# A MARKETING STRATEGY BASED ON SERVICE DESIGN FOR IN-APP

# PURCHASES TO ENCOURAGE YOUNG ADULT

# TO EMBRACE DIGITAL PAYMENT IN

# MOBILE GAMING

BY

MISS APISARA LEENOI

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE
DESIGN, BUSINESS AND TECHNOLOGY MANAGEMENT
FACULTY OF ARCHITECTURE AND PLANNING
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2018
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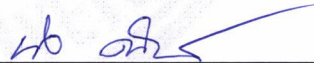
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was approved as partial fulfillment of the requirements for

the degree of Master of Science (Design, Business and Technology Management)
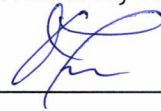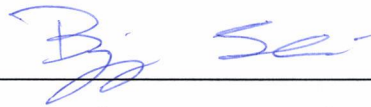
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(Assistant Professor Nij Tontisirin, Ph.D.)

Member and Advisor

(Assistant Professor Archan Boonyanan, Ph.D.)

Member

(Benjarong Suwankiri, Ph.D.)

Dean

(Assistant Professor Asan Suwanarit)

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| Author | Miss Apisara Leenoi |
| Degree | Master of science |
| Major Field/Faculty/University | Design, Business and Technology Management Faculty of Architecture and Planning Thammasat University |
| Thesis Advisor | Assistant Professor Archan Boonyanan, Ph.D. |
| Thesis Co-Advisor | Assistant Professor Nij Tontisirin, Ph.D. |
| Academic Years | 2018 |

## ABSTRACT

Digital disruption has an extensive effects to a number of business including banking. Many banks have been preparing new and better customer service strategies to cope with the significant changes. Therefore, E-payment that is composed of mobile payments and mediating services can be chosen has been introduced as a new way of transaction to keep the continuous growth in the banking business. However, the use of digital payment in some specific segments especially young adult or generation Z can be enhanced. The purpose of study is to explore in order to improve touch points for in in-app purchase feature using service design concepts. Insight and practical aspects of to analyze the process of re-designing digital payment usage were collected from 400 participants based on a semi-structured questionnaire. In-depth interview was also conducted with X banking experts. The findings show the potential approaches to achieve the redesign of in-app purchases by improving alternative customer flow. The final outcomes would hopefully be another significant driver to the growth of banking business.

**Keywords:** Digital payment, Young adult, Generation Z, In-app purchase, Service design

# ACKNOWLEDGEMENTS

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# CHAPTER 1

# INTRODUCTION

## 1.1 Context of the study

Disruption of a digital system has affected various section and the biggest impact is in the business world of banking. It needs to be adapted towards digitalization. Many banks have adapted to prepare their strategies to better service to their customers. Some banks have found a way to transform themselves into a digital bank by establishing a new company that is not related to their banking business. Also, conventional bank prepares to deal with financial technology or Fintech. Fintech is recognized as one of the financial innovation that is reshaping and improving the financial landscape by evolving at a rapid speed in customer service. In Thailand context, however, the banking ecosystem in the past consist of 3 parties that are the conventional bank that provides any financial services, customers as users and regulator who controls and regulates the provision of financial services. With the changing of the business world, however, the ecosystem of the banking industry has been adapted by rising one party to respond the need of customers that is non-bank. Non-bank or Non-financial institution often focus on niches that are underserved by incumbent banks.

From the evidence found that the growth in recent years of digital banking services in Thailand that does not depend only on the use of mobile phones but also include all kinds of internet banking that are provided by a conventional bank and non-bank, increased from 106.6% in 2010 to 146% in 2015. The Bank of Thailand (BOT) also reported that the volume of internet banking transactions and the volume of mobile banking transactions grew by 32% and 62% respectively between 2010 and 2014 (oxford business group, 2016). It can be said that simultaneously, Thailand and the banking industry continue to focus on thinking and developing services in the form of digital platforms. However, the transformation of the banking system needs to take time because the system is large and involves a lot of sensitive information such as

personal information to protect against unauthorized access to or use of such records or information which could result in substantial harm or inconvenience to any customer (G. Fuldner, 2003).
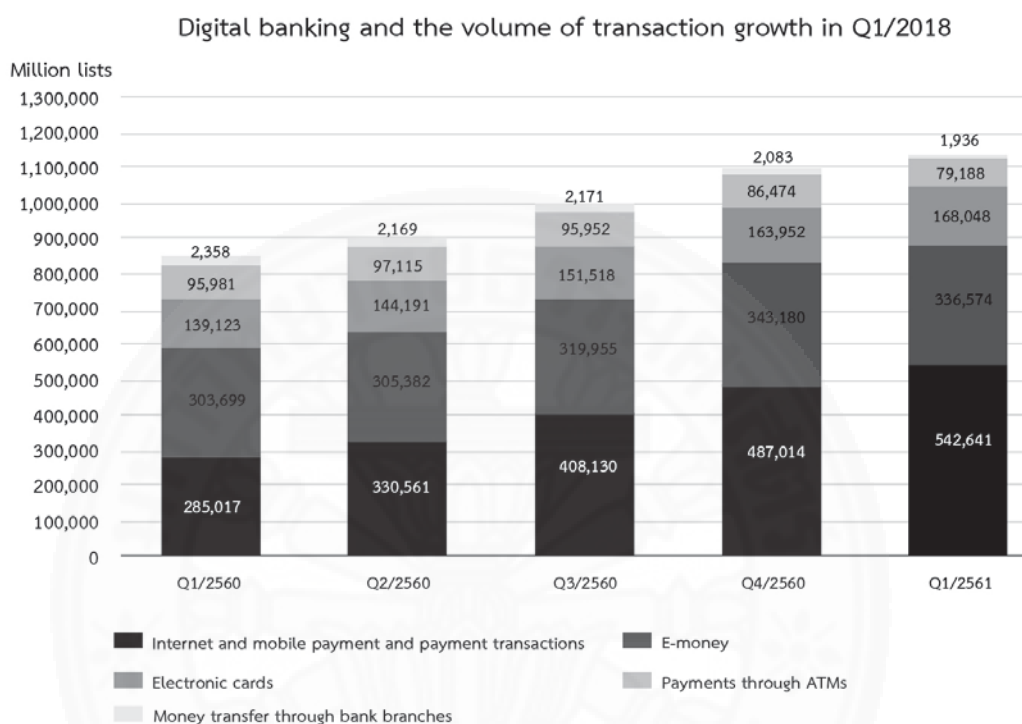


**Figure 1.1** Digital banking and the volume of transaction growth in Q1/2018

Source: The bank of Thailand (BOT), (2018).

Currently, digital banking tools, such as mobile wallets and online payment platforms, have been using to initial growth in the bank's service then also have the potential to reduce the operation cost of banking in Thailand (oxford business group, 2016). The evidence of digital banking growth can be seen from the Bank of Thailand (BOT) reported, electronic payment transactions in the first quarter of 2016 amounted to 1,263 million lists. The volume of electronic payment transactions continued to grow at a rate of 32.3% over the same period in last year, which is a 12% increase in transaction value. Internet and mobile payment and payment transactions showed the highest growth rate of 90.4 percent compared to the same period last year. By contrast, the segment's growth was counter to the funds transfer / payments through ATMs and

money transfer through bank branches which the rate of contraction was 17.5% and 18% respectively. Due to people are increasingly turning to online services instead of using services at ATMs and branches (BOT, 2018).

Service from the financial sectors, however, are the significant service category that represented about 8% of GDP and 4% of employment in the OECD (OECD 2008). Due to the concept of service design or servitization, many bank try to add value via service provision mentioned on the changes that required to realize value by adding service offering (Vandermerwe and Rada, 1988 and Ferran Vendrell-Herreroa, et.al, 2017). Servitization is described as the process of value adding for the business and expand the brand's position in the market. Service or servitization has the role to improve customer satisfaction, instead of goods. Also, Servitization is the new trend that moves away from product-centric that is the traditional way to service-centric that is the new way for an integrated solution (Ferran Vendrell-Herreroa, et.al, 2017). Not only the customer satisfaction that is the main driven of servitization, but also have the cost reduction and revenue increasing as well. One sector that has been continuously improving services is the financial transaction platform and electronic payment. However, the financial transaction platform and electronic payment also have a large extent hampered by the lack of appropriately designed Electronic Payment Systems (Dennis Abrazhevich, et al, 2009).

Nowadays, with the rapid development of wireless networks and mobile communication, mobile gaming both offline and online platform is the important service for gamers especially in young adult (Richard Chinomona, 2013). The mobile game industry is successful for the mobile service application and it can be considered as the reshaping of the service industry that is the fastest growing segments of the game industry as well. The increasing of the platform for gaming and entertainment industry attracts many old and new industry players (Claudio Feijoo, et al, 2012). Over 25% in 2014 of application around the world was created by top 10 game applications in Android and IOS App Store, moreover, mobile game application revenues also accounted for 33% of the US$77 billion total earned by all video game platforms as well (Activate, 2015). To separate the type of mobile games application nowadays, it can be divided into 3 main types: RPG, MMORPG and FPS (Rochelle Cade and Jasper

Gates, 2016). RPG or Role-play game is a form of a game that simulates the characters within the game and the player being the only protagonist to play. Most game content is journeys, story-driven experiences, diverse characters and hours of play that complement the mobile gaming experience nicely such as Final Fantasy and Dragon Quest VIII. While MMORPG or massively multiplayer online role-playing game is developed from RPG game due to the increasing of players or has multiple players in one round such as ROV and Ragnarok M. In this type of game, the players have to play together as guilds or clans to achieve particular quest or goals. And the last type is FPG or First-person shooter is the exciting genre of mobile game that provided a first-person perspective and has a firearm within the game to defeat opponents. This genre of game has to use heavy graphics, high demand on Internet usage, and are generally just high resource consuming games such as PUB G mobile and Gun of Boom.

Gaming industry is the most popular in downloading and creating transaction in term of electronic payment (Ailie K. Y. Tang, 2016). Following the process of playing mobile game and user behavior, users choose to play the preinstalled game on mobile phone (Nielsen Company, 2017) and then the users will purchase some items or features to response their needs. The step of playing mobile game will start from downloading the online game on mobile phone and creating the account for sign in to the games. The process of purchasing of virtual items in mobile game often occur to support the playing quality of users. Generally, the avenues for monetize the application or game industry have three avenues: 1) paid apps, 2) in-app purchase and 3) introduction of advertising (Ailie K. Y. Tang, 2016). For the gaming aspect, the in-app purchases (IAPs) are designed to provide the greater experience for users while rising the profitable revenue model for owners (Choi et al., 2014 and Aina Ravoniarison et al, 2019). In-app purchases (IAPs) in games or called micro-transactions are special feature and virtual features (e.g. item mall, unlocked levels, virtual items or currencies and advanced features). Overall, the acceptance of IAPs in the players and interruption of the real money shows the relevant of making fun in the fictional world for players (Aina Ravoniarison, Cédric Benito, 2019).

According to the new customer path in Marketing 4.0, Philip Kotler, shows that the customer paths in product and service industries are very complex and involve

diverse of traditional and digital media combination. Especially, for the service industries that related to the digital world such as digital payment or mobile application industry also defined a new customer path to accommodate changed by social connectivity. The framework that describes the customer path is the four A's and then it was updated to the five A's to response the customer behavior changed. However, the new customer path was used to develop service coupled with the industry archetypes to gain insight from consumers and develop the service that response the customer needed. The funnel pattern is the one of pattern in industry archetypes that has effectiveness in service industry including banking service. This pattern brings customers go though each stage of action and also help the service provider to focus on incremental improvement of customer experience innovation.

## 1.2 Rational

With the ever-changing world of business, traditional bank that has operated by serving face-to-face customers interactions is affected and needs to be adapted (Capgemini and Efma, 2016). Many banks have been studying to understand the digital banking systems to refine their strategies to focus on the financial transaction through the internet. In fact, however, digital banking is the transformation of the operating banking model from the front-end to the back-end through the middleware that is the programming technology in connecting both of them (Efma, 2014). Moreover, all types of bank is operating sizeable investment in digital ways to keep and support their competitive advantages.

However, during the transition from the legacy system to the digital system still has some risks. Due to the unsteady of system that novel. The unstable of digital banking caused the uncertainty in the system that affected on cyber-security concern of customer satisfaction, so it also has a negative impact on the reputation of the organization. Another limitation of digital banking is still present in legislation which is associated with payment infrastructure to control the digital transaction. In Thailand context, the law that related on digital banking is PSD vol.2 or detective on payment service vol.2. The PSD vol.2 is considered as the govern tools that can control the

conduct and equality of digital banking service. However, a law on PSD2 or detective on payment service vol.2 in Thailand is still not certified as it should when compared with European counties. As a result, in a digital banking system development still cannot continue smoothly and remains obstacles to development.

On the other hand, the law that encouraged to reduce the use of cash in digital context is also a competitive advantage for conventional bank due to it is the advantages over financial technology firm or Fintech as well. According to Mr. Apirut Vanchaam, Principal Visionary Architect of KBTG, KASIKORN Business - Technology Group, and Managing Director of Beacon Interface, he also mentioned legal factors related to the competitive advantages and barriers of digital banking transformation. "The legal is pain point in Thailand due to the context is not enhanced the fully digital conduct in a financial transaction. And another point is about the competitive advantage that can be the reason for a conventional bank to not transform to fully digital banking that is an advantage on a physical location that many Fintech cannot across over them. Actually, the transformation of bank is still facing the challenges and obstacles as the organizational structure and legacy system. So, it need to have a lot of time and it may not be changed in the conventional form to the digital form of banking."

For the digital banking industry, the usability provides significant opportunity for attracting a specific segment of customers, especially young adult (Lewis and Bingham, 1991). Young adult or generation Z is the people who born in the 1990's and grew in the 2000's with the social network, smartphone and freely available networks and digital media (Bascha, 2011; Brue Tulgan & Rain maker Inc., 2013). Lewis et al. (1994) also mentioned that the characteristic of those have been emphasized the importance of material possessions, being more concerned with consumption than saving, and seeing money as vital for personal success. Moreover, the internet banking and mobile banking usage among young adult or generation Z are predicted through the attitudes toward technology. Only 15 percent of "Conventionals" group have paid for something with their phone, compared with "Pioneers" group at 45 percent and "Digitals" in the middle with 24 percent respectively (Andrew Vahrenkamp, 2018).

With the increasing of tablets and smartphones, the use of electronic payment methods has grown up to 21% in 2012 (Rau, 2013). Also, Generation Z is become a major force in financial services and payments, and will also have a potential to change the payment providers platform to respond them (Kevin Woodward, 2018). From evidences like a U.S. Mobile App Report in 2017 also shows that the generation Z customers have amount of 70% increasing on the mobile payment application in 2016. In Thailand context, the report of Economic Intelligence Center (EIC) also shows the continuously growth rate between years 2010 to 2017 of banking transaction on E-payment in Thailand that is influenced by E-commerce, Prompt pay and QR code system growth trend. E-payment is considered as the electronic payment system that be the backbone of e-commerce business. The availability of electronic payment included mobile payments, mediating services, and electronic currency, an appropriate can be chosen for a particular type of transaction (Zlatko Bezhovski, 2016).
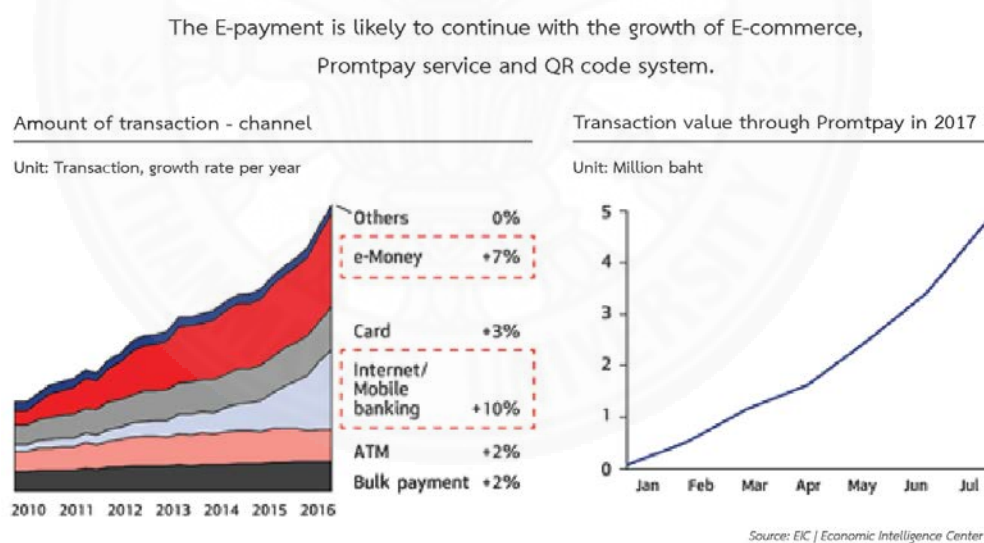


**Figure 1.2** Continuous growth trend in year 2010 to 2017 of e-payment in Thailand
Source: Economic Intelligence Center (EIC), (2018).

Across over transformation of digital banking, however, service design can be the one significant tools that have adapted to help and develop the digital banking. Due to the concept of servitization is always related on the value creation and customer satisfaction, it is also described as the customer process-oriented services

that enhance the customer's value-in-use that business wants to serve their customers in the better way.

From studying of banking system transformation and occurred problems. This study will help to develop understanding the opportunities in transforming of the conventional bank toward digital banking in Thailand. Moreover, it is significant to find a ways to use service design in developing the system to meet the needs of banking customers. Including study young adult attitudes as potential target groups for digital banking services development in the future.

## 1.3 Previous studies and gaps in knowledge

There is very limited academic research in investigation the creating digital payment in aspect of in-game purchasing to analyze the service design approach. Existing studies have focus on the process of creating digital banking in the beginning point in foreign countries that have a different context to Thailand and the most of research often conducted from the business consult such as Mehdi Alinezhad Sarokolaei, (2012) study on the barrier that exists in the bank sector. Research on the barrier that exists in the bank sector, it has categorized the barriers that will arise from the transformation of the traditional banking to digital banking in 4 categories: professional and technical barriers, financial and economic barriers, strategic barriers, and legal and social barriers. At the level organizational structure and strategic barrier of bank, Stasiak – Betlejewska (2008) mentioned by using basic strategy to identify the barriers of digital banking transforming. 1) Philosophy in banking which is the core of corporate development. 2) Services and human resource that are exported to the external image both in the organization and its shareholders. And finally, 3) External factors that affect banking activities such as technology, law and economy environment. For the path of developing digital banking industry, however, has mentioned in the business journal and business research as well. Three path that are proven and certified by many development sources (PwC): Front end only, Wrap and digitize and Go digital native respectively.

Moreover, the rapidly evolution of technologies has affected on the various business sections that provides goods and services aimed to respond customers' expectation (Alaeddin O., Altounjy R., Zainudin Z., Kamarudin F., 2018). Banking business have also gained the effect of digital disruption as well as goods providers that want to respond the generation Z as the target group. The research that discussed about a conceptual study on the use of electronic payment among generation Z is mentioned by Nindya Resti Ramadhani Putri, 2017. The research mentioned that generation Z who are most responsive to technology and the digital age has the potential in reaching the highest level for the internet accessed, as they have been exposed to this technology. Related with the usage of mobile payment of generation Z that shows 53 percent has transaction on purchasing goods via the mobile payment. Moreover, referring to Accenture (2017) that shows more than 66.7 percent of Generation Z are interested on online purchasing. These situations and conditions also illustrated the direction of business strategy to make the strongly respond on Generation Z via mobile and internet.

However, scope of the above mentioned research did not include the creating digital payment in aspect of in-game purchasing to analyze the service design approach in Thailand context and the directive solution for development of banking in Thailand by using the service design theory to make a significant improvement to the quality service for young adult.

## 1.4 Research question

1. What are the industry archetypes of digital payment in aspect of in-game purchasing in nowadays based on young adult practice?

2. What is the customer path in concept of five A's of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult?

3. Which is customer path of digital payment that reveal service blueprint for young adult?

4. How might we create the marketing way of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult effectiveness?

## 1.5 Aim and Objectives

The aim of this study are to investigate the creating digital payment in aspect of in-game purchasing to analyze the customer path by service design approach in developing the system and the new customer path to meet the needs of young adult practice.

**The specific objectives of the research are:**

1. To study the industry archetypes of digital payment in aspect of in-game purchasing in nowadays based on young adult practice.

2. To find and collect the customer path in concept of five A's of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult.

3. To collect and analyze customer path of digital payment to reveal service blueprint for young adult.

4. To create the marketing strategy of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult effectiveness.

## 1.6 Outline of methodology

In order to develop an understanding of digital payment, a conceptual structure, based on conventional banking in aspect of in-game purchasing and to analyze the service design approach in developing the system to meet the needs of young adult attitudes and practices, explanatory and exploratory research is to be employed as the main research approach. Research data can be collected either from primary and secondary data source.

The relevance between the influencing adoption of banking business and improving touch point of E-wallet service in digital banking are employed by service

design concepts using the double diamond model. The service design theory is focused on the double diamond approach by British Design Council that describes the process model emphasized on problem analysis as the basis for creating a solution for users in research method. However, the research approach are reached by theoretical of service design in the model of double diamond. Therefore, the research approach can be divided into two parts: 1) Quantitative approach and 2) Qualitative approach.

Quantitative data about the process of designing digital banking by using service design approach for young adults in aspect of in-game purchasing in Bangkok area can be explored via the online questionnaire in type of Likert questions which provided the chance to get insight and attitude aspect to analyze and understand young adult as target group. In the online questionnaire that provide to young adult will contain the attitude examined questions via the 5A's model of marketing 4.0 about the service design aspects that are used to in the legacy system and digital system of bank. Also, the questionnaire will result in term of efficiently gauged or scale about customer's perspective of novel service in banking. However, the result of questionnaire will analyzed and presented in the SPSS computer software to reveal the form of service design through the attitude and perception of young adult on digital banking service. By the amount of sampling is 400 samples, calculated by an unknown population from W.G. Cochran's formula and taking 95% confidence level with ±5% precision and assumed the maximum variability, which is equal to 50% ( p =0.5). The online questionnaire are divided into 3 sections that are 1) Demographic 2) Game playing on mobile phone's behavior and 3) 5A's model: The new customer path in Marketing 4.0.

Qualitative approach about the transformation of conventional bank towards digital banking in challenges and obstacles detail can be explored via document analysis and in-depth interviewing from young adult as target group which provided extensive opportunities to study and understand up-to-date information. However, the need of special and deep information in specific context to explain the operating of digital banking system transformation that have not been explicitly captured make research necessary to conduct explanatory research because the information from the study requires insights and practical information from the insight

of target group to analyze. However, the need of special and deep information in specific context to explain the operating of digital banking system transformation that have not been explicitly captured make research necessary to conduct explanatory research because the information from the study requires insights and practical information from the insight of target group to analyze. Explanatory research can help in understanding the problem more efficiently and can be very advantageous in directing subsequent research approaches. Explanatory research needs to be conducted first by depth-interview the young adult to get the information and experience of the individuals with the information related to the digital banking transforming in challenges and obstacles in aspect of in-game purchasing. After collected data, the result will be interpreted to the industry archetype to present the overall of customer path in concept of Marketing 4.0. Then the collection of information, the information will be analyze and compared to find the specific subject in challenges and obstacles aspect for using it in guide lining the path of services development in next phase.

**Time periods of conduct:**

December 1$^{st}$ 2018 – May 30$^{th}$ 2018

## 1.7 Expected benefits

Expected benefits from this study can separated into 2 parts:

### 1.7.1 Expected benefit to business

Based on this study significantly focused on the transformation of conventional banking towards digital banking in digital payment in aspect of in-game purchasing, it can be used for the banking business to use it like a guideline for transforming and improving service touch-point, and many new entrepreneur also can used it to develop understanding of this opportunity. Moreover, by using service design theory for development, they can define how the service concepts can be seen as a growing driver to their service business and how the customer connection is driving and defining the whole service offering of the company as well

This study also significantly focused on young adult attitude on the service design of digital banking, it can reveal the potential opportunity for attracting young adult who hold the greatest prospect for loan and mortgage borrowing in the future and be the efficiently driver forward the development of digital banking business. By using service design for young adult to improve the digital banking will increase the possibility of competition in market and helps to make young adult to be more loyalty customer base in the future.

### 1.7.2 Social impact

This research project enhances the prospects of the economy as a whole as it improves the capabilities and competitive advantage of the banking service and also targets young adult attitudes to improve their possibilities for growth.
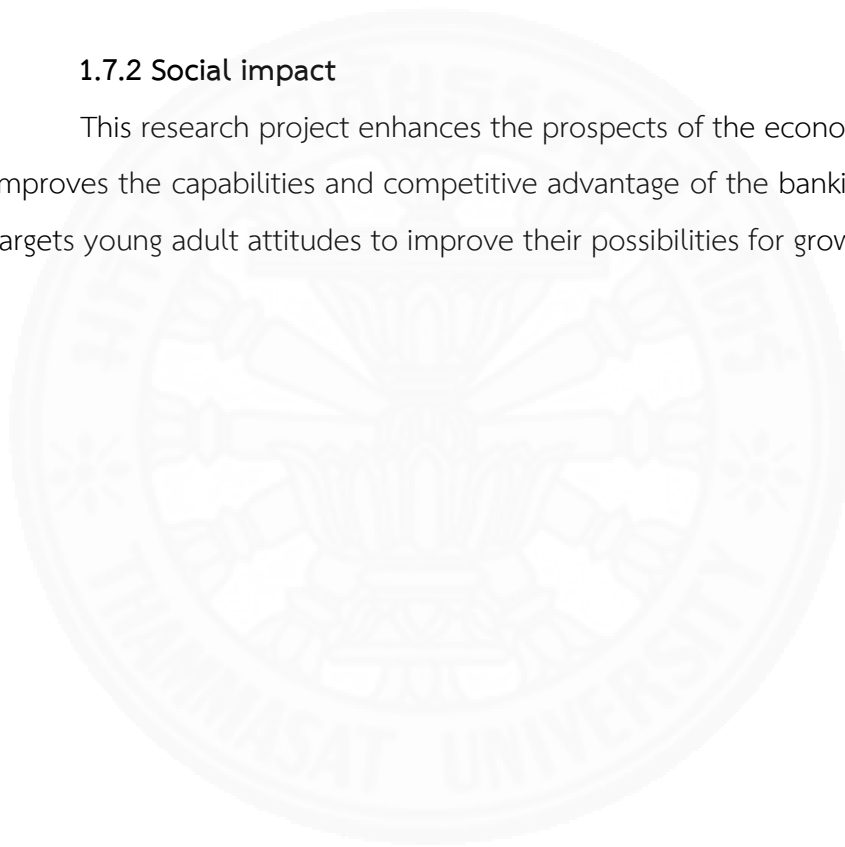
# CHAPTER 2

# LITERATURE REVIEW

## 2.1 Conventional bank

### 2.1.1 Organizational structure

An overview of the organizational structure of the conventional bank was created by using basic strategy: 1) Philosophy in banking operation which is the core of corporate development. 2) Services and human resource that are exported to the external image both in the organization and its shareholders. And finally, 3) External factors that affect banking activities such as technology, law and economy environment (Stasiak – Betlejewska, 2008).

With the changing surrounding of the business world, however, the pressure of conventional bank and competition in marketing is shaped the legacy system of bank to adapt it for ensuing market situations or a new transform in every moment without incurring extra costs (Stasiak – Betlejewska, 2008). Moreover, the influence of changing surroundings also resulted in the traditional bank that has operated by legacy system or serving face-to-face customer's interactions (Capgemini and Efma, 2016).

### 2.1.2 Conventional bank challenges and obstacles

Nowadays, disruption of a digital system has affected various section in the business world. Banking is the one industry that has affected. Many banks have adapted to prepare for this change by beginning to study and understand the digital banking system including to refine their strategies to better service to their customers. However, the action and operation of a bank through an inefficient structure is still a barrier to operation and continues to increase costs inevitably. Allocating and controlling human resource in the organization is still a problem that banks often face, and is vulnerable to interference and risk of outflow of customer information. Due to the working with vast amounts of data may be causing the error-prone. Nevertheless, under the changing pattern of business and social conditions, competition has grown

in all sectors. The banking industry has been influenced by technology to manage information and increase productivity as well. Therefore, the adaptation of the bank to prepare for competition and the management of internal spending including improve productivity has been raised as a key issue to change.

In the financial service that changed in the conventional bank is affected by the technological change in term of customers' information and organization information management. However, many financial institution still have to understand and develop the process of information-based technology that is the mainly barrier in transforming (Santiago Carbó-Valverde, 2017). In term of the organization information, the financial institution need to manage the historical data that have to transform to the current data, and the holistic view of data have to be accurated and updated immediately. Conversely, however, financial institution still have a lot of customer information that are huge and valuable information. Big data is the mostly useful technology that conventional bank applied to transform the business form. It used in transforming and exploiting the hard information as a competitive advantage for the conventional bank. Nevertheless, the applied technologies in transforming are the most important thing that bank concerned. Many bank and financial institution that need to transform chose to invest huge amounts in the management of cyber-risks and the transformation of human capital ensuring the standard and security of their business.

Another challenge and obstacle is the regulation. Regulators and supervision is the one factors that can control the technological challenges and financial stability policies (Santiago Carbó-Valverde, 2017). Moreover, the changing of financial systems is influenced by a high regulatory pressure while the newcomer in banking industry as the Fintech is increasing in the competitor role. In Thailand context, the law that related on digital banking is PSD vol.2 or detective on payment service vol.2. The PSD vol.2 is considered as the govern tools that can control the conduct and equality of digital banking service and guarantee fair competition between the conventional bank and the new player like a Fintech. However, a law on PSD2 or detective on payment service vol.2 in Thailand is still not certified as it should when compared with European counties.

## 2.2 Digital bank

### 2.2.1 The digital bank transformation

To be the leader in digital banking marketing, the bank or financial institution are more client-centric, tech-savvy, be inclusive and are fundamentally changing to deliver the best service (Padmaavathy P A and B Adalarasu, 2015). In general, Digital banking is considered as a new term in the banking industry which is interpreted as a financial transaction through the internet. In fact, however, Digital banking is the transformation of the operating banking model from the front-end to the back-end through the middleware that is the programming technology in connecting both of them (five degree, 2018). Moreover, all type of bank are operating sizeable investment in digital ways to keep and support their competitive advantages. Digital banks are adjusted and adapted the structures of organization, enhancing the ways to cope with market situations or a new transform of business without causing extra costs. The adapting of the conventional bank organization is often related with creating virtual structures, in which selected technology streamlining the information flow is actually playing the basic role (Stasiak – Betlejewska, 2008, p. 167).
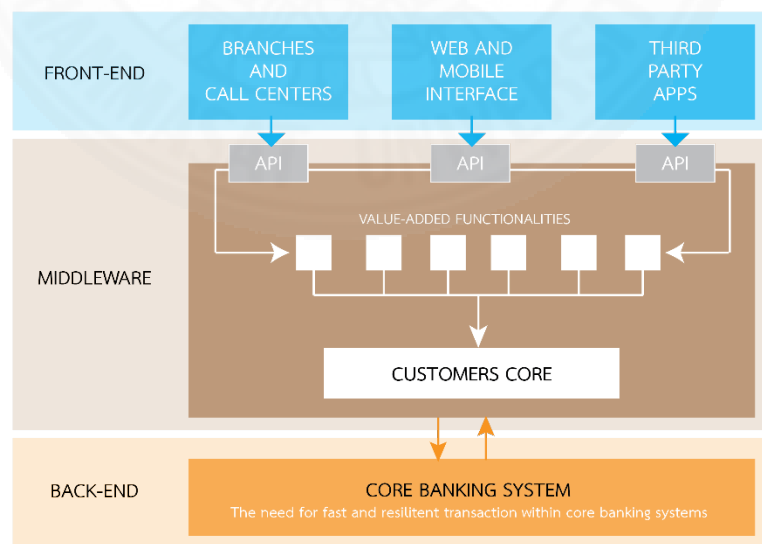


**Figure 2.1** The operating banking model for digital bank

Source: A.T Kearney, (2014).

In transforming and developing phase of digital bank, conventional bank have to prioritize on the customer's perspective and design processes including service channel and product to enhance the experience and services at competitive rates. In most cases, the challenges and obstacles of digital banking transformation will lost when the front-line tools, internal processes, data assets and staff capabilities changed without the coherent operating of front-to-back proposition (Padmaavathy P A and B Adalarasu, 2015).



**Figure 2.2** Three options creates a different infrastructure that banks are responding in different ways

Source: Adapted from PWC, (2017).

For the developing digital banking industry, there are three path that are proven and certified by many development sources. The way to develop digital banking business is step by step, starting with the first step that all banks can adjust and easy to adjust. The first path that financial institution can approach and be the simplest is to digitize is Front End Only. The front end only is the easiest approach that the bank choose to do while ignoring the back-end system and they can serve the digital surface or experience for customer early. However, this approach is consider as the cosmetic fix that are just designed an appealing interface via the mobile application and web interface. After this cosmetic fix, customers may see their bank becoming

more digital. Many bank believes that the changing in this model as a way to simplify and reduce the cost of operating in digital transformation. But in the long term, bank who choose to digitize only the front end without investing in changing legacy system could cost more as well. As Pwc say in its report "Without integration of back-end systems and no fundamental change to the operating model, the experience will be not be significantly different than what customers had before". So, starting from the frontend of the system is a good starting step. But if there is no change to the backend, the operation of the banking system cannot satisfy customers fully as well.

The second step of banking transformation is Wrap and digitize approach. This approach can help the bank to improve the customer experience more than the first way and go one step further by replacing the legacy system with integrating the middle and back offices. However, the Wrap and digitize way is the transformation process that consume a lot of time due to its focus on the step by step improvement before the full scope of the bank's processes has been overhauled.

The last approach is considered as reinventing from the ground up of banking system that is going digitally native. This approach makes the legacy infrastructure has more agile and changing the customer taste by provided the new challenge for them. Moreover, this strategy also can serve the significant cost savings and the capability for bank to transform when changing come rapidly. It must be acknowledged that the first reason banks choose to switch to this strategy is to reduce the cost that PwC has reported "branch transactions cost roughly $4 each, while online and mobile transactions cost $0.09 and $0.19, respectively". But actually the main reason that many bank and financial institution choose to adapt to be digital native is the make the different service for customers and make their infrastructure more agile. However, the changing of the overall system to go digital mean replacing the legacy core system that related with the cultural challenges and human resource challenges as well.

### 2.2.2 The digital bank structure

Restructuring of business model from traditional banking to digital banking by changing the structure and organizational change is considered a great adaptation and value creation for both the organization and the customer experience.

Creating value for the organization when it changes to digital banking, it can be seen from the lower cost of doing business due to the operation of a digital system that can reduce the number of employees and lower branches of the bank which is the major cost of a traditional bank. Also, it can increase the bank's revenue because the banks can extend service channels to customers more easily. And another important value is agility in operating. Because of the digital operation, everything in the banking system needs to be streamlined and easily accessible. The bank has applied various technologies to respond to customer needs more quickly and accurately (Padmaavathy P A and B Adalarasu, 2015). At present, there are some banks that have changed their systems into digital systems such as K-bank, SCB or TMB. These banks have started to reduce their branches and introduce new technologies to help facilitate such AI or Machine learning. However, these types of banks can also create value and trust for their customers by using similar principles and directions, using the principles of Client-centric, Tech savvy, Inclusivity, and Openness to conduct a transparent and create value for their systems (Padmaavathy P A and B Adalarasu, 2015). Moreover, the technological and agility have been enhanced the central to modernize the digitalization of banking models. It offers the great chances for banking to improve customer experience and understand the customer needs. At deeper level, modernizing banking model is considered as a cultural change so that enclose technology, integration model and to adopt a customer solutions-driven mind set.

Currently, digital banking tools such as mobile wallets and online payment platforms, have proved the potential for growth in the bank's service offerings and also have the potential to reduce the operation cost bank in Thailand as well. However, Thailand and the banking industry continue to focus on thinking and developing services in the form of digital platforms, which are expected to expand the market of digital banking and financial services in the Thai market. The growth in recent years can be seen as a factor affecting growth of banking services in the country that does not depend only on the use of mobile phones increased from 106.6% in 2010 to 146% in 2015. The Bank of Thailand (BOT) also reported that the volume of internet banking transactions and the volume of mobile banking transactions grew by 32% and 62% between 2010 and 2014 respectively (oxfordbusinessgroup,2016).

From the ever-changing of banking industry, many bank have to catch up an opportunities at the higher and broader level including improved customer targeting via digital marketing and micro-segmentation as well. Moreover, the satisfaction of banking customers in each channels will influence the customer's future banking behavior which in turn affects key factors (Padmaavathy P A and B Adalarasu, 2015).

## 2.3 Servitization and Service design

### 2.3.1 Servitization

Business has been rapidly shifted all the time due to the need of customers. Service has the role in the customer satisfaction and service also has taken on more role in the business world, instead of goods when compared to the past. And during the world economy and technologies are developing, the demand of market has shifted from the manufactured goods to integrated solutions (Zhang, W., 2017). Nowadays, Service orientation has transform to be the incontestable factors that favoring competitiveness (Afef Benyoussef Zghidi Imed Zaiem, 2017). Servitization is the new trend that moves away from product-centric that is the traditional way of focusing economic of scale only to service centric that is the new way for an integrated solution (F. Vendrell-Herrero et al., 2017). Also, Servitization as a movement in which companies that is described the process of value adding for the business and expand the brand's position in the market due to the potential that can enhance the business sustainability and profitability. Not only the customer satisfaction that is the main driven of servitization, but also have the cost reduction and revenue increasing as well (Edward Crowley, 2018). As Vandermerwe and Rada concluded that servitization is presented in the way of value adding in term of adding services to products to create new revenue streams due to the companies or organization can realize services as an opportunity to differentiate from goods and achieve higher customer satisfaction. Nowadays, servitization is believed as the simple ways to less risky in the value creation as the reinforcement rather than transformation. Due to the concept of servitization is always related on the value creation to boost an already well-established business

model logic and customer satisfaction, it is also described as the customer process-oriented services that enhance the customer's value-in-use that business wants to serve their customers in the better way (Anna Salonen, Onur Saglam, Fredrik Hacklin, 2017).

### 2.3.2 Service design theory

The world of service design has established from the increasing of customers' needs and customers' demand at an ever-growing rapid pace (Kristin R. Fritsche, 2010). Service design is multidisciplinary way that emerges methods and tools from several backgrounds such as marketing, human resources, operations, organizational structure, and technology disciplines (Ostrom et al., 2010). However, the service design also focused on a single elements of customer experience, rather than on the overall of experience factors (Moritz, 2005). In term of design thinking, the core of service design represents the solution-focused or experience-focused that recognizes the important of customers is first and organization followed (Mager, 2009).

Prahalad & Ramaswamy (2004) states that customers have a lot of choice, however, they also have less satisfied on their choice. According to customer experience as the long-term competitive advantage source, responding customers' rational and emotional expectations should transform into the design of the brand (Özlem Güzel, 2017). Patrı́cio and Fisk, n.d also referred that the service design is the ways of creative transition from understanding the customer experience to create service solutions and service design models can facilitate the process of transition as well.

Marc Stickdorn (2011) has defined the service design definition in academic approaches in book "this is service design thinking" that service design is an integrated way focused on the creation of well thought through experiences using a combination of intangible and tangible mediums. He also said that service design provided various benefits to the end user experience and it can be applied and spread into many industry such as retail, banking, transportation, and healthcare. Service design is the essential and crucial knowledge in driving the world of economy (Marc Stickdorn, 2011).

### 2.3.3 Service design framework in the digital economy

Nowadays, the internet and the digital resource that available in online world have ever-increasing effect on the business world widely (Satu Miettinen, Piia Rytilahti, Essi Kuure, imo Rontti, 2014). In the field of service design on digital economy is occurring, customer experience is developed based on real-time delivery including deep customer insight and understanding (Satu Miettinen, Piia Rytilahti, Essi Kuure, imo Rontti, 2014). There is framework of experience design in digital services that divided by service design theory into three area by Sangiorgi (2009): interactions, complexity, and transformation. By these three area of service design related to service interfaces, service systems, and service innovation. The definition of each areas can outlined via Daniela Sangiorgi (2009):
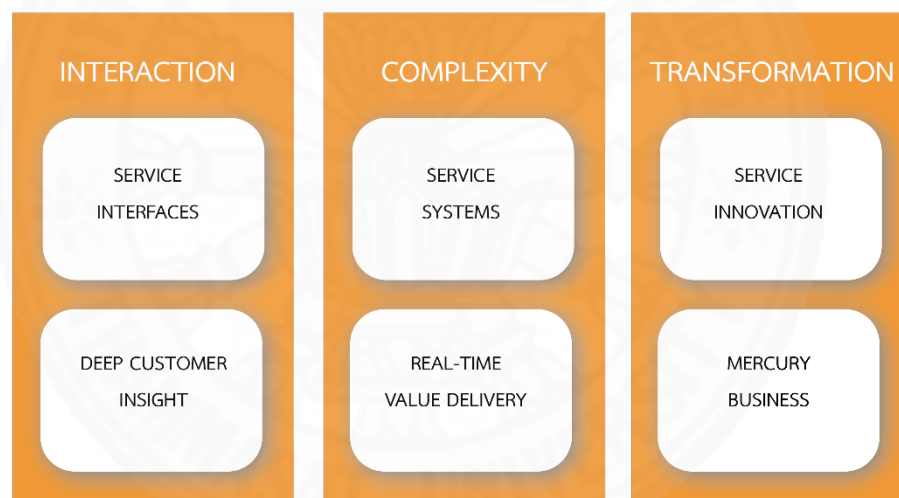


**Figure 2.3** A Service Design Framework for Experience Design in Digital Services
Source: Adapted from Sangiorgi, (2009).

**1) Interactions:** The quality in service interaction have to be design and evaluated. By the service interaction can be explained via the new or improved delivery modes and customer experiences, so it can called "service interface".

**2) Complexity:** The qualities and dynamics of systems in service design. This area is related to innovative interdependency between service innovation and organizational change, so it can called "service systems"

**3) Transformation:** The impact or effect of service design transformation in organization or user communities. This area is the one of facilitating design processes and related to new platform that can improved and changed their customer's life, so it can called "service innovation"

### 2.3.4 Service design blueprint

A service design blueprint is the one type of flow chart tools that has the line of customer interaction and service provider. Also, service design blueprint is considered as the most popular and useful tool for service operation analysis (Arash Shahin, 2010). To see the holistic view of service elements, the service design blueprint bring the concept of existing touch points together to design and solve the complete service experience for customers (Design council, 2015). Customer-centric is used in this concept of service design blueprint as the key tools to design new service or to redesign existing service by illustrating the problem of service process, so it makes the service areas are revealed (M. Z. Hossain et al., 2017).
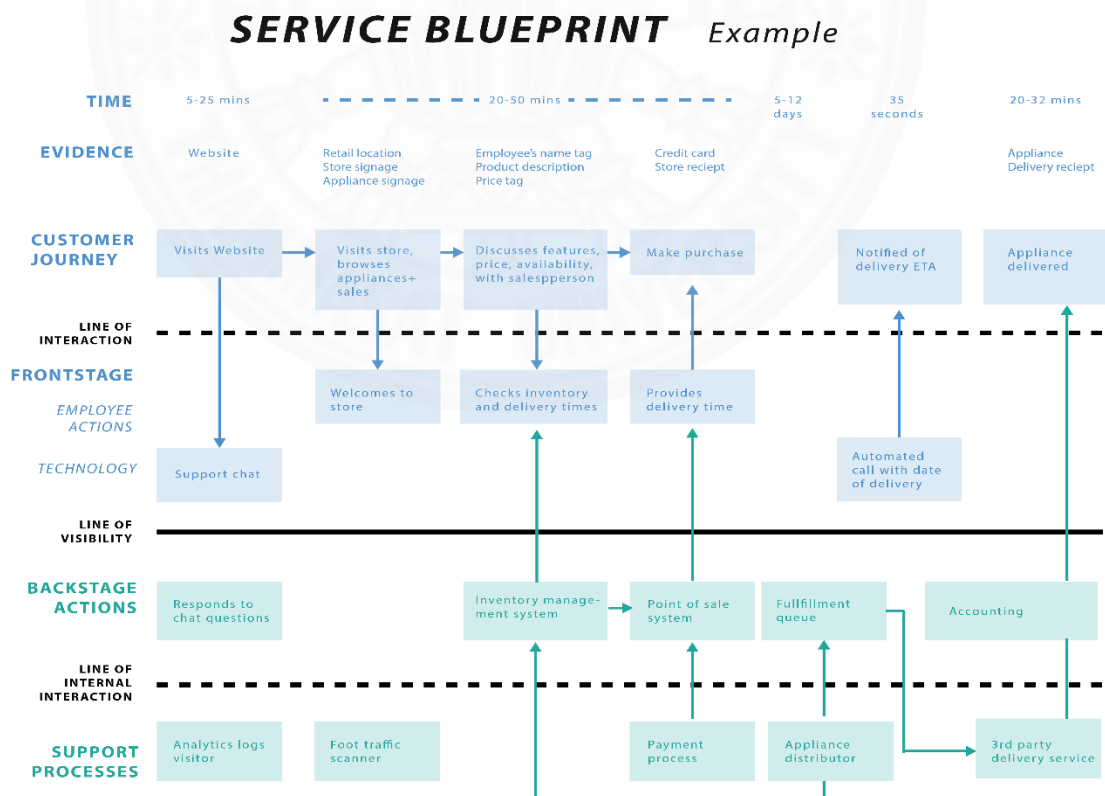


**Figure 2.4** Service design blueprint

Source: Nielsen Norman Group, (2017).

**2.4 Digitalization on banking industry**

The business world and financial service industry is inevitably affected by the development of digital systems (Santiago Carbó-Valverde, 2017). The digitalization on banking industry is the new type of economy disruptor that the financial sector and bank concerned, it is not only the changing in banking organization and service but also new challenge for financial stability as well (Santiago Carbó-Valverde, 2017). However, the combination of technological and competitive changes can realized the feature of new financial service. Nowadays, many of banking and financial service have fast-growing rate for payment channels, it provided by multi-channel that network economies, cross subsidies and cross-price and quantity relations are essential. Moreover, these innovation also have to be change the observation view from the lens of the traditional buyer-seller industrial approach to the new observation view that prioritize effects for financial stability (Santiago Carbó-Valverde, 2017).

**2.4.1 Fintech**

Nowadays, the financial sector and bank will cope with the new player in financial market that have the significant role like a Fintech (Santiago Carbó-Valverde, 2017). Philippon (2017) explained the Finntech as the sector that covering by digital innovation and technology in financial sector. He also said that the Fintech used the innovation and technology to break up the in boundaries of industry structure due to the banking customer can reach to financial service widely but they also have concern on the significant privacy, regulatory and law enforcement challenges.

Financial technology or Fintech is recognized as the most important innovation in financial industry that evolved in rapid speed level and can be driven factor in sharing economy (In Lee, Yong Jae Shin, 2018). Moreover, In Lee a, Yong Jae Shin also said that Fintech is considered as the game changer and innovative disruptor who can able to shake the traditional financial industry by using technology. Reshaping the traditional financial industry is influenced by reducing cost, improving financial service quality including expanding the landscape of financial market ('The FinTech Revolution', 2015).

Diemers, Lamaa, Salamat, and Lee, Y.J. Shin Steffens (2015) suggested about the fintech ecosystem that have five elements by these elements have the different roles to encourage the financial innovation, drive the economy, facilitate collaboration and competition in the financial industry and provide benefits for the financial customers:
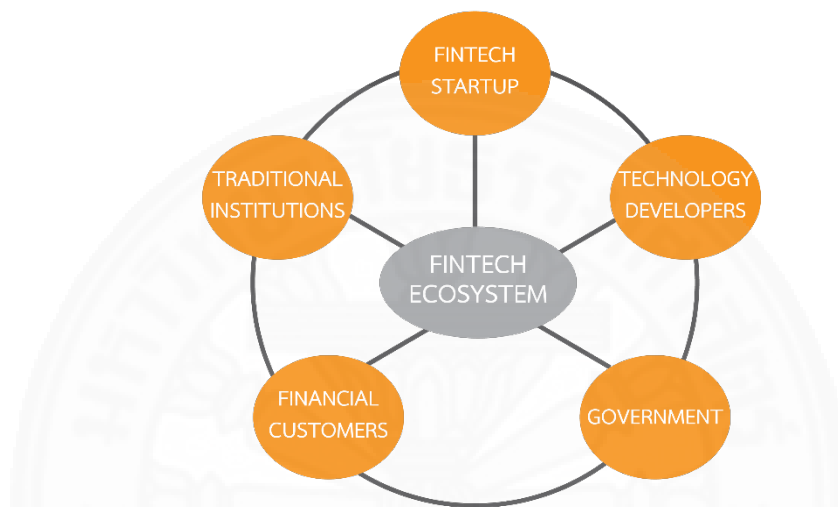


**Figure 2.5** Fintech ecosystems

Source: Lee, I., & Shin, Y. J., (2018).

          **1) Fintech startup**: this element is the driver of financial service which have a highly level in disruption of bank (Walchek, 2015). Fintech startup are mostly entrepreneur and have major innovation in area of financial service such as payment, wealth management, lending, crowdfunding, capital market, and insurances. Moreover, they also adjust the structure of cost operation to reduce cost, seek and offer the straight service for niche market than traditional financial companies.

          **2) Technology developers**: this element provides the digital tools and digital platform for big data analytics, cloud computing, artificial intelligence, and mobile service. Moreover, technology developers contribute to the use of technology to replace the physical potential of the traditional bank as well. In turn, Fintech startup also offer benefits for technology developers by provided revenue.

          **3) Government:** Government has the holistic role to manage and provide favorable regulatory environment for fintech. Due to different context in each

country, different governments provide a different level of regulation for Fintech to encourage and facilitate the competitive financial market.

**4) Financial customers:** Financial customer is the important role in generating revenue for Fintech companies. Holland FinTech (2015) reported that the Fintech service is mostly popular in younger and wealthier customer and be the part of the population and drive the growth of Fintech service. The resulting the major of Fintech customer are tech-savvy, younger, urban, and higher-income individuals including millennial generation and Generation Z.

**5) Traditional financial institutions**: This element are also the major driving force for Fintech ecosystem. Due to the rapidly growth of Fintech, traditional financial institutions affected and changed in term of strategies and existing service. The improvement and development of business model and strategies are incurred to embrace Fintech technology. However, traditional financial institutions also have the economies of scale and financial resources that seem to competitive advantages to overcome Fintech startups. Nevertheless, in nowadays many traditional financial institutions try to adjust the position and strategy to collaborate with Fintech companies more.

### 2.4.2 Digital payment

Payment systems are crucial sectors for the financial service systems. According to a report by Schmiedel et al. (2012) indicated the GDP of providing retail payment services can change between 0.80% and 1.20%. The evidence that show the non-cash payment transactions were around half a trillion in 2016 are not surprising. The internet revolution and digital disruption as technologies driven that the financial service are influenced and led to the electronic finance developing (Santiago Carbó-Valverde, 2017). Koponen (2006) explained that with ever-changing of financial technologies, there are diversity of online payment systems that have been evolved in past few years and these financial system can be separated into account-based and electronic currency systems.

Paunov and Vickery (2006) provides the definition of each electronic payment method in report evaluating the online payment systems for e-commerce,

however, the characteristic feature of the most commonly used in online payment and digital payment service are summarized.

**1) Credit card:** Credit card is the mostly common used and basic of online payment method. The system and characteristic of credit card is easy to use functionality with making online transactions in anytime and anywhere. Worldwide network is the one of significantly system that credit card companies concerned, due to it can ensure and support the large of customer and user base for transactions in the different area around the world. However, the credit card is considered as the less suitable method for small businesses and customers who want to make a payments in small quantities due to the fees of using credit card have high levels in each time. (Paunov and Vickery, 2006).

**2) Debit card:** The use of debit card is high in many countries due to there is the lower costs or fees than credit card, so this payment method is more suitable for small payment. Moreover, Capgemini and RBS (2013) reported that the debit card also have the large volume using and it is the most popular non-cash payment because the payment system of debit card can run directly from personal account of customer and no need to have intermediary account.

**3) Mobile payment:** Mobile payment provided the channel that more convenience, transaction fee reduction including the security of electronic payment is increased (Hoofnagle, et al, 2012). Paunov and Vickery (2006) indicated that the mobile payment systems have the potential for continuous growth when compared to other payment methods. Hoofnagle, et al. (2012) supported the potential of mobile payment by analyzed the user base of mobile phone that prefer the decreased cost of transaction and increased payment security. However, this payment method can also made the business easier to collect the customer information and customers' purchase data as well.

**4) Mobile wallet:** Mobile wallet is the one of new technologies for payment systems that is believed that can offer more convenient and new experience for customers (Husson, 2015). Doan (2014) explained that the mobile wallet as the leather wallet in the past because it can have coupons, money, cards and receipts but in form of digital service.

**5) Electronic cash:** Electronic cash systems presented the currency in the digital world such as Digicash or CyberCash. Paunov and Vickery (2006) also reported that this systems can work with the use of pre-paid cards or tokens that the users have to get the value after it is exchanged for hard cash. However, this system is on process and in during the developing to be stability.

Nevertheless, one sector that has been continuously improving services is the financial transaction platform and electronic payment. However, the financial transaction platform and electronic payment also have a large extent hampered by the lack of appropriately designed Electronic Payment Systems (Dennis Abrazhevich, Panos Markopoulos, and Matthias Rauterberg, 2009).

## 2.5 Generation Z

### 2.5.1 The definition of generation Z

Anjali Singh (2014) stated that Generation Z are people who born between 1995 – 2012, so they were raised by generation X. Generation Z is considered as the "Digital Native" due to widespread of electronic device and digital technologies. By the characteristic of generation Z is relatively tech savvy, flexible, dare to learn and connected in the virtual world easily. Other evidence showed that Generation Z is the people who born in the 1990's and grew in the 2000's with the social network, smartphone and freely available networks and digital media (Bascha, 2011; Brue Tulgan & Rain maker Inc., 2013).

Also, the Institute for Emerging Issues (2012) reported that Generation Z has an informal but also want their private zone, love to straight communication but also need the social network as the vital part in their life as well.

However, the Generation Z people can surprisingly divided into 3 groups by service accepted behavior. 1) "Conventionals" group as the people who prefer to conduct business face-to-face with traditional banking providers and this group is approximately one-third of generation Z or 34 percent. 2) "Digitals" group who also favor traditional providers, but prefer digital or virtual communication by has a slightly larger number at 37 percent. 3) "Pioneers" group who likely to push forward

the revolution in payments due to their banking behavior totally raid on digital, this group is considered as 28 percent of generation Z (Andrew Vahrenkamp, 2018). Moreover, the internet banking and mobile banking usage among young adult or generation Z are predicted through the attitudes toward technology. Only 15 percent of "Conventionals" group have paid for something with their phone, compared with "Pioneers" group at 45 percent and "Digitals" in the middle with 24 percent respectively (Andrew Vahrenkamp, 2018).

### 2.5.2 Financial behavior of Generation Z

For the digital banking industry, the usability provides significant opportunity for attracting a specific segment of customers, especially young adult (Lewis and Bingham, 1991). Lewis et al. (1994) also suggest that young people have characteristic in material possessions, and more concerned with consumption than saving their money for personal success. However, Generation Z is become a major force in financial services and payments, and will also have a potential to change the payment providers platform to respond them (Kevin Woodward, 2018).

With the characteristic of Generation Z that reach social network, smartphone and freely available networks and digital media (Bascha, 2011; Brue Tulgan & Rain maker Inc., 2013), influencing the amount of the increasing of tablets and smartphones in nowadays. The use of electronic payment methods has grown up to 21% in 2012 (Rau, 2013). From evidences like a U.S. Mobile App Report in 2017 also shows that the generation Z customers have amount of 70% increasing on the mobile payment application in 2016.

In case of mobile banking, generation Z are using the banking service via bank application for various task (Alex Rolfe, 2015). Alex Rolfe also reported that they applied for loans (3.7%), check the banking balance (9%), transfer the domestic transaction (25.6%) and the most service that they used is paying a bills (40%). In Thailand context, the report of Economic Intelligence Center (EIC) also shows the continuously growth rate between years 2010 to 2017 of banking transaction on E-payment in Thailand that is influenced by E-commerce, Prompt pay and QR code system growth trend. E-payment is considered as the electronic payment system that be the backbone of e-commerce business. The availability of electronic payment

included mobile payments, mediating services, and electronic currency, an appropriate can be chosen for a particular type of transaction (Zlatko Bezhovski, 2016).

## 2.6 Gaming industry

### 2.6.1 The use of mobile activities for generation Z
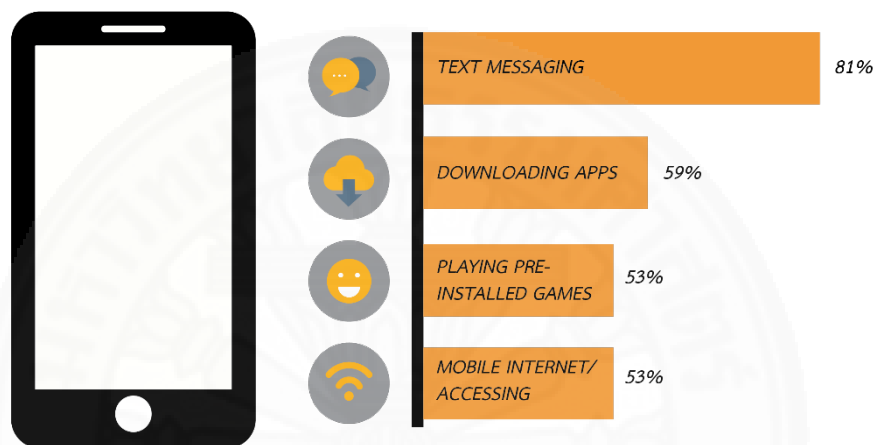


**Figure 2.6** Use of mobile activities for generation Z
Source: the Nielsen Company, (2017).

From the evidence that the Nielsen Company reported, many generation Z have the mobile activities in various ways. The top mobile activities of generation Z are text messaging (81%), downloading apps (59%) and playing preinstalled games and mobile internet/accessing websites (53%) (Nielsen Company, 2017).

### 2.6.2 Gaming industry

Mobile devices as the life facilities for this generation, it provided users both in entertainment and productivity part via the new experience of application (Hew et al., 2015; Shin et al., 2012). Application on mobile devices is the software that designed to operate on smartphones, tablet and other mobile devices (Ailie K. Y. Tang, 2016). Most of mobile applications are free for users, but it has the revenue model in different ways to get the profits and increase growth.

Gaming industry is the most popular application in downloading and creating transaction in term of electronic payment (Ailie K. Y. Tang, 2016). Over 25% in 2014 of application around the world was created by top 10 game applications in Android and IOS App Store, moreover, mobile game application revenues also accounted for 33% of the US$77 billion total earned by all video game platforms as well (Activate, 2015). With the variety of game that can convince customers and enter to the Application store, the market and game developers try to compete for the customer's attention and potential download market (Craig Heier, 2015).

### 2.6.3 Monetize model for gaming industry

Monetization model for gaming industry is established to offer the additional function, service and experience for the user (Robert Flunger et al, 2018). Conversely, the application developers designed the function and service to offer a richer game experience while giving rise to a profitable revenue model to have a bright future (Choi et al., 2014). Generally, the avenues for monetize the application or game industry have three avenues: 1) freemium, 2) paid apps and 3) in-app advertising (Ailie K. Y. Tang, 2016).

**1) Freemium model:** The freemium strategy is the popular monetize and successful model for mobile game (Craig Heier, 2015). The word of freemium derived from two words that are "free" and "premium", so it describes a model that that earns revenue from in-app purchases (IAPs) (Ailie K. Y. Tang,2016). This model has the structure that provided the functional of mobile games for free, then the user can upgrades the features and additional content with in-app purchases. For the gaming aspect, the in-app purchases (IAPs) are designed to provide the greater experience for users while rising the profitable revenue model for owners (Choi et al., 2014). In-app purchases (IAPs) in games or called micro-transactions are special feature and virtual features (e.g. item mall, unlocked levels, virtual items or currencies and advanced features). Overall, the acceptance of IAPs in the players and interruption of the real money shows the relevant of making fun in the fictional world for players (Aina Ravoniarison, Cédric Benito, 2019).

Paavilainen et al. (2014) stated that the advantages of this model are the customer experience that customers can flexibly choose and buy to get virtual

good for their games. However, the marketing strategy of this model is based on the free game more than paid game that customers have to pay in the first time.

2) **Paid Application model:** Paid application model is the model that earned the revenue from the purchase of the app itself (Ailie K. Y. Tang, 2016). This model will directly charge the price for downloading, however, some paid application also have the paid downloads and in-app purchases for additional revenue. Commonly, the paid application model is found in productivity application such as the navigation and dictionary categories.

3) **In-app advertising:** In-app advertising is the one model of revenue for application business. It refers to advertisement that often pop up when customer run an application. In gaming application aspect, application often ask users to watch an advertising to get some virtual goods or token.

## 2.7 Marketing 4.0

### 2.7.1 The definition of marketing 4.0

According to Marketing 4.0, Philip Kotler, Marketing 4.0 describes the new marketing approach as the digital marketing that combines online and offline interaction between companies and customers. It also leverages machine-to- machine connectivity and technology to improve marketing productivity, moreover, increase the potential of human-to-human connectivity to boost up customer engagement.

Evolution of marketing 4.0 is occurred from Marketing 3.0 that considered about new technological developments, problems caused by globalization and the interest of people to express their creativity, values. While marketing 4.0 focused on the new business path for the integration of technology into people's life. In business context, marketing 4.0 encourages many companies to reach the achievement based on the customer engagement, retention and loyalty as building the stronger customer relationship.
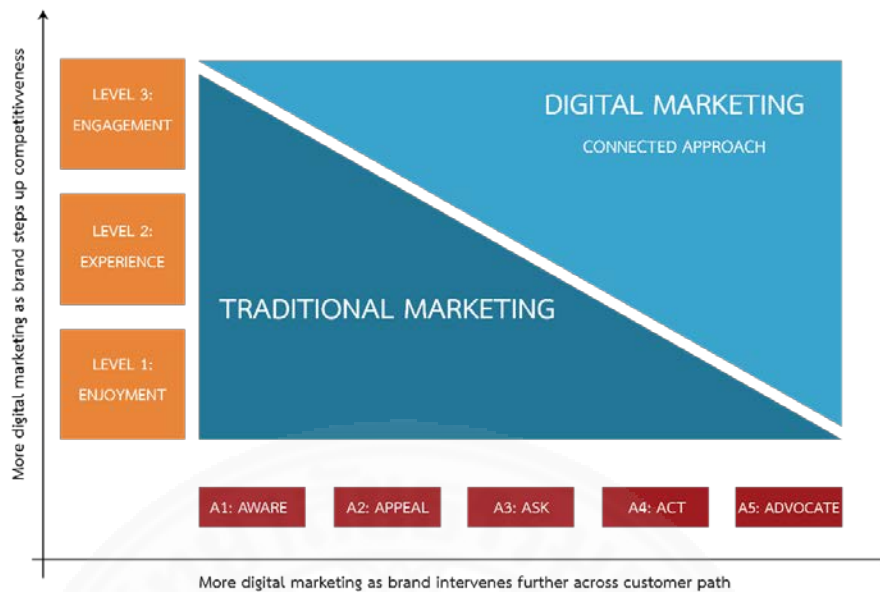
**Figure 2.7** The marketing 4.0 model

Source: Philip Kotler, (2017).

To be the digital marketing is not necessary to cut off or replace traditional marketing, the traditional marketing still has the major role for building awareness and interest while the digital marketing has the role to tight the interaction progresses and customer demand closer with the companies. Nevertheless, the digital marketing is improve the action of customers and drive the advocacy among customers. The concept of marketing 4.0 also included the 5A's model that is considered as the customer path and the 3E levels that represent the practice strategy to reach the marketing 4.0.

### 2.7.2 5A's model

According to the new customer path in Marketing 4.0, Philip Kotler, shows that the customer paths in product and service industries are very complex and involve diverse of traditional and digital media combination. Especially, for the service industries that related to the digital world such as digital payment or mobile application industry also defined a new customer path to accommodate changed by social connectivity. The framework that describes the customer path is the four A's and then it was updated to the five A's to response the customer behavior changed.
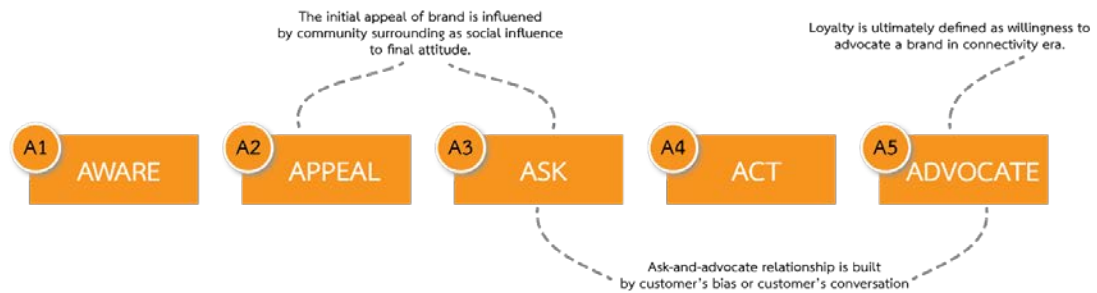
**Figure 2.8** The 5A's mapping for customer path

Source: Philip Kotler, (2017).

         **1) Aware:** In aware phase, the customers will expose the long list of brands from their experience, advertisement and advocacy of others. This is considered as the gateway of customer path due to the customers who can recall and recognize the brand can show the potential of brand communication as a major source of brand awareness.

         **2) Appeal:** After aware phase, customers then process all of message for many brand and create a short list of brands that more attracted. Appeal phase as the memorable brands are more competitive phase that many brand try to reach.

         **3) Ask:** After customers become more aware of the brand, many customers choose to find and follow up more information about the brand that they are attracted. The source of information can be friends, family, media including directly from the brands. Nowadays, the ways to reach the information is complicated and various by integration of digital media and physical world. However, the customers can go to multiple channel for brand's information and this phase is considered as the customer path that changed from individuals to social.

         **4) Act:** In act phase, it is about the purchase decision of customers. Brands have to attend the customer not only in purchase action, but also post-purchase service as well.

         **5) Advocate:** After purchasing decision of customers in act phase, the sense of brand loyalty have to be retained and improved. Advocacy can be two ways that effected to the brands. Positive advocacy is considered as the important

brand communication tools. If the customers feel satisfied with brand, they will be willing to advocate their experience to others and become the evangelists of brand.

### 2.7.3 Customer decision pattern

However, the new customer path was used to develop service coupled with the industry archetypes to gain insight from consumers and develop the service that response the customer needed. Many brands tend to have more touch points in the customer path that allow customers to experience a wider set of interaction.
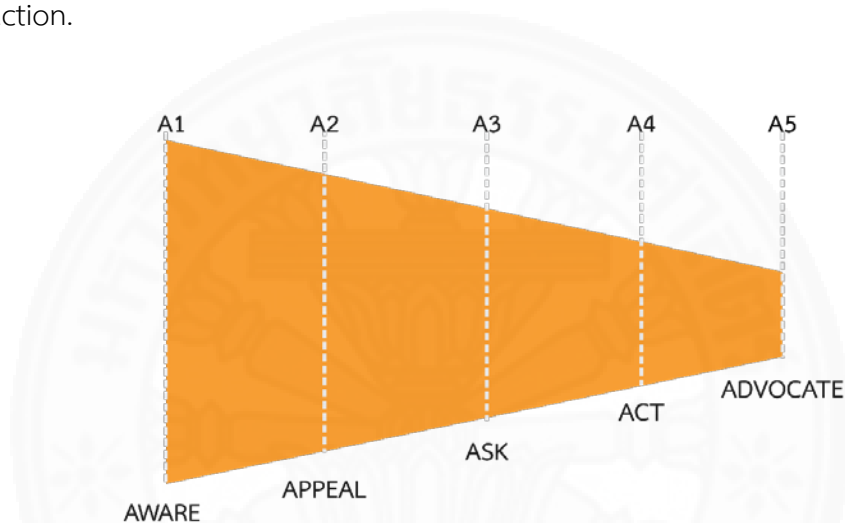


**Figure 2.9** The funnel pattern for customer decision model
Source: Philip Kotler, (2017).

**Funnel pattern:** The funnel pattern is the one of pattern in industry archetypes that has effectiveness in service industry including banking service. This pattern brings customers go though each stage of action and also help the service provider to focus on incremental improvement of customer experience innovation. In this pattern, the overall of customer experience are really important because they cannot skip any stage. The act phase (from 5A's) is very important for customers given that they would like to bring themselves in the purchase and usages experience. However, this pattern is the one most prone to disruptive innovations because it have to reach the better customer experience that continuously increased and it often occurs in industries that has highly customer-experience expectation as banking service.
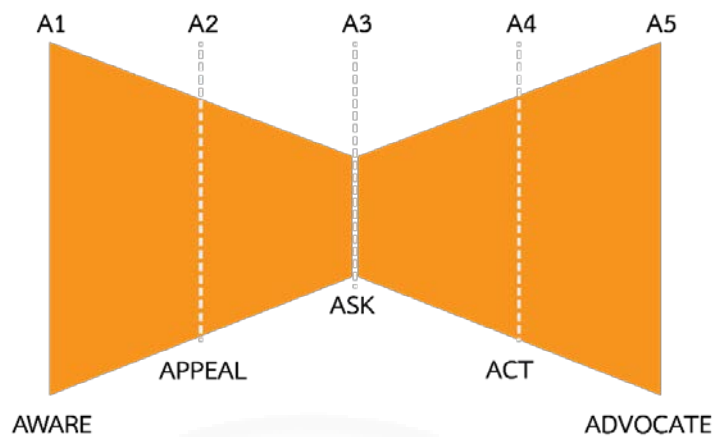
**Figure 2.10** The bow tie pattern for customer decision model
Source: Philip Kotler, (2017).

**Bow tie pattern:** This is the ideal pattern for customer path that combined all the positive strengths of pattern, which is shaped like a symmetrical bow tie. The bow tie represents the key of perfect brand.

**2.7.4 The practical strategy: 3E levels**

The practical strategy in marketing 4.0 can be divided 3 levels that used to create the effective marketing plan for each business. In practical strategy of marketing 4.0, there are Level 1: Enjoyment, Level 2: Experience and Level 3: Engagement. By each stage of practical strategy in marketing 4.0 will provide a different strategy for customers to attract them and to connect the traditional marketing and digital marketing. Moreover, in each stage will use the strategy in term of traditional and digital in different proportion as well.

**2.7.4.1 Level 1: Enjoyment**

In the enjoyment stage, the proportion of traditional has a large amount than digital ways. Enjoyment stage represents the information era that can indicate the users' behavior who prefer to search and access about product and service. Marketing in order to achieve level1 or enjoyment level can be done by providing useful information about the product or service for customers to understand the product and service. At present, the age at which the Internet can reach everyone, the finding information is not difficult. Most customers tend to search for information about the brand, compare prices including checking the benefits that they will receive

through online channels. To respond customer behavior, creating a channel on the online world is one way to make customers feel convenient and interested in the brand as well as be able to create credibility for the products and services as well.

### 2.7.4.2 Level 2: Experience

In the experience stage, the proportion of traditional and digital world have to balance to merge and provide the new experience for customers. Experience stage is the process of connecting the service for customer to provide services both offline and online. Each service needs to find a connection point and touch point for customers to use the service easily. Connecting the two worlds together will help customers feel closer to those brands and also create a funny experience for customers as well. Creating activities online and allowing customers to participate in activities to receive prizes at stores is popular method. In addition, some brands use new technologies to attract customers and help make the service easier than before, such as creating a brand's online platform so that customers can check the products that are available in each branch.

### 2.7.4.3 Level 3: Engagement

In the engagement stage, the proportion of traditional has a small amount than digital ways. Engagement stage is a stage that shows the power of advocacy and word of mouth among customers. Currently, the creating credibility of brands and services requires customers to tell each other and is also considered as one of the most effective ways to promote brands and service due to the behavior of consumers nowadays are more likely to read reviews from other users before they decide to purchase. By creating those things, brands often need to build customer loyalty to make the brand more reliable. However, opening a channel for customers to comment on brands and services is important. Many brands choose to use customer feedback to improve and develop their services to meet the needs of customers. And when the brand chooses to use the customer's feedback or customer-centric methods, customers will feel more involved with the brand and are more advocate including the brand can attract more customers in the same group as well.

# CHAPTER 3
# RESEARCH METHODOLOGY

The main focus of this study is to develop an understanding of digital banking, a conceptual structure, based on conventional banking in aspect of in-game purchasing and to analyze the service design approach in developing the system to meet the needs of young adult attitude and practice. The research methodology strategy for this study is the qualitative method and quantitative method as well as the mix methodology. This chapter is following contents:

1) Research aim and Research objectives

2) Research question

3) Quantitative research

4) Population, Sample and Sampling Strategy

5) Qualitative research

6) Focus group session

## 3.1 Aim and Objectives

The aim of this study are to investigate the creating digital payment in aspect of in-game purchasing to analyze the customer path by service design approach in developing the system and the new customer path to meet the needs of young adult practice.

**The specific objectives of the research are:**

1. To study the industry archetypes of digital payment in aspect of in-game purchasing in nowadays based on young adult practice.

2. To find and collect the customer path in concept of five A's of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult.

3. To collect and analyze customer path of digital payment to reveal service blueprint for young adult.

4. To create the marketing strategy of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult effectiveness.

## 3.2 Research question

1. What are the industry archetypes of digital payment in aspect of in-game purchasing in nowadays based on young adult practice?

2. What is the customer path in concept of five A's of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult?

3. Which is customer path of digital payment that reveal service blueprint for young adult?

4. How might we create the marketing way of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult effectiveness?

## 3.3 Quantitative research

### 3.3.1 Population and sample size
#### 3.3.1.1 Population in this study

The population in this study are young adult or Generation Z in Bangkok area who are users in aspect of in-game purchasing. The total population is unknown according to an uncertainty of the users in aspect of in-game purchasing on mobile phone.

#### 3.3.1.2 Sample

The sample size of this study is calculated by an unknown population from W.G. Cochran's formula and taking 95% confidence level with ±5% precision and assumed the maximum variability, which is equal to 50% ( p =0.5).

$$n_0 = \frac{z^2 pq}{e^2} \qquad\qquad (3.1)$$

Where,            0 n is the sample size.

z is the selected critical value of desired confidence level.

p is the estimated proportion of an attribute that is present in the population.

e is the acceptable sampling error.

Thus, representative sample size required for this study is calculated with p = 0.5 and q =1-0.5 = 0.5; e = 0.05; z =1.96.

$$n_0 = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 384.16 = 384 \qquad (3.2)$$

So the sample size is equal to 384 sample and to avoid the error occurred from incomplete questionnaires the research will increase 15 sample to be 400 samples. Thus, the total amount of samples size is 400 samples. The researcher will focus on young adult or Generation Z in Bangkok area who are users in aspect of in-game purchasing.

### 3.3.2 Data processing

Data in the study will be analyzed and processed by using Statistical Package for the Social Sciences (SPSS) to reveal the form of service design through the attitude and perception of young adult on digital banking service.

### 3.3.2.1 Tool for data collection

#### 1) Demographic

In this study, demographic as general information of sample size that are included gender, age, job and income per month. All of the variables are Nominal scale and it is used in describing the characteristic of sample size only.

#### 2) Game playing on mobile phone's behavior

The second part of questionnaire are the questions that leading to user behavior on game playing aspect. Check list type is used. The information are included games that user played, period of playing per day and playmate. By the last question in this part is the multiple question that lead the target

to the option payment used and this question will be indicator for target to do the next part of questionnaire.

### 3) 5A's model: new customer path in Marketing 4.0

The study applied 5A's model: the new customer path in Marketing 4.0 by Philip Kotler which involve diverse of traditional and digital media combination. Total questions are divided into 4 sets by using same questions in every sets but in different payment channel. The questions that applied by 5A's model is represented Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocate (A5). Each respondent assigned to answer questions in Likert scale and extending the behavior in check list questions.

Each question in this part will represent the characteristic of 5A's model: Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocate (A5) by following:

**Table 3.1** The question characteristic of Five A's model

| 5A's model | Definition | Questions | Level of measurement |
|---|---|---|---|
| Aware (A1) | Aware phase is represent the level of recognize of brand in communication ways. This shows the brand awareness that users know about this online payment channel. | - How much do you know about this online payment systems to buy items in in-app purchase? | 0 = N/A<br>1 = Very unsatisfied<br>2 = Unsatisfied<br>3 = Neutral<br>4 = Satisfied<br>5 = Very satisfied |
| Appeal (A2) | Appeal phase is represent the level of user's preference in brand. This shows the memorable potential of payment channels | - How much do you like this online payment channels to buy items in in-app purchase? | |

**Table 3.1** The question characteristic of Five A's model (Cont.)

| 5A's model | Definition | Questions | Level of measurement |
|---|---|---|---|
| Ask (A3) | Ask phase is represented the understanding of users about the brand information that they are attracted. This shows customer path that changed from individuals to social | - How much do you need to know more information about the use of this online payment system? <br> - How much easy and understandable for the application process or how to use this online payment system in the first game? | 0 = N/A <br> 1 = Very unsatisfied <br> 2 = Unsatisfied <br> 3 = Neutral <br> 4 = Satisfied <br> 5 = Very satisfied |
| Act (A4) | Act phase is represented the level of purchase decision of users including the experience on this online payment channel. | - How often do you have online payment experience to buy items in in-app purchase? <br> - How much this purchase process and online payment channels are easy to use and can help promote in-app purchase on mobile phones? | |

**Table 3.1** The question characteristic of Five A's model (Cont.)

| 5A's model | Definition | Questions | Level of measurement |
|---|---|---|---|
| **Advocate (A5)** | Advocate phase is represented the level of loyalty sense of brand that users felt. If the customers feel satisfied with brand, they will be willing to advocate their experience to others. | - How much do you have a tendency to advocate about this online payment to your friends, when you have an understanding and confidence in the online payment channel to buy items in in-app purchase? | 0 = N/A<br>1 = Very unsatisfied<br>2 = Unsatisfied<br>3 = Neutral<br>4 = Satisfied<br>5 = Very satisfied |

### 3.3.2.2 Validation and Reliability

The validation of this study is proceeded by the consulting advisor and committee to validate that content of survey is related to the objective and research question.

To confirm the reliability of this study, the questions distributed to 30 persons that have related field in in-app purchase. Gathered information and data is processed by using Cronbach's alpha as coefficient test.

### 3.3.2.3 Analysis process

After gathered data proceed into statistical analysis by using SPSS as instant package, all of gained data will examine for completion of survey. In each part of questionnaire will be classified by following:

**Part 1:** In part of demographic, the result are assigned to be nominal and only single answer is allowed. The result will be explored by frequency and percentage.

**Part 2:** In part of game playing on mobile phone's behavior, the result are assigned to be nominal and have the different type of questions to reach the real response of respondents that are single answer and multiple response. The answer will be based on information perceived by each respondent's behavior, consist of 5 items. The result will be explored by frequency and percentage that lead the target to the optional payment.

**Part 3:** In part of 5A's model, the result are assigned to be scale and nominal that have the different type of questions to reach the real response of respondents that are Likert scale and multiple response based on 5A's model: Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocate (A5). The answer will be based on the level of satisfaction of users, consist of 11 items for one payment channel and use the same question set for 4 payment channel to reach the result of satisfaction in each payment channel.

In part of Likert scale, the result in 5A's model are divided interval into 6 levels: 0 = N/A, 1 = Very unsatisfied, 2 = Unsatisfied, 3 = Neutral, 4 = Satisfied and 5 = Very satisfied. The levels are calculated interval by using the following formula:

$$Range = \frac{(Max - Min)}{level\ of\ interval}$$

$$Range = \frac{(5 - 0)}{6}$$

$$Range = 0.8$$

Range 4.21 – 5.00    defined as very satisfied

Range 3.41 – 4.20    defined as satisfied

Range 2.61 – 3.40    defined as neutral

Range 1.81 – 2.60    defined as unsatisfied

Range 1.00 – 1.80    defined as very unsatisfied

Range 0.00 – 0.80    defined as N/A

In part of multiple response, the result will based on the information by each respondent's behavior consist of 5 items for 1 payment channel. The answer will indicate the media channel that user often used and the amount of using online payment in each time.

### 3.3.2.4 Industry archetype analysis

After collected data from questionnaire in section 3, the data will be interpreted through the industry archetypes for each digital payment channel by the industry archetype are followed 5A's model coupled with customer path.

Confidence interval is applied to create the 4 industry archetypes to define the customer path. Therefore, the data that collected from questionnaire will created for each interval of 5A's model. The interval in customer path are calculated by using the following formula:

$$Confidence\ interval\ = Mean \pm S.D. \qquad (3.3)$$

Where,      Mean   is the average of data

S.D.     is standard deviation

From calculated, the result will show the confidence interval of data by specify the top edges and bottom edges of the data. After that the result will be interpreted and plotted into industry archetype pattern In order to show the distribution of customer satisfaction.

## 3.4 Qualitative research

### 3.4.1 Focus group session

A previously result of questionnaires that are distributed to 400 respondents shows the attitude and practice of young adult in aspect of in-game purchasing. After that the focus group session is conducted to find the real pain point that users faced. Focus group session is used as a qualitative approach to find an in-

depth understanding of social context and reason for user behavior (Tobias O.Nyumba et al., 2018).

### 3.4.1.1 Selective method

In this study, focus group conducted in context of the problem and pain point in using digital payment in aspect of in-app purchase by separated group of participants into 3 groups followed by the mainly digital payment channel that target used. The selected digital payment channel is consists of 1) Bank account that is the basic method for users 2) Debit and Credit that is electronic card and 3) E-wallet such as true money or rabbit line pay that represent electronic currency and electronic wallet system.

Focus group sessions were conducted by each session consists of 4 participants. Sample group selection for focus group session has selected from digital payment users 400 people who are responded in previously quantitative part or questionnaire.

### 3.4.2 Data processing

Data in this focus group session will be conducted and processed by using criteria research that users concerned about digital payment usage. The agenda of focus group session use to reveal the pain point and problem that users faced in each process of in-app purchasing. The agenda in this focus group session consists of reason of using, privacy/security, accessing and service provided as followed:

**Table 3.2** Focus group participants

| Digital payment channel | Agenda | Number of Participants |
|---|---|---|
| Bank account | - Reason of using this channel<br>- Privacy/Security<br>- Accessing<br>- Service provided | 4 |

**Table 3.2** Focus group participants (Cont.)

| Digital payment channel | Agenda | Number of Participants |
|---|---|---|
| Debit credit | - Reason of using this channel<br>- Privacy/Security<br>- Accessing<br>- Service provided | 4 |
| E-wallet e.g. True money or Rabbit line pay | - Reason of using this channel<br>- Privacy/Security<br>- Accessing<br>- Service provided | 4 |

### 3.4.3 Analysis process

After gathering data and focus group process, all of the gained data will be analyze and define the real insight of pain point that user faced and used it in designing service for digital payment. The result of these sections will be presented and used the service design tool as a blueprint to indicate the problem among users and existing service. Moreover, the service design blueprint that is used to analyze the data will be created in 3 items divided into each payment method. Also, the service design blueprint in this study will be adopted by merge the 5A's model to present and indicate the pain point of users clearly so that the result can be used in encouraging the marketing 4.0 in objective 4. Figure 3.1 below shows the service design blueprint that adopted 5A's model
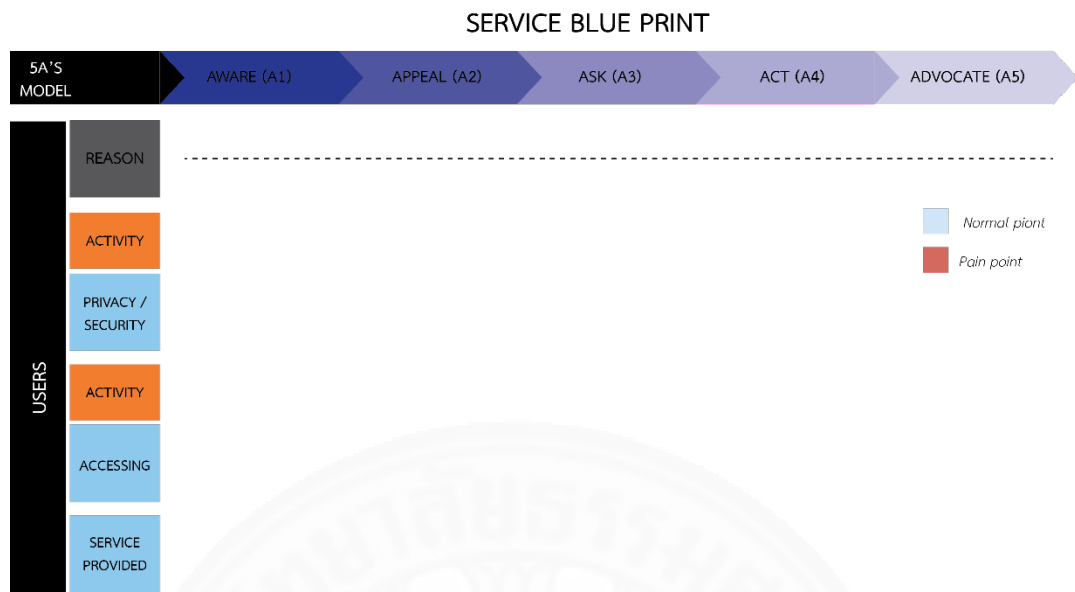
SERVICE BLUE PRINT



**Figure 3.1** Service design blueprint that adopted 5A's model

# CHAPTER 4

# FINDING AND DATA ANALYSIS

This chapter presents the result of the data analysis from research methodology in chapter 3 by the result will represent the data from quantitative research and qualitative research. The first part shows the quantitative data from questionnaire that divided into 3 sections by the data in the study will be analyzed and processed by using Statistical Package for the Social Sciences (SPSS) to reveal the attitude and perception of young adult on digital banking service via 5A's model. The second part shows the qualitative data from focus group session in context of the problem and pain point in using digital payment in aspect of in-app purchase by separated group of participants into 3 groups followed by the mainly digital payment channel that target used. Each analysis will interpret and answer the research question in this study.

## 4.1 Quantitative background data

The background data was collected through implementing 3 sections of questionnaires as research instrument. The data presents general demographic characteristic, game playing on mobile phone's behavior and 5A's model: The new customer path in Marketing 4.0 of young adult or Generation Z in Bangkok area who are users in aspect of in-game purchasing.

The questionnaire was distributed to the public by online questionnaire. The questionnaires was distributed to 400 respondents to response the research objective 2 and 3 that to find and collect the customer path in concept of five A's of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult and to design and analyze the suitable process of designing digital payment by using service design approach for young adult respectively. The questionnaire divided in to 3 parts that are 1) Demographic 2) Game playing on mobile phone's behavior and 3) 5A's model.

### 4.1.1. Demographic

In this study, demographic as general information of sample size that are included gender, age, education level, job and income per month. Table 4.1 below shows a summary of the description analysis.

**Table 4.1** Demographic Profile of the Respondents

| Variable | Category | Frequency, N | Percentage (%) |
|---|---|---|---|
| Gender | Male | 230 | 57.5% |
| | Female | 170 | 42.5% |
| | Total | 400 | 100.0% |
| Age | Below 18 years old | 19 | 4.8% |
| | 18 – 22 years old | 360 | 90.0% |
| | 23 – 27 years old | 21 | 5.3% |
| | Total | 400 | 100.0% |
| Education level | Below Bachelor degree | 64 | 16.0% |
| | Bachelor degree | 326 | 81.0% |
| | Master degree | 10 | 2.5% |
| | Total | 400 | 100.0% |
| Job | Student | 400 | 100.0% |
| | Total | 400 | 100.0% |
| Income per month | Below 10,000 baht | 194 | 48.5% |
| | 10,001 - 15,000 baht | 136 | 34.0% |
| | 15,001 – 20,000 baht | 25 | 6.3% |
| | 20,001 – 25,000 baht | 13 | 3.3% |
| | Over 25,000 baht | 32 | 8.0% |
| | Total | 400 | 100.0% |

**Gender**

In this study, there are a total of respondents at 230 male respondents and 170 female respondents. The proportion of respondents through

percentage shows the male respondents have higher than male respondents at 57.5% and 42.5% respectively.

### Age

In this study, the majority of respondents are from the age group of 18 – 22 years old, with 360 respondents (90.0%). Followed by the age group of 23 – 27 years old, with 21 respondents (5.3%) and Below 18 years old, with 19 respondents (4.8%).

### Education level

In this study, the majority of respondents are in Bachelor degree at 326 respondents (81.0%), Followed by Below Bachelor degree at 64 respondents (16.0%) and Master degree at 10 respondents (2.5%).

### Job

The total of respondents' job in this study are the student due to age range in sample size as young adult and generation Z.

### Income per month

In this study, the majority of the respondents have an income below 10,000 baht, which was 194 respondents representing 18.5%. Followed by the respondents have an income between 10,001 - 15,000 baht at 136 respondents (34.0%), the respondents have an income Over 25,000 baht at 32 respondents (8.0%) and 15,001 – 20,000 baht at 25 respondents (6.3%) respectively. The minority of the respondents have an income between 20,001 – 25,000 baht at 13 respondents, which representing 3.3%.

### 4.1.2. Game playing on mobile phone's behavior

In this study, the second part of questionnaire are the questions that leading to user behavior on game playing aspect. The information are included games that user played, period of playing per day and playmate. By the last question in this part is the multiple question that lead the target to the option payment used and this question will be indicator for target to do the next part of questionnaire.

The first question in this part is about the choice of game on mobile phone that young adult often played. Table 4.2 below shows a summary of the choice of game on mobile phone that young adult often played.

**Table 4.2** The choice of game on mobile phone that young adult often played

| Mobile game choices | Frequency, N | Percentage (%) |
|---|---|---|
| Realm of Valor (ROV) | 270 | 35.2% |
| Pub G | 209 | 27.2% |
| Ragnarok Online | 53 | 6.9% |
| Speed drifter | 66 | 8.6% |
| Let's Get rich | 90 | 11.7% |
| Rules of survival | 31 | 4.0% |
| Others | 49 | 6.4% |
| **Total** | 400 | 100% |

**The choice of game on mobile phone**

In this study, the majority of game online on mobile phone that respondents played are Realm of Valor (ROV) at 270 respondents, which representing 35.2% and Pub G at 209 respondents, which representing 27.2% respectively. Followed by Let's Get rich at 90 respondents (11.7%), Speed drifter at 66 respondents (8.6%), Ragnarok Online at 53 respondents (6.9%), other games at 49 respondents (6.4%) and Rules of survival at 31 respondents (4.0%).

However, the research also reported the period of playing online game on mobile phone per day and which time that respondents often played game on mobile phone. Table 4.3 below shows a summary of the period of playing online game on mobile phone per day.

**Table 4.3** The period of playing online game on mobile phone per day

| Period of playing game on mobile | Frequency, N | Percentage (%) |
|---|---|---|
| Less than 1 hour per day | 82 | 20.5% |
| 1 – 2 hours per day | 150 | 37.5% |
| 3 – 4 hours per day | 99 | 24.8% |
| 4 – 5 hours per day | 39 | 9.8% |
| More than 5 hours per day | 30 | 7.5% |

**Table 4.3** The period of playing online game on mobile phone per day (Cont.)

| Period of playing game on mobile | Frequency, N | Percentage (%) |
|---|---|---|
| Total | 400 | 100.0% |

**Table 4.4** Time often played game on mobile phone of respondents

| Time to play game on mobile phone | Frequency, N | Percentage (%) |
|---|---|---|
| 00.01 – 04.00 | 34 | 8.5% |
| 04.01 – 08.00 | 4 | 1.0% |
| 08.01 – 12.00 | 4 | 1.0% |
| 12.01 – 16.00 | 20 | 5.0% |
| 16.01 – 20.00 | 79 | 19.8% |
| 20.01 – 24.00 | 259 | 64.8% |
| Total | 400 | 100.0% |

**Period of playing game on mobile phone**

In this study, the period of playing game on mobile phone of young adult per day have the most percentage in 1 – 2 hours per day at 37.5% (150 respondents). Followed by 3 – 4 hours per day at 24.8% (99 respondents), less than 1 hour per day at 20.5% (82 respondents), 4 – 5 hours per day at 9.8% (39 respondents) and More than 5 hours per day at 7.5% (30 respondents).

**Time to play game on mobile phone**

In this study, time to played game on mobile phone of respondents have the majority at night period that is 20.01 – 24.00 at 259 respondents (64.8%). Followed by 16.01 – 20.00 at 79 respondents (19.8%), 00.01 – 04.00 at 34 respondents (8.5%) and 12.01 – 16.00 at 20 respondents (5.0%). However, the minority percentage of respondents answer this question that shows the time to playing game on mobile phone between 04.01 – 08.00 and 08.01 – 12.00 at 4 respondents, representing 1% of total.

**Table 4.5** Playmate in playing game on mobile phone

| Playmate in playing game | Frequency, N | Percentage (%) |
|---|---|---|
| Solely | 218 | 34.9% |
| Friends | 341 | 54.6% |
| Sibling | 65 | 10.4% |
| **Total** | 624 | 100.0% |

**Playmate in playing game on mobile phone**

    In this study, the result shows the playmate of respondents that users always play game on mobile phone with. The majority of respondents chose to play game with their friends, with 341 respondents (54.6%). Followed by playing solely, with 218 respondents (34.9%) and playing with sibling with 65 respondents (10.4%). By this question provided respondents to answer more than 1 choices.

    The last questions in this part is the multiple question that will lead the young adult to choose the optional digital payment channel that they used. This question will be indicator for young adult behavior in digital payment channel. Table 4.6 below shows a summary of the digital payment channel that the users used by this question provided respondents to answer more than 1 choices.

**Table 4.6** Summary of the digital payment channel of young adult

| Digital payment channel | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| Bank account | 116 | 22.7% | 29.0% |
| Debit and Credit card | 218 | 42.6% | 54.5% |
| E-wallet | 151 | 29.5% | 37.8% |
| Paypal | 27 | 5.3 | 6.8% |
| **Total** | 512 | 100.0% | 128.0% |

**The digital payment channel of young adult**

The summary of the digital payment channel of young adult shows the percentage of payment method that young adult used. Moreover, the selected digital payment channel is consists of 1) Bank account that is the basic method for users 2) Debit and Credit that is electronic card 3) E-wallet such as true money or rabbit line pay that represent electronic currency and electronic wallet system and 4) Paypal that represent the international e-wallet. The majority of payment method that young adult used is Debit and Credit card at 218 respondents, which representing 42.6%. Followed by the E-wallet method at 151 respondents (29.5%), Bank account method at 116 respondents (22.7%) and Paypal at 27 respondents (5.3%). However, each payment method can shows the percentage of each cases by Debit and Credit card at 54.5%, E-wallet at 37.8%, Bank account at 29.0% and Paypal at 6.8% respectively.

However, the result of this study can be crosstab to find the relation between the digital payment method and the mobile game that young adult often played. Table 4.7 below shows the relation between the digital payment channel and mobile game.

**Table 4.7** The relation between the digital payment channel and mobile game cross tabulation

| | | Digital payment channel | | | | Total |
|---|---|---|---|---|---|---|
| | | Bank account | Debit/ Credit | E-wallet | Paypal | |
| ROV | Frequency | 89 | 139 | 121 | 12 | 270 |
| | Percentage (%) | 33% | 51.5% | 44.8% | 4.4% | |
| Pub G | Frequency | 51 | 125 | 91 | 12 | 209 |
| | Percentage (%) | 24.4% | 59.8% | 43.5% | 5.7% | |

**Table 4.7** The relation between the digital payment channel and mobile game cross tabulation (Cont.)

| | | Digital payment channel | | | | Total |
|---|---|---|---|---|---|---|
| | | Bank account | Debit/ Credit | E-wallet | Paypal | |
| Ragnarok Online | Frequency Percentage (%) | 20 37.7% | 28 52.8% | 22 41.5% | 12 22.6% | 53 |
| Speed drifter | Frequency Percentage (%) | 22 33.3% | 40 60.6% | 15 22.7% | 4 6.1% | 66 |
| Let's Get rich | Frequency Percentage (%) | 26 28.9% | 45 50% | 44 48.9% | 4 4.4% | 90 |
| Rules of survival | Frequency Percentage (%) | 12 38.7% | 18 58.1% | 13 41.9% | 4 12.9% | 31 |
| Others | Frequency Percentage (%) | 12 24.5% | 25 51.0% | 18 36.7% | 3 6.1% | 49 |
| Total | Frequency Percentage (%) | 116 29.0% | 218 54.5% | 151 37.8% | 27 6.8% | 400 100.0% |

**4.1.3 5A's model: The new customer path in Marketing 4.0**

The last part of questionnaires are applied by 5A's model: the new customer path in Marketing 4.0 by Philip Kotler. However, the total questions are divided into 4 sets by using same questions but in different payment channel. The questions that applied by 5A's model is represented Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocate (A5) and extending the behavior in check list questions.

In part of Likert scale, the result in 5A's model are divided interval into 6 levels: 0 = N/A, 1 = Very unsatisfied, 2 = Unsatisfied, 3 = Neutral, 4 = Satisfied and 5 = Very satisfied. And the result of this part will be interpreted in the industry archetypes form and it processed by calculate the average of result in each item in 5A's model. After that the average will be used to calculate the confidential interval to indicate the range of user's satisfaction.

### 4.1.3.1 Bank account

The result in Bank account method is represented 5A's model: Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocate (A5). Table 4.8 below shows a summary of the average and standard deviation in case of Bank account method.

**Table 4.8** Bank account method summary

| 5A's model of Bank account | Frequency, N | Mean | Standard deviation |
|---|---|---|---|
| Aware (A1) | 116 | 3.70 | 0.847 |
| Appeal (A2) | 116 | 4.00 | 0.960 |
| Ask (A3) | 116 | 3.52 | 0.914 |
| Act (A4) | 116 | 3.67 | 0.885 |
| Advocate (A5) | 116 | 3.35 | 1.090 |

In this study, the result of 5A's model express the average and standard deviation by the amount of users are 116 respondents. Aware (A1) has the mean of data at 3.70 and standard deviation at 0.847. Appeal (A2) has the highest mean in this payment method at 4.00 and standard deviation at 0.960.Ask (A3) has the mean of data at 3.52 and standard deviation at 0.914. Act (A4) has the mean of data at 3.67 and standard deviation at 0.885. And Advocate (A5) has the mean of data at 3.35 and standard deviation at 1.090. In the conclusion, the result shows that the interval of satisfaction in user has highest point at Appeal (A2). Therefore, the Bank account has the potential to be the memorable online payment method due to the level of user's preference effected users in create this method in their list of payment.

In the question that represented Aware (A1) was extended the users behavior in form of check list question. By the extending question is set to find the initial ways in considering this payment method. Table 4.9 below shows the frequencies of initial ways that users considered this payment method in phase Aware (A1).

**Table 4.9** Initial ways in considering Bank account payment method

| Initial ways in considering payment method | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 7 | 3.4% | 6.0% |
| Facebook | 30 | 14.6% | 25.9% |
| Website | 48 | 23.3% | 41.4% |
| Line@ | 11 | 5.3% | 9.5% |
| Advertisement on application | 53 | 25.7% | 45.7% |
| Advice from companion | 57 | 27.7% | 49.1% |
| Total | 206 | 100.0% | 177.6% |

In this part, the initial ways in considering this payment method is represented the most ways that users choose at Advice from companion, with 57 respondents (27.7%). Followed by Advertisement on application at 53 respondents (25.7%), Website at48 respondents (23.3%). The minority of respondents choose to use TV to be the initial ways in considering at 7 respondents, with 3.4%.

In the question that represented Ask (A3) was extended the users behavior in form of check list question. By the extending question is set to find the information access channel of this payment method. Table 4.10 below shows the frequencies of information accessed channel that users choose to use in phase Ask (A3).

**Table 4.10** Information accessed Bank account channel that users choose to use

| Information accessed channel | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 4 | 1.8% | 3.4% |
| Facebook | 27 | 12.2% | 23.3% |
| Website | 72 | 32.6% | 62.1% |
| Line@ | 12 | 5.4% | 10.3% |
| Advertisement on application | 52 | 23.5% | 44.8% |
| Advice from companion | 54 | 24.4% | 46.6% |
| Total | 221 | 100.0% | 190.5% |

In this part, the information access channel is represented the majority ways that users choose at official website at 72 respondents, representing 32.6%. Followed by advice from companion, with 54 respondents (24.4%), Advertisement on application at 52 respondents (23.5%), Facebook at 27 respondents (12.2%). The minority ways of respondents choose to use Line@ and TV at 12 and 4 respondents, representing 5.4% and 1.8% respectively.

In the question that represented Act (A4) was extended the users behavior in form of 2 items check list question. By the extending question is set to understand the purchase behavior of user, the questions consists of the average time to purchase in-app purchasing per month and the average expanses on in-app purchase in one time. Table 4.11 below shows the average time to purchase in-app purchasing per month.

**Table 4.11** Average time to purchase in-app purchasing per month in Bank account

| Time per month | Frequency, N | Percentage (%) |
|---|---|---|
| 1 – 2 times per month | 150 | 26.3% |
| 3 – 4 times per month | 8 | 2.0% |
| 4 – 5 times per month | 3 | 0.8% |

**Table 4.11** Average time to purchase in-app purchasing per month in Bank account (Cont.)

| Time per month | Frequency, N | Percentage (%) |
|---|---|---|
| More than 5 times per month | 0 | 0% |
| Total | 116 | 29% |

**Table 4.12** Average expanses on in-app purchase in one time in Bank account

| Average expanses | Frequency, N | Percentage (%) |
|---|---|---|
| Less than 100 baht per time | 18 | 4.5% |
| 101 – 200 baht per time | 23 | 5.8% |
| 201 – 300 baht per time | 26 | 6.5% |
| 301 – 400 baht per time | 15 | 3.8% |
| More than 400 baht per time | 34 | 8.5% |
| Total | 116 | 29% |

In this part, the extending question that indicated the purchase behavior of user in using Bank account shows that average time to purchase in-app purchasing per month has the majority at 1 – 2 times per month at 150 respondents, representing 26.3%. And the purchase behavior of user in case of Average expanses on in-app purchase per time is More than 400 baht per at 34 respondents (8.5%). Followed by 201 – 300 baht per time at 26 respondents (6.5%), 101 – 200 baht per time at 23 respondents (5.8%), Less than 100 baht per time at 18 respondents (4.5%) and 301 – 400 baht per time at 15 respondents (3.8%). From this purchase behavior of user report that the Bank account have the high average in Average expanses on in-app purchase per time and users choose to use this payment method just 1 – 2 times per month.

In the question that represented Advocate (A5) was extended the users behavior in form of check list question. By the extending question is set to find a reliable and accepted channel for advocating payment method. Table 4.13 below shows the frequencies of channel that reliable and accepted for advocating payment in phase Advocate (A5).

**Table 4.13** Reliable and accepted channel for advocating Bank account method

| Reliable and accepted channel | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 7 | 3.1% | 6.0% |
| Facebook | 35 | 15.5% | 30.2% |
| Website | 63 | 27.9% | 54.3% |
| Line@ | 25 | 11.1% | 21.6% |
| Advertisement on application | 39 | 17.3% | 33.6% |
| Advice from companion | 57 | 25.2% | 49.1% |
| Total | 226 | 100.0% | 194.8% |

In this part, the reliable and accepted channel for advocating payment method is represented the majority ways that users accepted at official website at 63 respondents, representing 27.9%. Followed by advice from companion, with 57 respondents (25.2%), Advertisement on application at 39 respondents (17.3%), Facebook at 35 respondents (15.5%). The minority ways of respondents choose to use Line@ and TV at 25 and 7 respondents, representing 11.1% and 3.1% respectively.

From a summary of the average and standard deviation table, the average and standard deviation are used to define the upper limit and lower limit in case of Bank account method by using the confidence interval method to generate customer path and industry archetypes. Table 4.14 shows the interval summary of the upper limit and lower limit of Bank account method.

Table 4.14 The interval summary of Bank account method

| 5A's model of Bank account | Mean | Standard deviation | Upper limit | Lower limit |
|---|---|---|---|---|
| Aware (A1) | 3.70 | 0.847 | 4.547 | 2.853 |
| Appeal (A2) | 4.00 | 0.960 | 4.960 | 3.040 |
| Ask (A3) | 3.52 | 0.914 | 4.434 | 2.606 |
| Act (A4) | 3.67 | 0.885 | 4.555 | 2.785 |
| Advocate (A5) | 3.35 | 1.090 | 4.440 | 2.260 |

Followed by the 5A's model, the result in Bank account method will be transform to the industry archetypes that can shows customer decision pattern and touch points in the customer path and usage experience. Figure 4.1 below shows a customer path in Bank account method via industry archetypes.
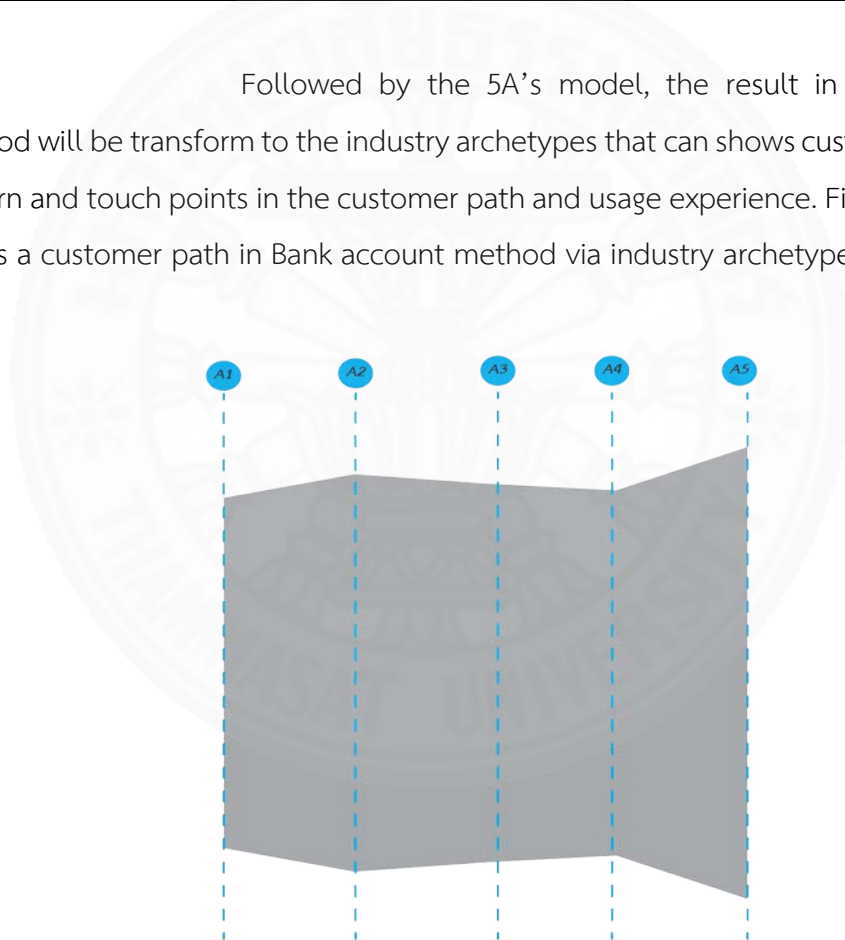


Figure 4.1 Customer path in Bank account method

From customer path that expressed via the industry archetype, it shows the amount of users' satisfaction in each phase of 5A's model. This industry archetype shows the proportion a similar level in phase A2 – A4 (Appeal

– Act). Therefore, it can indicate that the Bank account method has the level of users' preference in method and it can be the memorable potential in online purchasing in in-app purchase. Moreover, it also represented the understanding of users about the bank account information and then users chose to use this payment method from these information. However, the last phase of 5A's model that is Advocate (A5) of this payment method still has the large amount of users' satisfaction. So it shows the communication among customers also effective and it also shows the loyalty of the users in usage in Bank account method as well.

### 4.1.3.2 Debit and Credit card

The result in Debit and Credit card method is represented 5A's model: Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocate (A5). Table 4.10 below shows a summary of the average and standard deviation in case of Debit and Credit card method.

**Table 4.15** Debit and Credit card method summary

| 5A's model of Debit and Credit card | Frequency, N | Mean | Standard deviation |
|---|---|---|---|
| Aware (A1) | 215 | 3.76 | 0.778 |
| Appeal (A2) | 215 | 3.92 | 0.929 |
| Ask (A3) | 215 | 3.46 | 0.768 |
| Act (A4) | 215 | 3.67 | 0.910 |
| Advocate (A5) | 215 | 3.77 | 0.958 |

In this study, the result of 5A's model express the average and standard deviation by the amount of users are 215 respondents. Aware (A1) has the mean of data at 3.76 and standard deviation at 0.778. Appeal (A2) has the highest mean in this payment method at 3.92 and standard deviation at 0.929. Ask (A3) has the mean of data at 3.46 and standard deviation at 0.768. Act (A4) has the mean of data at 3.67 and standard deviation at 0.910. And Advocate (A5) has the mean of data at 3.77 and standard deviation at 0.958. In the conclusion, the result shows that the

interval of satisfaction in user has highest point at Appeal (A2). Therefore, the Debit and Credit card has the potential to be the memorable online payment method due to the level of user's preference effected users in create this method in their list of payment.

In the question that represented Aware (A1) was extended the users behavior in form of check list question. By the extending question is set to find the initial ways in considering this payment method. Table 4.16 below shows the frequencies of initial ways that users considered this payment method in phase Aware (A1).

**Table 4.16** Initial ways in considering Debit and Credit card payment method

| Initial ways in considering payment method | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 11 | 2.6% | 5.1% |
| Facebook | 43 | 10.0% | 19.8% |
| Website | 136 | 31.8% | 62.7% |
| Line@ | 34 | 7.9% | 15.7% |
| Advertisement on application | 102 | 23.8% | 47.0% |
| Advice from companion | 102 | 23.8% | 47.0% |
| Total | 428 | 100.0% | 197.2% |

In this part, the initial ways in considering this payment method is represented the most ways that users choose at Website, with 31.8%. Followed by Advice from companion and Advertisement on application that have the same percentage at 102 respondents, with 23.8%. The minority of respondents choose to use Facebook, Line@ and TV as the initial ways in considering at 43, 34 and 11 respondents, with 10.0%, 7.0% and 2.6% respectively

In the question that represented Ask (A3) was extended the users behavior in form of check list question. By the extending question is set to find the information access channel of this payment method. Table 4.17 below shows the

frequencies of information accessed channel that users choose to use in Ask phase (A3).

**Table 4.17** Information accessed Debit and Credit card channel that users choose to use

| Information accessed channel | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 12 | 2.7% | 5.5% |
| Facebook | 66 | 14.6% | 30.4% |
| Website | 139 | 30.8% | 64.1% |
| Line@ | 42 | 9.3% | 19.4% |
| Advertisement on application | 100 | 22.2% | 46.1% |
| Advice from companion | 92 | 20.4% | 42.4% |
| Total | 451 | 100.0% | 207.8% |

In this part, the information access channel is represented the majority ways that users choose at official website at 139 respondents, representing 30.8%. Followed by Advertisement on application at 100 respondents (22.2%), Advice from companion, with 92 respondents (20.4%), Facebook at 66 respondents (14.6%) and Line@ at 42 respondents (9.3%). The minority ways of respondents choose to use Line@ and TV at 12 representing 2.7%.

In the question that represented Act (A4) was extended the users behavior in form of 2 items check list question. By the extending question is set to understand the purchase behavior of user, the questions consists of the average time to purchase in-app purchasing per month and the average expanses on in-app purchase in one time. Table 4.18 below shows the average time to purchase in-app purchasing per month.

**Table 4.18** Average time to purchase in-app purchasing per month in Debit and Credit card

| Time per month | Frequency, N | Percentage (%) |
|---|---|---|
| 1 – 2 times per month | 160 | 40.0% |
| 3 – 4 times per month | 26 | 6.5% |
| 4 – 5 times per month | 19 | 4.8% |
| More than 5 times per month | 10 | 2.5% |
| Total | 215 | 53.8% |

**Table 4.19** Average expanses on in-app purchase in one time in Debit and Credit card

| Average expanses | Frequency, N | Percentage (%) |
|---|---|---|
| Less than 100 baht per time | 48 | 12.0% |
| 101 – 200 baht per time | 64 | 16.0% |
| 201 – 300 baht per time | 26 | 6.5% |
| 301 – 400 baht per time | 16 | 4.0% |
| More than 400 baht per time | 61 | 15.3% |
| Total | 215 | 53.8% |

In this part, the extending question that indicated the purchase behavior of user in using Debit and Credit card shows that average time to purchase in-app purchasing per month has the majority at 1 – 2 times per month at 160 respondents, representing 40.0%. And the purchase behavior of user in case of Average expanses on in-app purchase per time is 101 – 200 baht per time at 64 respondents (16%). Followed by More than 400 baht per at 61 respondents (15.3%),Less than 100 baht per time at 48 respondents (12.0%), 201 – 300 baht per time at 26 respondents (6.5%) and 301 – 400 baht per time at 16 respondents (4%). From this purchase behavior of user report that the Debit and Credit card have the

high average in Average expanses on in-app purchase per time at 101 – 200 baht per time and users choose to use this payment method just 1 – 2 times per month.

In the question that represented Advocate (A5) was extended the users behavior in form of check list question. By the extending question is set to find a reliable and accepted channel for advocating payment method. Table 4.20 below shows the frequencies of channel that reliable and accepted for advocating payment in phase Advocate (A5).

**Table 4.20** Reliable and accepted channel for advocating Debit and Credit card method

| Reliable and accepted channel | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 16 | 3.5% | 7.4% |
| Facebook | 66 | 14.3% | 30.4% |
| Website | 117 | 25.4% | 53.9% |
| Line@ | 47 | 10.2% | 21.7% |
| Advertisement on application | 95 | 20.7% | 43.8% |
| Advice from companion | 119 | 25.9% | 54.8% |
| **Total** | 226 | 100.0% | 212.0% |

In this part, the reliable and accepted channel for advocating payment method is represented the majority ways that users accepted at Advice from companion at 119 respondents, representing 25.9% and official website at 117 respondents, representing 25.4%. Followed by Advertisement on application at 95 respondents (20.7%), Facebook at 66 respondents (14.3%) and Line@ at 47 respondents (10.2%). The minority ways of respondents choose to use TV at 16 respondents, representing 3.5%.

From a summary of the average and standard deviation table, the average and standard deviation are used to define the upper limit and lower limit in case of Debit and Credit card method by using the confidence interval method to

generate customer path and industry archetypes. Table 4.21 shows the interval summary of the upper limit and lower limit of Debit and Credit card method.

**Table 4.21** The interval summary of Debit and Credit card method

| 5A's model of Debit and Credit card | Mean | Standard deviation | Upper limit | Lower limit |
|---|---|---|---|---|
| Aware (A1) | 3.76 | 0.778 | 4.538 | 2.982 |
| Appeal (A2) | 3.92 | 0.929 | 4.849 | 2.991 |
| Ask (A3) | 3.46 | 0.768 | 4.228 | 2.692 |
| Act (A4) | 3.67 | 0.910 | 4.580 | 2.760 |
| Advocate (A5) | 3.77 | 0.958 | 4.728 | 2.812 |

Followed by the 5A's model, the result in Debit and Credit card method will be transform to the industry archetypes that can shows customer decision pattern and touch points in the customer path and usage experience. Figure 4.2 below shows a customer path in Debit and credit card method via industry archetypes.
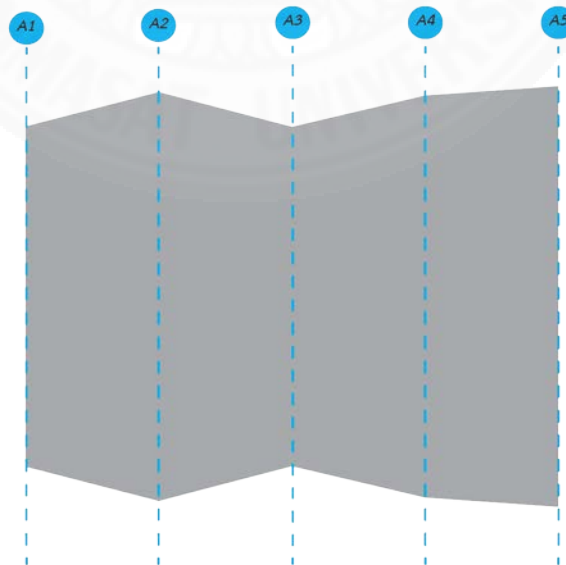


**Figure 4.2** Customer path in Debit and credit card method

From customer path that expressed via the industry archetype, it shows the amount of users' satisfaction in each phase of 5A's model. This industry archetype shows the proportion are different in each phase. Obviously, from the phase A2 that represented the level of user's preference in this payment method has the higher level than phase A3 that represented the understanding of users about the payment information. Then the amount of users also increased in phase A4 and phase A5 in this payment method. All of them present that the users have a favor and awareness of this method and still have understanding and access to the information of this method. As a result, the volume in A3 is significantly less due to users don't need to search for more information and this method have the effectiveness communication. Those things result in increased volume of user transactions in phase A4 as well. Lastly, the effecting of A2-A4 (Appeal – Act) that have effective process, it makes the advocate rate of Debit and Credit in phase A5 has high volume as well.

### 4.1.3.3 E-Wallet

The result in E-wallet method is represented 5A's model: Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocate (A5). Table 4.22 below shows a summary of the average and standard deviation in case of E-wallet method.

**Table 4.22** E-wallet method summary

| 5A's model of E-wallet | Frequency, N | Mean | Standard deviation |
|---|---|---|---|
| Aware (A1) | 151 | 3.49 | 0.923 |
| Appeal (A2) | 151 | 3.62 | 1.063 |
| Ask (A3) | 151 | 3.41 | 1.045 |
| Act (A4) | 151 | 3.54 | 1.052 |
| Advocate (A5) | 151 | 3.58 | 0.843 |

In this study, the result of 5A's model express the average and standard deviation by the amount of users are 151 respondents. Aware (A1) has the

mean of data at 3.49 and standard deviation at 0.923. Appeal (A2) has the highest mean in this payment method at 3.62 and standard deviation at 1.063. Ask (A3) has the mean of data at 3.41 and standard deviation at 1.045. Act (A4) has the mean of data at 3.54 and standard deviation at 1.052. And Advocate (A5) has the mean of data at 3.58 and standard deviation at 0.843. In the conclusion, the result shows that the interval of satisfaction in user has highest point at Appeal (A2). Therefore, the E-wallet method has the potential to be the memorable online payment method due to the level of user's preference effected users in create this method in their list of payment.

In the question that represented Aware (A1) was extended the users behavior in form of check list question. By the extending question is set to find the initial ways in considering E-wallet payment method. Table 4.23 below shows the frequencies of initial ways that users considered E-wallet payment method in phase Aware (A1).

**Table 4.23** Initial ways in considering E-wallet payment method

| Initial ways in considering payment method | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 0 | 0% | 0% |
| Facebook | 43 | 12.8% | 28.5% |
| Website | 73 | 21.8% | 48.3% |
| Line@ | 49 | 14.6% | 32.5% |
| Advertisement on application | 70 | 20.9% | 46.4% |
| Advice from companion | 100 | 29.9% | 66.2% |
| Total | 335 | 100.0% | 221.9% |

In this part, the initial ways in considering E-wallet payment method is represented the majority ways that users choose at Advice from companion at 100 respondents, representing 29.9%. Followed by the official website at 73 respondents (21.8%), Advertisement on application at 70 respondents (20.9%). The minority of respondents are represented in Line@ and Facebook at 49 and 43

respondents, with 14.6% and 12.8% respectively. However, TV is the worst way in considering E-wallet.

In the question that represented Ask (A3) was extended the users behavior in form of check list question. By the extending question is set to find the information access channel of this payment method. Table 4.24 below shows the frequencies of information accessed channel that users choose to use in phase Ask (A3).

**Table 4.24** Information accessed E-wallet channel that users choose to use

| Information accessed channel | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 9 | 2.8% | 6.0% |
| Facebook | 30 | 9.2% | 19.9% |
| Website | 77 | 23.7% | 51.0% |
| Line@ | 44 | 13.5% | 29.1% |
| Advertisement on application | 78 | 24.0% | 51.7% |
| Advice from companion | 87 | 26.8% | 57.6% |
| Total | 325 | 100.0% | 215.2% |

In this part, the information access channel is represented the majority ways that users choose at Advice from companion at 87 respondents, representing 26.8%. Followed by Advertisement on application at 78 respondents (24.0%), Official website, with 77 respondents (23.7%), Line@ at 44 respondents (13.5%) and Facebook at 30 respondents (9.2%). The minority ways of respondents choose to use TV at 9, representing 2.8%.

In the question that represented Act (A4) was extended the users behavior in form of 2 items check list question. By the extending question is set to understand the purchase behavior of user, the questions consists of the average time to purchase in-app purchasing per month and the average expanses on in-app

purchase in one time. Table 4.25 below shows the average time to purchase in-app purchasing per month.

**Table 4.25** Average time to purchase in-app purchasing per month in E-wallet

| Time per month | Frequency, N | Percentage (%) |
|---|---|---|
| 1 – 2 times per month | 94 | 23.5% |
| 3 – 4 times per month | 37 | 9.3% |
| 4 – 5 times per month | 16 | 4% |
| More than 5 times per month | 4 | 1% |
| Total | 151 | 37.8% |

**Table 4.26** Average expanses on in-app purchase in one time in E-wallet

| Average expanses | Frequency, N | Percentage (%) |
|---|---|---|
| Less than 100 baht per time | 51 | 12.8% |
| 101 – 200 baht per time | 52 | 13.0% |
| 201 – 300 baht per time | 19 | 4.8% |
| 301 – 400 baht per time | 14 | 3.5% |
| More than 400 baht per time | 15 | 3.8% |
| Total | 151 | 37.8% |

In this part, the extending question that indicated the purchase behavior of user in using E-wallet method shows that average time to purchase in-app purchasing per month has the majority at 1 – 2 times per month at 94 respondents, representing 23.5%. And the purchase behavior of user in case of Average expanses on in-app purchase per time is 101 – 200 baht per time at 52 respondents (13%). Followed by Less than 100 baht per time at 51 respondents (12.8%), 201 – 300 baht per time at 19 respondents (4.8%), 301 – 400 baht per time at

14 respondents (3.5%) and More than 400 baht per at 15 respondents (3.8%) respectively. From this purchase behavior of user report that the E-wallet method have the high average in Average expanses on in-app purchase per time at 101 – 200 baht per time and users choose to use this payment method just 1 – 2 times per month.

In the question that represented Advocate (A5) was extended the users behavior in form of check list question. By the extending question is set to find a reliable and accepted channel for advocating E-wallet payment method. Table 4.27 below shows the frequencies of channel that reliable and accepted for advocating E-wallet payment in phase Advocate (A5).

**Table 4.27** Reliable and accepted channel for advocating E-wallet method

| Reliable and accepted channel | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 0 | 0% | 0% |
| Facebook | 47 | 14.8% | 31.1% |
| Website | 80 | 25.2% | 53.0% |
| Line@ | 30 | 9.5% | 19.9% |
| Advertisement on application | 54 | 17.0% | 35.8% |
| Advice from companion | 106 | 33.4% | 70.2% |
| Total | 317 | 100.0% | 209.9% |

In this part, the reliable and accepted channel for advocating payment method is represented the majority ways that users accepted at Advice from companion at 106 respondents, representing 33.4% and official website at 80 respondents, representing 25.2%. Followed by Advertisement on application at 54 respondents (17%), Facebook at 47 respondents (14.8%) and Line@ at 30 respondents (9.5%). The minority ways of respondents choose to use TV, so this channel is the worst way in considering E-wallet.

From a summary of the average and standard deviation table, the average and standard deviation are used to define the upper limit and lower limit

in case of E-wallet method by using the confidence interval method to generate customer path and industry archetypes. Table 4.21 shows the interval summary of the upper limit and lower limit of E-wallet method.

**Table 4.28** The interval summary of E-wallet method

| 5A's model of E-wallet method | Mean | Standard deviation | Upper limit | Lower limit |
|---|---|---|---|---|
| Aware (A1) | 3.49 | 0.923 | 4.413 | 2.567 |
| Appeal (A2) | 3.62 | 1.063 | 4.683 | 2.557 |
| Ask (A3) | 3.41 | 1.045 | 4.455 | 2.365 |
| Act (A4) | 3.54 | 1.052 | 4.592 | 2.488 |
| Advocate (A5) | 3.58 | 0.843 | 4.423 | 2.737 |

Followed by the 5A's model, the result in E-wallet method will be transform to the industry archetypes that can shows customer decision pattern and touch points in the customer path and usage experience. Figure 4.3 below shows a customer path in E-wallet method via industry archetypes.
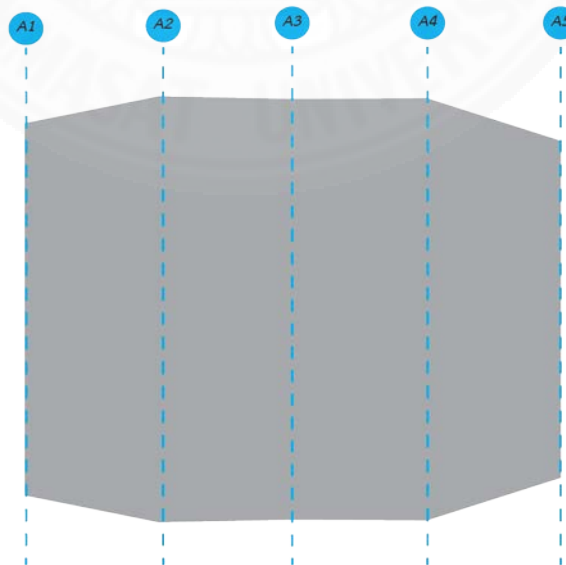


**Figure 4.3** Customer path in E-wallet method

From customer path that expressed via the industry archetype, it shows the amount of users' satisfaction in each phase of 5A's model. This industry archetype shows the proportion a similar level in phase A2 – A4 (Appeal – Act). Therefore, it can indicate that the E-wallet method has the stable level of users' preference in method and it can be the memorable potential in online purchasing in in-app purchase. Also, these represented the understanding of users about the E-wallet information and then users chose to use E-wallet method from these information. From the customer path that have the similar level in each phase shows the amount of users that preferred, understand and act in stable proportion. However, the last phase of 5A's model that is Advocate (A5) of E-wallet method has the lower level than previous phase. It present the amount of advocacy among users and loyalty also has low level as well. The promoting or enhancing the level of advocacy rate is necessary point for E-wallet.

### 4.1.3.4 Paypal

The result in Paypal method is represented 5A's model: Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocate (A5). Table 4.29 below shows a summary of the average and standard deviation in case of Paypal method.

**Table 4.29** Paypal method summary

| 5A's model of E-wallet | Frequency, N | Mean | Standard deviation |
|---|---|---|---|
| Aware (A1) | 27 | 3.22 | 1.450 |
| Appeal (A2) | 27 | 3.52 | 1.252 |
| Ask (A3) | 27 | 3.15 | 1.008 |
| Act (A4) | 27 | 4.02 | 0.727 |
| Advocate (A5) | 27 | 2.89 | 1.502 |

In this study, the result of 5A's model express the average and standard deviation by the amount of users are 27 respondents. Aware (A1) has the mean of data at 3.22 and standard deviation at 1.450. Appeal (A2) has the mean of

data at 3.52 and standard deviation at 1.252. Ask (A3) has the mean of data at 3.15 and standard deviation at 1.008. Act (A4) has the highest mean in this payment method at 4.02 and standard deviation at 0.727. And Advocate (A5) has the mean of data at 2.89 and standard deviation at 1.502. In the conclusion, the result shows that the interval of satisfaction in user has highest point at Act (A4). Therefore, the Paypal method has the higher rate in purchase decision of customers.

In the question that represented Aware (A1) was extended the users behavior in form of check list question. By the extending question is set to find the initial ways in considering Paypal method. Table 4.30 below shows the frequencies of initial ways that users considered Paypal method in phase Aware (A1).

**Table 4.30** Initial ways in considering Paypal payment method

| Initial ways in considering payment method | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 0 | 0% | 0% |
| Facebook | 8 | 18.6% | 29.6% |
| Website | 8 | 18.6% | 29.6% |
| Line@ | 8 | 18.6% | 29.6% |
| Advertisement on application | 12 | 27.9% | 44.4% |
| Advice from companion | 7 | 16.3% | 25.% |
| Total | 43 | 100.0% | 159.3% |

In this part, the initial ways in considering Paypal method is represented the majority ways that users choose at Advertisement on application at 12 respondents, representing 27.9%. Followed by the Facebook, official website and Line@ at 8 respondents (18.6%). The minority of respondents are represented in Advice from companion at 7 respondents, with 16.3%. However, TV is the worst way in considering Paypal method.

In the question that represented Ask (A3) was extended the users behavior in form of check list question. By the extending question is set to find

the information access channel of this payment method. Table 4.31 below shows the frequencies of information accessed channel that users choose to use in phase Ask (A3).

**Table 4.31** Information accessed Paypal channel that users choose to use

| Information accessed channel | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 0 | 0% | 0% |
| Facebook | 8 | 20.5% | 29.6% |
| Website | 8 | 20.5% | 29.6% |
| Line@ | 4 | 10.3% | 14.8% |
| Advertisement on application | 8 | 20.5% | 29.6% |
| Advice from companion | 11 | 28.2% | 40.7% |
| Total | 39 | 100.0% | 144.4% |

In this part, the information access channel is represented the majority ways that users choose at Advice from companion at 11 respondents, representing 28.2%. Followed by Advertisement on application, Official website, Facebook at 8 respondents (20.5%). The minority ways of respondents choose to use Line@ at 4, representing 10.3%.

In the question that represented Act (A4) was extended the users behavior in form of 2 items check list question. By the extending question is set to understand the purchase behavior of user, the questions consists of the average time to purchase in-app purchasing per month and the average expanses on in-app purchase in one time. Table 4.32 below shows the average time to purchase in-app purchasing per month.

**Table 4.32** Average time to purchase in-app purchasing per month in Paypal

| Time per month | Frequency, N | Percentage (%) |
|---|---|---|
| 1 – 2 times per month | 19 | 4.8% |
| 3 – 4 times per month | 8 | 2.0% |
| 4 – 5 times per month | 0 | 0.0% |
| More than 5 times per month | 0 | 0.0% |
| Total | 27 | 6.8% |

**Table 4.33** Average expanses on in-app purchase in one time in Paypal

| Average expanses | Frequency, N | Percentage (%) |
|---|---|---|
| Less than 100 baht per time | 4 | 1.0% |
| 101 – 200 baht per time | 8 | 2.0% |
| 201 – 300 baht per time | 0 | 0.0% |
| 301 – 400 baht per time | 0 | 0.0% |
| More than 400 baht per time | 15 | 3.8% |
| Total | 27 | 6.8% |

In this part, the extending question that indicated the purchase behavior of user in using Paypal method shows that average time to purchase in-app purchasing per month has the majority at 1 – 2 times per month at 19 respondents, representing 4.8%. And the purchase behavior of user in case of Average expanses on in-app purchase per time is More than 400 baht per time at 15 respondents (3.8%). Followed by 101 – 200 baht per time at 8 respondents (2.0%) and Less than 100 baht per time at 4 respondents (1.0%). From this purchase behavior of user report that the Paypal method have the high average in Average expanses on in-app purchase per time at More than 400 baht per time and users choose to use this payment method just 1 – 2 times per month.

In the question that represented Advocate (A5) was extended the users behavior in form of check list question. By the extending question is set to find a reliable and accepted channel for advocating Paypal method. Table 4.34 below shows the frequencies of channel that reliable and accepted for advocating Paypal method in phase Advocate (A5).

**Table 4.34** Reliable and accepted channel for advocating Paypal method

| Reliable and accepted channel | Frequency, N | Percentage (%) | Percentage of cases |
|---|---|---|---|
| TV | 0 | 0.0% | 0.0% |
| Facebook | 16 | 31.4% | 59.3% |
| Website | 4 | 7.8% | 14.8% |
| Line@ | 8 | 15.7% | 29.6% |
| Advertisement on application | 4 | 7.8% | 14.8% |
| Advice from companion | 19 | 37.3% | 70.4% |
| Total | 51 | 100.0% | 188.9% |

In this part, the reliable and accepted channel for advocating payment method is represented the majority ways that users accepted at Advice from companion at 19 respondents, representing 37.3% and Facebook at 16 respondents, representing 31.4%. Followed by Line@ at 8 respondents (15.7%), official website and Advertisement on application at 4 respondents (7.8%).The minority ways of respondents choose to use TV, so this channel is the worst way in considering Paypal method.

From a summary of the average and standard deviation table, the average and standard deviation are used to define the upper limit and lower limit in case of Paypal method by using the confidence interval method to generate customer path and industry archetypes. Table 4.35 shows the interval summary of the upper limit and lower limit of Paypal method.

Table 4.35 The interval summary of Paypal method

| 5A's model of Paypal method | Mean | Standard deviation | Upper limit | Lower limit |
|---|---|---|---|---|
| Aware (A1) | 3.22 | 1.450 | 4.670 | 1.770 |
| Appeal (A2) | 3.52 | 1.252 | 4.772 | 2.268 |
| Ask (A3) | 3.15 | 1.008 | 4.158 | 2.142 |
| Act (A4) | 4.02 | 0.727 | 4.747 | 3.293 |
| Advocate (A5) | 2.89 | 1.502 | 4.392 | 1.388 |

Followed by the 5A's model, the result in Paypal method will be transform to the industry archetypes that can shows customer decision pattern and touch points in the customer path and usage experience. Figure 4.4 below shows a customer path in E-wallet method via industry archetypes.
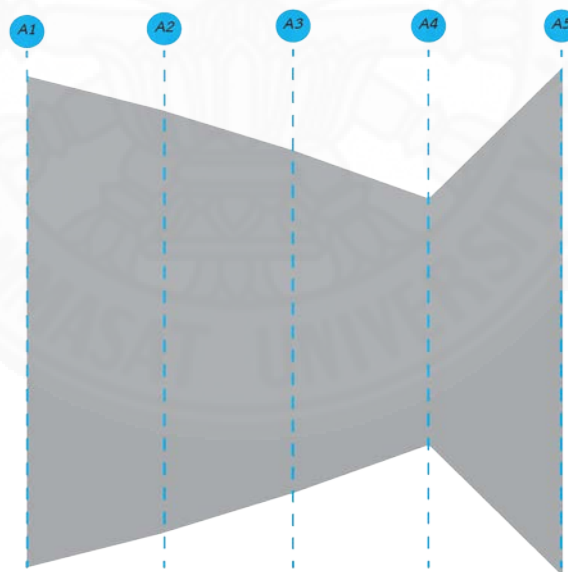


Figure 4.4 Customer path in Paypal method

From customer path that expressed via the industry archetype, it shows the amount of users' satisfaction in each phase of 5A's model. This industry archetype shows the different proportion when compared with other

payment methods. The quantity is continuously decreasing from phase A1 – A4 (Aware – Act). Therefore, it can present the behavior of users that use Paypal as the digital payment method that users has the small amount of understanding, lack of information of this method and then it affected on the amount of usage as well. However, the amount of advocacy rate in this customer path is very high when compared with others phase. It might occurred by the large amount in phase A1 that shows the awareness of this method, so it made the advocacy rate is high in nearby level of phase A1.

## 4.2 Qualitative background data

The background data was collected through implementing 3 sessions of focus group. The data presents the problem and pain point in using digital payment in aspect of in-app purchase that users faced.

Focus group session was conducted by separated group of participants into 3 group and each group consists of 4 participants. The selected digital payment channel is consists of 1) Bank account that is the basic method for users 2) Debit and Credit that is electronic card and 3) E-wallet such as true money or rabbit line pay that represent electronic currency and electronic wallet system. However, Paypal method was excluded due to the proportion of target's usage has low level. This focus group sessions will be conducted in topics of reason of using, privacy/security, accessing of method and service provided. However, the topics in this focus group session indicated and derived from the features of 5A's model: Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocated (A5). The related topics and 5A's model as followed:

1) Reason of using: related and represented the Aware phase (A1) and Appeal phase (A2)

2) Privacy/security: related and represented the Aware phase (A1), Appeal phase (A2) and Advocated phase (A5)

3) Accessing: related and represented Ask phase (A3) and Act phase (A4)

4) Service provided: related and represented the Aware phase (A1) and Advocate phase (A5)

### 4.2.1 Bank account

#### 1) Reason of using

From focus group session, the participants have opinion in the same ways that Bank account is the basic payment method that everyone have. All participants said this method is the first method that they used in digital transaction and almost payment transaction will have this method to serve users.

#### 2) Privacy/security

The privacy and security of this payment method has high rate in participants' opinion due to they trusted on their bank system. All of them believe in bank system that have high quality of security to protect their money and this system is suitable for large amount of money as well.

#### 3) Accessing

The accessing of Bank account method is related on the security in participants' opinion. 3 in 4 of participants said this method is hard to access and hard to use because they have to spend time to inquiry the information such as username, password and OTP. However, they also defined that a lot of process in accessing made them sure that this system is secured too. Moreover, Bank account method's users do not have to waste a lot of time in applying for the first application but requires a lot of time to use

#### 4) Service provided

Service provided of bank account payment is quite limited in participants' opinion because they don't get any promotions or privileges from this payment method. Although in nowadays many service of bank account method might provide in many utility service but in case of in-app purchase on mobile game is very limit when compared with other payment method.

### 4.2.2 Debit and Credit card

#### 1) Reason of using

From focus group session, the participants have opinion that it is easy and fast ways to use due to this payment method is linked directly with bank account. This payment method provided users to inquiry the card number in the first time to record the identity of user's card, so it make users more comfortable.

### 2) Privacy/security

In part of privacy and security, this payment method have the system same the bank account and users still trust in this method. However, it also has the process in usage that fast that can make someone that use their mobile phone can make transaction too. One participant in this session used to lose her mobile phone and she was worried about the debit and credit card information in her mobile although this payment method have to inquiry password before use.

### 3) Accessing

The accessing of Debit and Credit card method is easy due to almost of target in this study is student. Many student card in nowadays are the debit card as well, so it can make student or young adult reached to this payment accessing. However, the accessing of debit and credit in in-app purchase on mobile phone is very easy because they use inquiry their password or scan fingerprint to pay it in this system.

### 4) Service provided

Service provided of Debit and credit card method are rarely available to users in case of in-app purchase on mobile phone due to its service related on the bank systems.

### 4.2.3 E-wallet

### 1) Reason of using

From focus group session, the participants have opinion in this payment methods as the privileges and promotion account. They choose this method because it provided a lot of promotion and they can stock their money in small amount. However, some E-wallet is the payment methods for one game company if they want to use in-app purchase for different game you might have more than one E-wallet to be worth.

### 2) Privacy/security

The privacy and security of E-wallet method is the matter that participants less concerned because of the amount of money that they stocked in this account. Most of participants transfer their money to E-wallet account in suitable amount for one purchasing, so it made them don't worried about the whole of money in bank account. However, some participants said the reason that they stock money

on the E-wallet account in small amount because they still don't trust E-wallet system as it should be.

### 3) Accessing

The accessing of E-wallet in nowadays is more convenient than before because of the identify process can done when users put the phone number or link with Line account. Moreover, this payment method also reach to many game on mobile phone when users want to purchase something on game. However, some mobile game company provided own E-wallet of their game so that users can make every transaction in their application and they also provided a lot of point to return. However, some participants said having E-wallet account that separate from banking account and users have to transfer money every times that they want to use is the cumbersome procedures.

### 4) Service provided

E-wallet method provided a lot of service for their customers. Many participants choose to use E-wallet in in-app purchase because they want more reward, point, promotion and privilege for games. Some promotions in E-wallet transaction provided more than 2X point when users chose to purchase items via this method. Moreover, E-wallet account also provided the service that can get a refund from E-wallet account when users transfer too much money into account. Many participants prioritized refund service of E-wallet more when compared with other payment methods.

In conclusion, the topics that participants concerned about the digital payment 3 methods is service provided and accessing. All three payment methods have the pain point for users in different ways but they also more concerned in convenience. Table 4.36 below shows the summary of pain point of digital payment method

**Table 4.36** The summary of pain point of digital payment method

| Agenda | Digital payment methods | | |
|---|---|---|---|
| | Bank account | Debit and Credit | E-wallet |
| **Reason of using** | - Basic payment method that everyone have | - Easy and fast ways<br>- Linked directly with bank account<br>- To inquiry the card number in the first time | - The privileges and promotion account<br>- Can stock their money in small amount |
| **Privacy/security** | - High quality of security<br>- Suitable for large amount of money | - The system same the bank account and users still trust | - Less concerned on privacy/security<br>- Don't need to worried about the whole of money in bank account<br>- Don't trust E-wallet system as it should be |
| **Accessing** | - Spend time to inquiry the information such as username, password and OTP.<br>- A lot of time in applying for the first application | - Use inquiry their password or scan fingerprint to pay | - More convenient<br>- Reach to many game on mobile phone<br>- A lot of point to return<br>- Have to transfer money every times<br>- Have many company provided |

Table 4.36 The summary of pain point of digital payment method (Cont.)

| Agenda | Digital payment methods | | |
|---|---|---|---|
| | Bank account | Debit and Credit | E-wallet |
| | | | E-wallet, make users have to have a lot of account |
| Service provided | - Don't have any promotions or privileges<br>- Very limit when compared with other payment method | - Rarely available<br>- Service related on the bank systems | - More reward, point, promotion and privilege for games<br>- Get a refund from E-wallet account |

## 4.3 Service design blueprint

The service blueprints was implied by 3 blueprints from the 3 sessions of focus group, excluding Paypal payment method due to the amount of respondents in this study. The service blueprints presents the problem and pain point in using digital payment in aspect of in-app purchase that users mentioned in the questionnaire and focus group.

The service blueprints was represented and conducted by 3 group: 1) Bank account 2) Debit and Credit card and 3) E-wallet method. Moreover, this tools will be conducted in topics of reason of using, privacy/security, accessing of method and service provided.

### 4.3.1 Bank account

The service blueprint of Bank account method presents the problem and pain point of process that occurred in phase of Act (A4) and Advocacy (A5). The clearly pain points or obstacles that happen in this payment method are the time

consuming to inquiry a lot of information including a lot of process that users have to conduct with this method. Moreover, the bank account depended on banking service and banking system, so it affected to less promotions or privileges. However, many users have a different bank account in different bank, that affected the advocacy rate of them is lower than other payment methods. Figure 4.5 below shows the service blueprint summary of pain point of digital payment: Bank account method.
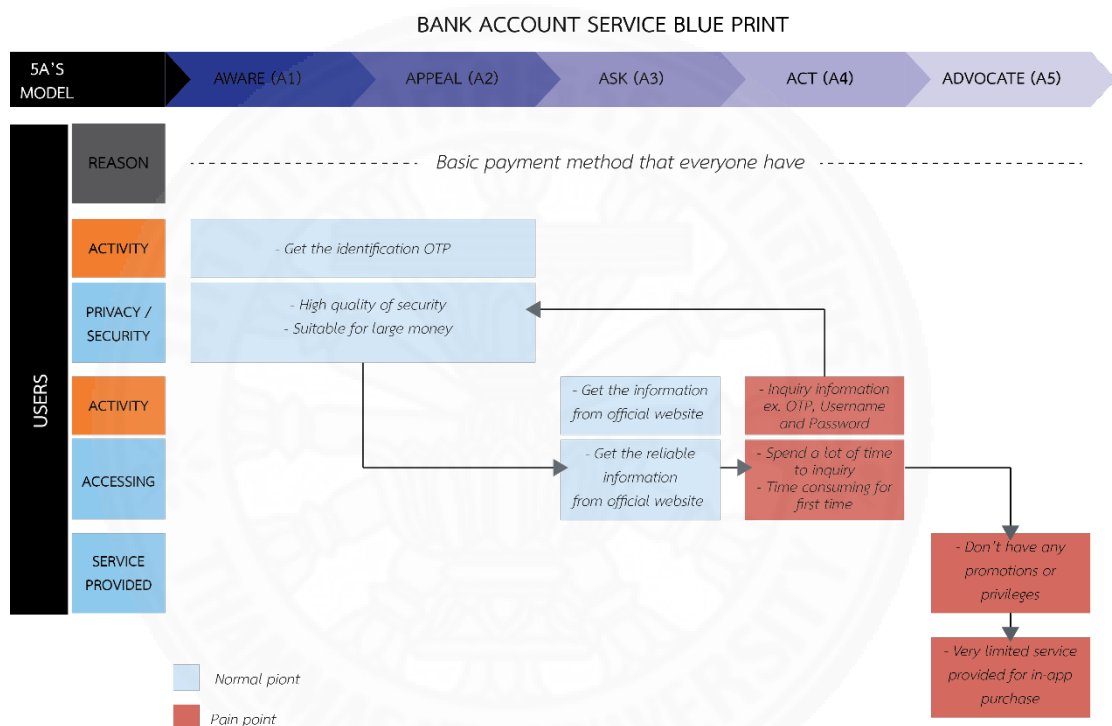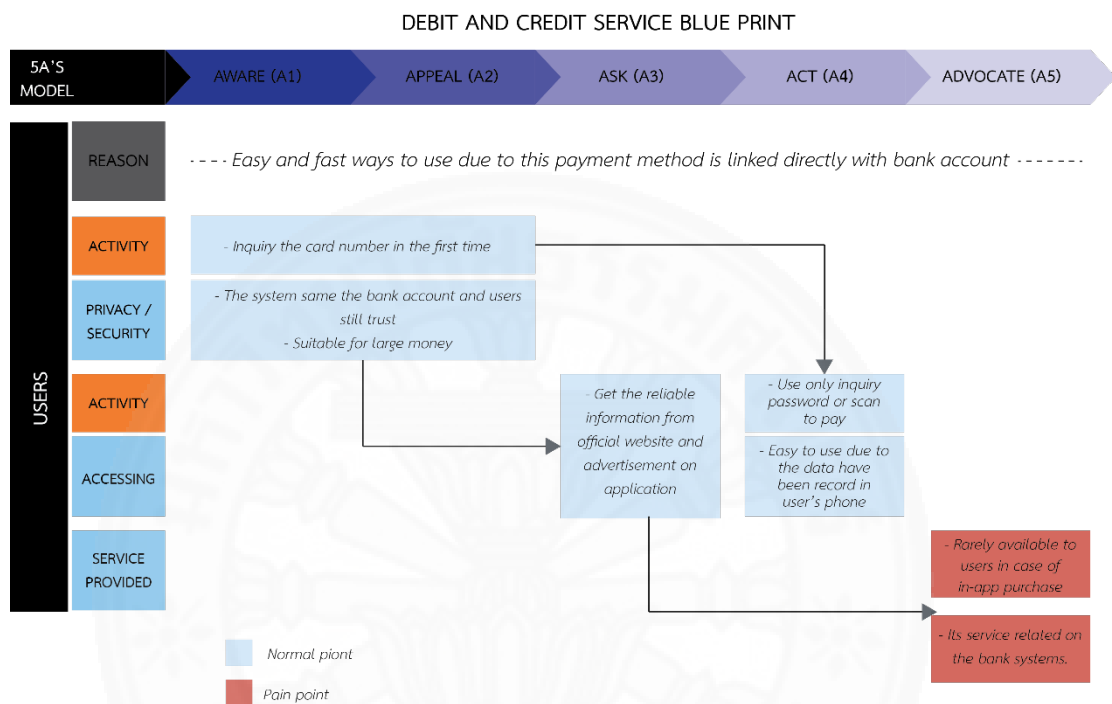


**Figure 4.5** The service blueprint summary of pain point of Bank account

### 4.3.2 Debit and Credit card

The service blueprint of Debit and Credit card method presents the problem and pain point of process that occurred in phase of Advocacy (A5). Clearly, the pain points that happen in this payment method are less promotion and privileges due to this payment method related directly on the bank account of users. The most process that users prefer for this method is less process on inquiry information when using and the access method is easy and faster than others methods. However, the system of Debit and Credit method depend on the banking system that affected to

the complex process when the transaction has the problem as well. Figure 4.6 below shows the service blueprint summary of pain point of digital payment: Debit and Credit card method



**Figure 4.6** The service blueprint summary of pain point of Debit and Credit

### 4.3.3 E-wallet method

The service blueprint of E-wallet method presents the problem and pain point of process that occurred in phase of Aware (A1) and Act (A4). The pain points or obstacles that happen in this payment method are a lot of E-wallet account that are provided by many companies to serve many games and utilities. Many users have to have many E-wallet account to use it to suitable goal, however, the users still transfers their money into account in small amount to save their money. From that pain point, it affected to the Act (A4) phase due to the users don't feel trust on E-wallet as it should that made users have to transfer frequently. Therefore, the E-wallet method also provided a lot of promotions and privilege for their customer to attract

them to use. Figure 4.7 below shows the service blueprint summary of pain point of digital payment: E-wallet method.
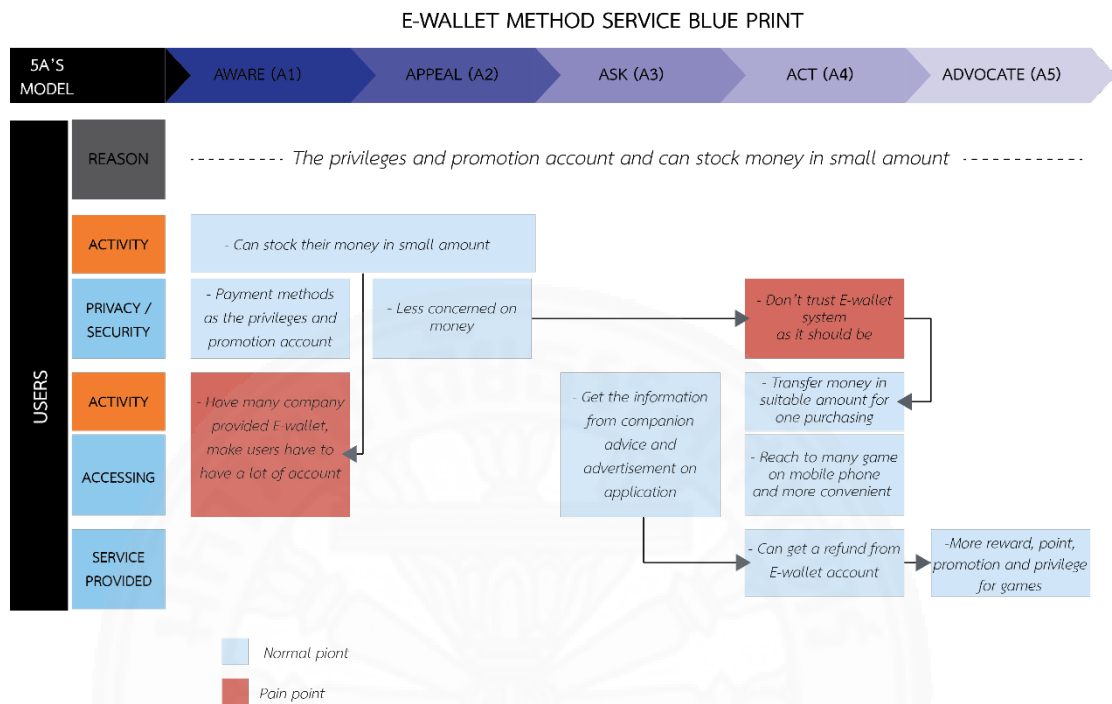
E-WALLET METHOD SERVICE BLUE PRINT



**Figure 4.7** The service blueprint summary of pain point of E-wallet

# CHAPTER 5

# CONCLUSIONS AND RECOMMENDATIONS

In this chapter presents, the summary of findings and recommendations based on the data analyzed in the previous chapters. The conclusions were based on the objectives, research questions and results of the study. The implications of these findings and results will also be explained. Recommendations were based on the conclusions and purpose of the study.

## 5.1 Overview of study

As mentioned in chapter 1, the background of this study was done by studying the literature on the situation both in local and international. The background of the research context and research rational cover the disruption of a digital system, the impact in the business world of banking, the growth of digital banking services in Thailand including digital banking tools. However, the focus of this study was to investigate a service design guideline for in-app purchase to encourage a young adult to the use of adoption digital payment. Also, the specific objectives of the research are the following:

1. To study the industry archetypes of digital payment in aspect of in-game purchasing in nowadays based on young adult practice.

2. To find and collect the customer path in concept of five A's of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult.

3. To collect and analyze customer path of digital payment to reveal service blueprint for young adult.

4. To create the marketing strategy of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult effectiveness.

The literature review was done in chapter 2 by focusing on 4 areas related the study: 1) Organizational structure of the conventional bank and digital bank 2)

Digitalization of banking 3) Generation Z and 4) Marketing 4.0. The major study in this chapter is to find the element and disruption factors of the banking industry to understand the changing of banking service. Including the area of study also covers the Generation Z or young adult that are defined as the digital banking service in nowadays and future. The theory of service design and marketing 4.0 are revealed in the literature review to study as tools and be part of the research methodology.

Based on the aims and objectives as well as research questions, in this chapter, a research strategy is planned to adopt the qualitative method and quantitative method as the approach to study the needs of young adult attitudes and practices in case of in-app purchasing. Chapter 3 describes the approach of research design, population and sample size, data collecting and data processing that was used in this study. The research approach for this study can be divided into two parts: 1) Quantitative approach and 2) Qualitative approach. For quantitative approach, the research population was defined as unknown according to an uncertainty of the users in aspect of in-game purchasing on mobile phone and the research sample size has the total amount of samples size at 400 samples by the researcher will focus on young adult or Generation Z in Bangkok area who are users in aspect of in-game purchasing. After the result in quantitative research was revealed, the research of qualitative approach was conducted by the focus group session. The focus group session was conducted to find the real pain point that users faced using digital payment in the aspect of in-app purchase by a separate group of participants into 3 groups followed by the mainly digital payment channel that targets used.

In chapter 4, the analysis of data from quantitative and qualitative research reveals the attitude and practice of young adult in case of in-app purchasing including the pain point in using digital payment channel in in-app purchasing as well.

## 5.2 Major finding

The aim of this study are to investigate the creating digital payment in aspect of in-game purchasing to analyze the customer path by service design approach

in developing the system and the new customer path to meet the needs of young adult practice. However, this study has 4 research objectives that were conducted to finding the attitude and practice of young adult in case of in-app purchasing. To response 4 research objectives, the research conducted to find the result as follows:

**5.2.1 Objective 1: To study the industry archetypes of digital payment in aspect of in-game purchasing in nowadays based on young adult practice.**

The finding of this research objectives reveals the transformation of the conventional bank toward digital bank by digital disruption trend. With the disruption trend of digital technologies in the business world affected many businesses, especially the banking business. Therefore, it created pressure in a competitive advantage for the conventional bank directly. The obstacles and challenges that conventional bank has to face occurred in term of the legacy system that the bank needs to adapt themselves to ensure the current situation. The allocating and controlling human resource in the organization as well as new technology are still the main obstacles and challenges that conventional bank needs to achieve to close up with customers' behavior. Therefore, the applied technologies in transforming are the most important thing that bank concerned.

While the occurring of digital bank, many banks have to catch up opportunities at a higher level including improved customer targeting via digital marketing and micro-segmentation. Nowadays, digital banking is interpreted as a financial transaction through the internet that is restructured the organization model and operational model from the conventional bank to response the customer's experience and customer need. Currently, digital baking tools that are the main service such as mobile wallets and online payment platforms, have enhanced the growth in the bank's service offerings for the customer.

As Lewis and Bingham said the digital banking industry provided the significant opportunity for a specific group of customers, especially young adult due to the characteristic of a young adult that more concerned with the consumption and being material possessions. So it has corresponded with the generation Z characteristic that is mentioned by Kevin Woodward, 2018 that indicated Generation Z become a

major force in financial services and payments, and have a potential to change the payment providers platform to respond their needs. However, with the characteristic of them that easy to access the social network and digital media, made generation Z is considered as the "Digital Native". From behavior in the aspect of digital usage, the evidence of a U.S. Mobile App Report in 2017 shows that the generation Z customers have an amount of 70% increase on the mobile payment application in 2016.

However, the changing of the business world, customer targeting, and customer behavior have been changed both in offline and online ways to find new ways that effective for the business world. According to Marketing 4.0, Philip Kotler, Marketing 4.0 describes the new marketing approach that can enhance the customer's experience and the brand's service. With this changing, moreover, digital marketing is improving the action of customers and drive advocacy among customers that are the key issue in doing business nowadays. Nevertheless, the new customer path was used to develop service coupled with the industry archetypes to gain insight from consumers and develop the service that response the customer needed.
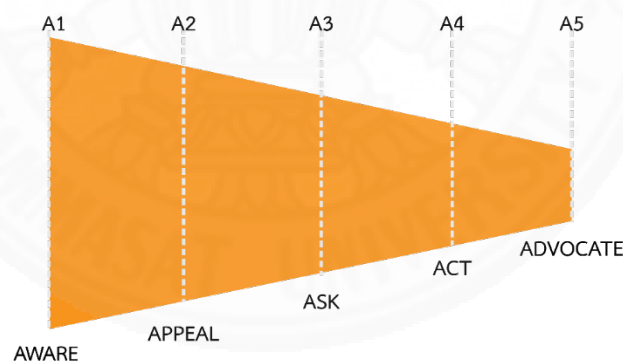


**Figure 5.1** The funnel pattern for customer decision model
Source: Philip Kotler, (2017).

For industry archetype, the funnel pattern is adapted in industry archetypes that have effectiveness in the service industry including banking service. This pattern of customer path entailed customers go through each stage of action and also help the service provider to focus on incremental improvement of customer experience innovation. Overall of customer experience in this pattern is really crucial

because the customers cannot skip any stage of the customer path. The act phase (from 5A's) is very important for customers given that they would like to bring themselves in the purchase and usages experience. However, this pattern is the one most prone to disruptive innovations because it has to reach the better customer experience that continuously increased and it often occurs in industries that have the highly customer-experience expectation as banking service.

**5.2.2 Objective 2: To find and collect the customer path in concept of five A's of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult.**

According to the finding, the digital payment and user's behavior were more clearly to indicate the main digital payment methods in Thailand. The findings of this research reveal in chapter 4 that the user's behavior and customer path by using the questions in 3 sections: 1) Demographic, 2) Game playing on mobile phone's behavior and 3) 5A's model: customer path. The objective was responded by 400 respondents from the online questionnaire to find and collect the customer path in the concept of five A's of digital payment in the aspect of in-game purchasing according to Marketing 4.0 that effected on a young adult.

In part of demographic, the study shows the percentage of digital payment in the aspect of in-app purchase in a young adult that male has higher volume in usage than female at 57.5% and 42.5% respectively. In term of age, according to the target sample that is generation Z or young adult, resulted that most of the age range is on the 18 – 22 years old at 90%. From this result, the researcher found that the potential users that have the highest proportion of consumption are male aged 18-22 years because of the interest in playing mobile games and ready to pay for in-games to enhance the gaming experience.

In part game playing on mobile phone's behavior, the study leads user behavior on game playing aspect. The majority of the game online on a mobile phone that respondents played is Realm of Valor (ROV) at 35.2% and Pub G at 27.2% respectively. This study will lead the young adult to choose the optional digital payment channel that they used. The majority of the payment method that young

adult used is Debit and Credit card at 218 respondents, representing 42.6%. Followed by the E-wallet method at 151 respondents (29.5%), Bank account method at 116 respondents (22.7%) and Paypal at 27 respondents (5.3%). However, each payment method can show the percentage of each case by Debit and Credit card at 54.5%, E-wallet at 37.8%, Bank account at 29.0% and Paypal at 6.8% respectively.

In part 5A's model question, total questions are divided into 4 sets by using the same questions but in the different payment channel. The questions that applied by 5A's model is represented Aware (A1), Appeal (A2), Ask (A3), Act (A4) and Advocate (A5) and extending the behavior in checklist questions, by the result in 5A's model are divided interval into 6 levels: 0 = N/A, 1 = Very unsatisfied, 2 = Unsatisfied, 3 = Neutral, 4 = Satisfied and 5 = Very satisfied. The first payment method that mentioned is Bank account. It has the highest level of users' satisfaction at Appeal (A2) by it has the highest mean in this payment method at 4.00 and standard deviation at 0.960. Therefore, it can indicate that the Bank account method has the level of users' preference in method and it can be the memorable potential in online purchasing in in-app purchase. However, Advocate (A5) of this payment method still has a large amount of users' satisfaction. So it shows the communication among customers also effective and it also shows the loyalty of the users in usage in Bank account method as well. The second payment method that mentioned is Debit and credit card. It has the highest level of users' satisfaction at Appeal (A2) by it has the highest mean in this payment method at 3.92 and standard deviation at 0.929. Phase A2 that represented the level of user's preference has a higher level than phase A3 that represented the understanding of users about the payment information. As a result, the volume in A3 is significantly less due to users don't need to search for more information and this method have effective communication. The third payment method that mentioned is E-wallet. It has the highest level of users' satisfaction at Appeal (A2) by it has the highest mean in this payment method at 3.62 and standard deviation at 1.063. This method has a similar level in each phase shows the number of users that preferred, understand and act in stable proportion and drop in phase A5 (Advocacy). The promoting or enhancing the level of advocacy rate is a necessary point for E-wallet. The last payment method that mentioned is Paypal. Act (A4) has the highest mean in

this payment method at 4.02 and standard deviation at 0.727. Therefore, it can present the behavior of users that has a small amount of understanding, lack of information on this method and then it affected the amount of usage as well.

### 5.2.3 Objective 3: To collect and analyze customer path of digital payment to reveal service blueprint for young adult.

The finding of this research implemented via the service design blueprint of 3 payment methods mentioned in chapter 4. The findings of this research reveal the problem and pain point in using digital payment in the aspect of in-app purchase that users mentioned in the questionnaire and focus group session.

From the 3 service blueprints, the main pain point of each payment channel often in the phase of Act (A4) and Advocate (A5) that it can imply the information communication of this payment channel. In case of accessing and security that related on the phase Appeal (A2) - Act (A4), the first payment channel that the result mentioned is Bank account that users have very high confidence in the system. On the other hand, users still have difficulty in using because the system has a complex process and users need to put a lot of information in use causing users to waste more time than other methods. While the Debit and credit card that is the popular payment method even it is the digital payment that related directly on the bank account provided the easy and fast ways to users. Users can use Debit and credit method in an in-app purchase by using an only password or scan fingerprints, however, this method also required the inquiry Debit and credit card number only in the first time of using. The last method that mentioned is E-wallet method. This method has the system that relatively separated from the banking service and provided many accounts as users want. Transferring a small amount of money is the distinctive point of E-wallet method, however, it still unable to create confidence in the system for the user as much as the bank's services do.

However, in case of Advocacy or phase A5 is mentioned as the problem in service design blueprint as well. If compared 3 payment methods, E-wallet is considered as the promotions and privilege account. The promotions and privilege have used the key to advocate the payment channel for young adult or Generation Z

due to the characteristic of a young adult who wants the worthy for service and users still have many limitations in spending. The bank account and debit and credit card that are the related service that linked directly from bank service cannot provide any promotions and privilege for users as they want.

**5.2.4 Objective 4: To create the marketing strategy of digital payment in aspect of in-game purchasing according to Marketing 4.0 that effected on young adult effectiveness**

According to the finding of user behavior in the aspect of in-app purchase to define the pain point of using digital payment via the service design blueprints. The findings of this research transformed into the industry archetypes. Chapter 2 reveals the industry archetype that defined the character of the service industry including banking industry that is Funnel pattern. And the result in chapter 4 reveals that the 3 digital payment methods show the industry archetypes in the different form.
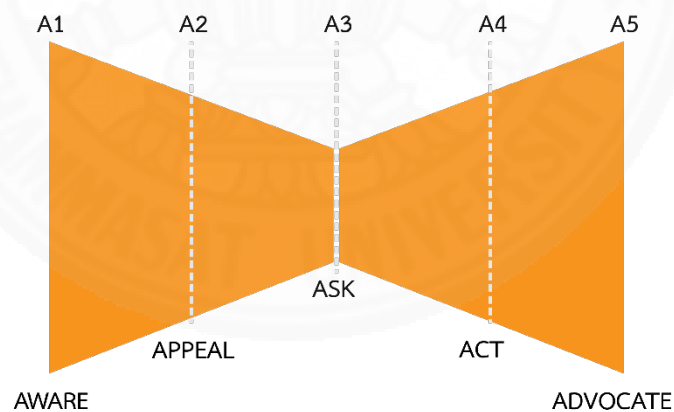


**Figure 5.2** The funnel pattern for customer decision model
Source: Philip Kotler, (2017).

However, the industry archetypes that are indicated as the perfect pattern of industry archetypes is the Bow tie pattern as reported in chapter 2. The Bow tie pattern has the characteristic that users who aware of this service willing to recommend and create a service reputation. As a result, the service that has a higher

reputation will enhance the customers to advocate and the asking rate will be decreased due to the customers have the understanding of process and service.

Furthermore, the enhancing of action and advocacy is important in the marketing ways by integrated and interchanged traditional and digital marketing ways. As mentioned in chapter 2, the digital marketing is more accountable to drive result while traditional marketing focus on interaction of customers. The integration of marketing 4.0, however, service can reached 3 levels (Enjoyment, Experience and Engagement) to be competitive.

In the promoting of industry archetypes in each digital payment to be Bow tie pattern and to stepping up 3 levels of customer experience, each digital payment channels have different ways to do.

### 5.2.4.1 Bank account method

This industry archetypes has a lower level in phase Aware (A1) and also still has the amount of level in phase Ask (A3) that shows the service reputation and service information cannot reach to their customer. So, it can indicate that the Bank account still exist in level 1 or enjoyment level followed by the concept of 3E level of practical strategy in Marketing 4.0. The suggestion of the bank account method to be Bow tie pattern and boost up the level to beyond level 1 are:
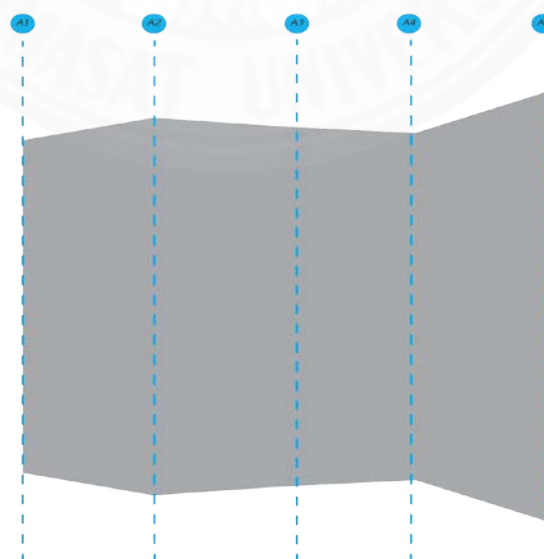


**Figure 5.3** Customer path in Bank account method

**1) Level 1: Enjoyment**

To be reach the first level of customer experience that is the enjoyment, the bank account has to enhance the customer attraction and brand positioning for in-app purchase.

1. Promoting of bank account service to make sure the users will aware of the service's brand and the benefit in using this payment method in term of in-app purchasing due to it is the basic method that everyone can use it. Include providing the service information for in-app purchase that useful and easy to understand to the users to enhance the understanding of service.

2. Create strengths such as the security system for in-app purchase or in-game purchase to the bank's services so that users can see the benefits of using the service through the bank account.

3. Make advertisements via online channels, presenting service information via the online channel of the bank for users to access in-app purchase information easier due to user behavior in in-app purchase are young adult that prefer and expertise to access an information via the internet.

**2) Level 2: Experience**

To reach the next level of customer experience that is the experience, the bank account has to create experiences for users by providing services both offline and online together.

1. Optimizing the users' data by using Big data to response the needs of users who need faster service, keeping confidential information. Including reducing the time to fill in various information before using the service in in-app purchase.

2. Create events that are organized to redeem rewards for using the in-app purchase and connect to offline services by allowing users to receive special rewards via the bank branch because the user's behavior or young adult also requires special promotion or privileges that the bank cannot provide for them in term of in-app purchase in nowadays.

**3) Level 3: Engagement**

To be reach the third level of customer experience that is the engagement, the bank account has to create a channel for customers to express their opinions, suggestions to use it as one of the service development processes.

1. Create a website or online space for customers so that customers can come to comment or review the service in the in-app purchase section because users who are young adult often interested in the reviews of other users in using various services. Also, it can be public relations from users who use the actual service as well. This method increases the amount of advocacy more quickly which is considered as a way to make the market more sustainable.

2. Establish a team that takes care of receiving comments, feedback from customers, and can answer questions or relieve doubts to customers to maintain service quality and the image of online services that are linked to the in-app purchase.

**5.2.4.2 Debit and Credit method**

This industry archetype has the most similar characteristics with Bowtie that has the low level in phase Ask (A3), it shows the effectiveness of service communication of this digital payment. So, it can indicate that the Debit and Credit method also still exist in level 1 or enjoyment level as the Bank account followed by the concept of 3E level of practical strategy in Marketing 4.0. The suggestion of the Debit and Credit method to be Bow tie pattern and boost up the level to beyond level 1 are:
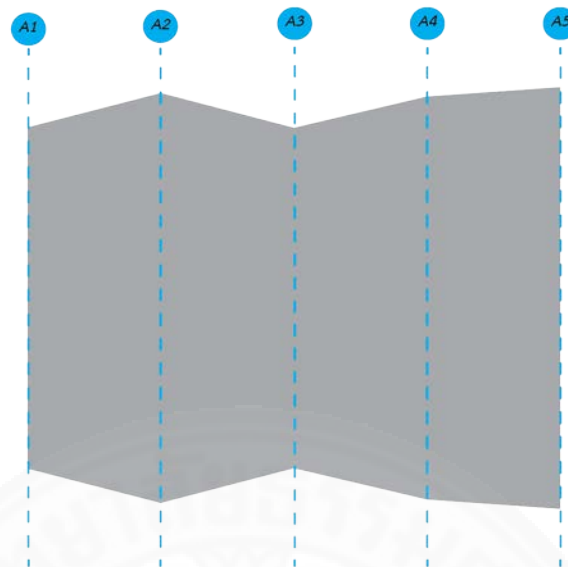
**Figure 5.4** Customer path in Debit and Credit method

### 1) Level 1: Enjoyment

To achieve the enjoyment level of customer experience, debit and credit method has to increase the attraction of customer and brand positioning for in-app purchase.

1. Debit and Credit method has a lower level of Aware phase (A1) that happened by lacking brand positioning or marketing communication. The Debit and Credit card method should attract the customers by showing the position and identify the service characteristic to create brand recognition.

2. Since there are currently many debit and credit method providers, service providers need to be distinguished and different from other providers by providing service information so that users can compare information clearly. Text or words should be easy to understand and friendly to make it easy for young adult to understand.

3. Marketing to match young adult who use the in-app purchase service by directly penetrating the market to these groups in order to maximize marketing effectiveness. Also, providing the promotion or privilege for them to attract young adult from other providers.

## 2) Level 2: Experience

To achieve the experience level of customer experience, debit and credit method has to create experiences for users by providing services both offline and online as well.

1. Optimizing the Big data to contain users' information to response the needs of users including the privilege that suitable for their using in in-app purchase.

2. Organize activities for collecting points for redeeming special rewards from the bank. May be used to redeem points for other services such as buying coffee or discounting purchases of other apps that response young adults' lifestyle.

## 3) Level 3: Engagement

To be reach the engagement level of customer experience, Debit and credit method has to listen the opinions of users to improve the service so that users get the most benefit.

1. Using storytelling via the online promoting to create a viral advertisement and make interaction with this digital payment method, showing that our service is friendly and close to the lifestyle of customers. This method will enhance the small amount of advocacy phase (A5).

2. Create a website or online channel including Facebook page that tell the promotions or privileges for customers so that customers can come to comment or review the service in the in-app purchase because users who are young adult often interested in the reviews of other users and share the promotion.

3. Establish a team that takes care of receiving comments, feedback from customers, and can answer questions or relieve doubts to customers to maintain service quality and the image of online services that are linked to the in-app purchase.

## 5.2.4.3 E-wallet method

This industry archetype has the proportion a similar level in phase A2 – A4 (Appeal – Act), it shows that the effectiveness of service communication

of this digital payment is poor. Also, the small amount of advocacy phase (A5) represented the advocacy rate among customer and the loyalty of customer has a low level. So, it can indicate that the E-wallet method still exist in level 2 or engagement level followed by the concept of 3E level of practical strategy in Marketing 4.0. The suggestion of the E-wallet method to be Bow tie pattern and boost up the level to beyond level 2 are:
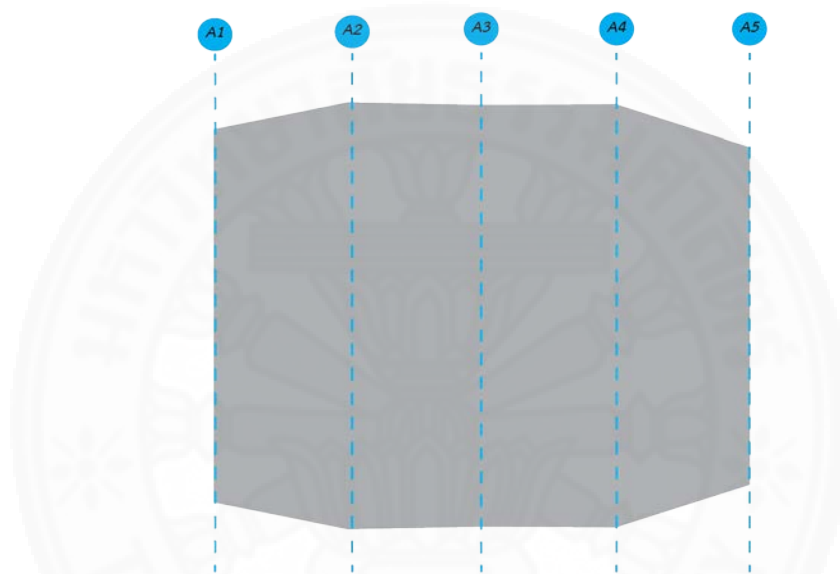


**Figure 5.5** Customer path in E-wallet method

### 1) Level 1: Enjoyment

To achieve the enjoyment level of customer experience, E-wallet method has to decrease the curiosity of service among customer and facilitate information sharing among customer in term of in-app purchase. Moreover, it should increase the level of aware and advocate as well.

1. E-wallet method should facilitate information sharing among customer or provide the service information that useful and easy to understand to the users reducing the curiosity level of the brand. Offer services and different types of services on online media and make accessing information easy.

2. Create the brand image to increase the brand positioning that different from other E-wallet due to nowadays E-wallet methods are provided by any company.

3. Promoting services through SEO (Search Engine Optimization) will make users trust in the service more because users can easily access information in the primary order of the search engine page. Moreover, the SEO system will show the quality of service so that users who are young adult can compare the quality of each E-wallet company.

**2) Level 2: Experience**

To achieve the experience level of customer experience, E-wallet method has to create experiences for users by providing services both offline and online as well.

1. Optimizing the Big data of users' information to response the user's needs including the promotion and privilege that suitable for young adult on their using in in-app purchase.

2. Collecting points for special rewards to redeem some discounting purchases of other apps that response young adults' lifestyle.

**3) Level 3: Engagement**

To be reach the engagement level of customer experience, E-wallet method has to listen the opinion from users and provide special conditions for users to improve the service so that users get the most benefit.

1. Create online channel, Facebook page or Line@ that can communicate with the users about the manual of E-wallet used to find the pain point or problem that users faced, listen comment or review the service in the in-app purchase because users who are young adult often interested in the reviews of other users and share the promotion.

2. The promotions or privileges also provide to customers by the promotion might be provide by the lifestyle of users.

3. E-wallet method should enhance the brand confidence for customers due to the low level of A5 occurred by the lack of confidence in the brand system, so it made the advocacy rate among customers also low. Creating a team that

takes care of receiving comments, feedback from customers and answer questions or relieve doubts to customers can increase confidence in system for users, and it can show service quality and the image of online services that are linked to the in-app purchase.

## 5.3 Research conclusion and Recommendation

According to the opinion of the respondents and the finding of this study, the study reveals the young adult or generation Z attitude and practice on digital payment in the aspect of in-game purchasing as most of the objectives have been met. However, the scope of this study is only for digital payments to buy virtual items or virtual features in the mobile game and the population in this study are young adult or Generation Z in Bangkok area who are users in aspect of in-game purchasing only.

Overall, the digital payment in in-app purchase in nowadays have to concern about the faster and easy service to response the need of users as young adult, however, the promotion and privileges also be the key to attract the customers because there are many companies that provide similar services causing high competition. Moreover, digital payment methods also have the problem in the curiosity of users due to users still have not understand in service information, so it effected on the using decision and advocacy among customers.

For recommendation, the prejudice in the result of questionnaire related to the age and generation of the respondent. To prevent prejudice in questionnaire, the researcher should find a sample group that has a wide range of financial status, university, including life style to understand and to find the different needs of Sample size. Also, the problem of the study that have to collect data via online is the information communication and wording that used in questionnaire. The researcher has to validate the question before distributed questionnaires.

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APPENDICES

# APPENDIX A

# RESEARCH QUESTIONNAIRES

**แบบสอบถามเพื่อการวิจัย**

**คำชี้แจง:** แบบสอบถามนี้เป็นส่วนหนึ่งของการวิจัยเพื่อศึกษาของนักศึกษามหาบัณฑิต คณะสถาปัตยกรรมศาสตร์และการผังเมือง สาขาการจัดการการออกแบบ (DBTM) มหาวิทยาลัย ธรรมศาสตร์ โดยมีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการใช้งานและบริการการจ่ายเงินออนไลน์ใน เกมส์ออนไลน์ของวัยรุ่น (Generation Z)

**ส่วนที่ 1** ข้อมูลทั่วไป

**คำชี้แจง:** โปรดทำเครื่องหมาย ✓ หน้าแต่ละข้อที่ตรงกับความจริงเกี่ยวกับตัวท่าน

เพศ ☐ ชาย ☐ หญิง ☐ อื่นๆ

อายุ ☐ ต่ำกว่า 18 ปี ☐ 18 – 22 ปี ☐ 23 – 27 ปี
☐ 28 ปีขึ้นไป

ระดับการศึกษา ☐ ต่ำกว่าปริญญาตรี ☐ ปริญญาตรี ☐ ปริญญาโท
☐ ปริญญาเอก ☐ อื่นๆ ระบุ.........................

อาชีพ ☐ นักเรียน/นักศึกษา ☐ รับจ้าง/พนักงานบริษัท
☐ รับราชการ ☐ เจ้าของธุรกิจส่วนตัว
☐ อื่นๆ ระบุ.......................

รายได้ต่อเดือน ☐ ต่ำกว่า 10,000 บาท ☐ 10,001 – 15,000 บาท
☐ 15,001 – 20,000 บาท ☐ 20,001 – 25,000 บาท
☐ สูงกว่า 25,000 บาท

**ส่วนที่ 2** พฤติกรรมการเล่นเกมส์ออนไลน์บนมือถือ

**คำชี้แจง:** โปรดทำเครื่องหมาย ✓ ของแต่ละข้อที่ตรงกับพฤติกรรมการเล่นเกมส์ออนไลน์ บนมือถือของท่าน

1. เกมส์ออนไลน์บนมือถือที่คุณเล่น (ตอบได้มากกว่า 1 ข้อ)

❑    Realm of Valor (ROV)      ❑    Pub G

❑    Ragnarok Online      ❑    Speed drifter

❑    Let's Get rich      ❑    Rules of survival

❑    อื่นๆ ....................................

2.    คุณใช้เวลากับการเล่นเกมส์ออนไลน์บนมือถือกี่ชั่วโมงต่อวัน

❑    น้อยกว่า 1 ชั่วโมงต่อวัน      ❑    1 - 2 ชั่วโมงต่อวัน

❑    3 – 4 ชั่วโมงต่อวัน      ❑    4 – 5 ชั่วโมงต่อวัน

❑    มากกว่า 5 ชั่วโมงต่อวัน

3.    ช่วงเวลาไหนที่คุณเล่นเกมส์ออนไลน์บนมือถือบ่อยที่สุด

❑    00.01 – 04.00 น.      ❑    04.01 – 08.00 น.

❑    08.01 – 12.00 น.      ❑    12.01 – 16.00 น.

❑    16.01 – 20.00 น.      ❑    20.01 – 24.00 น.

4.    คุณมักจะเล่นเกมส์ออนไลน์บนมือถือกับใครบ้าง

❑    คนเดียว      ❑    เพื่อน

❑    พี่น้อง      ❑    อื่นๆ ......................

5.    โดยปกติคุณใช้ช่องทางใดในการจ่ายเงินเพื่อซื้อของและบริการต่างๆในเกมส์ออนไลน์บนมือถือ (เช่น การเติมเกมส์ ซื้อไอเทมหรือของในเกมส์ เป็นต้น) (ตอบได้มากกว่า 1 ข้อ) *หากตอบมากกว่า 1 ข้อ ให้ทำแบบสอบถามตามข้อความในวงเล็บ*

❑    ตัดผ่านบัญชีธนาคารโดยตรง

       (หากคุณเลือกข้อนี้ ให้ทำแบบสอบถามข้อ 1)

❑    บัตรเดบิต/บัตรเครดิต

       (หากคุณเลือกข้อนี้ ให้ทำแบบสอบถามข้อ 2)

❑    ระบบ E-wallet e.g. True Money Wallet, Rabbit Line pay

       (หากคุณเลือกข้อนี้ ให้ทำแบบสอบถามข้อ 3)

❑    ระบบ Pay Pal

       (หากคุณเลือกข้อนี้ ให้ทำแบบสอบถามข้อ 4)

**ส่วนที่ 3** พฤติกรรมและทัศนคติในการจ่ายเงินออนไลน์เพื่อการเล่นเกมส์บนมือถือตาม หลักการตลาดแนวใหม่ (5A's)

**คำชี้แจง:** โปรดทำเครื่องหมาย ✓ ของแต่ละข้อตามลำดับความสำคัญที่ตรงกับความ คิดเห็นของท่านมากที่สุด โดยมีเกณฑ์คะแนนดังนี้ 0 = N/A (ไม่สามารถระบุได้/ไม่มีความสำคัญ), 1 = น้อยที่สุด, 2 = น้อย, 3 = ปานกลาง, 4 = มาก, 5 = มากที่สุด  N/A (ไม่สามารถระบุได้/ไม่มี ความสำคัญ)

| พฤติกรรมและทัศนคติในการจ่ายเงิน ออนไลน์เพื่อการเล่นเกมส์บนมือถือตาม หลักการตลาดแนวใหม่ (5A's) | ระดับความสำคัญตามหลักการตลาดแนวใหม่ (5A's) | | | | | |
|---|---|---|---|---|---|---|
| | N/A (0) | น้อย ที่สุด (1) | น้อย (2) | ปาน กลาง (3) | มาก (4) | มาก ที่สุด (5) |
| **1. การจ่ายเงินออนไลน์ผ่านระบบตัดผ่านบัญชีธนาคารโดยตรง** | | | | | | |
| 1.1 คุณรู้จักระบบการจ่ายเงินออนไลน์ เพื่อซื้อของในเกมส์ระบบนี้มากแค่ไหน | | | | | | |
| - คุณรู้จักระบบการจ่ายเงินออนไลน์นี้จากช่องทางไหน ☐ TV  ☐ Facebook  ☐ เว็บไซต์ของช่องทางการจ่ายเงิน ☐ Line  ☐ สื่อโฆษณาบนแอพพลิเคชั่น ☐ คำแนะนำจากคนรอบข้าง/เพื่อน | | | | | | |
| 1.2 คุณชื่นชอบในช่องทางการจ่ายเงิน ออนไลน์เพื่อซื้อของในเกมส์ด้วยช่องทางนี้ | | | | | | |
| 1.3 คุณมีความต้องการที่จะรู้ข้อมูลการใช้ งานระบบจ่ายเงินออนไลน์นี้เพิ่มเติม | | | | | | |
| 1.4 ขั้นตอนการสมัครหรือการใช้งานระบบ จ่ายเงินออนไลน์ในเกมส์ครั้งแรกมีความเข้าใจ และเข้าถึงได้ง่าย | | | | | | |
| - คุณสามารถเข้าถึงข้อมูลและเข้าใจข้อมูลของระบบการจ่ายเงินออนไลน์นี้จากช่องทาง ไหน | | | | | | |

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| ☐ TV  ☐ Facebook  ☐ เว็บไซต์ของช่องทางการจ่ายเงิน<br>☐ Line  ☐ สื่อโฆษณาบนแอพพลิเคชั่น<br>☐ คำแนะนำจากคนรอบข้าง/เพื่อน | | | | | |
| 1.5 คุณมีประสบการณ์การจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์บ่อยแค่ไหน | | | | | |
| 1.6 ขั้นตอนการจ่ายเงินและช่องทางการจ่ายเงินออนไลน์นี้ง่ายและสามารถช่วยส่งเสริมการซื้อของในเกมส์ออนไลน์บนมือถือ | | | | | |
| - คุณทำการซื้อของหรือจ่ายเงินเพื่อการเล่นเกมส์ออนไลน์บนมือถือ เฉลี่ยกี่ครั้งต่อเดือน<br>☐ 1 – 2 ครั้งต่อเดือน  ☐ 3 – 4 ครั้งต่อเดือน<br>☐ 4 – 5 ครั้งต่อเดือน  ☐ มากกว่า 5 ครั้งต่อเดือน | | | | | |
| - ค่าใช้จ่ายโดยเฉลี่ยต่อ 1 ครั้งในการเล่นเกมส์ออนไลน์บนมือถือ<br>☐ น้อยกว่า 100 บาทต่อครั้ง  ☐ 101 – 200 บาทต่อครั้ง<br>☐ 201 – 300 บาทต่อครั้ง  ☐ 301 – 400 บาทต่อครั้ง<br>☐ มากกว่า 400 บาทต่อครั้ง | | | | | |
| 1.7 เมื่อคุณมีความเข้าใจและเชื่อมั่นในช่องทางการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ คุณมีแนวโน้มจะบอกต่อเพื่อให้เพื่อของคุณได้ใช้ตาม | | | | | |
| - คุณเลือกที่จะยอมรับการบอกต่อและรับรู้ความน่าเชื่อถือของช่องทางการจ่ายเงินออนไลน์จากช่องทางไหน<br>☐ TV  ☐ Facebook  ☐ เว็บไซต์ของช่องทางการจ่ายเงิน<br>☐ Line  ☐ สื่อโฆษณาบนแอพพลิเคชั่น<br>☐ คำแนะนำจากคนรอบข้าง/เพื่อน | | | | | |
| **2. การจ่ายเงินออนไลน์ผ่านระบบบัตรเดบิต/บัตรเครดิต** | | | | | |
| 2.1 คุณรู้จักระบบการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ระบบนี้มากแค่ไหน | | | | | |
| - คุณรู้จักระบบการจ่ายเงินออนไลน์นี้จากช่องทางไหน | | | | | |

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| ☐ TV ☐ Facebook ☐ เว็บไซต์ของช่องทางการจ่ายเงิน<br>☐ Line ☐ สื่อโฆษณาบนแอพพลิเคชั่น<br>☐ คำแนะนำจากคนรอบข้าง/เพื่อน | | | | | |
| 2.2 คุณชื่นชอบในช่องทางการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ด้วยช่องทางนี้ | | | | | |
| 2.3 คุณมีความต้องการที่จะรู้ข้อมูลการใช้งานระบบจ่ายเงินออนไลน์นี้เพิ่มเติม | | | | | |
| 2.4 ขั้นตอนการสมัครหรือการใช้งานระบบจ่ายเงินออนไลน์ในเกมส์ครั้งแรกมีความเข้าใจและเข้าถึงได้ง่าย | | | | | |
| - คุณสามารถเข้าถึงข้อมูลและเข้าใจข้อมูลของระบบการจ่ายเงินออนไลน์นี้จากช่องทางไหน<br>☐ TV ☐ Facebook ☐ เว็บไซต์ของช่องทางการจ่ายเงิน<br>☐ Line ☐ สื่อโฆษณาบนแอพพลิเคชั่น<br>☐ คำแนะนำจากคนรอบข้าง/เพื่อน | | | | | |
| 2.5 คุณมีประสบการณ์การจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์บ่อยแค่ไหน | | | | | |
| 2.6 ขั้นตอนการจ่ายเงินและช่องทางการจ่ายเงินออนไลน์นี้ง่ายและสามารถช่วยส่งเสริมการซื้อของในเกมส์ออนไลน์บนมือถือ | | | | | |
| - คุณทำการซื้อของหรือจ่ายเงินเพื่อการเล่นเกมส์ออนไลน์บนมือถือ เฉลี่ยกี่ครั้งต่อเดือน<br>☐ 1 – 2 ครั้งต่อเดือน ☐ 3 – 4 ครั้งต่อเดือน<br>☐ 4 – 5 ครั้งต่อเดือน ☐ มากกว่า 5 ครั้งต่อเดือน | | | | | |
| - ค่าใช้จ่ายโดยเฉลี่ยต่อ 1 ครั้งในการเล่นเกมส์ออนไลน์บนมือถือ<br>☐ น้อยกว่า 100 บาทต่อครั้ง ☐ 101 – 200 บาทต่อครั้ง<br>☐ 201 – 300 บาทต่อครั้ง ☐ 301 – 400 บาทต่อครั้ง<br>☐ มากกว่า 400 บาทต่อครั้ง | | | | | |

| 2.7 เมื่อคุณมีความเข้าใจและเชื่อมั่นในช่องทางการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ คุณมีแนวโน้มจะบอกต่อเพื่อให้เพื่อนของคุณได้ใช้ตาม | | | | | | |
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| - คุณเลือกที่จะยอมรับการบอกต่อและรับรู้ความน่าเชื่อถือของช่องทางการจ่ายเงินออนไลน์จากช่องทางไหน<br><br>☐ TV  ☐ Facebook  ☐ เว็บไซต์ของช่องทางการจ่ายเงิน<br>☐ Line  ☐ สื่อโฆษณาบนแอพพลิเคชั่น<br>☐ คำแนะนำจากคนรอบข้าง/เพื่อน | | | | | | |
| **3. การจ่ายเงินออนไลน์ผ่านระบบ E-wallet e.g. True Money Wallet, Rabbit Line pay** | | | | | | |
| 3.1 คุณรู้จักระบบการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ระบบนี้มากแค่ไหน | | | | | | |
| - คุณรู้จักระบบการจ่ายเงินออนไลน์นี้จากช่องทางไหน<br><br>☐ TV  ☐ Facebook  ☐ เว็บไซต์ของช่องทางการจ่ายเงิน<br>☐ Line  ☐ สื่อโฆษณาบนแอพพลิเคชั่น<br>☐ คำแนะนำจากคนรอบข้าง/เพื่อน | | | | | | |
| 3.2 คุณชื่นชอบในช่องทางการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ด้วยช่องทางนี้ | | | | | | |
| 3.3 คุณมีความต้องการที่จะรู้ข้อมูลการใช้งานระบบจ่ายเงินออนไลน์นี้เพิ่มเติม | | | | | | |
| 3.4 ขั้นตอนการสมัครหรือการใช้งานระบบจ่ายเงินออนไลน์ในเกมส์ครั้งแรกมีความเข้าใจและเข้าถึงได้ง่าย | | | | | | |
| - คุณสามารถเข้าถึงข้อมูลและเข้าใจข้อมูลของระบบการจ่ายเงินออนไลน์นี้จากช่องทางไหน<br><br>☐ TV  ☐ Facebook  ☐ เว็บไซต์ของช่องทางการจ่ายเงิน<br>☐ Line  ☐ สื่อโฆษณาบนแอพพลิเคชั่น<br>☐ คำแนะนำจากคนรอบข้าง/เพื่อน | | | | | | |

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| 3.5 คุณมีประสบการณ์การจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์บ่อยแค่ไหน | | | | | | |
| 3.6 ขั้นตอนการจ่ายเงินและช่องทางการจ่ายเงินออนไลน์นี้ง่ายและสามารถช่วยส่งเสริมการซื้อของในเกมส์ออนไลน์บนมือถือ | | | | | | |

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| - คุณทำการซื้อของหรือจ่ายเงินเพื่อการเล่นเกมส์ออนไลน์บนมือถือ เฉลี่ยกี่ครั้งต่อเดือน<br><br>☐ 1 – 2 ครั้งต่อเดือน ☐ 3 – 4 ครั้งต่อเดือน<br>☐ 4 – 5 ครั้งต่อเดือน ☐ มากกว่า 5 ครั้งต่อเดือน |
| - ค่าใช้จ่ายโดยเฉลี่ยต่อ 1 ครั้งในการเล่นเกมส์ออนไลน์บนมือถือ<br><br>☐ น้อยกว่า 100 บาทต่อครั้ง ☐ 101 – 200 บาทต่อครั้ง<br>☐ 201 – 300 บาทต่อครั้ง ☐ 301 – 400 บาทต่อครั้ง<br>☐ มากกว่า 400 บาทต่อครั้ง |

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| 3.7 เมื่อคุณมีความเข้าใจและเชื่อมั่นในช่องทางการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ คุณมีแนวโน้มจะบอกต่อเพื่อให้เพื่อนของคุณได้ใช้ตาม | | | | | | |

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| - คุณเลือกที่จะยอมรับการบอกต่อและรับรู้ความน่าเชื่อถือของช่องทางการจ่ายเงินออนไลน์จากช่องทางไหน<br><br>☐ TV ☐ Facebook ☐ เว็บไซต์ของช่องทางการจ่ายเงิน<br>☐ Line ☐ สื่อโฆษณาบนแอพพลิเคชั่น<br>☐ คำแนะนำจากคนรอบข้าง/เพื่อน |
| **4. การจ่ายเงินออนไลน์ผ่านระบบ Pay Pal** |

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| 4.1 คุณรู้จักระบบการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ระบบนี้มากแค่ไหน | | | | | | |

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| - คุณรู้จักระบบการจ่ายเงินออนไลน์นี้จากช่องทางไหน<br><br>☐ TV ☐ Facebook ☐ เว็บไซต์ของช่องทางการจ่ายเงิน<br>☐ Line ☐ สื่อโฆษณาบนแอพพลิเคชั่น<br>☐ คำแนะนำจากคนรอบข้าง/เพื่อน |

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| 4.2 คุณชื่นชอบในช่องทางการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ด้วยช่องทางนี้ | | | | | |
| 4.3 คุณมีความต้องการที่จะรู้ข้อมูลการใช้งานระบบจ่ายเงินออนไลน์นี้เพิ่มเติม | | | | | |
| 4.4 ขั้นตอนการสมัครหรือการใช้งานระบบจ่ายเงินออนไลน์ในเกมส์ครั้งแรกมีความเข้าใจและเข้าถึงได้ง่าย | | | | | |

- คุณสามารถเข้าถึงข้อมูลและเข้าใจข้อมูลของระบบการจ่ายเงินออนไลน์นี้จากช่องทางไหน

    ☐ TV    ☐ Facebook    ☐ เว็บไซต์ของช่องทางการจ่ายเงิน
    ☐ Line    ☐ สื่อโฆษณาบนแอพพลิเคชั่น
    ☐ คำแนะนำจากคนรอบข้าง/เพื่อน

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| 4.5 คุณมีประสบการณ์การจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์บ่อยแค่ไหน | | | | | |
| 4.6 ขั้นตอนการจ่ายเงินและช่องทางการจ่ายเงินออนไลน์นี้ง่ายและสามารถช่วยส่งเสริมการซื้อของในเกมส์ออนไลน์บนมือถือ | | | | | |

- คุณทำการซื้อของหรือจ่ายเงินเพื่อการเล่นเกมส์ออนไลน์บนมือถือ เฉลี่ยกี่ครั้งต่อเดือน

    ☐ 1 – 2 ครั้งต่อเดือน        ☐ 3 – 4 ครั้งต่อเดือน
    ☐ 4 – 5 ครั้งต่อเดือน        ☐ มากกว่า 5 ครั้งต่อเดือน

- ค่าใช้จ่ายโดยเฉลี่ยต่อ 1 ครั้งในการเล่นเกมส์ออนไลน์บนมือถือ

    ☐ น้อยกว่า 100 บาทต่อครั้ง        ☐ 101 – 200 บาทต่อครั้ง
    ☐ 201 – 300 บาทต่อครั้ง        ☐ 301 – 400 บาทต่อครั้ง
    ☐ มากกว่า 400 บาทต่อครั้ง

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|---|---|---|---|---|---|
| 4.7 เมื่อคุณมีความเข้าใจและเชื่อมั่นในช่องทางการจ่ายเงินออนไลน์เพื่อซื้อของในเกมส์ คุณมีแนวโน้มจะบอกต่อเพื่อให้เพื่อนของคุณได้ใช้ตาม | | | | | |

- คุณเลือกที่จะยอมรับการบอกต่อและรับรู้ความน่าเชื่อถือของช่องทางการจ่ายเงิน
ออนไลน์จากช่องทางไหน

☐ TV    ☐ Facebook    ☐ เว็บไซต์ของช่องทางการจ่ายเงิน

☐ Line    ☐ สื่อโฆษณาบนแอพพลิเคชั่น

☐ คำแนะนำจากคนรอบข้าง/เพื่อน
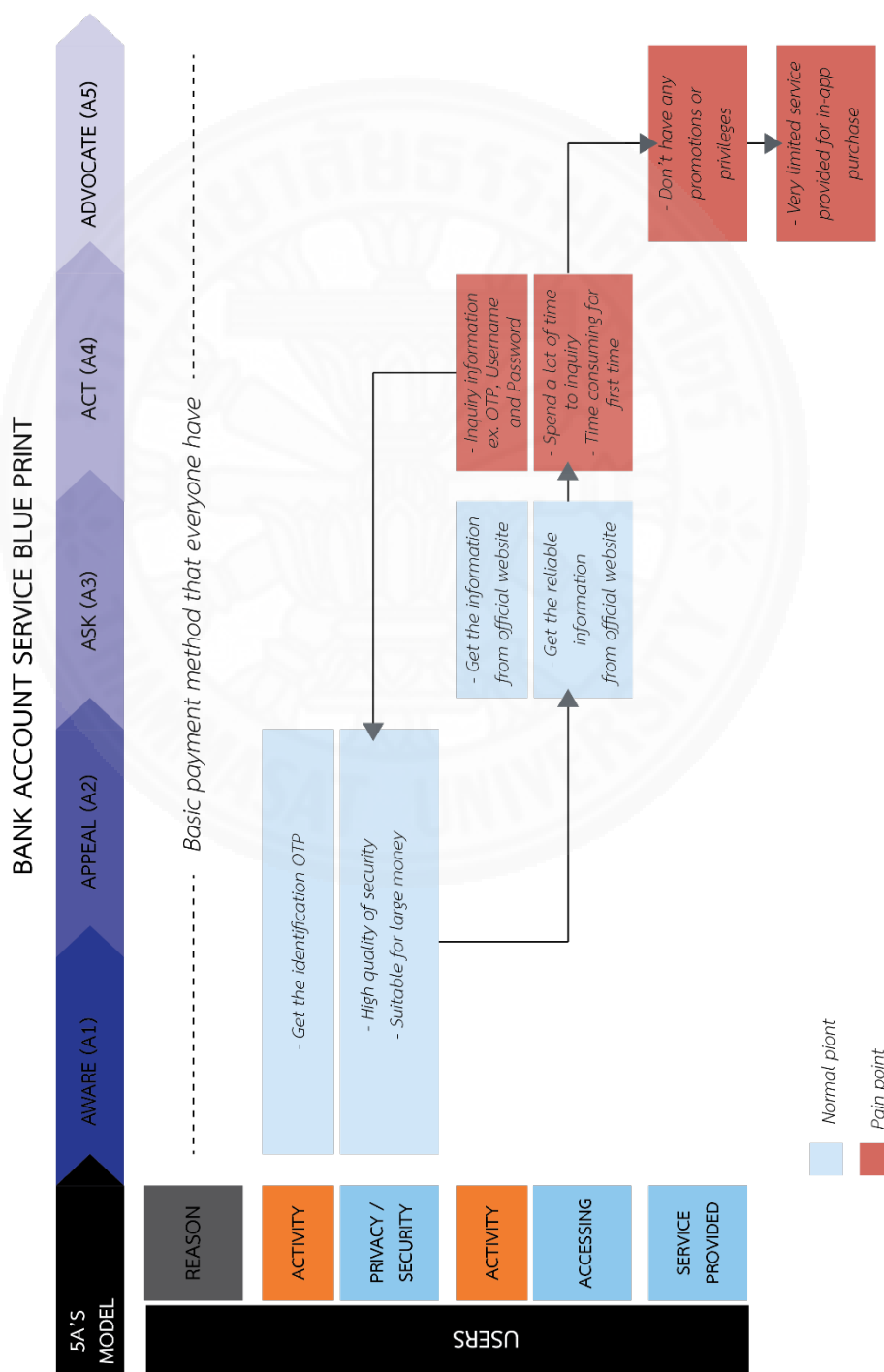
# APPENDIX B

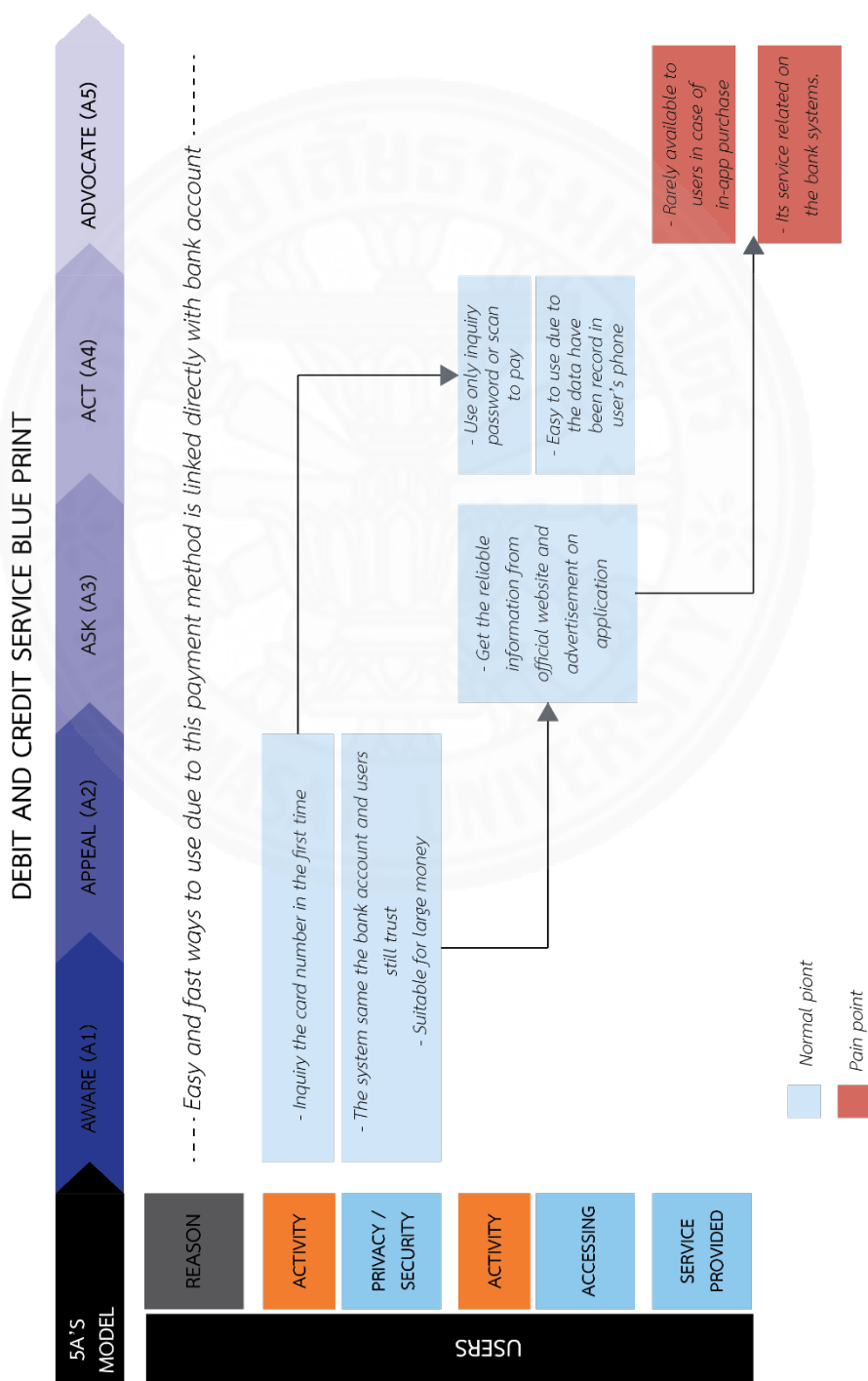## SERVICE DESIGN BLUEPRINT THAT ADOPTED 5A'S MODEL
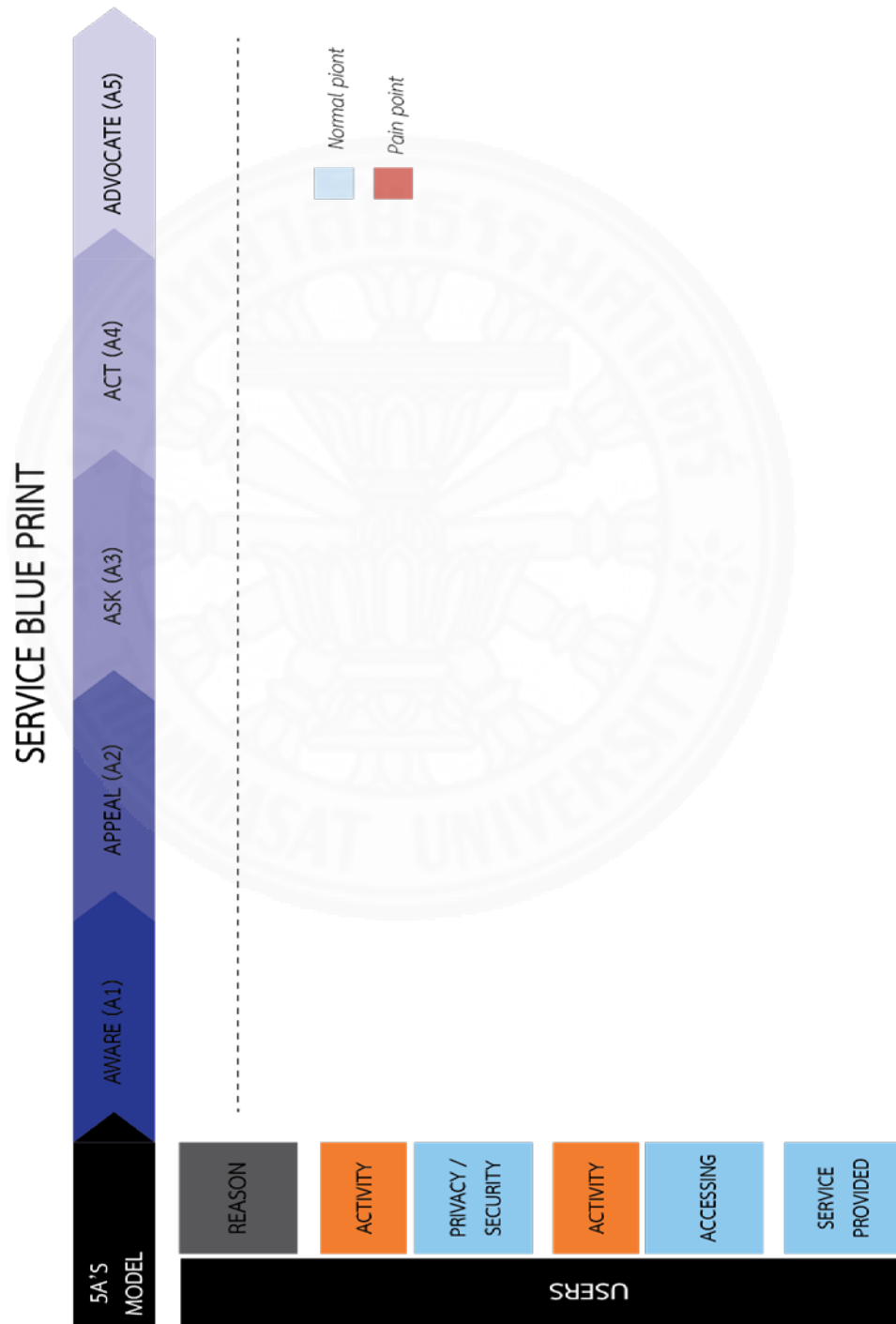
# APPENDIX C

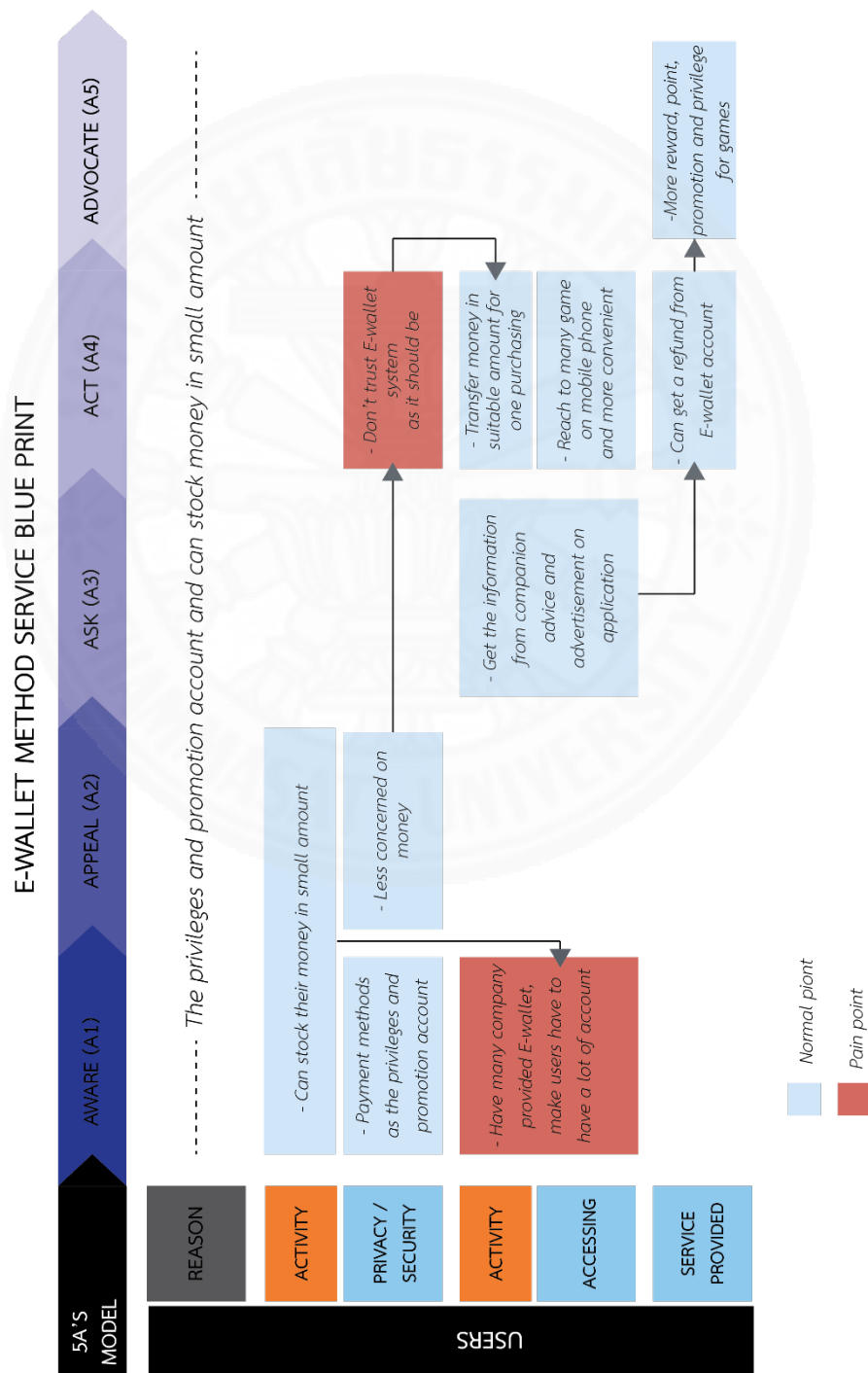# SERVICE DESIGN BLUEPRINT THAT ADOPTED 5A'S MODEL FOR BANK ACCOUNT

# APPENDIX D

# SERVICE DESIGN BLUEPRINT THAT ADOPTED 5A'S MODEL FOR DEBIT AND CREDIT METHOD



DEBIT AND CREDIT SERVICE BLUE PRINT

5A'S MODEL: AWARE (A1), APPEAL (A2), ASK (A3), ACT (A4), ADVOCATE (A5)

- - - - Easy and fast ways to use due to this payment method is linked directly with bank account - - - - - - -

USERS: REASON, ACTIVITY, PRIVACY / SECURITY, ACTIVITY, ACCESSING, SERVICE PROVIDED

- Inquiry the card number in the first time
- The system same the bank account and users still trust
- Suitable for large money
- Get the reliable information from official website and advertisement on application
- Use only inquiry password or scan to pay
- Easy to use due to the data have been record in user's phone
- Rarely available to users in case of in-app purchase
- Its service related on the bank systems.

Normal piont
Pain point

# APPENDIX E

# SERVICE DESIGN BLUEPRINT THAT ADOPTED 5A'S MODEL FOR E-WALLET METHOD

# BIOGRAPHY

| | |
|---|---|
| Name | Miss Apisara Leenoi |
| Date of Birth | March 1, 1995 |
| Educational Attainment | Academic Year 2018: Master of Science (Design, Business and Technology Management), Thammasat University |
| Work Position | Student |

Publications

Apisara Leenoi & Archan Boonyanan. (2019). A service design guideline for in-app purchase to encourage young adult to increase adopt digital payment. *Built Environment Research Associates Conference, 10th, 25th June 2019, Bangkok Art & Culture Centre*.

| | |
|---|---|
| Work Experience | 2018-2019: Research Assistant, Faculty of Architecture and Planning, Thammasat University, Thailand |