limitation on data collection. Thus, the researcher utilized purposive sampling method to select 35 samples from those seniors who live near Nakhon Pathom Campus, Suan Sunandha Rajabhat University area.

Data has been collected from primary and secondary resources as follow:

1. Secondary resources are used to search for concepts and theories related to technological adaption among senior citizens. Normally, these researches focused on banking and e-commerce technology.
- 2 Primary resources have been adapted using a survey. The questions deal with consumer behavior about banking and e-commerce technology usage.
3. The researcher conducted the questionnaire using close-end questions. Each question deal with e-commerce and m-commerce usage; banking application usage.

4. After creating the questionnaire, it has been sent to experts to evaluate and assess for content validity by using item objective congruence: IOC method.

5. After editing the questionnaire according to the expert suggestions, the researcher collects the data using this questionnaire.

This research analyzes data using content descriptive method and statistical analysis. The statistic formula used here consists of average, mean, frequency, standard deviation, and t-test.

Results

According to the results, behaviors of senior citizens who conduct a money transaction online tend to be less than 3 times per week. Meanwhile, the second rank is that they conduct a money transaction online between 1-3 times a week.

There are some seniors who never use money transaction service before. Table below indicated the frequency and average of how many time senior citizens participate on money transaction.

Table 1 - Frequency and average of money transaction among senior citizens

(Source: completed by the authors)

Times (per week)	Never	1 time	2-3 times	4-7 times	More than 7 times	Total
Frequency	6	15	10	4	0	35
Average	17.14	42.86	28.57	11.43	0	100

Among those 29 seniors who use money transaction service, the researcher found that they are likely to use money transaction for a purpose of transfer money to others' account, rather than using it for shopping or paying a bill. The bar chart below indicated their behaviors.

Figure 1 - Number of senior citizens who conduct a money transaction online regarding on type of transaction services

(Source: completed by the authors)

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In terms of buying a product online, seniors tend to buy less from online channel. There are only 6 people who buy products online 4-7 times a week meanwhile 11 people purchase only one product per week. Table 2 identified frequency and average of seniors' behavior over buying product online.

Table 2 - Frequency and average of seniors' behavior over buying product online
(Source: completed by the authors)

Times (per week)	Never	1 time	2-3 times	4-7 times	More than 7 times	Total
Frequency	8	11	10	6	0	35
Average	22.86	31.43	28.57	17.14	0	100

The result illustrated that product these seniors mostly buy is a household items, such as detergent and kitchenware. The second rank is foods and beverages. Product that this sample group never buys online is computer, mobile phone, and IT products. Below is the bar chart indicating number of seniors who buying product online regarding to the type of products.

Figure 2 - Number of seniors who buying online product regarding to the type of products
(Source: completed by the authors)

After evaluated senior citizens' behavior, the researcher further developed learning tool to enhance digital literacy in area of money transaction service and buying product online. There was a score comparison between before and after using the learning tool. The questions included a safety and credibility of the online shops.

Figure 3 - Level of digital literacy skill before and after using the learning tool

(Source: completed by the authors)

The researcher compared digital literacy skill of 35 senior citizens using a paired sample t-test and found that after those seniors have used the learning tool developed by the researcher, the score of digital literacy skill increased significantly at .01. Table 3 compared digital literacy skill of senior citizens.

Table 3 - Comparison of digital literacy skill between before and after using learning tool

(Source: completed by the authors)

	Mean	Variance	df	t Stat	P(T<=t) one-tail	t Critical one-tail
Before	1.82857143	0.49915966	34	-21.059818	2.185E-21***	1.69092426
After	3.657143	0.231933				

*** p < .001

Conclusion

This research focused on senior citizens who normally use digital technology in their daily life by transferring money or buying products online. Only a small amount that does not use digital technology.

For money transaction, seniors tend to use this technology to transfer money to others. Products that these senior routinely buy was household items, foods, and beverages. The results illustrated that there was an increased number of foods and beverages order from seniors.

This is, perhaps, the COVID-19 situation which created the unsafe atmosphere around the globe when eating out. The terms of digital literacy skill, after those seniors learned from the online tool, seniors had higher skill.

This result was supported by O'Keeffe(2014) who stated that younger boomers in America tend to perform a digital literacy quite well. They can send a text message and using online banking in their normal life.

This also true in Germany in which seniors tend to use computer, internet and smart phone in daily life (Schäffer, 2007).

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However, in Thailand, this trend is not popular due to its complicated interface system of online banking. Seniors in Thailand have a concern over the safety of online banking system or firewall.

Kleechaya (2018) said that even though Thai senior citizens learned how to transfer money via smartphone by banking officers, they still feel insecure about banking security system. This problem also supported by Mongsing & Montirat (2012) who found that seniors feel insecure in terms of data security.

They also lack of confidence to transfer money by themselves. Moreover, these seniors need a close relative to give them some advices in order to gain their self-confidence back to conduct money transaction online.

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