#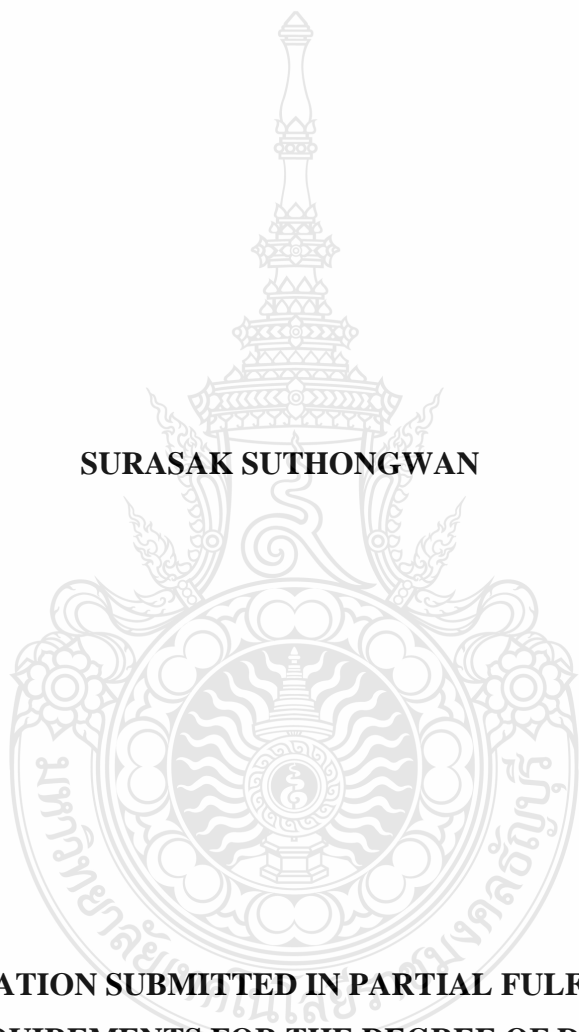 IMPACT OF POST-PURCHASE BRAND TOUCHPOINTS ON CUSTOMER BRAND ENGAGEMENT AND REPURCHASE INTENTION: THE MEDIATING ROLE OF RELATIONSHIP QUALITY AND SELF-BRAND CONNECTION

SURASAK SUTHONGWAN

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OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY PROGRAM IN BUSINESS ADMINISTRATION
FACULTY OF BUSINESS ADMINISTRATION
RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI
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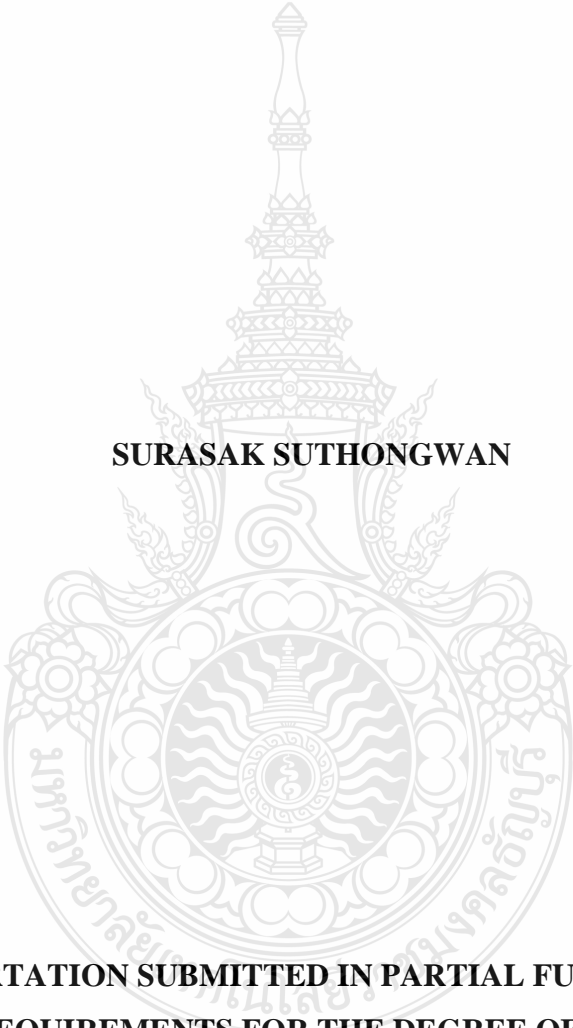
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Dissertation Title	Impact of Post-Purchase Brand Touchpoints on Customer Brand Engagement and Repurchase Intention: The Mediating Role of Relationship Quality and Self-Brand Connection
Name-Surname	Mr. Surasak Suthongwan
Program	Business Administration
Dissertation Advisor	Associate Professor Chanongkorn Kuntonbutr, D.B.A.
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October 1, 2021

หัวข้อดุษฎีนิพนธ์	ผลกระทบของจุดสัมผัสหลังการซื้อของตราสินค้าต่อความผูกพัน
	กับตราสินค้าและความตั้งใจในการซื้อซ้ำของผู้บริโภค: บทบาท
	ความสัมพันธ์ส่งต่อของคุณภาพความสัมพันธ์และความเชื่อมโยง
	ของตราสินค้าและตัวตนของผู้บริโภค
ชื่อ-นามสกุล	นายสุรศักดิ์ สุทองวัน
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ปีการศึกษา	2564

บทคัดย่อ

วัตถุประสงค์ของการวิจัยนี้คือ การศึกษาอิทธิพลของจุดสัมผัสตราสินค้าหลังการซื้อแบบดั้งเดิม และจุดสัมผัสตราสินค้าหลังการซื้อแบบดิจิทัล ที่มีผลต่อความผูกพันต่อตราสินค้า ความตั้งใจซื้อซ้ำ โดยมีคุณภาพความสัมพันธ์ และความเชื่อมโยงระหว่างตราสินค้าและตัวตนของผู้บริโภคเป็นตัวแปรส่งผ่าน งานวิจัยนี้ใช้วิธีการวิจัยเชิงสำรวจโดยเก็บข้อมูลด้วยแบบสอบถามแบบมีโครงสร้างจากกลุ่มตัวอย่างจำนวน 604 ตัวอย่าง ประกอบไปด้วยเจ้าของรถยนต์ยี่ห้อโตโยต้าคัมรี่และฮอนด้าแอคคอร์ทในประเทศไทย กลุ่มตัวอย่างคือบุคคลทั้งชายและหญิง อายุระหว่าง 18-60 ปี และเป็นผู้ตัดสินใจในการซื้อรถยนต์ ใช้การสุ่มกลุ่มตัวอย่างแบบแบ่งชั้นภูมิ

การศึกษานี้ ดำเนินการวิจัยโดยการสร้างโมเดลสมมุติฐานเพื่อพยากรณ์ความตั้งใจในการซื้อซ้ำ โดยตัวแปรต้นที่ใช้ประกอบการวิเคราะห์คือ จุดสัมผัสตราสินค้าหลังการซื้อแบบดั้งเดิม จุดสัมผัสตราสินค้าหลังการซื้อแบบดิจิทัล คุณภาพความสัมพันธ์ ความเชื่อมโยงระหว่างตราสินค้าและตัวตนของผู้บริโภค และความผูกพันต่อตราสินค้า จากผลของการวิเคราะห์สมการโครงสร้าง พบว่าโมเดลมีความเหมาะสมตามดัชนีความเหมาะสมต่างๆ มีอิทธิพลต่อความตั้งใจซื้อซ้ำอยู่ที่ร้อยละ 52 อย่างไรก็ตามจุดสัมผัสตราสินค้าหลังการซื้อแบบดั้งเดิมและจุดสัมผัสตราสินค้าหลังการซื้อแบบดิจิทัลไม่มีอิทธิพลโดยตรงต่อความตั้งใจซื้อซ้ำรถยนต์ ข้อสมมติฐานส่วนใหญ่สามารถยอมรับได้โดยมีนัยสำคัญทางสถิติ ถึงแม้ว่าจุดสัมผัสตราสินค้าหลังการซื้อแบบดิจิทัลมีอิทธิพลโดยตรงต่อการความผูกพันต่อตราสินค้า แต่ทั้งจุดสัมผัสตราสินค้าหลังการซื้อแบบดั้งเดิมและแบบดิจิทัลไม่มีอิทธิพลต่อความตั้งใจซื้อซ้ำ

นักการตลาดสามารถนำผลการวิจัยไปใช้เป็นแนวทางในการรักษาฐานลูกค้าปัจจุบันโดยการบริหารจัดการประสบการณ์ของลูกค้าที่จุดสัมผัสตราสินค้าหลังการซื้อแบบดั้งเดิมและแบบดิจิทัลให้มีประสิทธิภาพด้านต้นทุนสูงสุด อีกทั้งแนวโน้มในการซื้อซ้ำนั้นสามารถส่งเสริมให้เกิดขึ้นได้ด้วยการสร้าง

ประสบการณ์ตราสินค้าให้แก่ลูกค้า นอกจากนั้น ธุรกิจสามารถนำไปสร้างเสริมธุรกิจหลักและสร้างธุรกิจใหม่ด้วยการสร้างธุรกิจที่ผสมผสานกันระหว่างจุดสัมผัสตราสินค้าหลังการซื้อทั้งแบบดั้งเดิมและแบบดิจิทัล

คำสำคัญ: ความผูกพันต่อตราสินค้า จุดสัมผัสตราสินค้า คุณภาพความสัมพันธ์ ความเชื่อมโยงระหว่างตราสินค้าและตัวตนของผู้บริโภค ความตั้งใจซื้อซ้ำ

Dissertation Title   Impact of Post-Purchase Brand Touchpoints on Customer Brand Engagement and Repurchase Intention: The Mediating Role of Relationship Quality and Self-Brand Connection

Name-Surname   Mr. Surasak Suthongwan

Program   Business Administration

Dissertation Advisor   Associate Professor Chanongkorn Kuntonbutr, D.B.A.

Academic Year   2021

ABSTRACT

The purpose of this research was to investigate the impacts of traditional and digital post-purchase brand touchpoints on customer brand engagement and repurchase intention, given relationship quality, and self-brand connection acting as mediators. A survey with a structured questionnaire was used to collect data from 604 respondents in Thailand who were current owners of Toyota Camry and Honda Accord automobiles. The samples of this study comprised both male and female drivers, aged between 18 to 60 years old who had a decision-making role in an automobile purchase. Stratified random sampling was used for selecting qualified respondents.

This study was conducted by building a hypothetical model to predict automobile repurchase intention. The predictors used in the model included traditional and digital post-purchase brand touchpoints, relationship quality, self-brand connection and customer brand engagement. According to the results from structural equation modelling (SEM), all of the fit indices indicated that the model was a good fit to the data. The predictors were able to account for 52 percent of the variance in repurchase intention. However, traditional and digital post-purchase brand touchpoints did not have a direct effect on automobile repurchase intention. Almost all the relationships were significant. Although digital post-purchase brand touchpoints had a direct effect on customer brand engagement, neither traditional nor digital post-purchase brand touchpoints had an effect on the repurchase intention.

Based on the research findings, marketing practitioners should retain their current customers with the usage of traditional and digital post-purchase brand

touchpoints for maximum cost efficiency. Also, the trend to repurchase can be moved upward through enriched customer brand experience. In addition, the enterprise could enhance its core business or create new business by developing a business that combines traditional and digital post-purchase brand touchpoints.

Acknowledgement

Undertaking this Ph.D has been an exceptional learning experience and gave me many opportunities, and all this would not have been accomplished without strong support and guidance I received from many people. Firstly, I wish to express my sincere gratitude to my dissertation advisor, Associate Professor Dr.Chanongkong Kuntonbutr, for his valuable and constructive suggestions throughout the planning and development of this research work. His willingness to spare his valuable time so generously has been very much appreciated. Secondly, I would like to thank all the dissertation committees for providing great suggestions to heighten the research quality of my dissertation. More importantly, I gratefully acknowledge the academic quality I have received throughout the period of studying in Ph.D from many reputable and high experienced instructors. Thanks to Assistant. Professor Dr. Nartrapee Chaimongkon, Dean of Faculty of Business Administration (RMUTT), who puts in her best efforts in order to keep up the best academic excellence.

Last but not least, a big thanks to Associate Professor Dr.Kanlaya Vanichbuncha who has kindly dedicated her time and efforts to help mentor all the statistical issues in this research. Without her generous guidance and persistent help, this dissertation would not have been beautifully finished. Also, I would like to express my thankfulness to my colleagues at Toyota Motor Thailand who have helped gather large scale customer data and made this research project possible.

Surasak Suthongwan

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CHAPTER 1
INTRODUCTION

This research presented findings from a quantitative study conducted with automobile users in Thailand. It highlighted how the participants in the study engaged with their current brands of the automobile that they owned and the likelihood of their repurchase intention. In this introductory chapter, the rationale for this study described and an overview of the research was given. The chapter started by presenting the background and statement of the problem. This was followed by the purpose of the study. It then proceeded to describe the definition of terms, limitation and delimitation, and significance of the study respectively.

1.1 Background and Statement of the Problem

Automotive industry in Thailand has been widely recognized as a major driving force of Thailand's economy with strong infrastructures and a vast network of small and large, local, and foreign auto makes along the automobile production supply chain. Asian Up (2016) reported that the sector accounting for approximately 12 per cent of the Thai Gross Domestic Production (GDP), the automotive sector employed more than 550,000 people in 2013 with most of the world's vehicles and automobile parts brands and manufacturers present in the country. As of 2017, the Thailand automotive industry became the largest in Southeast Asia (Maikaew, 2018) and the 12th largest in the world (Santivimolnat, 2012; Languepin, 2013). According to production statistics by International Organization of Motor Vehicle Manufacturers (2013), the Thailand industry had an annual output of near two million vehicles including passenger cars and pickup trucks, more than countries such as Belgium, the United Kingdom, Italy, Czech Republic, and Turkey. Most of the vehicles manufactured in Thailand are developed and licensed by foreign producers, mainly Japanese, American and Chinese but with several other brands, notably Mercedes Benz and BMW as well for complete knock-down (CKD) production. The Thai automobile industry harnessed the advantage of the ASEAN Free Trade Area (AFTA) to find a market for many of its products.

Thailand has been one of the largest vehicle manufacturer in the ASEAN area (Ueda 2009). Mainly this was contributed by the government policy of having Thailand as the hub of Detroit in Asia in automobile production. With an effort to promote localization of car production, The Thai government increased tariffs on completely build-up vehicle (CBU) to 300 per cent and began a graduated increase in the local parts content regulations up to 25 per cent in 1971 and 50 per cent in 1983 (Ueda, 2009; Fujita, 1998). In the period between 1992 and 1996, the average industry growth was approximately 12 per cent (Chiasakul, 2004). The results in 1996 were only exceeded in that of the year 2004. The sales results of 1998 (passenger and commercial vehicles) were less than a quarter of what they had been in the record year 1996 (Niyomsilpa, 2006). The investment in the pre-crash period led to serious problems of over-capacity which were to last long into the succeeding decade (Niyomsilpa, 2006). Capacity was 1.2 million cars and trucks, in a market which rarely reached 700,000 in sales. As the result, the manufacturers responded by increasing export efforts, Thailand became a net exporter of cars since 1998 (Niyomsilpa, 2006). On top of that, the Thai government continuously stimulated trade and regional cooperation by dropping the local parts requirements. (Niyomsilpa, 2006). Further, the governmental efforts included bilateral trade agreements in the early-2000s, most notably with Australia, China, and India. The Thai automotive industry also endeavored to concentrate its growth in certain "cluster" areas, mainly in eastern Bangkok but also in Rayong, Chachoengsao, Chonburi (Eastern Thailand), and in the centrally located city of Ayutthaya (Niyomsilpa, 2006).

According to Car Manufacturing, Domestic Sales and Exports from Thailand (2018), car production in Thailand increased from below 500,000 units in 1998 to a record number of close to 2.5 million cars in both 2012 and 2013. (2,453,717 and 2,459,504 cars respectively). From 1996 to 1998, car production dropped by 75 per cent from 531,523 to just 140,402. The 2008 world financial crisis and economic downturn resulted in a drop from 1,391,728 to 999,378 cars (-28 per cent). After the dismal 2009, the car industry in Thailand significantly rebounded in 2010 with a vengeance. Total production, local sales, and exports of cars, all reached new highs. The overall market was still dominated by Japanese brand cars. All Japanese manufacturers seemed to have decided to concentrate on small, eco-friendly car production, to drive production. In 2012, it was a boom year

for the Thai automotive industry. This was to great extent due to fiscal policies of the government; whereby first-time car buyer could receive substantial discounts for their purchase. In 2012, Thailand is listed as the 10th most important car producer in the world. In 2013, domestic sales declined a bit, while exports increased a little bit more. The last few years production was at a lower level, below 2 million units a year. Data for 2017 showed that total car production of 1,988,823 cars which composed of vehicles exported at 1,139,696 and domestic sales at 871,650 cars. Car production in Thailand increased one per cent in 2018 to 1.97 million units. The country's car exports remained stable at 1.1 million units, while the local market raised by 2% to 870,000 units (Maikaew, 2018).

According to Thailand Automotive Statistics (2019) reported by the Thai Automotive Industry Association (TAIA), the domestic sales of automobile faced a growth at the decreasing rate between 2009 and 2018. The total market volume in unit 548,871 units in 2009, 800,357 units in 2010, 794,081 units in 2011, 1,436,335 units in 2012, 1,330,672 units in 2013, 881,832 units in 2014, 799,632 units in 2015, 768,788 units in 2016, 871,650 units in 2017, and 1,036,432 units in 2018. The average growth rate during 2009-2013 was nearly 30 per cent, whereas the average growth rate during 2014-2018 was less than 10 per cent. Moreover, according to the internal forecast of Toyota Motor Thailand, the decreasing trend is likely to continue in a few years till 2025. According to this business situation, it was diagnosed that now the domestic automobile market has reached the maturity stage of the product life cycle. Currently, there were many players, whereas small manufacturers became much stronger. The competition for customers became highly intense, and profit decline.

With this severe market condition, the domestic automobile market has also faced three big challenges that change the buying behavior of not only local consumers but also global consumers at large. Those global challenges included urbanization effect, diversity of brand choice effect, and hyper-segmented media effect. Firstly, living in an urban city, people normally faced with congestion and high cost of car ownership. According to a study by Wisniewski (2018), young people did not want to own a car, as it was a burden to their lives. Almost half of more than 1,000 consumers surveyed did not feel positive with most of the time they spend on driving. More than half of adults between the ages of 22 and 37 reported that a car was not worth the money spent on car

maintenance. A favorable attitude toward cars decreased in younger generations, with 16 per cent of millennials stating they could live without having access to a car, compared with 13 per cent of Generation X consumers and nine per cent of boomers. Thai younger adult also shared a similar attitude toward car ownership. Sumrej.com (2016) stated that Thai younger adults also had the same consumption pattern of what is called 'the generation of renters' in which car ownership was less preferred than ride-sharing. Besides, Thailand's public transportation or railway infrastructure was under extensive expansion from central Bangkok to suburbs around Bangkok. Secondly, in the past, there were only a few big Japanese auto brands for consumers to choose from. But there was a vast diversity of brand choice. According to Think Auto by Google (2018), the average number of brand consumers consider was 2.9 in 2017, suddenly they climbed up to 4.7 in 2018. Also, according to Digital Drives Auto Shopping by Google (2013), auto shoppers used up to 24 research touchpoints which were much more than the past years, and 72 per cent of search sessions among auto shoppers involved in cross-shopping. This trend indicated that customer loyalty was deteriorating. Lastly, media consumption was hyper-fragmented with the proliferation of digital technology. According to Hootsuite (2018), internet penetration was 82 per cent (or 57 million people), whereas 74 per cent (or 51 million people) were active social media users, 80 per cent (or 55.56 million people) were mobile users, and 67 per cent (or 46 million people) were active mobile social users. Average daily time spent using internet via any device was nine hours and 38 minutes, average daily time spent using social media was three hours and 10 minutes, average daily TV viewing time (broadcast, streaming and video on demand) was four hours and three minutes, and average daily time spent listening to streaming music was one hour and 35 minutes (Hootsuite, 2018).

Under the hyper-competitive market, marketers must go beyond the traditional marketing approach, because many brands and products that normally go virtually unnoticed by consumers. Those consumers without emotional connections to brands focus only on the attributes of the product, as they tend to change brands easily if they find another brand that works better. But the consumers who have emotional connections with a brand, and a strong and powerful relationship will follow everything of what brand is doing. Purchases increase when there is the emotion behind through brand engagement

and repetition is more than likely. By the ways, the creation of brand engagement relies mainly on offline and online brand touchpoints. Nowadays, Thai auto consumers have consumed a combination of offline and online brand touchpoints. In some situations, offline brand touchpoints were more effective than online brand touchpoints and vice versa. To ensure the effectiveness of customer brand engagement, marketers must optimize the usage of both offline and online brand touchpoints. Marketers must find the most effective type of brand touchpoints that can promote relationship quality, self-brand connection, customer brand engagement, and repurchase intention.

In the exploration of past research, it was found that most researchers are more interested in pre-purchase than post-purchase behavior; however, as domestic automobile market reached its maturity in which it requires the same customers to repurchase. As the result, this research focused on post-purchase behavior with an emphasis on repurchase intention of the automobile. Besides, past research (Dunn & Davis, 2004; Dhebar, 2012) investigated the effect of controllable and uncontrollable brand touchpoint, while others focused on the impact of experience-based brand touchpoints. However, past research was not found to investigate the differential effect of traditional and digital brand touchpoint, in which it was the focal point of this study. Many research in the past asserted that satisfaction led to repurchase among low involvement, whereas Popjaney (2016) found that in the context of automobile purchase, satisfaction might not lead to the repurchase, as it was not guaranteed that consumers who rated with high satisfactory would not go to other brands in their next purchase. Van Doorn et al. (2010) indicated that customer brand engagement drove brand loyalty in which brand loyalty was the key driver of repurchase intention (Habib & Aslam, 2014). So, this research assumed that in the repurchase of the automobile, satisfied customers might not rebuy, but needed to engage with certain brands before repurchase decision in the later period. Furthermore, the self-brand connection was found to drive repurchase intention among shopping goods (Hapsari & Adiwijaya, 2014). However, the researcher assumed that such direct effect of self-brand connection on repurchase might not exist with automobile purchase. Rather, customer brand engagement mediated the association between self-brand connection and repurchase intention. Then, this study was to investigate how traditional and digital post-

purchase brand touchpoints have any direct and indirect impact on customer brand engagement and repurchase intention of the automobile?

1.2 Purpose of the Study

This research was aimed at investigating the impact of traditional and digital post-purchase brand touchpoints on customer brand engagement and repurchase intention. However, the direct effect of those relationships was unlikely, then the mediating effect of customer brand engagement and self-brand connection were included. As the result, the objectives of this research were classified into the measurement of mediating effect, followed by direct effects as follows:

• To measure the mediating effect of relationship quality and self-brand connection on the association between traditional and digital post-purchase brand touchpoints and customer brand engagement

• To measure the mediating effect of customer brand engagement on the association between relationship quality, and self-brand connection and repurchase intention.

• To measure the direct effect of traditional and digital post-purchase brand touchpoints on customer brand engagement

• To measure the direct effect of relationship quality and self-brand connection on repurchase intention.

1.3 Definition of Terms

Post-purchase behavior: The stage of the buying decision making process in which consumers take further action after actual purchase based on their satisfaction or dissatisfaction with a purchase. The customer reaction toward the purchased product will significantly influence whether the repurchase will happen again or switch to other products within the brand repertoire. (Schiffman & Kanuk, 2007)

Brand Touchpoint: Any contact point that a consumer can interact with a brand including person-to-person, website, an application, or any form of communication. When consumers encounter these touchpoints, perception toward brand will be formed (Stein, & Ramaseshan, 2016).

Traditional Brand Touchpoint: A mass media category that incorporates many forms of traditional advertising and marketing. Most fall under one of four categories: print, broadcast, direct mail, and telephone (Baxendale et al., 2015).

Digital Brand Touchpoint: Those online and mobile interactions where consumers engage with a business. It includes interactions across different devices, from smartphones to mobile tablets, and various channels including social media and websites (Sandiford, 2017).

Relationship Quality: The customer's perception of being achieved through the marketing offerings' ability to reduce perceived uncertainty, leading to an environment where the customer can rely on the offering's integrity and has confidence in the offering's future performance because the level of past performance has been consistently satisfactory. (Crosby et al., 1990).

Self-Brand Connection: Individuals' use of brand image to create and establish their self-identities; thereby forming connections to brands (Escalas, 2004).

Customer Brand Engagement: The extent that consumers become engaged and shaped emotional attachments to brands that they make part of their lives, with specific brands. Behaviorally, consumers tend to have such behavioral consequences as frequent purchase, and positive word of mouth (Keller, 2001).

Brand Experience: Emotional and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments (Brakus et al. 2009).

Repurchase Intention: Actual repeat buying behavior of customers resulting in the purchase of the same product or service on more than one occasion. (Eliasaph et al., 2016).

1.4 Delimitations and Limitations of the Study

Even though consumer purchase encompasses pre-purchase, during purchase, and post-purchase, this study investigated repurchase behavior, so the post-purchase behavior was targeted. In correspondence with the specific investigation of post-purchase behavior and its tendency of repurchase, the target population was limited to current brand users of Toyota Camry and Honda Accord. Even though the sample was the current users

of Toyota Camry and Honda Accord branded automobile who purchased and registered their vehicles with the Ministry of Transportation between 2011 and 2018, the result of this research could well be generalized to all current customers who have currently owned all brands of passenger cars across Thailand. However, a generalization of the findings beyond the specified sample and geographical scopes were not possible. Even though automobile used is classified as a high-involvement product, the findings may not be generalizable to other types of high-involvement product per se.

Besides, the research framework of this study was composed of such three components of test variables as independent, mediating and dependent variables. The independent variables were traditional and digital post-purchase brand touchpoints. Traditional post-purchase brand touchpoints cover TV, radio, newspaper, magazine, brochure, catalogue, salespeople contact, call center, whereas digital post-purchase brand touchpoints cover website, email, digital display, social media, and mobile channels. Mediating variables included relationship quality and self-brand connection. Last, dependent variables are customer brand engagement and repurchase intention. This study delimits past research in measuring customer brand engagement in which this study focused on much in-depth perspective of brand engagement behavior, not only brand interaction level.

1.5 Significance of the Study

This research gave a contribution to the current body of marketing knowledge and build up a new marketing discovery for academician and marketing practitioners with at least five points. First, past research (Singh, 1998; Santos & Boote, 2003; Sharma, 2014) provided attention to pre-purchase behavior of new customers. This was attributed to the past buying phenomenon that the market itself was growing fast. As stated earlier in this chapter, the domestic market of the automobile was reducing in terms of the annual sales growth, so it was much worth for current and future research to turn attention to post-purchase behavior. In an extensive search of previous literature, it was found that this research was the first research investigating the post-purchase context of current customers who would buy a new car shortly. Expectedly this topic will set a trend for

future research so that there will be more resourceful theoretical findings that are useful to current business operation.

Second, while much past research (Dunn & Davis, 2004; Dhebar, 2012; Martenson, 2008; Hallikainen et al., 2018) focused on other aspects of brand touchpoint, this study was more interested in an investigation of traditional and digital brand touchpoints. This was due to the proliferation of digital brand touchpoints, as they seemed to take over the existing traditional brand touchpoints. No wonder that an exploration of the differential impact of traditional and digital post-purchase brand touchpoints was considered essential. On top of that this study measured those differential effects in its impact on customer brand engagement and repurchase intention.

Third, conventional wisdom suggested that when customers are satisfied with a product, they tend to buy it again. This tendency was highly possible in such low involvement products as groceries and the like. The researcher strongly believed that such a phenomenon might be unlikely in such a high involvement product as an automobile purchase. This is due to a longer buying cycle of car repurchase and the emergence of new technology. Then, this was to challenge the conventional findings of previous research (Popjaney, 2016) that satisfaction was the key determinant of repurchase intention in the repurchase of the automobile. This research provided consumer insight that brand or product satisfaction alone is less powerful to convince customers to buy a new car again.

Fourth, traditional marketing efforts revolved around the product-oriented concept in which marketers believed that once they provided good quality product to their customers, the repurchase would be automatic. In other words, if the customers were delighted with the product, they were likely to buy it again. Under this tough competitive market, the previous findings of the satisfaction and recurrence of the customer may not be well applicable. As stated, car manufacturers could not rely their efforts solely on customer satisfaction or relationship quality, that is why this study suggested co-drivers of the repurchase which were customer brand engagement, and self-brand connection to help marketers maximize the number of return customers. So, the mediating effect of customer brand engagement and the self-brand connection was tested. In other words, besides the good quality product, marketers must sustain a quality relationship with

customers through continuous customer brand engagement and ease the customers to identify themselves with the brands through self-brand connection.

Last, managing marketing efficiency was the heart of the business. A business must not spend too few or too much on marketing, as it is a business dilemma. If the marketing spending was excessive, it would deteriorate the business profit. On the other hands, too few marketing spending might result in a smaller number of recurring customers. Then it affected sales. To achieve maximized marketing efficiency, the findings of this study suggested marketing practitioners choose the right proportions between traditional and digital post-purchase brand touchpoints. On top of that, a selection of influential brand touchpoints that have effects on customer brand engagement and repurchase intention was also concluded.
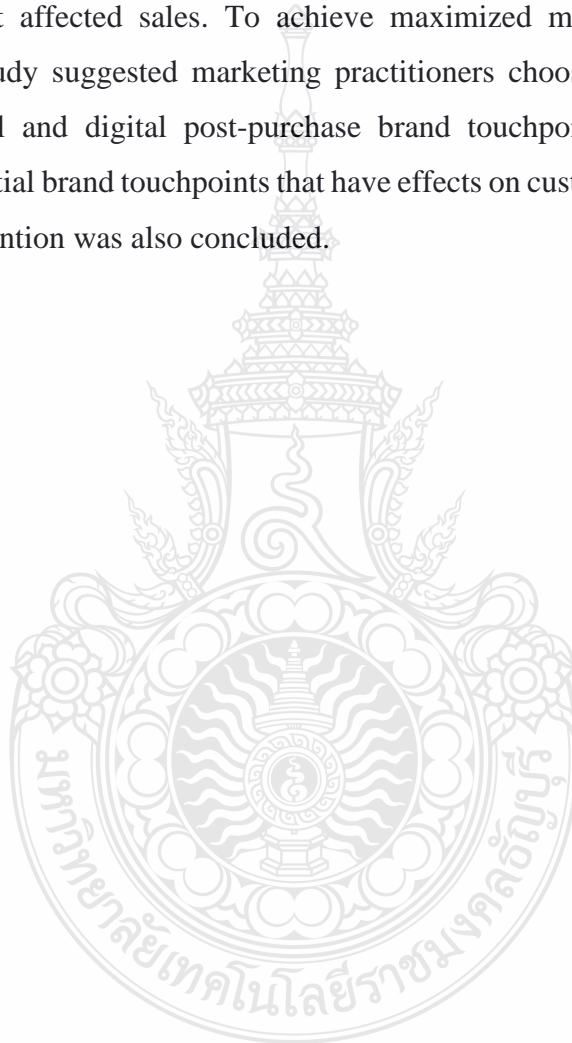
CHAPTER 2
REVIEW OF THE LITERATURE

This chapter provided a general overview of previous research on the traditional and digital post-purchase brand touchpoints and its effect on customer brand engagement and repurchase intention. Besides, the relationship quality, self-brand connection and their effects were also reviewed. It introduced the framework that comprised the focus of the research.

2.1 Post-purchase behavior and repurchase behavior

To survive in a hyper-competitive market in the upcoming period, automobile manufacturers must change their business orientation from solely selling a product to selling service or experience. To shift the business orientation, automobile makers changed their focus from pre-purchase-to-purchase cycle to purchase-to-repurchase cycle. The purchase-to-repurchase cycle required automobile makers to create the best possible customer experience in all post-purchase brand touchpoints including after-sales service, customer relationship management and so on. The post-purchase experience determined future sales. Irfan (2013) confirmed the phenomenon by investigating the post-purchase behavior of customers on retailers' brand. It was found that customer satisfaction at the post-purchase stage contributed to the repetitive purchase behavior. Besides, Mahapatra, et al. (2010) explored the performance of product attributes of the automobile in creating customer satisfaction by comparing the same performance with the performance of the product attributes when it was brand new and how these attributes performance satisfaction affecting consumers' future purchase decision. It was found that the perceived performance did not change with time. Product performance significantly had an impact on consumers' future purchase decision.

Keeping customers to be next customers then became the ultimate business strategy of many businesses. Even though it was extremely difficult to keep customers with a single brand for life, it was less costly for the company to invest in retaining customers than finding new customers all the time. As indicated in figure 2.1 below, Singh (1988) asserted that at the post-purchase stage, consumers experienced the product

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performance which resulted in confirmation and disconfirmation with the product expectation accumulated at the pre-purchase stage. With the state of confirmation, the customers tended to be satisfied with the purchased offerings. In contrary, under the state of disconfirmation or discrepancy between product expectation and actual product performance, the customers were likely to be dissatisfied with the offering purchased.
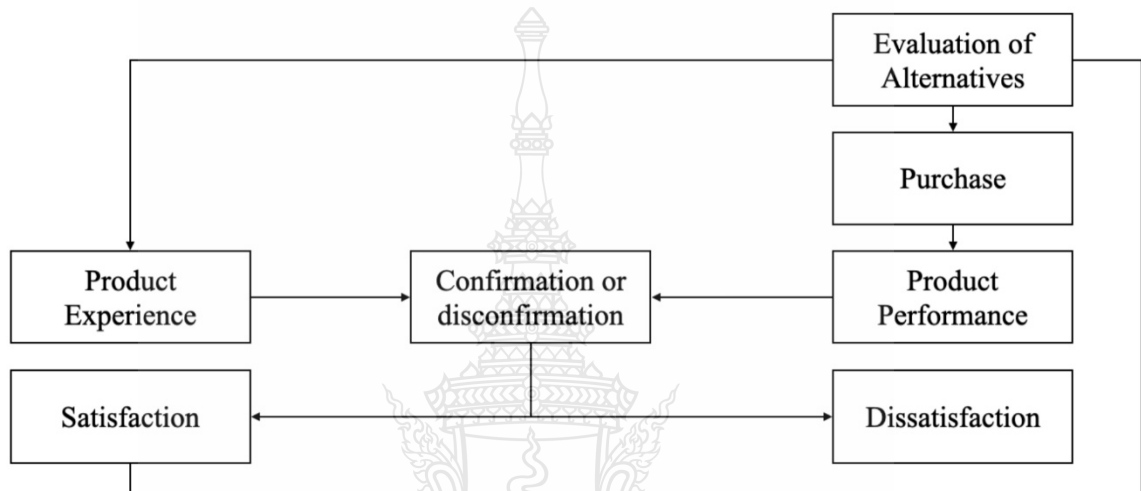
Figure 2.1 The Purchase evaluation process (Singh, 1988)

Pre-purchase expectation affected post-purchase behavior. Singh (1988) asserted that at the consumers' post-acquisition stage, it resulted in expectancy confirmation at the pre-purchase stage in which might lead to repeat buying behavior. Alternatively, consumers might fall into the state of emotional satisfaction or dissatisfaction which led to brand loyalty or complaint behavior respectively. Santos and Boote (2003) also proposed that the pre-purchase consumer expectation was related with post-purchase behavior by proposing a theoretical model of consumer expectations exploring the range of pre-purchase consumer expectation that affected post-purchase affective states and affective behavior (as shown in figure 2.2).
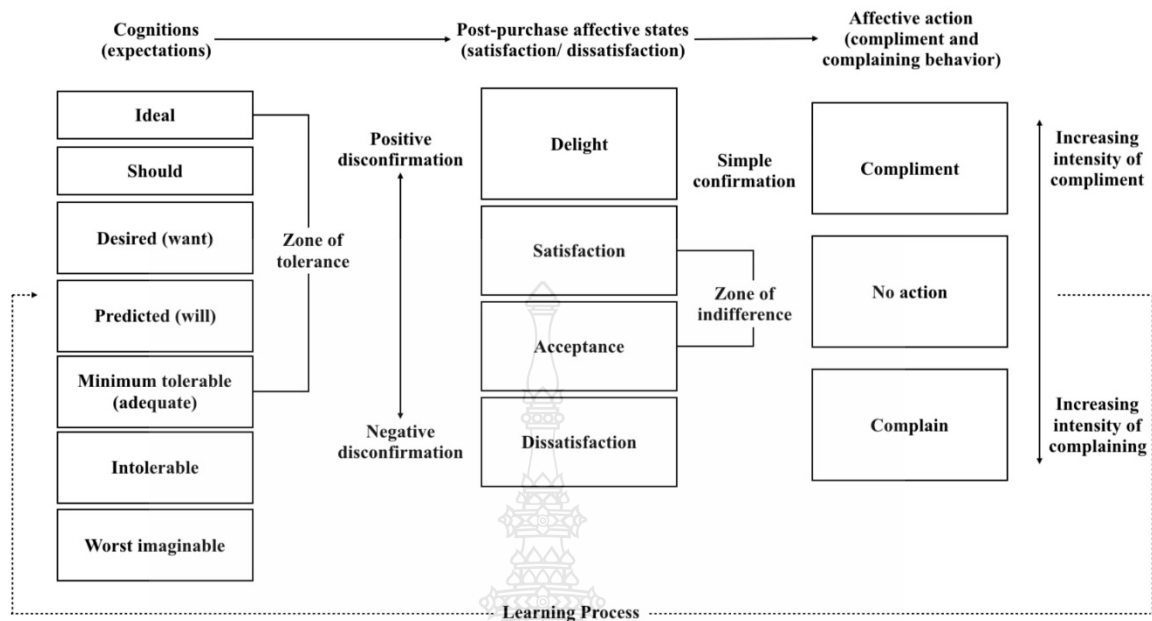
Figure 2.2 A Model of consumer post-acquisition process (Santos & Boote, 2003)

The theoretical model sought to apply different levels of expectation or cognitions to specific post-purchase affective states (satisfaction/dissatisfaction) and affective behavior (compliment and complaining behavior). The researchers argued that consumers had two types of expectation that influenced post-purchase affective states which were consisted of core and peripheral expectations. Besides, they argued that there were four types of post-purchase affective states which are delight, satisfaction, acceptance, and dissatisfaction. Those four states led to a certain level of affective action which was a compliment, no action, or complain. Sometimes, the expectation at the pre-purchase stage did not revolve around product performance alone, consumers' personal characteristics might be attributed to post-purchase evaluation. As stated by Sharma (2014), some of the factors what created post-purchase cognitive dissonance were family status, religious value, customers, and belief.

2.2 Literature Related to Brand Touchpoint

The term "brand touchpoint" means different things from different perspectives of different researchers. Stone et al. (2002 p. 40) defined brand touchpoints as "the contact points at which products and services are purchased or serviced". A definition that focused on the places or location that the products and/or services offered. Mårtenson (2008) broadened the definition by defining that brand touchpoints are every contact point where customers had with a brand. This included everything that brought a customer to associate with the specific brand. It varied from word-of-mouth recommendation to marketing activities such as TV commercial, event marketing, mobile marketing and the like. However, Spengler and Wirth (2009) further extended this definition in terms of target customers from existing customers to non-customers and other stakeholders. Also, those brand touchpoints were further classified as brand touchpoints at pre-purchase, during purchase and post-purchase. From these definitions, the number of a company's brand touchpoints were very huge. To exemplify, mid-sized companies usually utilized many brand touchpoints (Spengler & Wirth, 2009).

Different brand touchpoints had different brand and marketing roles to fulfil and vary between different brands. Hallward (2008) worked in different ways to fulfil these brand roles. Mårtenson (2008) stated that it was essential for a brand to understand these different brand roles and purposes to be able to focus on those brand touchpoints affecting consumer behavior. Boatwright et al. (2009) stated that among all available brand touchpoints, the product itself was one of the most important ones due to its potential of creating strong relationships with the customers. Spengler and Wirth (2009) proposed the importance of a mixture of online brand touchpoint and offline brand touchpoints in brand and marketing activities. This was because customers were affected by new types of information sources, such as the Internet, e-mail, mobile phones etc., when making buying decisions. Popular online communities such as Facebook were of greater importance than before. Moreover, there is also a trend going towards on-demand services such as over the mobile or digital television. To gain many in-depth insights into literature relating to brand touchpoint, the following sections included categorization of brand touchpoint and the effect of brand touchpoint.

2.2.1 A categorization of Brand Touchpoint

Within the research stream of brand experience and touchpoint literature, the researcher conceptualized past related research on brand touchpoints into such three categories as customer purchase experience-based brand touchpoint, ownership-based brand touchpoint, task-based brand touchpoint and platform-based brand touchpoints as follows:

2.2.1.1 Customer Purchase Experience-Based Brand Touchpoint

Dunn and Davis (2004) and Dhebar (2012) described a range of brand touchpoints across the customer purchase experience. Dunn and Davis (2004) classified brand touchpoints according to the stage of customer purchase. First, pre-purchase experience brand touchpoints were of great critical regardless of whether a customer would buy the brand in question or not. These included brand contact points such as word-of-mouth, social network, website and advertising. Second, during-purchase experience brand touchpoints made a customer purchase a brand and not just consider it. These were brand touchpoints such as customer contact center, shop as well as all other types of physical stores. Last, post-purchase experience brand touchpoints influenced customers after their purchases. Examples included the product itself, warranties, customer services, and customer satisfaction surveys. Further, Dhebar (2012) adopted an approach for the full spectrum of customer touchpoint modes spanning across all stages of the customer experience cycle which encompasses pre-purchase, purchase, and post-purchase phase. In the pre-purchase phase, customer touchpoints revolved around such issues as problem awareness, problem evaluation, and brand choice decision. At the purchase phase, the brand touchpoint served directly to create a purchase, whereas, at the post-purchase phase, touchpoints were tasked as delivery, use, supplement, maintenance, and disposal.

2.2.1.2 Ownership-Based Brand Touchpoint

Mårtenson (2008) categorized brand touchpoints into controllable, and uncontrollable. The controllable brand touchpoint comprised all brand touchpoints that a company was able to completely control in its implementation, and the uncontrollable brand touchpoint comprises all brand touchpoints that could not be controlled at all. Mårtenson (2008) also differentiated outbound brand touchpoints initiated by a company from inbound brand touchpoints initiated by customers. Both types were necessary for

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marketing communication; however, there were some differences between them. The proliferation of internet allowed more customers can find new ways of contacts with companies. Spengler and Wirth (2009) stated that new digital technologies allow customers to actively participate and shape their own digital experiences, making inbound brand touchpoints more predominant than they previously were.

2.2.1.3 Task-Based Brand Touchpoint

Hallikainen et al. (2018) identified preference segments and how those segments differed in terms of technology readiness, internet usage, and demographic variables, whereas digital channel preference was used as segment descriptor. The digital brand touchpoint was categorized into functional brand touchpoint (email, website, search engine, live chat), social brand touchpoint (social networking, photo content communities, video content communities), and community brand touchpoints (discussion forums, blogs). Hallikainen et al. (2018) suggested future research to expand the choices of digital brand touchpoints to deepen the existing findings. Bothorel (2020) analyzed the efficiency of different brand touchpoints from the company point of view to create customer brand engagement, drive customer traffic to specific channels, and trigger a sales conversion on a certain channel. The study focused on both traditional and mobile touchpoints. The results showed that traditional brand touchpoint was served as destination-based shopping, whereas mobile brand touchpoint was used as a trigger to the unplanned buying experience. Further, Rosen and Karin (2009) researched thirty-two customer brand touchpoints of Hennes & Mauritz by classifying into three types including controllable brand touchpoint, influential brand touchpoint, and uncontrollable brand touchpoint. It was found that some brand touchpoints are more or less important than others. Spengler and Wirth (2009) used four categories of brand touchpoint which included one-to-one, point of sale (POS), indirect and mass media. It was found that the consumer's subjective brand experience arises from the various touchpoints at the point of sale.

Most research focused on customer brand touchpoints on parts of the consumer purchase journey, such as advertising, in-store communications, internal communication, digital and social media marketing or word of mouth (Wiesel, Pauwels, & Arts, 2010). Even though those by-part perspectives were necessary, marketers must

also understand the comparative effects of various brand touchpoints in an equivalent manager to craft the most marketing plan with the most return on investment. Neslin and Venkatesh (2009) proposed that multiple brand touchpoints in the consumer decision-making process, which included customer interactions with transaction channel of marketing could be regarded until the final brand choice was made because the consumer decision-making process might be repeated indefinitely when consumers were in the middle of revising brand and channel utilities. Such a holistic view of brand touchpoints was very important in the age of media fragmentation. (Ailawadi et al., 2009). This was congruent with the study of Mosquera et al., (2017) which aimed to advance the understanding of omnichannel management in retailing by proposing that multi-channel and cross-channel were not adequate for today's shopping behavior. Using omnichannel as a concept in managing brand touchpoint was considered most effective because this was an integration of all widespread channels (store website, mobile, social media, customer touchpoints) in which all channels worked together to offer a holistic customer experience.

     2.2.1.4 Platform-Based Brand Touchpoints

     These were classified into traditional brand touchpoints and digital brand touchpoints with details as follows:

     1) Digital Brand Touchpoints. Digital brand touchpoints were distinguished based on technology transactions and the provision of customer service (Meuter et al., 2000). The first typology included the digital technologies focused on facilitating transactions, such as placing an order, scanning a product, and payment. The second typology included the digital technologies focused on providing information related to products and services, such as the mobile application developed for specific retailers (Amirkhanpour et al., 2014), social media, information kiosks (Zielke et al., 2011), pervasive and immersive technologies (Papagiannidis et al., 2017), and so on. These were tempting for customers seeking the most level of customer control while minimizing the interpersonal interactions with sales personnel (Gelderman et al., 2011). However, these digital technologies involved the risk for consumers to share sensitive data that could be utilized for other purposes (Akman & Mishra, 2017; Chang, 2016b; Liu & Tang, 2018), which had an impact the trust in the technology (Hawlitschek et al.,

2018; Liu & Tang., 2018; Liu and Tang, 2018) and perceived control by consumers (Hansen et al., 2018; Wang, 2012).

There were three characteristics of digital touchpoints. First, digital interactivity which was the level to which users could modify the form or content of the mediated environment in real-time. The term "interactive" indicated that the mediated communication had the characteristics of multi-directionality, timeliness, mutual controllability and reactivity (Bolton & Saxena-Iyer, 2009; Deighton & Kornfeld, 2009, Shankar & Malthouse, 2006; Yadav & Varadarajan, 2005). Second, comparative information which was the quantity of information on product and service of the retailer (e.g., price, characteristics, composition and delivery/return arrangements). Comparative information involved customers more in the decision-making process, producing a greater sense of self-control of the service. Last, entertainment which was the digital stimuli of technology impacting the customer's experience, which led to customer behaviors and attitudes such as satisfaction, learning, retention, engagement, and purchases (Parise et al. 2016). The customer experience was affected by the entertainment created by digital technologies in a sort of "immersion". This immersion represented the degree to which the user has the feeling of being there. The two main concepts that characterized immersion were breadth (number of touchpoints) and depth (quality of the information conveyed across touchpoints, including visual, tactile, and auditory senses) (Eroglu et al. 2005; Parise et al. 2016).

Impact of Digital Brand Touchpoints. As customers were constantly engaging with technology, their expectations of companies also changed. The digital disruption had impacted a range of industries including education (Hamidi *et al.*, 2011), military (Adamsky & Bjerga, 2010), tourism (Buhalis, 1998) and entertainment (Sheau, 2012). Operating in this digital environment led companies to become information intensive as opposed to the traditional labor and capital-intensive business (Dusek, 2006). The exponential growth of data availability and the growing capabilities of digital technologies were providing companies with valuable information when making strategic decisions (Dumas, 2012). As a result, the traditional use of information technology in organizations went beyond functional applications, towards a more strategic role. An example of a digital channel that had impacted all companies is social media. Schultz and

Peltier (2013) made the argument that many marketers viewed social media as a means for dispensing promotional messages and offers. However, social media, in particular Facebook, was intended to be a "social utility that connected people with friends and others who work, study and live around them" (Facebook, 2014). The literature highlighted the use of social media to engage with customers when they had a problem (Boyd & Ellison, 2007; Hoffman & Novak, 2012; Schultz & Peltier, 2013). However, Kaplan and Haenlein (2010, p. 65) advised companies to choose carefully when it came to social media applications stating that "you simply could not participate in them all, as being active was one of the key requirements" of a successful digital channel design.

A study by Ernst and Young asserted the urge for all companies to digitize innovation and customer engagement. The awareness for urgent need to digitize was spreading across companies, however, very few companies realized the pace at which the transformation needs to occur. Resistance went in hand with change, and this proved to be a major challenge for majorly established brick and mortar companies. The fear of losing control over the customer base, the threat from competitors and commodification were key reasons for the resistance of digitization (Ernst & Young, 2007). However, this transformation had immensely helped producers with real-time information about the preferences and choices of consumers. Digitization also empowered the customer and resulted in higher performance expectations from employees. Customers were taking the driver's seat and are not only demanding, but also better informed and vocal about their feelings. Consumers were making purchase decisions not based on the brand, nowadays, but based on the products' specifications itself. To get information about the product, the various forums that allowed a consumer to compare products, read reviews and blogs and evaluates ratings, come to the rescue. This availability of transparent information on the internet made the consumer decision making the process more rational and informed. Based on the review of past literature relating to digital brand touchpoints, it was found that there was no past research investigating the customer experience in the post-purchase context of buying decision.

2) Traditional Brand Touchpoints. The value of traditional brand touchpoints could not be denied, as most core businesses relied on the traditional brand touchpoints. The tradition was the management of experiences, beliefs, opinions,

customs, and languages from generation to generation particularly in oral form or by a process of traditional performance and communication. Traditional brand touchpoints covered those brand touchpoints existed before the advent of modern brand touchpoints. Since ancient time, the people engaged themselves in folk songs and dances, arts and crafts, rituals and festivals. Globally traditional brand touchpoints were used in the advertising world for years. Traditional brand touchpoints incorporated that of television, newspaper, radio and magazine ads. These forms of communiqué were the unfaltering ways that businesses stretched both customers and other companies for decades. With everlasting hype surrounding the production of social media touchpoints, outmoded brand touchpoints frequently appeared cast aside as the spurned stepchild in today's embryonic mobile, digital and simulated world of news depletion. Traditional brand touchpoints were considered in the world as one-way communication or as a closed system. There was a need of one-to-one marketing. There was a restriction of space; masses could not participate at this paid platform. There was always economic decision making as compared to online media. In other words, it was also called as controlled communication where top to the down strategy was followed. Earlier the beginning of the new media, only the traditional brand touchpoints were available for masses to utilize and advertisements were focused on that media since there were no other alternatives (Odun & Utulu, 2016). Digital media is made in real-time while outmoded media is pre-made and arranged. Traditional brand touchpoints did not tend to be modified, more cost welcoming and could not influence a massive number of clienteles internationally. Based on the review of past literature relating to traditional brand touchpoints, it was found that there was no past research investigating the customer experience in the post-purchase context of buying decision.

Characteristics of Traditional Brand Touchpoints. Traditional brand touchpoints were communication channels that were used in building brands since they could reach mass audiences at one time. Therefore, the relative cost (cost per head) of traditional brand touchpoints was very low when we considered the number of target audience accessed. However, traditional brand touchpoints could provide one-way, non-personal communication, where the target audience was unable to have any interaction with the sender of the message and there was no real person to communicate with them.

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Traditional brand touchpoints could be broadly divided into three categories: print, broadcast and support brand touchpoints (Belch & Belch 2009). Print media included newspapers and magazines. Broadcast media included television and radio, the signals of which could be transmitted via wired or wireless communication. Support media included the rest which is not broadcast or print such as out of home media, promotional products, point of purchase materials, captive location medium and entertainment program communication (Hongcharu, 2008). Traditional brand touchpoints had seven characteristics as follows:

(a) **Synchronicity.** According to Lui and Shirum (2005), synchronicity was the degree that the sender sent the message to the receiver and the receiver could respond to the message simultaneously. Synchronicity could not be found in the traditional brand touchpoints as they did not have the interactive capabilities. For mass-media brand touchpoints, the sender might not expect any response from the receiver, or it might take a very long time.

(b) **Anonymity and Privacy.** Anonymity was the ability for the participants in the brand touchpoints to conceal their identity. For mass-media brand touchpoints, the senders must reveal themselves to the receiver. However, this was not possible vice versa, making it very complicated for the sender to get the responses from the receiver. With a high level of privacy, the Internet is increasingly utilized to sell products or services that could not be sold in traditional outlets.

(c) **Information Processing.** Traditional brand touchpoints could be classified based on the ways their audience process the information: self-paced and externally paced (Belch & Belch, 2009). Self-paced media allowed the audience to take time to process the information. Generally, they were print brand touchpoints such as newspapers or magazines. On the other hand, the information processing of externally paced media cannot be controlled by the audience. It is rather controlled by the senders of the media. Externally paced media were electronic ones such as television and radio where the audience could not slow down or fasten the incoming messages. Nevertheless, the traditional means to classify mass media by the ways the audience process the information could not be applied for interactive brand touchpoints. This was because most

interactive brand touchpoints could process all formats of information from number, text, still picture, voice, and motion picture.

(d) Audience's Control. Generally, the users of the traditional brand touchpoints did not have control. They are forced to watch or hear the message they sometimes did not want, especially for the broadcast brand touchpoints. With the power to receive the information shifted to the receivers, marketers must design the message to capture the needs of their audience. This required them to pay attention more to the customer data and to find out what their customers' preferences were. However, marketers must design a message to attract customers. This could be done through sales promotion programs that the customers needed to follow. The marketers must analyze the prior sales promotion programs that worked in the past and try to offer the ones that they showed interest or interact with the company based on the target market's past behaviors. Moreover, marketers could offer their audience rebates, discounts or premiums if they permitted the company to send them news or promotional offers, etc.

(e) Self-delivery. The Internet enables the delivery of informational products or services to customers directly. Traditional mass brand touchpoints cannot deliver products or services directly to customers, because through traditional brand touchpoints, it was impossible for marketers to allow customers to search or download their products, etc.

(f) Purpose-based Searching. The users of the traditional brand touchpoints were not able to search for information or received calls or SMS without any intention to receive the information.

(g) Contextual Availability. Contextual availability referred to the availability of the environment by which the marketing communication messages were surrounded. It can be noted that different types of media possessed a different amount of context surrounding their messages. For instance, there are more opportunities for marketers to choose the environment in the traditional brand touchpoints appropriate for their messages to the target audience. Broadcast media touchpoints depended on programs to sell the airtime for advertising, while print media relied on different columns to attract readers for advertising messages.

Usage of multiple brand touchpoints in the customer journey. Nowadays it was the period of customer-driven where the informed customer determined much of the desired content. These new customers have connected customers, who wanted to have multiple possibilities for interacting with the company throughout the shopping journey and expected a superior shopping experience (Cook, 2014). They wanted to use all channels simultaneously, not each channel in parallel (Lazaris & Vrechopoulos, 2014) because they did not think of channels in isolation but combined them and made decisions based on their lifestyle demands (Blázquez, 2014). Consumers had specific characteristics that made them spend more money (Venkatesan, V Kumar, & Ravishanker, 2007), bought more frequently (Kumar & Venkatesan, 2005), and had a longer customer lifetime value (Scott A. Neslin & Shankar, 2009). However, they became more demanding and expected more from their shopping experiences (Mathwick, Malhotra, & Rigdon, 2002). Their shopping behavior was more exploratory, as they sought more variety than consumers who bought in a single channel (Kumar & Venkatesan, 2005; Rohm & Swaminathan, 2004). Thus, the customer journey for these new Omni-shoppers was less linear or fixed and more fluid due to their use of different channels and touchpoints to research, locate, and purchase products (Aubrey & Judge, 2012). Furthermore, omnichannel customers did not use these different touchpoints in any chronological order during the five-stage consumer decision-making process (Engel, Blackwell & Miniard, 1986). To offer a superior experience, sellers should thus embrace new technologies that help deliver a holistic shopping process to customers, making it possible to personalize content and made special offers and recommendations to each customer to enhance the experience.

The technology was a catalyst in shifting consumer attitudes and behaviors (Aubrey & Judge, 2012). Technological developments became the core drivers for companies to adopt an omnichannel marketing strategy (Ansari, Mela & Neslin, 2008), specifically: smart mobile devices (smartphones and tablets), related software and services (apps, mobile payments, e-coupons, digital flyers, and location-based services) (Aubrey & Judge, 2012; Brynjolfsson et al., 2013; Hansen & Sia, 2015; Piotrowicz & Cuthbertson, 2014; Verhoef et al., 2015b), and social media (Hansen & Sia, 2015; Piotrowicz & Cuthbertson, 2014). In this sense, Bodhani (2012) investigated how digital

technologies could reinvent retail shopping and concluded that stores would become a place for brand and consumer experiences and new technologies (Bodhani, 2012). In an omnichannel environment, mobile technologies were crucial due to the gap between offline and online channels. Mobile devices could bridge that gap by bringing the online experience into the physical outlet or traditional post-purchase brand touchpoints. Besides, the combination of interactive and entertaining technologies attracted more consumers and improved the shopping experience (Demirkan & Spohrer, 2014; Pantano & Viassone, 2015; Papagiannidis, Pantano, See-To, & Bourlakis, 2013; Poncin & Ben Mimoun, 2014). The growing role of in-store technologies also created an additional dimension. This included technologies for customers such as free Wi-Fi, interactive screens, augmented reality, virtual mirrors/fitting rooms, digital signage, beacons, intelligent self-service kiosks, and QR codes, in addition to customers' own mobile devices. There were also technologies for staff, such as tablets or touch screens to help sellers in different ways during the buying process (Piotrowicz & Cuthbertson, 2014), e.g., by enabling them to answer customers' questions by showing them videos, reviews, or previous customers' opinions or to track inventory in all stores in real-time through RFID tags. However, due to the growth of new technologies and the potential for customer saturation, retailers must focus on technology that is relevant for consumers and that provides value (Blázquez, 2014).

The technological developments changed the nature of customer-seller interactions, giving rise to new shopping behaviors. Two of the most common omnichannel behaviors were showrooming and web-rooming. The first was defined by Rapp et al. (2015) as the practice of "using mobile technology while in-store to compare products for potential purchase via any number of channels" (Rapp et al., 2015, p.360). It usually took place during the product evaluation stage, when the product's physical attributes were important and an in-person evaluation could reduce the perceived risk of the purchase, even if the purchase itself was ultimately made online (Wolny & Charoensuksai, 2014). In response, sellers started to engage in *reverse showrooming*, wherein they encouraged brick-and-mortar consumers to research their products online in the store, through kiosks or mobile apps, thereby increasing the likelihood of keeping the sale (Parise, Guinan, & Kafka, 2016). At the other end of the spectrum, *web-*

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rooming occurred when shoppers compare prices, features, opinions, and guarantees online, but ultimately made the purchase offline (Wolny & Charoensuksai, 2014). This behavior occurred mainly once the initial product selection has been made. To mitigate such behaviors, brands were starting to offer their customers solutions that combined the best of both online and offline shopping. Sellers were redefining the brand experience through new formats such as "click-and-collect," "delivery in 24 hours," "in-store ordering, home delivery," "order online, return to the store," "click in-store," and other combinations of online and traditional retail activities that facilitate and improve the shopping process and the customer experience (Bell et al., 2014).

2.2.2 Effects of Brand Touchpoints

An effective marketing practice was to make use of many forms of brand touchpoints by aiming at the target group. In other words, different brand touchpoints might fit with a different segment or target customers. Spengler and Muller (2008) strongly stated that the company must know the differential effect of a different brand touchpoint so that the company could invest in the right touchpoint. There were multidisciplinary goals and benefits to achieve with brand touchpoint management (Spengler & Wirth, 2009). For example, evaluating a firm's different brand touchpoints was possible to optimize the company's investments and increase the quality of the various brand touchpoints with customers. Furthermore, consistency could be provided throughout the brand touchpoints, which was seen as important. Nevertheless, past research studies provided different perspectives on brand touchpoint's effect. Some focused on the direct effects of brand touchpoint, while others were interested in the indirect effect of brand touchpoints. The following sections provided detailed of both approaches.

2.2.2.1 Direct Effect

Brand touchpoints contributed to both positive and negative customer brand experience (Hogan, Almquist, & Glynn, 2005). Baxendale et al., (2015) examined the impact of six brand touchpoints on brand consideration which included brand advertising, retailer advertising, in-store communications, peer-to-peer conversation, traditional earned media, and peer observation. It was found that all those brand touchpoints had a significant effect on brand consideration on a different degree.

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Baxendale et al. (2015) tested the impact of different brand touchpoints on brand consideration by using brand touchpoint frequency and brand touchpoint positivity. Marco and Cristina (2017) examined the relative importance of twenty-four touchpoints in contributing to customer loyalty to mobile service operators. It was found that the reach of brand touchpoint was related to customer loyalty as far as eight brand touchpoints were concerned. These included a corporate website, physical store, word of mouth, emailing, loyalty program, and mobile app. However, the reach of brand touchpoint was negatively related to customer loyalty. These were online advertising and telemarketing. As far as the nine brand touchpoints were concerned, the positivity of brand touchpoint had effects on customer loyalty. These included customer service, mobile messaging, corporate website, TV and cinema advertising, physical store, mobile app, word of mouth, staff and special event.

2.2.2.2 Indirect Effect

Dunn and Davis (2004) stated that spending money on the brand touchpoints created customer satisfaction and brand loyalty, which made the brand much stronger. There were so many benefits from having a strong brand. Not only was a customer more likely to actively choose the company's goods but there were also indirect benefits such as higher return on investment to receive (Mårtenson, 2008). Because of this relationship, it was important for companies to know what triggers customer satisfaction and what turned customer satisfaction into brand loyalty (Mårtenson, 2008). Edwards (2009) stated that brand trust mediated the relationship between brand touchpoint and sales and profit. To be specific, brand consistency throughout the brand touchpoints provided by a company could create trust in the brand, which might lead to increased sales and profit, and vice versa.

2.2.3 Measurement of Brand Touchpoint.

Mårtenson (2008) asserted that it was important to analyze brand touchpoints and their influence on the target customers, as indicated by Aaker (2008) that firms with a successful brand loyalty were aware of and well manage their brand touchpoints to ensure consistency in the brand's key context. A company should therefore focus its resources upon those brand touchpoints that created and enhanced the strongest

brand experience and influenced customers to change their behavior accordingly (Spengler & Wirth, 2009).

Spengler and Müller (2008) provided an approach to evaluate brand touchpoints by assessing them on three indicators. First, information value was to measure how well did the brand touchpoint transfer the brand's message to its customers? Second, attractiveness value was to measure how attractive was it for the consumers to get information regarding the brand through the brand touchpoint? Last, the transaction value was to measure how much did the brand touchpoint influence customer behavior, and especially the buying decision. Besides, Mårtenson (2008 p. 167) presented another way of evaluating touchpoints by asking the following questions: How important was the touchpoint in question? What kind of impression did customers receive? Did customers' expectations and experiences of the touchpoint match? What kind of message did the touchpoint deliver and was this message consistent with that of the company? Were the resources spent on a touchpoint reasonable when looking at its importance?

2.3 Literature Related to Relationship Quality

In the research stream of relationship quality, different researchers stated different definition of relationship quality (Palmatier et al., 2006; Sheth & Parvatiyar, 2002). However, all stated in some degree of consensus that relationship quality was a higher-order construct which was composed of several related dimensions (Crosby et al., 1990; Dorsch et al., 1998; Dwyer et al., 1987; Hennig-Thurau et al., 2001; Kumar et al., 1995; Roberts et al., 2003; Woo & Ennew, 2004). Moorman et al. (1992, p. 316) defined "relationship quality" as 'the degree to which consumers viewed dual interactions as productive output'. Holmlund (2001, p. 15) provided a definition that views relationship quality as 'the joint cognitive evaluation of business interactions by key individuals in the dyad, comparatively with potential alternative interactions. Huntley (2006) viewed "relationship quality" as the degree to which buyers were satisfied over time with the overall partnership as manifested in product quality, service quality, and value for money.

In essence, conditions that were proxies for a customer's need for a relationship were the circumstances including aspects such as information asymmetries, high degrees

of asset specificity, high levels of uncertainty, frequency of interactions, relatively significant levels of expenditure, need for some degree of customization and personalization and need for co-creation (Berry, 1983; Crosby et al., 1990). In some contexts, "relationship quality from the customer's perspective was achieved through the salesperson's ability to reduce perceived uncertainty" (Crosby et al., 1990, p. 70). Empirical research into marketing practice found evidence that service firms operating in a business-to-business context had a high tendency to adopt relational marketing practices compared to goods-dominant firms serving consumers. (Brodie et al., 2008; Coviello & Brodie, 2001). There was strong evidence that relationship marketing efforts were more productive for service and business to business firms than for goods-dominated or consumer firms. This was mainly because of the decisive role of interpersonal connection and social bonds established between key individuals in organizations involved in long-term partnerships (Gümmesson, 1994; Pressey & Mathews, 2000). Frequently, relationship personnel were the key brand touchpoint for the buyer and had a significant influence on the level of quality, especially in those situations where the customer perceived that 'the salesperson was the company' (Crosby et al. 1990, p. 68). In conclusion, relationship quality was the cognitive evaluation of business interactions by key individuals in the dyad, comparatively with potential alternative interactions' (Holmlund, 2001, p. 15).

2.3.1 The Dimension of Relationship Quality

Most of the past research employed satisfaction and trust as first-order dimensions of relationship quality, while others also included commitment as an additional dimension. More recent literature exclusively regarded relationship quality as a higher-order construct which was composed of trust, satisfaction and commitment (e.g. Roberts et al., 2003; Walter et al., 2003; Ivens, 2004; Ulaga & Eggert, 2006; Ivens & Pardo, 2007). Trust, satisfaction and commitment had also been referred to as the building blocks of relationship quality (e.g. Crosby et al., 1990; Kempeners, 1995).

Commitment seemed to be the most controversial construct, as it has also frequently been modelled as a determinant of relationship quality. However, an empirical study by Morgan and Hunt's (1994) investigating 'commitment-trust theory of relationship marketing utilized commitment as relationship quality, along with trust and

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satisfaction, while several past research used commitment as a consequence of trust (e.g. Dorsch et al., 1998, Smith, 1998, DeWulf et al., 2001; Hennig-Thurau et al., 2002; Roberts et al., 2003; Walter et al., 2003; Ivens, 2004; Ulaga & Eggert, 2006; Ivens & Pardo, 2007; Rauyruen & Miller, 2007). Further, relationship quality was also modelled using power (Keating et al., 2003), service quality (Hennig-Thurau et al., 2001; Rauyruen & Miller, 2007), and customer orientation (Bejou et al., 1998) as dimensions of relationship quality.

2.3.2 Causes and Effects of Relationship Quality

Once customers were satisfied with offerings, they tended to be loyalty to certain brands. Bowden and Dagger (2011) conducted a cross-sectional survey among 474 samples examining the antecedents and consequences of customer satisfaction, customer delights, and customer loyalty in the restaurant and found that positive affect and disconfirmation of expectation led to customer satisfaction. Besides, customer satisfaction drove loyalty. This study indicated that satisfaction mediated relationship between positive affect, disconfirmation of expectation and loyalty. Based on the study, future research was expected to investigate the operation of delight as a predictor of loyalty in high and low expectation service situations. Ismail et al. (2011) studied brand and customer experience in a service organization and found that brand satisfaction drove brand loyalty. Khadim, et al., (2018) investigated the antecedents of brand loyalty from the impact of perceived social media communication with brand trust and brand equity as mediators. The online survey was conducted with 508 samples with a garment as the test product. It was found that brand trust was significantly related to brand equity and brand loyalty.

Chaudhuri & Holbrook (2001) discovered the relationship among brand trust, brand affect, and brand performance outcomes which included market share and relative price. It was found that brand trust was related to purchase loyalty and attitudinal loyalty in which it led to an increment market share and relative price. Cakmak (2017) studied the role of brand awareness, perceived quality and effect on risk in creating brand trust. Brand trust was measured as dependent variables, whereas the independent variables were perceived risk, brand image, and perceived quality. It was found that all those three factors influencing brand trust. Future research was suggested to examine sample with different

age, occupation, as well as different product and service sectors. Banyte and Dovaliene (2014) developed a conceptual model based on the theoretical interpretation of the relationship between customer brand engagement into value creation and customer loyalty. It was found that satisfaction and trust moderated the relationship between engagement into value creation and loyalty. Also, satisfaction and trust were found to be significantly related. Bowden (2011) demonstrated how relational marketing orientation in assisting higher education management. The researcher conducted a self-administered cross-sectional survey with 474 student sample at Metro Australian university. It was found that satisfaction and affective were related to customer loyalty, not calculative commitment and trust. Bowden, Dagger, & Elliott (2013) constructed a model of customer loyalty testing the complexity of the interrelationships between satisfaction, trust, calculative commitment, affective commitment, involvement, and loyalty within the high-end restaurant sector. The researchers conducted a cross-sectional survey of 474 participants and asserted that satisfaction had a direct effect on loyalty. Also, both types of commitment and trust mediated the effect of satisfaction on loyalty. However, the study indicated that satisfaction might not be substantial to create enduring and sustained loyalty in the restaurant. Hanaysha and Hilman (2015) examined the effects of service quality and product innovation on brand equity with a mediating effect of relationship quality. It was found that relationship quality, which was composed of brand trust, brand commitment mediated the relationship between service quality, product innovation and brand equity. Hapsari and Adiwijaya (2014) investigated the relationship between self-congruity, relationship quality, and brand loyalty with shopping goods. It was found that customer self-congruity positively affected brand loyalty. The customer self-congruity negatively affected relationship quality, and relationship quality negatively affected brand loyalty, relationship quality and repurchase intention. Sahin, et al. (2012) tested the effects of brand experience and service quality on repurchase intention with the role of relationship quality. It was found that brand experience, brand satisfaction, and brand trust were shown to have a positive effect on repurchase intention.

2.4 Literature Related to Self-Brand Connection

Maslow (1954) asserted that self could be incorporated with the beloved others, while McCall (1974) stated in the same direction as self could be attached with others' actions and behaviors (Aron et al., 2004). The self-expansion model suggested that people had a fundamental motivation for self-expansion by incorporating other people into their self-concepts (Aron & Aron, 1996). People were motivated to include others into how they see themselves to increase physical and social resources and identities that helped fulfil self-enhancement (Aron et al., 2004; Aron & Aron, 1986, 1996, 1997). That was, the mental representations of the self and the other were overlapping. The way people seeing themselves was based to some degree on how they see their partners, and their resources, and identities became incorporated into our self-concept (Aron, Aron, & Smollan, 1992).

Beyond human-to-human interaction, Kleine, Kleine, and Allen (1995) further developed and defined material possession attachment as an asset of the relationship between a specific individual and a specific material possession that was mentally appropriated, de-commodified, and singularized through person-object interaction. Possession attachment reflected the extent of the "self" associated with that possession. That was, how closely the possession was related to the self as well as the extent to which the possession was emotionally charged. Possessions helped relate people's life stories, by reflecting desirable connections with others. Alternatively, it also helped reflect key aspects of a person's individuality. Sirgy (1982) took a self-perception approach and argued that the cultural meaning of possessions was attributed to the people who use them. Thus, consumers made a mental imagination about who they were and whom others were based on what they consumed. In contrast to material possession, brands were intangible and not limited to one specific object with the attached consumer feelings. Consumers tended to associate brand associations, brand personality, user characteristics into their self-concept. The extent to which the consumer incorporated the brand into the self-concept was referred to as self-brand connection (Escalas & Bettman, 2003).

Chaplin and John (2005) indicated that people developed self-brand connections at an early age. The researchers discovered from their study that the third-grade children used brand names and logos when defining who they were. As the children moved into

adolescence, the number of brands being used to describe themselves increased. Additionally, it found a difference in self-concept formation among younger and older children. Among the youngest children, brand connections were associated with familiarity, while among the older children, the connections with self were based more on similarities in brand personality, user stereotypes, and reference groups (Chaplin & John, 2005). When consumers incorporated a brand into their identities, the brand was categorized as part of the self. Then, the consumers developed a sense of oneness with the brand (Chaplin & John, 2005; Escalas & Bettman, 2003; Park et al., 2010).

Escalas and Bettman (2003) proposed that brand associations that related to self-give meaning to consumers. The researchers conceptualized the consumer and brand linkage at the aggregate level of self-brand connections as the brand image became a key consequence of the constellation of the gestalt associations. Self-brand connection connoted that the extent to which consumers identified with and instrumentally used a set of brand associations to construct self-identity, not emotional attachment or affection. Park et al. (2010) conceptualized brand attachment as a second-order construct where both self-brand connection and prominence were the indicators of brand attachment. To be specific, self-brand connection and brand prominence were symptoms, not the cause of brand attachment. Brand prominence was regarded as how favorable feelings and memories about the brand were in consumers' minds (Park et al. 2010).

2.4.1 Causes and Effects of Self-Brand Connection

Moore and Homer (2008) broadened the perspective and application of the self-brand connection construct beyond tangible consumer products by focusing on attitudes toward branded sports organization. The findings indicated that self-brand connection significantly influences brand evaluation and attitude strength. Shirley et al. (2011) studied the effects of self-brand connections on responses to brand failure and suggest that high self-brand connection consumers tended to less evaluate the brand, because of a motivation to protect the self. Grisaffe and Nguyen (2011) conducted a qualitative study to investigate such four antecedents as sentimentality/emotional memory, socialization, superior marketing characteristics, and user-derived benefits which had an impact on emotional attachment to brands.

Loureiro et al. (2012) integrated the scattered brand attachment, commitment, and brand trust into a brand love model for a test of non-hedonic products. The researchers surveyed 374 samples who were owners of Toyota, Ford, Renault in Portugal. It was found that a self-expressive brand and brand attachment had an impact on brand love. The brand love was shown to have a direct effect to brand loyalty, and indirect effect to brand loyalty through commitment and brand trust. Hazel & Vincent-Wayne (2013) examined the influence of need for achievement and brand consciousness on the self-brand connection. It showed the significant paths between achievement striving and brand consciousness and between brand consciousness and self-brand connection. Lin et al. (2017) investigated consumers' perception of a brand's green benefits which composed of utilitarian environmental and warm glow and green transparency on their green perceived value. The self-brand connection was used as a mediating effect between green perceived value and brand loyalty. The findings showed that self-brand connection had an impact on brand loyalty. Harrigan et al. (2017) studied customer brand engagement and the relationship between involvement, engagement, self-brand connection and brand usage intent. It was found that customer brand engagement which was composed of cognitive process, affection, and activation had effects on the self-brand connection.

2.5 Literature Related to Customer Brand Engagement

Customer experience was the early concept of customer brand engagement. Meyer and Schwager (2007) stated that customer experience touches every aspect of the product and service provided by a company. Previously, customer satisfaction was used to measure a series of customer experience. Meyer and Schwager (2007) distinguished customer experience management from customer relationship management based on timing, audience, and purpose, and asserted that improving customer experience drove a marketer's bottom line. Verhoef et al. (2009) proposed a conceptual model of customer experience creation in which such key issues were identified as how customer experience could be measured in such a way it captures all aspects of the construct, the impact of the distinct drivers of customer experience on each of the experiential components. Puccinelli et al. (2009) extended the arguments by analyzing customer experience in retailing from psychosocial perspectives. They argued that specific components of consumer behavior

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play critical roles during consumer decision making stages. For instance, goal, schema, and information processing acted as a key player in need recognition stage, whereas memory, involvement, and attitude played at information search stage.

Gambetti and Graffigna (2010) identified the concept of customer brand engagement as a mean to understand customer experiences in the customer-oriented marketing approach. The researchers proposed five contextual dimensions of customer brand engagement which included consumer, customer, brand, advertising, and media. Besides, Gambetti and Graffigna (2010) stated the importance of the behavioral activation component of customer brand engagement, which included its co-creational, social sharing, interactive, collaborative, and participative dimensions. Bowden (2009) presented a conceptual framework of customer brand engagement as a process. This process was envisioned to redirect satisfaction research toward an approach that encompasses an understanding of the role of commitment, involvement, and trust in the creation of engaged and loyal customers. Van Doorn et al. (2010) defined customer brand engagement as a customer's behavioral manifestations that had a brand or a firm focus, beyond purchase, resulting from motivational drivers. Van Doorn et al. (2010) postulated five dimensions of customer brand engagement behavior, including valence which was positive or negative behavioral manifestations, form or modality which referred to the different ways in which it could be expressed by customers, a scope which is temporal and geographic, nature of impact which conceptualized in terms of immediacy of impact, the intensity of impact, breadth of impact, and longevity of impact and customer goals which captured the customer's purpose for engaging.

Brodie et al. (2011, p. 260) provided a comprehensive definition of customer brand engagement as the psychological state that occurred under interactive, "co-creation" customer experiences with a brand in service relationships. Customer brand engagement played a central role in a nomological network governing service relationships in which customer involvement and brand loyalty were not only antecedents but also consequences in customer brand engagement processes. Customer brand engagement was a multidimensional concept that was composed of articulation of cognitive, affective and behavioral dimensions. So et al. (2014) operationalized the customer brand engagement concept which was specific to the hospitality and tourism

industry. Besides, So et al. (2014) traced the origins of the customer brand engagement concept to employee engagement theory. Interestingly, most recent researchers relied on the conceptual definition of customer brand engagement which was advocated by Brodie et al. (2011).

2.5.1 Causes and Effects of Customer Brand Engagement

As stated, So et al. (2014) was the first to offer empirical support for the behaviors to be measured to capture customer brand engagement in practical marketing. Figure 2.3 showed potential antecedents and consequences of customer brand engagement. Potential antecedents of customer brand engagement were composed of involvement, interactivity, rapport, customer satisfaction, trust, brand attachment, commitment, and brand performance perceptions, whereas potential consequences of customer brand engagement were composed of co-created value, brand experience, customer satisfaction, trust, commitment, customer value, brand loyalty, firm reputation, brand recognition, and financial outcome. This model classified customer brand engagement into five sub-dimensions, which included identification, enthusiasm, attention, absorption, and interaction.
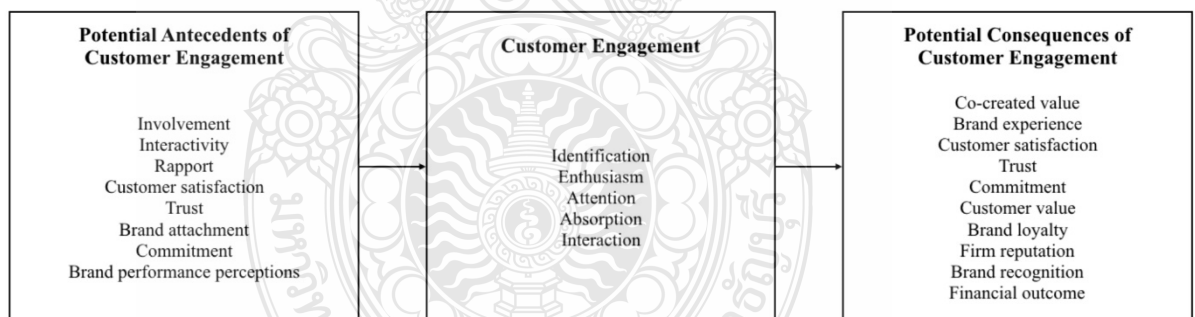
Figure 2.3 Conceptual model of customer brand engagement

Besides, Beckers et al. (2017) provided an insight into the development of customer brand engagement by identifying three customer engagement behavioral stages. First, it started with customer and brand interaction which resulted in communication between consumers and a brand. Second, the engagement was further developed through collaborative activities. Last, the final stage that consumers provided feedback to the brand. However, for the sake of customer brand engagement management, Van Doorn et

al. (2010) presented a framework to guide customer brand engagement activities. Van Doorn et al. (2010) proposed a three-step procedure, which was (1) identifying the happening of customer engagement behaviors, (2) evaluating these customer brand engagement behaviors, and then (3) taking the feedback and corrective actions to manage these behaviors (as shown in figure 2.4).
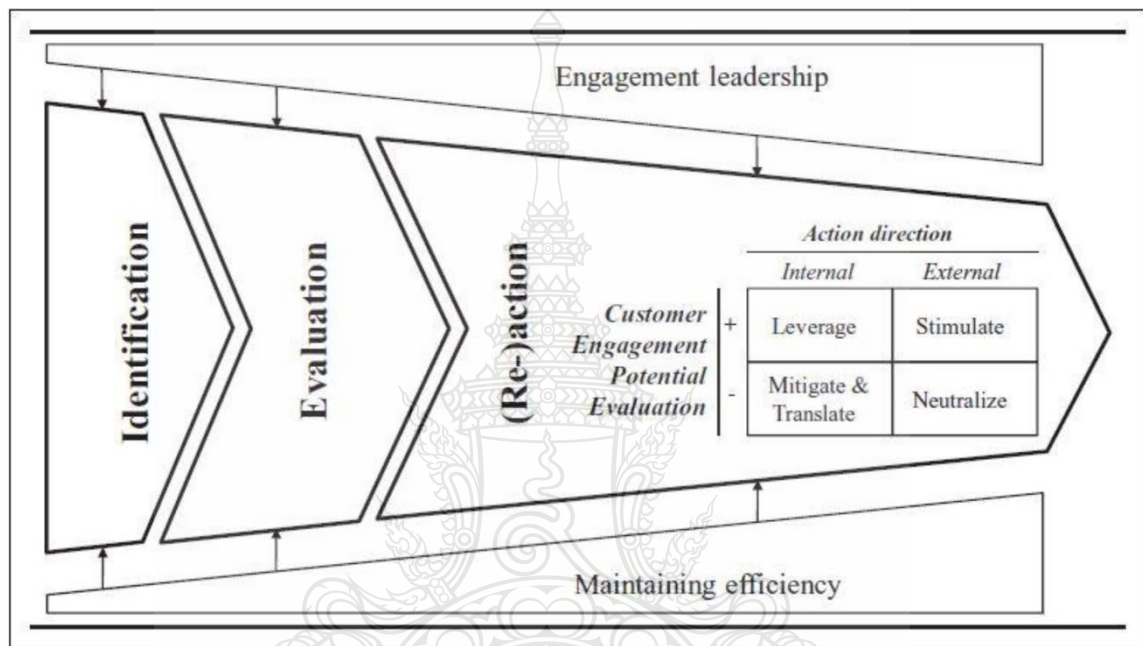
Figure 2.4 Customer brand engagement management process

Hollebeek (2011) presented an argument that the three underlying themes of customer engagement behaviors include immersion (the perception that time flies in brand interactions), passion (strong, positive affect), and activation (willingness to spend significant time and/or effort interacting with the brand). Hollebeek et al. (2014) developed and validated a measurement scale to capture customer brand engagement behavior in social media settings. The researchers defined the construct as a consumer's positively valenced brand-related cognitive, emotional, and behavioral activity during or related to focal consumers/brand interactions (as shown in figure 2.5).
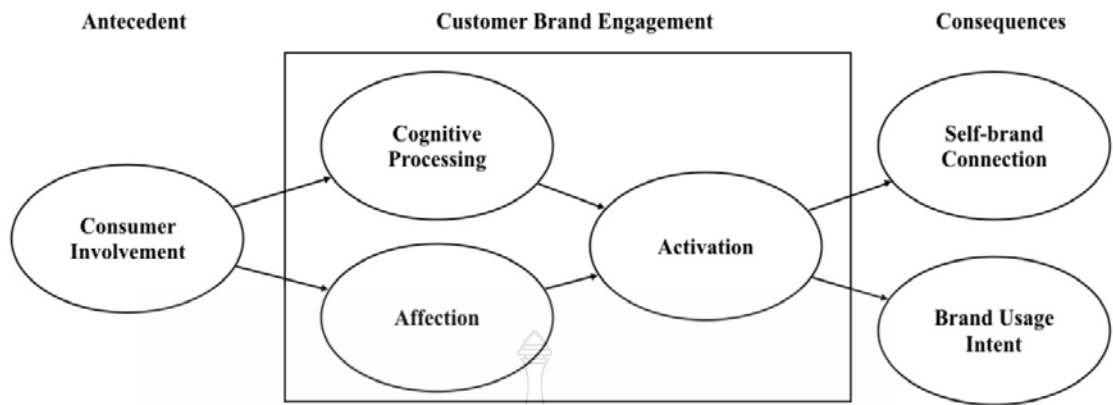
Figure 2.5 Model of customer brand engagement conceptual relationship
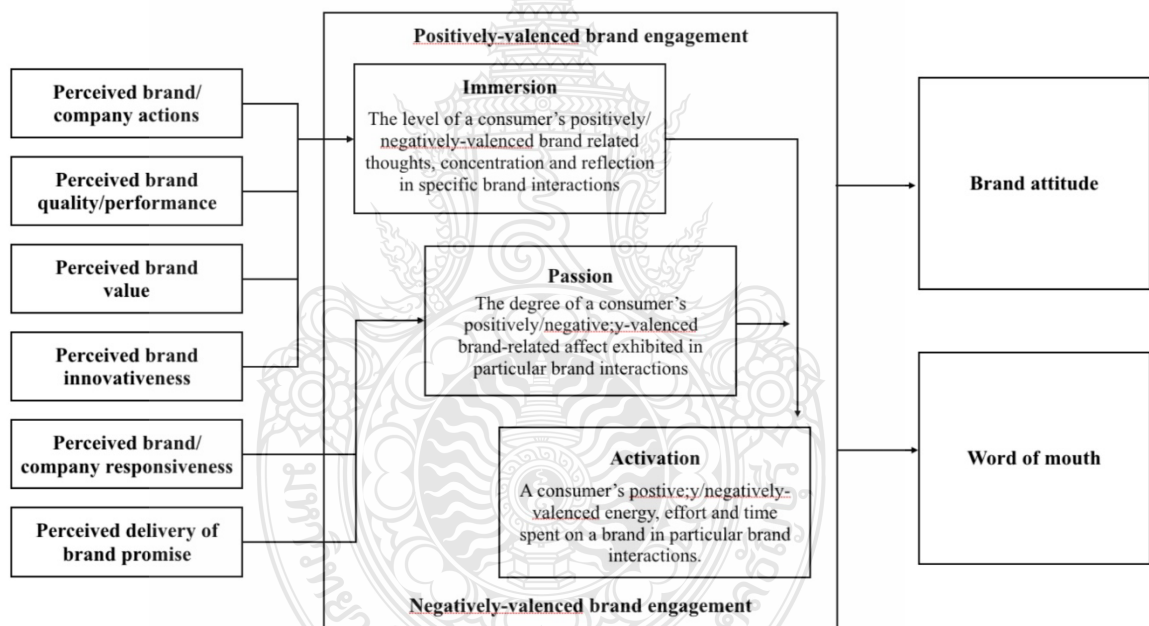
Figure 2.6 Conceptual model: key hallmarks, triggers and consequences of positively and negatively-valenced brand engagement

Further, Hollebeek and Chen (2014) developed a more comprehensive conceptual model of how customer brand engagement operated and formed (see Figure 2.6). Bowden (2009) conceptually hypothesized consumer brand engagement as a process

that encompassed an understanding of the role of commitment, involvement, and trust in the creation of engaged and loyal customers. Figure 2.7 below explained reasons that new customer returned to buy the same brand, because of satisfaction, calculative commitment, whereas consumers with negative evaluation at the post-purchase were dropped out of the process. Repeat customers became loyalty because of satisfaction, trust with involvement, and affective commitment.
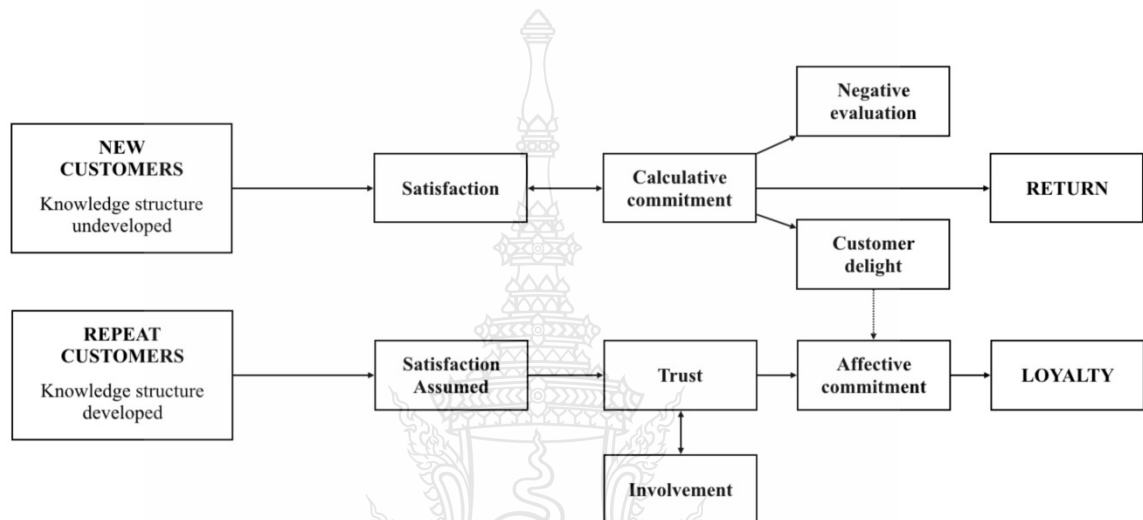
Figure 2.7 Conceptual framework for the process of customer brand engagement

van Doorn et al. (2010) proposed a conceptual model of customer engagement. Figure 2.8 below showed that the antecedents of customer brand engagement behaviors were grouped into customer-based, firm-based, and context-based, whereas the consequences were similarly grouped into customer-based, firm-based, and context-based.
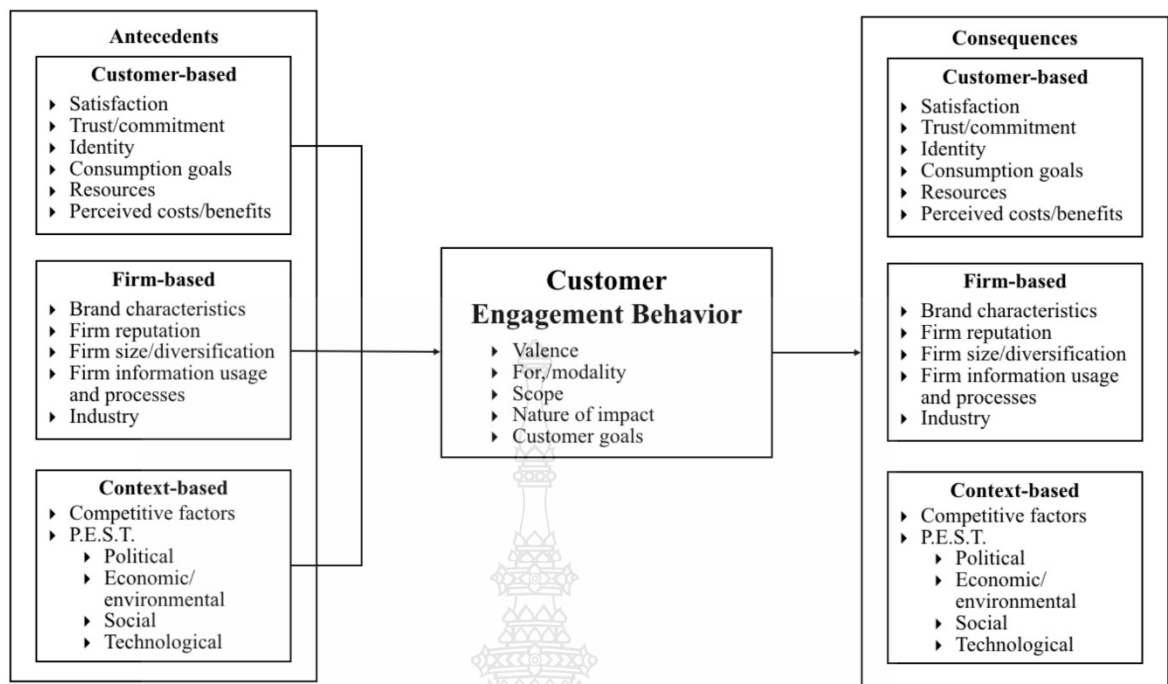
Figure 2.8 Conceptual model of customer brand engagement behavior

Recent research investigated that emotional consideration may play particularly strong roles in the social-psychological processed underlying customer brand engagement behavior. Wallace et al. (2014) showed solid evidence that brands "liked" were expressive of the inner or social self. A significant positive relationship was found between the self-expressive nature of brands "liked" and brand love. Consequently, consumers who engaged with inner self-expressive brands were more likely to offer either positive or negative word-of-mouth for a certain brand. Sarkar and Sreejesh (2014) developed a three-item survey scale for brand love and presented empirical evidence that brand love could be a driver of customer brand engagement. Finally, Franzak et al. (2014) found that emotional arousal mediated the relationship between design benefits and customer brand engagement. In addition, customer brand engagement intensified with emotional arousal as design benefits changed from functional, to hedonic, and symbolic.

2.6 Literature Related to Repurchase Intention

Since the late 1980s more research gave more attention to customer retention than just attracting new customers (Berry, 1983). In addition, Alexandris and Palialia

(1999) stated that more marketing practitioners turned their attention to retain customers, as it was easier than finding new customers. Ferrand et al. (2010) proposed a theoretical model to investigate the relationship between, brand affiliations, service characteristics, customer satisfaction, cost of enrolment, and intention to repurchase of a wellness club. It was found that customer relations, customer service, and their recurrence of the week after week participation had a positive and immediate impact on repurchase intention. The quality acquired in the customers' past purchase determined subsequent repurchase intention (Wathne at al., 2001). Incremental level of satisfaction made customer trust and this at the appointed time course could draw in more customers" to enhance repurchase.

Besides, Deng et al. (2010) concluded that customer loyalty was a principal variable predicting repurchase intention. Bansal et al. (2005) demonstrated the negative relationship between continuation responsibility and switching behavior. Meng et al. (2011) conducted a survey among Taiwanese tourists on post- behavioral expectation. It was discovered that there was a positive relationship between repurchase intention and brand image of the service supplier. Baker et al. (2002) secured that in retail, repurchase aims were typically controlled by an eagerness to stay in the store. It is additionally dictated by the ability to return in the store and eagerness to buy more later. The customers" additionally prescribed the store to others. Kaveh et al. (2012) created an exploration model to assess how trust, correspondence, brand image, service quality and customer satisfaction influence repurchase intention. It was found that trust was most impacted, then correspondence and ultimately by image. Tan et.al (1999) concluded that online fashion market was highly competitive in which customers were easily switched to other online retailers for their future purchases when they were not satisfied with a particular online retailer. A sample of 500 was collected to examine the online fashion shopping experience from the online customer. In the study, the results showed that there was a significant relationship between website qualities, service quality, product reviews, customers' trust and customers' repurchase intention.

In the face of competitive market conditions, marketers needed to deliver consumer value by creating customer engagement for the sake of cultivating long term relationships to increase chances of repurchase (Mai & Ness, 2006). Repurchase intention was a post-purchase behavioral intention that influenced customer loyalty, complaint and

switching intentions (Meng, Liang & Yang 2011). The switching intention indicated that the intention by the customer to try other brands, while the complaint intention indicated that customers" were unhappy and inform about the problems and might seek for compensation or boycott purchase. The loyalty intention represented the commitment by customers" to the brand and their willingness to have long term relationships. Therefore, the best strategy to deal with complaint and switching behavior was to satisfy the customers". The intention of consumers to repurchase relied on customer evaluation of the previous purchase transactions. Olaru et al. (2008) stated that when the experience was evaluated, consumers usually consider such factors as product performance and the cost and benefits derived from the products. Hamadi (2010) expressed the same sentiments by stating that satisfied customers become prone to return for repeat purchases. Possibly, they went against the influences of competing brands.

In conclusion, in times of intensive between-brand competition in the domestic automobile market, manufacturers spent their resources and focus on an area with bottom-line impact. Such focus was the customer's repurchase intention, which was a "must" for automakers that competed in the present environment. The average replacement cycle for auto buyers was usually 5-7 years or even longer (Internal Source), unlike other consumer products with more frequent replacement cycles. Therefore, customer retention or repurchase intention needed to be in the focus of automobile manufacturers. As the result, this study focused on factors that contribute to repurchase intention. Those factors which were the focus of past literature are brand touchpoints, relationship quality, self-brand connection, customer brand engagement.

2.6.1 Causes and Effects of Repurchase Intention

Several research investigated the direct and indirect effects of satisfaction, trust, and commitment to repurchase intention. Hellier et al. (2003) asserted that repurchase intention was the effects of customer satisfaction and trust, whereas trust mediated those relationships. Julander et al., (2003) studied the effects of switching barriers on satisfaction, repurchase intentions and attitudinal loyalty. The findings indicated that negative switching barriers had negative effects on customer satisfaction and attitudinal loyalty but a positive effect on repurchase intentions. Inggrid (2008) examined the role of consumer trust and satisfaction with the brand and their relationship to retail trust and

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satisfaction and retailer repurchase intention. It was found that trust and satisfaction affected repurchase intention. Kha et al., (2011) developed a model explaining repurchase intention of Proton automobile using structural equation modelling and found that repurchase intention was driven by brand loyalty, whereas brand loyalty mediated the effects of brand trust and customer satisfaction on repurchase intention. Curtis et al. (2011) investigated the relationship between customer loyalty, repurchase intention and satisfaction. It was found that repurchase intention and satisfaction were found to have a complicated relationship in which satisfaction did not explain repurchase intention. Anwar and Gulzar (2011) found out the impact of perceived value on word-of-mouth endorsement and customer satisfaction with repurchase intention as a mediating variable. It was found that customer satisfaction had a direct effect on word of mouth and an indirect effect via repurchase intention.

Salman and Saira (2014) assessed the influence of brand loyalty on customer repurchase intentions of Coca-Cola and found that commitment and trust were related to customer satisfaction. In addition, customer satisfaction, along with brand image drove brand loyalty and then repurchase intention. Chinomona (2014) investigated how customer satisfaction drove repurchase intention through the mediating effect of customer trust. The results showed that the association between customer satisfaction and trust, customer trust and repurchase intention were shown to have positive effects. Elnaz and Farhid (n.d) found that trust and satisfaction were related to online repurchase intention. Balla et al. (2015) investigated the impact of relationship quality on repurchase intention toward the customers of automotive companies in Sudan. It was found that trust, commitment, and satisfaction had a significant positive relationship with repurchase intention.

Sukaily and Soelasih (2017) studied the effects of repurchase intention of online shopping by determining whether there is an impact of electronic service quality, price perception and experiential marketing on repurchase intention. The study showed those factors influenced customer satisfaction in which it mediated its effect to repurchase intention. Fungai (2017) assessed the factors that influenced repurchase intention in the fast-food industry and finds that customer satisfaction, service quality, the attractiveness of alternatives, product quality, physical design, and the price had a positive effect on

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repurchase intention. Phineas and Jose (2018) examined the effects of customer satisfaction on commitment and repurchase intentions of the branded product. The findings showed that normative commitment was the driver of satisfaction, whereas calculative commitment influences repurchase intention.

Besides, other past research focused on website and online purchase. Khalifa and Liu (2007) surveyed 122 online customers to measure the contingent effects of online shopping habit and online shopping experience. Perceived usefulness and online shopping satisfaction had a direct impact on online repurchase intention. Chiu et al. (2009) proposed a theoretical model to examine the antecedents of repurchase intention in online purchase. The result showed that trust toward website had positive influences on the perceived quality of website and satisfaction toward a website, whereas trust in sellers influence perceived quality of sellers and satisfaction with sellers. Satisfaction with website and sellers were the drivers of repurchase intention. Zhou et al., (2009) measured the relative importance of website design quality and service quality in determining consumers' online repurchase behavior and indicated that service quality had a strong effect on trust and satisfaction, compared with website design, in which both factors led to repurchase intention.

Kim et al. (2012) investigated factors influencing internet shopping value and customer repurchase intention. Utilitarian shopping value and hedonic shopping value had a direct effect on repurchase intention, whereas customer satisfaction also mediated that relationship. Santoso and Aprianingsih (2017) examined the relationship between the influence of the service quality and e-services quality toward repurchase intention with customer satisfaction as the mediating variable. It was found that customer satisfaction significantly mediated the relationship between perceived service quality, perceived e-service quality and repurchase intention. Nurhanan et al. (2016) examined the relationship between service qualities; information quality and security quality on repurchase intention in travel agency's website in Malaysia. It was found that website quality affected repurchase intention. Chen et al. (2016) explored how the volume of information, seller evaluation, and price range had effects on purchase and repurchase intentions among online auction consumers.

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Kanthawongs et al. (2015) investigated factors influencing repurchase intention of the hotel chain in Bangkok and found that such three factors as transaction security, e-service quality in terms of efficiency, and electronic word of mouth had a significant impact on repurchase intention. Lee (2016) found out differences in customer satisfaction and repurchase intention between online and offline purchases of cosmetics in South Korea. It was found that product attributes, service attributes, transaction, customer satisfaction with offline purchase were greater than that with online purchases. Pinotti and Moretti (2018) provided a new perspective by studying collaborative consumption or sharing economy to study the impact among lodging accommodations based on pre-experience with the website of services, hospitality, enjoyment and perceived economic benefits on repurchase intention. It was found that all those factors influence repurchase intention.

Gomez and Perez (2018) found that brand love and band equity affected repurchase intentions of young consumers. Badr and Siddig (2012) investigated the impact of corporate brand on customer's attitude toward repurchase intention and found that corporate image, corporate reputation, and corporate familiarity influenced repurchase intention. Wijaya (2016) studied the influence of store atmosphere on repurchase intention, whereas emotion and consumer purchase decision were measured as mediating variables. The result showed that the store atmosphere of super center store influenced repurchase intention. Mohammad (2012) measured the effect of brand perceived value on customer's repurchase intention. The findings indicated that there was a significant relationship between brand perceived value and customers' repurchase intention. Premayani et al., (2018) explained the effect of self-image congruity and functional congruity on the attitude and repurchase intention. The results showed that self-image congruity and functional congruity had a significant impact on customer attitude. Moreover, attitudes had a significant effect on the repurchase intention.

CHAPTER 3
RESEARCH METHODOLOGY

This chapter provided an outline of the theoretical framework and research methods that were followed in the research. It described the research design that was used as well as the reasons behind. In addition, the participants as well as the sampling were detailed. The survey instrument that was used for data collection was also described, followed the data collection procedure. The researcher also gave a full detail of how data was analyzed.

3.1 Theoretical Framework

Post-purchase behavior was critical for the domestic automobile market, as the number of new buyers was declining from the consequence of market maturity. Then the market focus was shifting from pre-purchase-to-purchase cycle to purchase-to-repurchase cycle. To effective management of purchase-to-repurchase cycle, it was needed to understand that automobile is a type of high-involvement product that the repurchase tendency was dependent on the accumulation of cognitive and affective knowledge after the previous purchase. In the automobile market, purchase-to-repurchase cycle lasted around five to seven years. The researcher strongly believed that during this cycle, if customers had a good impression through different brand touchpoints, it increased the chance of customer brand engagement and repurchase intention.

Nowadays digital brand touchpoint was starting to replace traditional brand touchpoint. For example, the call center is being replaced by the chatbot and artificial intelligence. Some digital brand touchpoints were used to complement traditional brand touchpoint. For example, interactive digital sites were used to support car information in supporting salespeople. Spengler and Muller (2008) strongly proposed that the company must know the power or differential effects of all brand touchpoints so that the company could make the right investment in choosing the right one. Although there were several past research related with this brand touchpoint topics, most of the past research on brand touchpoint investigated brand touchpoint based on customer purchase experience (Dunn & Davis, 2004; Dhebar, 2012), while other researchers were interested in assessing

ownership-based brand touchpoint which investigated controllable and uncontrollable brand touchpoints. However, past research did not investigate the differential effect of the traditional and digital post-purchase brand touchpoints. In addition, the digital impact was growing in its importance. As the result, this study investigated the impact of traditional and digital post-purchase brand touchpoints.

Past research revealed that brand touchpoint affected relationship quality and brand loyalty. Baxendale et al. (2015) tested the impact of different brand touchpoints on brand consideration. Marco and Cristina (2017) examined the relative importance of twenty-four brand touchpoints that affects brand loyalty. Brand loyalty was the key driver of repurchase intention, as stated by Habib and Aslam (2014). Moreover, it had an indirect effect on financial outcomes which are sales and profit (Edwards, 2009). It could be concluded that brand touchpoint was found to be related with relationship quality and repurchase intention, whereas there was no past research found in assessing the association between brand touchpoint and self-brand concept, customer brand engagement. In conclusion, this research focused on post-purchase brand touchpoint, not pre-purchase or during purchase stages of consumption. The classification of post-purchase brand touchpoint was different from previous studies in which this study was interested in traditional post-purchase brand touchpoint and digital post-purchase brand touchpoint. Next, both types of post-purchase brand touchpoints were assessed concerning relationship quality, self-brand connection, customer brand engagement, and repurchase intention. Hence, research hypotheses were proposed as follows:

H$_1$: Traditional post-purchase brand touchpoint is related to relationship quality.

H$_2$: Digital post-purchase brand touchpoint is related to relationship quality.

H$_3$: Traditional post-purchase brand touchpoint is related to the self-brand connection.

H$_4$: Digital post-purchase brand touchpoint is related to the self-brand connection.

H$_5$: Traditional post-purchase brand touchpoint is related to customer brand engagement.

H$_6$: Digital post-purchase brand touchpoint is related to customer brand engagement.

H₇: Traditional post-purchase brand touchpoint is related to repurchase intention.

H₈: Digital post-purchase brand touchpoint is related to repurchase intention.

Much past research stated that relationship quality was composed of at least three dimensions, which included satisfaction, trust and commitment (Dorsch et al., 1998; Smith, 1998; DeWulf et al., 2001); Hennig-Thurau et al., 2002; Robert et al., 2003; Ivens & Pardo, 2007, Rauyruen & Miller, 2007). Chaudhuri & Holbrook (2001) found that there was a relationship between brand trust and market share. Bowden and Gagger (2011) proposed that customer satisfaction drives brand loyalty. Hellier et al., (2003) asserted that repurchase intention was the effects of customer satisfaction and trust. Chinomona (2014) asserted that customer satisfaction drives repurchase intention. Kha et al., (2011) developed a model explaining repurchase intention of Proton automobile using structural modelling and found that repurchase intention was driven by brand loyalty, whereas brand loyalty mediated the effects of brand trust and customer satisfaction on repurchase. However, Popjanev (2016) stated that customer satisfaction and brand loyalty within the context of the automotive industry, sometimes they were confused with one another. It did not guarantee that consumers who rated with high satisfactory would not go to other brands in their next purchase. Popjaney (2016) strongly mentioned that satisfaction was just a self-report, not a reliable indicator of repurchase. As a conclusion, even though past research indicated that there was an association between relationship quality and repurchase intention, relationship quality, especially satisfaction was not a reliable indicator of repurchase intention in the repurchase context of the automobile. This study further assumed that customer brand engagement was likely to be a mediating variable. Hence, research hypotheses were proposed as follows:

H₉: Relationship quality is related to customer brand engagement.

H₁₀: Relationship quality is related to repurchase intention.

H₁₁: Relationship quality mediates the relationship between traditional post-purchase brand touchpoint and customer brand engagement.

H₁₂: Relationship quality mediates the relationship between digital post-purchase brand touchpoint and customer brand engagement.

H₁₃: Relationship quality mediates the relationship between traditional post-purchase brand touchpoint and repurchase intention.

H₁₄: Relationship quality mediates the relationship between digital post-purchase brand touchpoint and repurchase intention.

Nevertheless, Beckers et al. (2014) proposed that brand attachment was the consequences of customer brand engagement. Besides, customer brand engagement drove brand loyalty and financial outcomes. In addition, Premayani et al. (2018) asserted that the impact of self-image congruity and functional congruity on the attitude and repurchase intention and found that self-image congruity and functional congruity had a significant impact on customer attitude and repurchase intention. Hapsari and Adiwijaya (2014) proposed that the self-brand connection drove repurchase intention among shopping goods. There was no evidence that self-brand connection could drive the repurchase intention of the automobile. In conclusion, there was none of the past research investigating the direct effect of self-brand connection on customer brand engagement. In addition, no past research investigated the mediating effect of traditional and digital post-purchase brand touchpoint between self-brand connection and customer brand engagement. Lastly, the self-brand connection was found to have association with repurchase intention in the non-automobile product category. The relationship might be varied by product category, especially in the repurchase of the automobile. Hence, research hypotheses were proposed as follows:

H₁₅: Self-brand connection is related to customer brand engagement.

H₁₆: Self-brand connection is related to repurchase intention.

H₁₇: Self-brand connection mediates the relationship between traditional post-purchase brand touchpoint and customer brand engagement.

H₁₈: Self-brand connection mediates the relationship between digital post-purchase brand touchpoint and customer brand engagement.

H₁₉: Self-brand connection mediates the relationship between traditional post-purchase brand touchpoint and repurchase intention.

H₂₀: Self-brand connection mediates the relationship between digital post-purchase brand touchpoint and repurchase intention.

So et al. (2014) showed potential antecedents and consequences of customer brand engagement. Hollebeek et al. (2014) explored the mediating effect of customer brand engagement which drove self-brand connection and brand usage intention. Among those variables, antecedents of customer brand engagement were satisfaction, trust, and commitment which were consolidated as relationship quality in this study. In the same research, it indicated that the consequences of customer brand engagement were satisfaction, trust, and commitment. In addition, Romero and Oksazaki (2015) also asserted that other than relationship quality, self-enhancement because of customer brand engagement. Customer brand engagement (CBE) was comprised of four sub-dimensions, which include Word of Mouth (WOM), Loyalty Program Participation (LPP), Customers' Interaction (CI), and Co-creation (CC). Those sets of the measurement scale adopted from different past research including Romero & Okazaki (2015), Brown et al. (2005), and Bettencourt (1997). Civilai et al. (2016) affirmed that the self-expressive brand led to customer brand engagement in which the customer brand engagement directly drove brand loyalty and repeat purchase of telecommunication products. In conclusion, past research found that customer brand engagement influenced repurchase intention; however, the investigation was conducted in the different product category. Customer brand engagement was found to have association with relationship quality and self-brand connection; however, no past research investigated the mediating effect of customer brand engagement. Hence, research hypotheses were proposed as follows:

H_{21}: Customer brand engagement is related to repurchase intention.

H_{22}: Customer brand engagement mediates the relationship between relationship quality and repurchase intention.

H_{23}: Customer brand engagement mediates the relationship between self-brand connection and repurchase intention.

H_{24}: Customer brand engagement mediates the relationship between traditional post-purchase brand touchpoint and repurchase intention.

H_{25}: Customer brand engagement mediates the relationship between digital post-purchase brand touchpoint and repurchase intention.

Based on the hypotheses, the conceptual framework was built as shown in Figure 3.1 below.
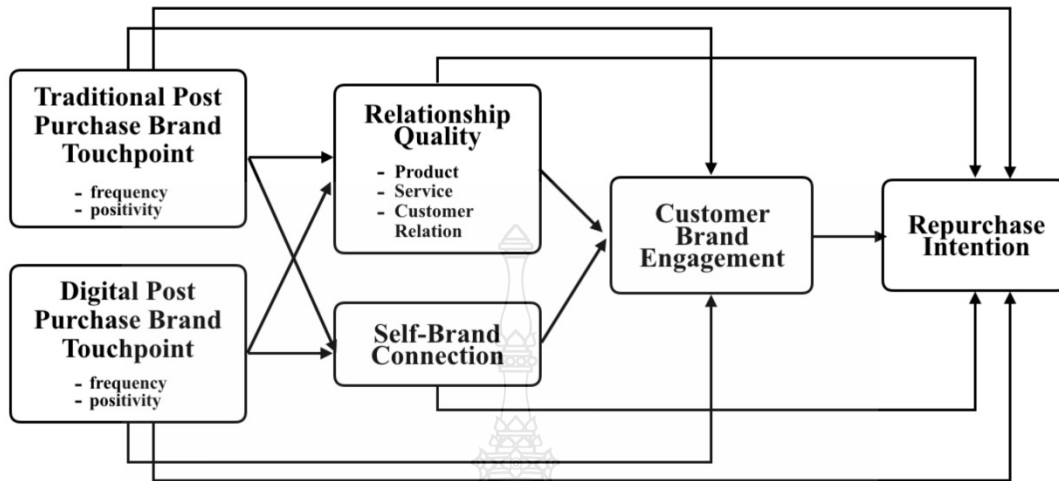
Figure 3.1 Conceptual framework

3.2 Research Methodology

This research is designed to investigate the facts in the market without creating any research intervention. Within the context of this research, the market fact is used to describe and explore consumer cognitive, affective and conative aspects of consumer behavior that leads to the repurchase of next automobile. Hence, the most appropriate quantitative research method is survey research which is a method for collecting data from individuals for the purpose of describing the attributes of the larger population of which the individuals are members (Enanoria, 2005). By the survey research method, information is gathered by asking questions. Information is collected by personal interviewing in which structured questionnaire is used as survey instrument.

3.3 Sample Design

Sample design described the target population including the characteristics of a sample of this study. Besides, an appropriate sample size was determined, followed by the sampling technique.

3.3.1 Target Population and Sample

According to Thailand Automotive Statistics. (2019), the annual sales of automobile in Thailand between 2014 and 2018 were approximately 4.5 million units.

Three biggest markets of automobiles which constituted for more than 95 per cent of total sales were passenger cars, commercial vehicles, and sport utility vehicles. The passenger car was accounted for 50 per cent of the total share. There were four segments of passenger car, which included medium, small high, small low, and eco segment. Among these segments, the medium segment which constituted for 20 per cent of passenger car's sales was found to be the was most challenging for marketers because the medium segment had a distinctive phenomenon. In detail, the segment size was shrinking with years. That was, the repeat purchase rate among users in the segment keeps declining with the increasing rate of flow-out to the entry-luxury segment (C Class of Mercedes Benz and 3 Series of BMW). In addition, the rate of new customers to the segment was also reduced, as they overpass this medium segment to the entry-luxury segment (C Class of Mercedes Benz and 3 Series of BMW). Under this situation, only Toyota Camry and Honda Accord seemed to be only two competitive brands in the market with 45 per cent and 40 per cent segment share (Thailand Automotive Statistics, 2019). As the matter of the fact, the focus of this study was the medium segment which includes Toyota Camry and Honda Accord. Then, the target population of this research was all current owners and buying decision makers of the medium segment of the passenger car in Thailand. The sample of this study was both men and women, age between 18-60 years old, living in Bangkok and its vicinities currently owned Toyota Camry or Honda Accord (Y2014-Y2017 models). All were the persons who were the owners who made buying decision of the automobile.

3.3.2 Sample Size Determination

Even though appropriate sample size determination is a critical issue in structural equation modelling, there is no consensus found in the previous literature regarding the sample size determination approach. Some past literature (Hoyle, 1999; Hoyle & Kenny, 1999; Marsh & Hau, 1999) proposed that SEM model could be tested under a quite small sample size, while others (Tinsley & Tinsley, 1987; Anderson & Gerbing, 1988; Ding, Velicer, & Harlow, 1995; Tabachnick & Fidell, 2001) considered that minimum sample size should be between 100 and 150. Besides that, some other researchers (Hoogland and Boomsma 1998; Boomsma & Hoogland, 2001; Kline, 2005) suggested a larger sample size up to 200.

However, sample size determination used by most research conducting for SEM were often considered considering the number of observed variables. For normally distributed data, Bentler and Chou (1987) suggest a ratio as low as 5 cases per variable would be sufficient when latent variables have multiple indicators. A widely accepted rule of thumb is 10 cases/observations per indicator variable in setting a lower bound of adequate sample size (Nunnally, 1967). There were six latent variables with 93 observed variables. Then, the acceptable range of sample size must be between 465 and 930. Since the model size was moderate, this study collected data from a total of 650. However, at the later stage of source accuracy assessment, 46 sets of questionnaires were dropped, whereas 604 sets of questionnaires were further used for data processing. However, a total sample size of 604 could meet the requirement of sample size determination.

3.3.3 Sampling Technique

Since the population was known, stratified random sampling was chosen as the sampling method for this study. To maximize the data accuracy with the least sampling bias, sampling procedure was as follows:

Step 1: Determine the stratum of the population with a sample proportion. Nielsen's Auto Survey (2017) indicated the demographic of the population of medium segment car users in Thailand. Then, the survey was used to select a few strata in terms of the demographics of the qualified respondents. Gender, age, and income were chosen. In terms of gender, male and female car users of the medium segment were allocated with the proportion of 55 per cent and 45 per cent respectively. In terms of age, current car users of the medium segment with less than 40 years old and more than 40 years old were 58 per cent and 42 per cent respectively. In terms of personal monthly income, current car users of the medium segment with less than 100,000 Baht and more than 100,00 Baht were 84 per cent and 16 per cent respectively.

Step 2: Take a random sample from each stratum. Qualified respondents were chosen from such as sample frame as Toyota and Honda Authorized Service Centers. Those respondents who matched the qualification were asked to participate in this study.

3.4 Instrumentation

Past research was used to develop survey instruments. Since the Thai language was used in the questionnaire, a process of back translation was implemented. To be specific, the researcher translated all items from English to the Thai language, and then a linguistic expert translated it back to English to ensure that there was no discrepancy. The following sub-sections included a description of measurement items of such variables as traditional and digital post-purchase brand touchpoints, relationship quality, self-brand connection, customer brand engagement, and repurchase intention.

3.4.1 Traditional and Digital Post-purchase Brand Touchpoint

This study adapted measurement scale of positivity and frequency of brand touchpoint from McFarland and Buehler (1998) and Baxendale et al. (2015) respectively. Those items were used in common for both traditional and digital post-purchase brand touchpoints. All items of positivity were measured on a 5-point Likert scale anchored by "Very positive" (+5) and "Very negative" (+1), whereas all items of frequency were measured on a 5-point Likert scale anchored by "Most frequent" (+5), and "Least frequent" (+1).

- Positivity toward traditional and digital post-purchase brand touchpoint was measured by "How did it make you feel about ………… of Toyota Camry/Honda Accord?" The list of brand touchpoint included TV, radio, printed (newspaper, magazine), out of home (billboard, LED screen, cut-out), direct mail, leaflet, call center, event, car usage, corporate website, social media (Facebook, Twitter, Line, YouTube), online user review, online auto guru review, seek advice from anyone personally (WOM, recommendation), customer relationship program (greet card on birthday, and others), brand online community, car club online community (user-created online community), email, SMS, social chat/messenger services (Line, Messenger), installed-in-car telematic, salesman, showroom, service staff, electronic instalment payment, electronic car insurance reissuing service, mobile app for customer privilege program, e-showroom for car selling, online trade-in service, trade-in service at showroom or auto manufacturer's network, special customer privilege (free parking in department store and others), monthly payment channel owned by auto manufacturer, and contact from insurance staff to sell or resell insurance policy.

- Frequency of traditional and digital post-purchase brand touchpoint was measured by "How often did you encounter …………of Toyota Camry/Honda Accord?" The list of brand touchpoint included TV, radio, printed (newspaper, magazine), out of home (billboard, LED screen, cut-out), direct mail, leaflet, call center, event, car usage, corporate website, social media (Facebook, Twitter, Line, YouTube), online user review, online auto guru review, seek advice from anyone personally (WOM, recommendation), customer relationship program (greet card on birthday, and others), brand online community, car club online community (user-created online community), email, SMS, social chat/messenger services (Line, Messenger), installed-in-car telematic, salesman, showroom, service staff, electronic instalment payment, electronic car insurance reissuing service, mobile app for customer privilege program, e-showroom for car selling, online trade-in service, trade-in service at showroom or auto manufacturer's network, special customer privilege (free parking in department store and others), monthly payment channel owned by auto manufacturer, and contact from insurance staff to sell or resell insurance policy.

3.4.2 Relationship Quality

The relationship quality was measured by such three aspects as the product, service, and customer relation. Relationship quality was previously proposed that they consisted of such three elements as satisfaction, trust, and commitment taken from Churchill (1979), Kim et al (2002), and Ng et al (2011) with a consistent set of measurement. However, among all, Kim et al (2002)'s scale was found to have the most comprehensive items of each sub-dimension, so this study adopted the following items from Kim et al (2002). The items were measured using a 5-point Likert scale, from Totally disagree (+1) to agree (+5).

Product aspect of relationship quality was measured by such questions as "the product quality of Toyota Camry is exactly what I want," "I don't regret choosing Toyota Camry," "I really like the product, namely Toyota Camry, "using product, namely Toyota Camry is a good experience for me," "the product performance of Toyota Camry is better than I expected," "I really enjoy using product namely, Toyota Camry," "the product, namely Toyota Camry always cares about the consumers' needs," "the product namely, Toyota Camry keeps its promises," "whatever happens, I believe that the product namely,

Toyota Camry would help me," "the product namely, Toyota Camry works hard for my well-being," "I don't have to consider product from other brands because I have product namely, Toyota Camry," "I want to keep using product namely, Toyota Camry," "I want to maintain a long-term relationship with product namely, Toyota Camry," "I enjoy my relationship with product namely, Toyota Camry, so I want to keep buying it,"

Service aspect of relationship quality was measured by such questions as "the service quality provided by Toyota Camry is exactly what I want," "I don't regret choosing the service offered by Toyota Camry," "I really like the service offered by Toyota Camry," "using the service of Toyota Camry is a good experience for me," "the service performance of Toyota Camry is better than I expected," "I really enjoy using the service of Toyota Camry," "the service offered by Toyota Camry always cares about the consumers' needs," "the service offered by Toyota Camry keeps its promises," "whatever happens, I believe that the service provided by Toyota Camry would help me," "the service provided by Toyota Camry works hard for my well-being," "I don't have to consider service from other brands because I have good service from Toyota Camry," "I want to keep using service from Toyota Camry," "I want to maintain a long-term relationship with the service provided by Toyota Camry," and "I enjoy my relationship with the service provided by Toyota Camry, so I want to keep buying it."

Customer relationship aspect of relationship quality was measured by such questions as "the customer relation of Toyota Camry is exactly what I want," "I don't regret experiencing the customer relation offered by Toyota Camry," "I really like the customer relation of Toyota Camry," "encountering customer relation provided by Toyota Camry is a good experience for me," "the customer relation's performance of Toyota Camry is better than I expected," "I really enjoy experiencing customer relation provided by Toyota Camry," "the customer relation provided by Toyota Camry always cares about the consumers' needs," "the customer relation provided by Toyota Camry keeps its promises," "whatever happens, I believe that customer relation provided by Toyota Camry would help me," "the customer relation provided Toyota Camry works hard for my well-being," "I don't have to consider other brands because I have good customer relation provided by Toyota Camry," "I want to keep using Toyota Camry, due to good customer relation," "I want to maintain a long-term relationship with Toyota

Camry, due to good customer relation," and "I enjoy my relationship with customer relation provided by Toyota Camry, so I want to keep buying it."

3.4.3 Self-brand Connection

This study adopted a self-brand connection from Escalas (2004) which explored how brands become meaningful for consumers by examining one thought process that may create a link between a brand and a consumer's self-concept. The measurement scale from Escales (2004) scale yielded a high-reliability score ($\alpha = 0.98$). The items were measured using a 5-point Likert scale, from Totally disagree (+1) to agree (+5). These were "Toyota Camry/Honda Accord could reflect who I am," "I could identify with Toyota Camry/Honda Accord," "I could feel a personal connection to Toyota Camry/Honda Accord," "I could use Toyota Camry/Honda Accord to communicate who I am to other people," "I think Toyota Camry/Honda Accord could help me become the type of person I want to be," "I would consider Toyota Camry/Honda Accord to be "me" (it reflects whom I consider myself to be or the way that I want to present myself to others)," and "Toyota Camry/Honda Accord would suit me well."

3.4.4 Customer Brand Engagement

As customer brand engagement was composed of four sub-dimensions, which included Word of Mouth, Loyalty Program Participation, Customers' Interaction, and Co-creation. Those sets of the measurement scale adopted from different past research including Romero & Okazaki (2015), Brown et al. (2005), and Bettencourt (1997). First, Romero & Okazaki (2015) adopted word of mouth behavior scale from Brown et al. (2005). Brown et al. (2005) investigated antecedents of consumers' positive word of mouth intentions and behaviors in a retailing context focusing on automobile dealership in which the context of the research was common with this study. Then, this study adopted items from both Brown et al (2005) and Romero & Okazaki (2015). These included "I mention to others that I use Toyota Camry/Honda Accord," "I make sure that others know that I own Toyota Camry/Honda Accord," "I recommended Toyota Camry/Honda Accord to family members," "I speak positively of Toyota Camry/Honda Accord to others," "I recommend Toyota Camry/Honda Accord to acquaintances," and "I recommended Toyota Camry/Honda Accord to close personal friends." Second, the measurement items of loyalty program participation were originally developed by

Romero & Okazaki (2015). These items were used to measure customer engagement behavior among online travel agency and also yielded a reliable score (α = 0.93; CR = 0.95; AVE = 0.83). Since loyalty program participation applied to the repurchasing context of automobile, this study adopted the following four measurement items. Questions were "I participate in the draws that Toyota Camry/Honda Accord organizes at social networks," "I participate in the contests that Toyota Camry/Honda Accord organizes at social networks," "I would participate in a "bring a friend" program organized by Toyota Camry/Honda Accord," and "In general, I participate in the activities organized by Toyota Camry/Honda Accord in which I can win a reward." Third, the measurement items of customers' interactions were originally developed by Romero & Okazaki (2015). These items were used to measure customer engagement behavior among online travel agency and yielded a reliable score ((α = 0.90; CR = 0.94; AVE = 0.83). Since customers' interactions were applicable through different customer relations program to induce the repurchase of automobile, which was common with an online travel agency, this study adopted the following three measurement items. These were "I assess and share with other users my opinions and experiences about the products and services of Toyota Camry/Honda Accord on the company website," "I write comments in the blog and/or in the profile of Toyota Camry/Honda Accord in social networks (e.g., Facebook, Twitter, etc.)," and "I write comments in the forums on Toyota Camry/Honda Accord." Last, as far as co-creation was concerned, Bettencourt (1997) explored the role of the customer as a contributor to service quality and the meaning of customer voluntary performance. In the study, a set of a scale measuring customer participation was developed and tested within the retail context with high reliability (α = 0.93; CR = 0.95; AVE = 0.75;), then this study adopted the measurement scale from Bettencourt (1997). Some questions were "I let Toyota Camry/Honda Accord know of ways that they can better serve my needs," "I make constructive suggestions to Toyota Camry/Honda Accord about how to improve its service," "If I have a useful idea of how to improve service, I give it to someone at Toyota Camry/Honda Accord," "When I experience a problem at this store, I let someone know so they can improve the service," "If I notice a problem, I inform an employee of Toyota Camry/Honda Accord even if it does affect me," and "If Toyota Camry/Honda Accord gives me good service, I let them know."

3.4.5 Repurchase Intention

Hussain (2017)'s research was related with the repurchase of the luxury product by examining the association between hedonic value, satisfaction, consumer inertia and product attribute with the repeat purchase intention for luxury brands among Generation Y consumers in Malaysia. This study focused on high involvement product, which was the repurchase of the automobile, so the researcher found that it was appropriate to adopt the repurchase intention scale from Hussain (2017). All items were measured using a 5-point Likert scale, from Totally disagree (+1) to agree (+5). Some questions were "I consider myself a loyal patron of Toyota Camry/Honda Accord," "I will do more purchases with Toyota Camry/Honda Accord shortly," "I consider Toyota Camry/Honda Accord as my first choice for next purchase," and "I intend to purchase Toyota Camry/Honda Accord again when I will replace this car or buying besides."

3.5 Quality of Survey Instrument

Quality of the survey instrument as indicated by the validity test and reliability test of the questionnaire with the detail as follows:

3.5.1 Validity Test

The Index of Item-Objective Congruence (IOC) was used to find the content validity. In this process, the questionnaire was checked by three experts in a field of marketing. The Item-Objective Congruence (IOC) was used to evaluate the items of the questionnaire based on the score range from -1 to +1. Congruent = + 1; Questionable = 0; Incongruent = -1. The items that had scored lower than 0.5 were revised. On the other hand, the items that had scores higher than or equal to 0.5 were reserved.

3.5.2 Reliability Test

The reliability of the questionnaire was determined to ensure that the responses collected through the instrument were reliable and consistent. The questionnaire was tested with 30 staff that were not in the sample group. The reliability value was calculated by using Cronbach's alpha to ensure whether there was internal consistency within the items. George and Mallery (2010) illustrated the value of Coefficient Cronbach's Alpha as the following: ≥ 0.9= Excellent, ≥ 0.8= Good, ≥ 0.7= Acceptable, ≥ 0.6= Questionable, ≥ 0.5= Poor, and ≤ 0.5=Unacceptable. Therefore, for the research questionnaire to be

reliable, its value of Coefficient Cronbach's Alpha must be at least 0.7. According to the pre-test, the Cronbach's Alpha for post-purchase traditional brand touchpoint was 0.964, post-purchase digital brand touchpoint was 0.968, product dimension of relationship quality was 0.952, service dimension of relationship quality was 0.961, customer relation dimension of relationship quality was 0.981, the self-brand connection was 0.970, customer brand engagement was 0.948, and repurchase intention was 0.979, so the questionnaire was highly reliable.

3.6 Data Collection Procedure

Overall, data collection was administered in such three phases as a pretest, questionnaire distribution, and followed by source accuracy with the details as follows:

Phase I: Pre-test. The researcher conducted the pre-test to find the reliability of questionnaires by examining Cronbach Alpha. 30 staffs from three divisions (Compliance Division, Internal Audit Division, and Credit Management) and six staff from the CEO office were administered the questionnaire for the pre-test. In total, 30 participants were selected for the pre-test.

Phase II: Questionnaire Distribution. After the validity and reliability of questionnaires had completely been controlled and checked thoroughly, the researcher administered the questionnaires to 650 respondents. Then they were collected back by the researcher to analyze and interpret those data.

Phase III: Source Accuracy. Once the completed questionnaire was sent back, source accuracy was also traced. At the total, 46 sets of questionnaires were terminated due to the missing data in some items. Six hundred and four sets of questionnaires were used for data processing. Furthermore, individual personal data was kept anonymous and confidential.

3.7 Data Processing and Analysis

From the research framework, this was to assess the mediating effects of relationship quality, self-brand connection and customer brand engagement, while independent variables were traditional and digital post-purchase brand touchpoints, and the dependent variable was repurchase intention. With this, structural equation modelling

(SEM) was used for data analysis in which it effectively subsumes a whole range of standard multivariate analysis methods, including regression, factor analysis and analysis of variance were used for hypothesis testing. In addition, SEM provides an opportunity to hypothesize models of market behavior, and to test or confirm these models statistically. Technically, SEM estimated the unknown coefficients in a set of linear structural equations. Variables in the equation system were usually directly observed variables and unmeasured latent variables that were not observed but relate to observed variables. SEM assumes there was a causal structure among a set of latent variables, and that the observed variables were indicators of the latent variables. The latent variables might appear as linear combinations of observed variables, or they might be intervening variables in a causal chain.

The process of data analysis involves scale validation, scale dimensionality and confirmatory factor analysis. An assessment of reliability, validity and confirmatory of the measures are used in the analysis before testing each hypothesis. For the hypothesis testing procedure, structural equation modelling (SEM) was the statistical tool used for analyzing the data. The research conjectured the statement of hypothesis and image of what sampling solution of the mean would be if the hypotheses were a true statement of the nature of the population. Then, the researcher took an actual sample and calculated the mean of the sample. A conclusion was drawn against means difference in case the observed sample differs from the expected value. However, these results were improbable (or probable), the standard or decision rules for determining the rejection on the null hypothesis and the acceptance of the alternative hypothesis was set up against the certain level of significance. A null hypothesis was a primitive statement which communicates the notion that any change from what has been thought to be true or observed in the past will be entirely due to random error. The alternate hypothesis was the opposite of the null hypothesis. The null hypothesis was symbolized as H_0 and the alternate hypothesis was symbolized as Ha. The purpose of hypothesis testing was to determine which one of the hypotheses is accepted. The significance level was a critical probability in choosing between the null hypothesis and the alternative hypothesis. The level of significance determines the probability level. The determining level of significance for the hypotheses testing was 0.05. If the probability of the data is smaller than the level of significance

(0.05), the null hypothesis is rejected. If the probability of the data is greater than the level of significance (0.05), the null hypothesis is accepted.

To be specific, data processing and analysis procedures were started with descriptive statistics, data preparation, measurement model analysis, and followed by structural model analysis.

(a) Descriptive statistic. Descriptive statistics were used to describe the frequency and percentage of the demographic characteristics of the respondents which included gender, age, personal monthly income, education, marital status, occupation. In addition, it was used to report the mean and standard deviation of all observed variables. Based on this, the interpretation of the result was reported as highest (or 4.50-5.00), high (or 3.50-4.49), moderate (or 2.50-3.49), low (or 1.50-2.49), and very low (or 1.00-1.49).

(b) Data preparation. Before performing structural equation analysis, all data collected was analyzed to screen out missing data, check the properties of the matrix of variance and co-variance, test the normality of distribution, and validity and reliability First, out of the total sets of the questionnaire, the record with missing data will be terminated for further analysis. Second, the properties of the matrix of variance and co-variance to assess if it turns out to be positive definite (PD). If observable variables have too many relationships or multicollinearity, they will be non-positive definite (NPD) and not be able to estimate parameters. The method of inspection is $R^2_{SMC} > 0.9$ or $T < 0.1$ or $VIF > 10$ which means NPD. If the data is NPD, a decision to cut many relationships variable is to be taken. Alternatively, a recalculation of the average of data, or removal of outlier are needed. If the data is positive definite (PD), the next step of data analysis will be further performed. Last, the maximum likelihood estimation (MLE) method is used to estimate the parameters of the model. The basic limitation of the MLE method is that the dependent variable must have multiple normal distributions or the multivariate normality. Each pair of variables must have a relationship in a linear relation and the distribution of residual values is homoscedastic. For this purpose, skewness, kurtosis, and homoscedasticity of the residual are assessed. First, the Skew Index (SI) is used to check skewness. If SI = 0 means symmetric data. If SI > 0 means right skew or positive skew. If skewness index (SI) with less than zero means skew left or negative. Curran West & Finch (1997) asserted that if the value of the skewness index (SI) is greater than three, the

data will not be symmetrical. Second, the Kurtosis index (KI) is used to assess the distribution. If KI = 0 means normal distribution. If KI> 0 means Leptokurtic, if KI <0, means Platykurtic. Curran West & Finch (1997) asserted that if the value of KI is greater than 10, it is indicated that there is a problem with the data or data does not have a normal distribution. Third, heteroscedasticity is caused by differences in residual value. Causes of Heteroscedasticity is an abnormal distribution of data which is caused by some data being outliers or abnormal data. Linear plot or histogram is used to make the assessment. If it is found that the data is abnormal, further action is to cut off those data.

(c) Measurement model analysis. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are performed to analyze measurement models of all latent variables used in this study. Exploratory factor analysis (EFA) is performed when the structural relationship of observed variables is not validated by previous research. On the other hands, confirmatory factor analysis (CFA) is used only the structural relationship of observed variables which is derived or verified by previous literature. (Vanichbuncha, 2019)

- **Exploration Factor Analysis (EFA).** With SPSS (IBM SPSS Statistics Version 20n 20), exploratory Factor Analysis (EFA) is performed using principal axis factoring (PAF) with an oblimin oblique rotation. Tinsley & Tinsley (1987) regard PAF as the preferred extraction procedure for factor analysis as it generates reliable solutions even when communalities are low and is robust to deviations from normality (Kahn, 2006). The groups that EFA with common factor analysis seeks the least number of factors which can account for the common variance of a set of variables and group recommends are reasonable and make sense. Kaiser-Meyer-Olkin (KMO) is used to assess the relationship of observed variables with an acceptable value of 0.7. If the value is close to 1.0, it is indicated a better relationship. Moreover, Barlett's test is used to test if all observed variables are independent of one another. Bartlett's Test indicates the chi-square value, degree of freedom (DF) and significance level. With this, the chi-square must have the p-value lower than the significance level or 0.05. Therefore, factor analysis can be performed. Thereafter, the Principal Axis Factoring method is used for factor extraction to determine an appropriate number of variables based on the result of extraction sum of square loading. The eigenvalue more than 1.0 and accumulative

percentage with more than 70 are acceptable. Further, if the total variance explained which is less than 70 per cent (Vanichbuncha, 2019), it is needed to cut off variables with the weak correlation to reduce the number of variables and find only variable that is related to the latent variable. The criteria for cutting-off is based on the value of communalities. The extraction value must exceed 0.5. In addition, a co-existent value of initial and extraction combined must exceed 0.3 (Vanichbuncha, 2019). However, according to conventional wisdom, 30 per cent of impact is considered acceptable. The value of initial loading from communalities and the variance or eigenvalue (equal or more than one) in factor loading are taken into consideration in reducing observed variables. If the group factors of observed variables of factor matrix are not classified according to the context of marketing, factor rotation is to be further adjusted. After that the pattern matrix is taken into consideration, the value of the pattern matrix that exceeds 0.5 is considered acceptable. Then, the validity and appropriateness of the variables in the factors must be reassessed and checked whether it makes sense to its meanings and followed by creating group naming. The residue of the observed variables after reduction and those variables being grouped into factors are under judgmental assessment at the final stage to ensure that they carry on the core substance of given latent variables. All factors must be taken into confirmatory factor analysis (CFA) to measure congruency of the structural model as predicted in the observed variable. The measurement model is continuously adjusted until achieving the best possible model fit before further analyzing the structural model.

- **Confirmatory Factor Analysis (CFA).** At this stage, confirmatory factor analysis (CFA) is further performed for the analysis. AMOS (IBM SPSS AMOS Version 23) is used to perform Confirmatory Factor Analysis. To test the proposed model, several fit indices are used. The model fit can be tested by checking at Chi-Square and P-Value in model identification, but for large models that may cause poor fit models, other statistics should be considered. Other than p-value and CMIN/DF, other parameters used to identify model fit include the goodness of fit (GFI), adjusted goodness of fit (AGFI), the root mean squared error approximation (RMSEA), the root mean square residual (RMR), comparative fit index (CFI), Tucker Lewis Index (TLI), HOELTER 0.05, the Akaike information criterion (**AIC**) statistic and the Bayesian information criterion (BIC). At the first stage, the chi-square (CMIN), degree of freedom (DF) and probability

Level (p-Value) are being identified. According to Schlermelleh-Engel, et al. (2003) and Vandenberg (2006), the "chi-square" statistic and its associated "probability" or p-value should not be statistically significant if there is a good model fit. The DF must have more equations than the number of parameters (DF> 0) to be able to test the hypothesis (over-identified Model). The p-value must be greater than 0.05 (Accept H0) or the expected model to be fit to the data. Next, CMIN/DF is used to assess the minimum discrepancy which is used as a measure of fit. CMIN/DF should be greater than or equal to 3.0 as it indicates that the model represents a fit to the data. If the P-Value is less than 0.05 and CMIN/DF is more than 2.0 or equal to 3.0, the model must be further improved. However, the Chi-square is very sensitive to sample size and is no longer relied upon as a basis for acceptance or rejection (Schlermelleh-Engel et al., 2003; Vandenberg 2006). The larger sample size may have high chi-square and lead to the rejection of H0, so other related statistics are further taken into consideration of model fit. According to the Maximum Likelihood (ML) method, the hypothesis is tested by the critical ratio (C.R) showing the Z value and p-value shown by the regression weights. The critical ratio is reported by Z value which must be greater than 1.96 and P value less than 0.05 level of significance. If there is no effect (P > 0.05 level of significance, H0 is rejected), the model can be improved by cutting off observed variable out of passive variables. Next, as most measurement model is of the large-sized model, then the criteria for the model fit of the large-sized model is applied. The cut-off of the goodness of fit (GFI) and adjusted goodness of fit (AGFI) are less than 0.9. The root means squared residual (RMR) with the value of less than 0.08 indicates a model fit. In addition, the comparative fit index (CFI) must be greater than 0.90. Alongside a PCLOSE >0.05, value < 0.08 for the root mean squared error approximation (RMSEA) indicates a mediocre fit between the proposed model with data, while <0.05 indicates a good model fit. Tucker Lewis Index (TLI) must be greater than 0.95 to indicate the model fit.

The value indicates a reasonably good fit of the model (Hu & Bentler 1998; Kline 2005). If the model fit value is not within the appropriate range of each parameter, the model should be improved by checking at the Modification Indices (M.I.). Subject to high modification indices value, error line must be connected between error terms of each variable showing mutual association. Structural equation modelling allows errors to have

a relation with each other. However, it is suggested to keep the error line as less as possible, and not connecting the error line cross factor and latent variable. As the consequence, the value of chi-square or CMIN is reduced to the fit of the model. Then, Hoelter 0.05 is used to indicate whether the sample size needed is significant at the 0.05 level. The cut-off used for the Hoelter 0.05 index is >200. After that, in case there are more than one models, AIC and BIC values are used for model comparison. Less value of AIC and BIC is considered more suitable. After this process, an adjusted model with the best possible fit is obtained. Then, the second-order or group model is performed to check the factor loading and R-Square by standardized estimates with the relative importance of factors. The data analysis procedure is repeatedly performed with all six measurement models. The criteria range of parameters for consideration was shown in Table 3.1 below.

Table 3.1 Parameters model fit summary for large model

No.	Goodness of Fit Criteria	Goodness of Fit Values for Large Model
1	P-Value	>0.05
2	CMIN/DF	<3
3	GFI	>0.9
4	AGFI	>0.9
5	RMSEA	0.05 – 0.08
6	RMR	<0.08
7	CFI	>0.9
8	TLI	>0.95
9	HOELTER 0.05	>75-200
10	AIC	Less is better
11	BIC	Less is better

(d) Structural model analysis. At this stage, six measurement models are obtained for further conducting the path analysis. The overall model is examined using the same Confirmatory Factor Analysis (CFA) method as the previous measurement

model analysis. Overall, the chosen measurement model is the acceptable fit of model fit. The criteria range of parameters for consideration was shown in table 3.2 below.

Table 3.2 Parameters model fit summary for medium model

No.	Goodness of Fit Criteria	Goodness of Fit Values for Medium Model
1	P-Value	>0.05
2	CMIN/DF	<3
3	GFI	>0.8
4	AGFI	>0.8
5	RMSEA	<0.08
6	RMR	<0.08
7	CFI	>0.8
8	TLI	>0.8
9	HOELTER 0.05	>75-200
10	AIC	Less is better
11	BIC	Less is better

Besides the measurement of model fit, an assessment of the regression coefficient is further conducted to figure out regression weight. Direct, indirect, and total effects are determined. Indirect effects involve mediator variables in this study. The indirect effect is calculated by multiplying the path coefficient between A and B by the path coefficient between B and C. The total effect is calculated by adding the direct effect and the indirect effect. The hypothesis relating to factor loading or regression weight is tested by the critical ratio (C.R) showing the Z value and p-value. Hence, If the p-value is less than 0.05 level of significance (H0 is rejected), it indicates that it is significantly related. If the p-value is greater than 0.05 level of significance (H0 is accepted), it indicates that there is no effect on others. The result of the effects of the model is used for hypothesis testing.

CHAPTER 4
RESEARCH RESULT

This chapter provided an analysis of data with a summary of the data analysis approach. Reliability and validity test of the survey instrument was also given, followed by the result of the statistical analysis. This study investigated the impact of post-purchase experiences of brand touchpoints on customer brand engagement and repurchase intention by measuring the mediating effect of relationship quality and self-brand connection. As the result, it was composed of four research objectives. First, to measure the mediating effect of relationship quality and self-brand connection on the relationship between traditional and digital post-purchase brand touchpoints and customer brand engagement. Second, to measure the mediating effect of customer brand engagement on the relationship between relationship quality, and self-brand connection and repurchase intention. Third, to measure the direct effect of traditional and digital post-purchase brand touchpoints on customer brand engagement. Last, to measure the direct effect of relationship quality and self-brand connection on repurchase intention. Survey research with a structured questionnaire was used for data collection. The target population of this research was all current owners of the medium segment of the passenger car in Thailand. The sample of this study was both male and female, age between 18-60 years old, live in Bangkok and its vicinities currently own Toyota Camry or Honda Accord (ranging from Y2014 model to Y2017 model). All were the main buying decision-maker of the automobile. The data collection instrument was constructed with a five-point rating scale, whereas measurement questions were derived from previous literature and assessed its content validity by experts to ensure that the item objective congruence exceeds 0.5. The following sections explained the result of effects of the model, hypothesis testing and model confirmation.

Table 4.1 Acronym of latent and observed variables used for structural Equation modelling

Latent Variable	Observed Variable
Traditional Post Purchase Brand Touchpoints: Positivity	TTPP1: TV
	TTPP2: Radio
	TTPP3: Printed (Newspaper, Magazine)
	TTPP4: Out of Home (Billboard, LED Screen, Cut-out)
	TTPP5: Direct Mail, Leaflet
	TTPP6: Call Center
	TTPP7: Event
	TTPP8: Car Usage
	TTPP9: Seek advice from anyone personally (WOM, Recommendation)
	TTPP10: Customer Relationship Program (Greet Card on Birthday, and others)
	TTPP11: Salesman
	TTPP12: Showroom
	TTPP13: Service Staff
	TTPP14: Trade-in service at Showroom or Auto Manufacturer's Network
	TTPP15: Special Customer Privilege (Free parking in department store and others)
	TTPP16: Monthly Payment Channel Owned by Auto Manufacturer
	TTPP17: Contact from Insurance Staff to Sell or Resell Insurance Policy
Traditional Post Purchase Brand Touchpoints: Frequency	TTPF1: TV
	TTPF2: Radio
	TTPF3: Printed (Newspaper, Magazine)
	TTPF4: Out of Home (Billboard, LED Screen, Cut-out)
	TTPF5: Direct Mail, Leaflet
	TTPF6: Call Center
	TTPF7: Event
	TTPF8: Car Usage
	TTPF9: Seek advice from anyone personally (WOM, Recommendation)
	TTPF10: Customer Relationship Program (Greet Card on Birthday, and others)
	TTPF11: Salesman
	TTPF12: Showroom
	TTPF13: Service Staff
	TTPF14: Trade-in service at Showroom or Auto Manufacturer's Network
	TTPF15: Special Customer Privilege (Free parking in department store and others)
	TTPF16: Monthly Payment Channel Owned by Auto Manufacturer
	TTPF17: Contact from Insurance Staff to Sell or Resell Insurance Policy

Table 4.1 Acronym of latent and observed variables used for structural Equation modelling (Cont.)

Latent Variable	Observed Variable
Digital Post Purchase Brand Touchpoints: Positivity	DTPP1: Corporate Website
	DTPP2: Social Media (Facebook, Twitter, Line, YouTube)
	DTPP3: Online User Review
	DTPP4: Online Auto Guru Review
	DTPP5: Brand Online Community
	DTPP6: Car Club Online Community (User Created Online Community)
	DTPP7: Email
	DTPP8: SMS
	DTPP9: Social Chat/Messenger Services (Line, Messenger)
	DTPP10: Installed-in-car Telematics
	DTPP11: Electronic Installment Payment
	DTPP12: Electronic Car Insurance Reissuing Service
	DTPP13: Mobile App for Customer Privilege Program
	DTPP14: E-showroom for Car Selling
	DTPP15: Online Trade-in service
Digital Post Purchase Brand Touchpoints: Frequency	DTPF1: Corporate Website
	DTPF2: Social Media (Facebook, Twitter, Line, YouTube)
	DTPF3: Online User Review
	DTPF4: Online Auto Guru Review
	DTPF5: Brand Online Community
	DTPF6: Car Club Online Community (User Created Online Community)
	DTPF7: Email
	DTPF8: SMS
	DTPF9: Social Chat/Messenger Services (Line, Messenger)
	DTPF10: Installed-in-car Telematics
	DTPF11: Electronic Instalment Payment
	DTPF12: Electronic Car Insurance Reissuing Service
	DTPF13: Mobile App for Customer Privilege Program
	DTPF14: E-showroom for Car Selling
	DTPF15: Online Trade-in service

Table 4.1 Acronym of latent and observed variables used for structural Equation modelling (Cont.)

Latent Variable	Observed Variable
Relationship Quality: Product	RQP1: The product quality of Toyota Camry/Honda Accord is exactly what I want.
	RQP2: I don't regret choosing Toyota Camry/Honda Accord.
	RQP3: I really like the product, namely Toyota Camry/Honda Accord.
	RQP4: Using product, namely Toyota Camry/Honda Accord is a good experience for me.
	RQP5: The product performance of Toyota Camry/Honda Accord is better than expected.
	RQP6: I really enjoy using product namely, Toyota Camry/Honda Accord.
	RQP7: The product namely Toyota Camry/Honda Accord always cares about the consumers' needs.
	RQP8: The product namely, Toyota Camry/Honda Accord keeps its promises.
	RQP9: Whatever happens, I believe that the product namely, Toyota Camry/Honda Accord would help me.
	RQP10: The product namely, Toyota Camry/Honda Accord works hard for my well-being.
	RQP11: I don't have to consider product from other brands because I have product namely, Toyota Camry/Honda Accord.
	RQP12: I want to keep using product namely, Toyota Camry/Honda Accord.
	RQP13: I want to maintain a long-term relationship with product namely, Toyota Camry/Honda Accord.
	RQP14: I enjoy my relationship with product namely, Toyota Camry/Honda Accord, so I want to keep buying it.

Table 4.1 Acronym of latent and observed variables used for structural Equation modelling (Cont.)

Latent Variable	Observed Variable
Relationship Quality: Service	RQS1: The service quality of Toyota Camry/Honda Accord is exactly what I want.
	RQS2: I don't regret choosing the service offered by Toyota Camry/Honda Accord.
	RQS3: I really like the service offered by Toyota Camry/Honda Accord.
	RQS4: Using the service of Toyota Camry/Honda Accord is a good experience for me.
	RQS5: The service performance of Toyota Camry/Honda Accord is better than I expected.
	RQS6: I really enjoy using the service of Toyota Camry/Honda Accord.
	RQS7: The service offered by Toyota Camry/Honda Accord always cares about the consumers' needs.
	RQS8: The service offered by Toyota Camry/Honda Accord keeps its promises.
	RQS9: Whatever happens, I believe that the service provided by Toyota Camry/Honda Accord would help me.
	RQS10: The service provided by Toyota Camry/Honda Accord works hard for my well-being.
	RQS11: I don't have to consider service from other brands because I have service from Toyota Camry/Honda Accord.
	RQS12: I want to keep using service from Toyota Camry/Honda Accord.
	RQS13: I want to maintain a long-term relationship with service provided by Toyota Camry/ Honda Accord.
	RQS14: I enjoy my relationship with service provided by Toyota Camry/Honda Accord, so I want to keep buying it.

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Table 4.1 Acronym of latent and observed variables used for structural Equation modelling (Cont.)

Latent Variable	Observed Variable
Relationship Quality: Customer Relation	RQR1: The customer relation of Toyota Camry/Honda Accord is exactly what I want.
	RQR2: I don't regret choosing the customer relation offered by Toyota Camry/Honda Accord.
	RQR3: I really like the customer relation of Toyota Camry/Honda Accord.
	RQR4: Encountering customer relation provided by Toyota Camry/Honda Accord is a good experience for me.
	RQR5: The customer relation's performance of Toyota Camry/Honda Accord is better than I expected.
	RQR6: I really enjoy experiencing customer relation of Toyota Camry/Honda Accord.
	RQR7: The customer relation provided by Toyota Camry/Honda Accord always cares about the consumers' needs.
	RQR8: The customer relation provided by Toyota Camry/Honda Accord keeps its promises.
	RQR9: Whatever happens, I believe that the customer relation provided by Toyota Camry/ Honda Accord would help me.
	RQR10: The customer relation provided by Toyota Camry/Honda Accord works hard for my well-being.
	RQR11: I don't have to other brands because I have good customer relation provided by Toyota Camry/Honda Accord.
	RQR12: I want to keep using Toyota Camry/Honda Accord, due to good customer relation.
	RQR13: I want to maintain a long-term relationship with Toyota Camry/Honda Accord, due to good customer relation.
	RQR14: I enjoy my relationship with customer relation provided by Toyota Camry/Honda Accord, so I want to keep buying it.

Table 4.1 Acronym of latent and observed variables used for structural Equation modelling (Cont.)

Latent Variable	Observed Variable
Relationship Quality: Service	RQS1: The service quality of Toyota Camry/Honda Accord is exactly what I want.
	RQS2: I don't regret choosing the service offered by Toyota Camry/Honda Accord.
	RQS3: I really like the service offered by Toyota Camry/Honda Accord.
	RQS4: Using the service of Toyota Camry/Honda Accord is a good experience for me.
	RQS5: The service performance of Toyota Camry/Honda Accord is better than I expected.
	RQS6: I really enjoy using the service of Toyota Camry/Honda Accord.
	RQS7: The service offered by Toyota Camry/Honda Accord always cares about the consumers' needs.
	RQS8: The service offered by Toyota Camry/Honda Accord keeps its promises.
	RQS9: Whatever happens, I believe that the service provided by Toyota Camry/Honda Accord would help me.
	RQS10: The service provided by Toyota Camry/Honda Accord works hard for my well-being.
	RQS11: I don't have to consider service from other brands because I have service from Toyota Camry/Honda Accord.
	RQS12: I want to keep using service from Toyota Camry/Honda Accord.
	RQS13: I want to maintain a long-term relationship with service provided by Toyota Camry/ Honda Accord.
	RQS14: I enjoy my relationship with service provided by Toyota Camry/Honda Accord, so I want to keep buying it.

Table 4.1 Acronym of latent and observed variables used for structural Equation modelling (Cont.)

Latent Variable	Observed Variable
Customer brand engagement	CBE1: I mention to others that I use Toyota Camry/Honda Accord.
	CBE2: I make sure that others know that I own Toyota Camry/Honda Accord.
	CBE3: I recommended Toyota Camry/Honda Accord to family members.
	CBE4: I speak positively of Toyota Camry/Honda Accord to others.
	CBE5: I recommend Toyota Camry/Honda Accord to acquaintances.
	CBE6: I recommended Toyota Camry/Honda Accord to close personal friends.
	CBE7: I participate in the draws that Toyota Camry/Honda Accord organizes at social networks.
	CBE8: I participate in the contests that Toyota Camry/Honda Accord organizes at social networks.
	CBE9: I would participate in a "bring a friend" program organized by Toyota Camry/Honda Accord.
	CBE10: In general, I participate in the activities organized by Toyota Camry/Honda Accord in which I can win a reward.
	CBE11: I assess and share with other users my opinions and experiences about the products and services of Toyota Camry/Honda Accord on the company website.
	CBE12: I write comments in the blog and/or in the profile of Toyota Camry/Honda Accord in social networks (e.g., Facebook, Twitter, etc.).
	CBE13: I write comments in the forums on Toyota Camry/Honda Accord.
	CBE14: I let Toyota Camry/Honda Accord know of ways that they can better serve my needs.
	CBE15: I make constructive suggestions to Toyota Camry/Honda Accord about how to improve its service.
	CBE16: If I have a useful idea of how to improve service, I give it to someone at Toyota Camry/Honda Accord.
	CBE17: When I experience a problem at this store, I let someone know so they can improve the service.
	CBE18: If I notice a problem, I inform an employee of Toyota Camry/Honda Accord even if it does affect me.
	CBE19: If Toyota Camry/Honda Accord gives me good service, I let them know.

Statistics symbols used through this research were listed. "M" is for Mean, S.D. for Standard Deviation, SMC for Squared Multiple Correlation, T for Tolerance, VIF for Variance Inflation Factor, X^2 for Chi-Square, λ for Factor Loading, e for Error, P-Value for Probability, df for Degree of Freedom, GFI for Goodness of Fit Index, AGFI for Adjusted Goodness of Fit Index, RMSEA for Root Mean Square Error of Approximation, RMR for Root Mean Square, CFI for Comparative Fit Index, TLI for Tucker-Lewis Index, AIC for Akaike Information Criterion, BIC for Bayesian Information Criterion, DE for Direct Effect, IE for Indirect Effect, and TE for Total Effect.

Data analysis procedure included descriptive statistics for reporting personal data of the respondents and identifying the structural relationship between traditional and digital post-purchase brand touchpoints and customer brand engagement, and repurchase intention, with a mediating effect of relationship quality and self-brand connection. Next, the structural model was analyzed to measure the impact of customer brand engagement and repurchase intention. Model fit was determined, along with direct, indirect, and total effects of latent variables on customer brand engagement and repurchase intention. The result was detailed into seven sections including (4.1) Demographic profile of the respondents, (4.2) Descriptive statistics for latent and observed variables, (4.3) Data Preparation (4.4) Measurement model analysis, (4.5) Structural model analysis, (4.6) Effects of model and hypotheses, (4.7) Results of hypothesis testing.

4.1 Demographic Profile of the Respondents

Descriptive statistics were used to describe the frequency and percentage of the demographic characteristics of the respondents as shown in Table 4.2 below.

Table 4.2 Demographic profile of the respondent

Personal Data	Total Frequency (n=604)	Percentage	Camry Users Frequency (n=302)	Percentage	Accord Users Frequency (n=302)	Percentage
1.Gender						
Male	331	55%	163	54%	168	56%
Female	273	45%	139	46%	134	44%
2.Education						
Primary school	6	1%	4	1%	2	1%
Secondary school	12	2%	7	2%	5	2%
Vocational/Certificate	22	4%	10	3%	12	4%
Bachelor's degree	402	66%	191	64%	211	69%
Master's degree and above	162	27%	90	30%	72	24%
3.Marital status						
Single	278	46%	143	47%	135	45%
Married	304	51%	147	49%	157	52%
Others	22	3%	12	4%	10	3%
4. Occupation						
Company employee	242	40%	112	38%	130	43%
Business owner	204	34%	108	36%	96	32%
Government officer	57	9%	27	9%	30	10%
Freelance	29	5%	16	5%	13	4%
Housewife	22	4%	10	3%	12	4%
Retired	16	3%	12	4%	4	1%
Student	20	3%	11	4%	9	3%
Others	14	2%	6	1%	8	3%

Table 4.2 Demographic profile of the respondent (Cont.)

Personal Data	Total		Camry Users		Accord Users	
	Frequency (n=604)	Percentage	Frequency (n=302)	Percentage	Frequency (n=302)	Percentage
5.Average Monthly						
Personal Income						
Less than 30,000	90	15%	55	19%	35	12%
30,000 - 39,999	111	18%	55	18%	56	19%
40,000 - 49,999	59	10%	26	9%	33	11%
50,000 - 59,999	57	9%	20	7%	37	12%
60,000 - 69,999	39	6%	19	6%	20	7%
70,000 - 79,999	33	5%	17	6%	16	5%
80,000 - 89,999	27	4%	15	5%	12	4%
90,000 - 99,999	38	6%	19	6%	19	6%
100,000 - 199,999	91	15%	49	16%	42	14%
200,000 - 999,999	57	9%	26	10%	31	9%
1,000,000 and above	2	0%	1	0%	1	0%
6. Age						
Below 26 years old	28	5%	14	5%	14	5%
26-30 years old	76	13%	41	14%	35	12%
31-35 years old	146	21%	67	22%	79	25%
36-40 years old	116	19%	54	17%	62	21%
41-45 years old	76	13%	33	11%	43	14%
46-50 years old	49	8%	30	10%	19	6%
51-55 years old	44	7%	27	9%	17	6%
56-60 years old	38	6%	21	7%	17	6%
60 years old and above	31	5%	15	5%	16	5%

As shown in Table 4.2, out of the total sample of 604, the gender composition of the respondent was 55 percent male and 45 percent, female. In terms of educational background, most respondents were university graduated with a proportion of 66 percent. This was followed by 27 percent of the respondents who had a master's degree and above. The rest was four percent who was diploma and vocational degree, graduates. In terms of marital status, most of the respondents were married with 51 percent of total respondents, followed by 46 percent who was single. In terms of occupation, most of the respondents were company employee with a proportion of 40 percent, followed by 34 percent who was business owners. In addition, nine percent of them was a public employee. In terms

of the personal monthly income distribution, most respondents fell into the income range between 30,000 Baht and 39,999 Baht with a proportion of 18 percent, followed by 15 percent who fell into 100,000-199,999 Baht. In addition, 15 percent of them had a personal monthly income below 30,000 Baht. Finally, in terms of age distribution, most of the respondents fell into the age range of 31-35 years old with 21 percent, followed by 19 percent who was in their 36-40 years old, and 13 percent who was in their 26-30 years old and 41-45 years old.

4.2 Descriptive Statistics for Latent and Observed Variables

Latent variables were assessed with an accumulative score of observed variables that were used in composing structural equation model as shown in Tables 4.3-4.13 below.

Table 4.3 Mean and standard deviation for traditional post-purchase brand touchpoints (positivity)

	Traditional Post Purchase Brand Touchpoint in Positivity	Mean	SD	Interpretation
1.	Television (TTPP1)	4.16	0.627	High
2.	Radio (TTPP2)	3.88	0.696	High
3.	Printed Media (TTPP3)	3.84	0.668	High
4.	OOH (TTPP4)	3.95	0.691	High
5.	Direct Mail/Leaflet (TTPP5)	3.78	0.689	High
6.	Call Center (TTPP6)	3.81	0.704	High
7.	Advertising/Marketing Activities (TTPP7)	3.97	0.703	High
8.	Usage/Experience (TTPP8)	4.26	0.683	High
9.	Word of Mouth (TTPP9)	3.92	0.668	High
10.	CRM (TTPP10)	3.85	0.692	High
11.	Salespeople (TTPP11)	3.98	0.664	High
12.	Car Service Center (TTPP12)	4.08	0.657	High
13.	Service Staff (TTPP13)	4.09	0.663	High
14.	Trade-in Service at showroom (TTPP14)	3.89	0.664	High
15.	VIP Customer Privileges (TTPP15)	3.95	0.752	High
16.	Installment and Service Payments at Showroom (TTPP16)	3.83	0.716	High
17.	Direct Call of Staff for Renewing the Insurance Policy (TTPP17)	3.85	0.695	High
	Average	**3.95**	**0.696**	**High**

As shown in Table 4.3 above, the mean score of traditional post-purchase brand touchpoints in positivity was high with a score of 3.95. Among observed variables, usage/experience was highest with a score of 4.26, followed by television, service staff, and car service center with a score of 4.16, 4.09, and 4.08 respectively. The distribution of standard deviation ranged between 0.627 and 0.752. The average score of the standard deviation of traditional post-purchase brand touchpoints in positivity was 0.696. Among all observed variables, VIP Customer Privilege had the highest standard deviation with the score of 0.752, followed by Instalment and Service Payments at Showroom, Call Centre, and Advertising and Marketing Activities with the scores of 0.716, 0.704, and 0.703 respectively.

Table 4.4 Mean and standard deviation for traditional post purchase brand touchpoints (frequency)

Traditional Post Purchase Brand Touchpoints in Frequency	Mean	SD	Interpretation
1. Television (TTPF1)	3.97	0.836	High
2. Radio (TTPF2)	3.47	1.090	Moderate
3. Printed Media (TTPF3)	3.61	0.914	High
4. OOH (TTPF4)	3.70	0.892	High
5. Direct Mail/Leaflet (TTPF5)	3.23	1.059	Moderate
6. Call Center (TTPF6)	3.11	1.154	Moderate
7. Advertising/Marketing Activities (TTPF7)	3.55	1.031	High
8. Usage/Experience (TTPF8)	3.89	0.958	High
9. Word of Mouth (TTPF9)	3.65	0.978	High
10. CRM (TTPF10)	3.39	1.063	Moderate
11. Salespeople (TTPF11)	3.61	1.000	High
12. Car Service Center (TTPF12)	3.80	0.923	High
13. Service Staff (TTPF13)	3.75	0.934	High
14. Trade-in Service at showroom (TTPF14)	3.40	1.119	Moderate
15. VIP Customer Privileges (TTPF15)	3.32	1.198	Moderate
16. Installment and Service Payments at Showroom (TTPF16)	3.34	1.155	Moderate
17. Direct Call from Staff for Renewing the Insurance Policy (TTPF17)	3.42	1.107	Moderate
Average	**3.54**	**1.054**	**High**

As shown in Table 4.4 above, the mean score of traditional post-purchase brand touchpoints in frequency was high with a score of 3.54. Among all observed variables, television was highest with a score of 3.97, followed by usage/experience, car service center, and service staff with a score of 3.89, 3.80, and 3.75 respectively. The distribution of standard deviation ranged between 0.836 and 1.198. The average score of the standard deviation of traditional post-purchase brand touchpoints in frequency was 1.054. Among all observed variables, VIP customer privilege had the highest standard deviation with the score of 1.198, followed by instalment and service payment at the showroom, call center, and trade-in service at the showroom with the scores of 1.155, 1.154 and 1.119 respectively.

Table 4.5 Mean and standard deviation for digital post purchase brand touchpoints (positivity)

Digital Post Purchase Brand Touchpoints in Positivity	Mean	SD	Interpretation
1. Corporate Website (DTPP1)	3.90	0.713	High
2. Social Media (DTPP2)	4.00	0.704	High
3. Online Real User Review (DTPP3)	3.97	0.718	High
4. Online Car Guru Review (DTPP4)	3.98	0.717	High
5. Online Brand Community (DTPP5)	3.75	0.706	High
6. Online Car Club Community (DTPP6)	3.78	0.715	High
7. Email (DTPP7)	3.74	0.698	High
8. SMS (DTPP8)	3.81	0.714	High
9. Social Chat (DTPP9)	3.77	0.705	High
10. Car Telematics (DTPP10)	3.92	0.683	High
11. Electronic Installment Pay Point (DTPP11)	3.92	0.709	High
12. Electronic-Car Insurance Reissue Service (DTPP12)	3.87	0.680	High
13. Customer Privilege Mobile App (DTPP13)	3.90	0.703	High
14. Online Car Showroom for Selling (DTPP14)	3.79	0.675	High
15. Online Used Car Auction (DTPP15)	3.78	0.667	High
Average	**3.86**	**0.706**	**High**

As shown in Table 4.5 above, the mean score of digital post-purchase brand touchpoints in positivity was high with a score of 3.86. Among all observed variables, social media was highest with the score of 4.00, followed by online car guru review, online real user review, car telematics, and electronic instalment pay point with the score of 3.98, 3.97, 3.92, and 3.92 respectively. The distribution of standard deviation ranged between 0.667 and 0.715. The average score of the standard deviation of digital post-purchase brand touchpoints in positivity was 0.706. Among all observed variables, online real user review had the highest standard deviation with the score of 0.718, followed by online car guru review, online car club community, and SMS with the scores of 0.717, 0.715, and 0.714 respectively.

Table 4.6 Mean and standard deviation for digital post purchase brand touchpoints (frequency)

Digital Post Purchase Brand Touchpoint in Frequency	Mean	SD	Interpretation
1. Corporate Website (DTPF1)	3.63	0.953	High
2. Social Media (DTPF2)	3.76	1.044	High
3. Online Real User Review (DTPF3)	3.58	0.927	High
4. Online Car Guru Review (DTPF4)	3.59	1.028	High
5. Online Brand Community (DTPF5)	3.32	1.075	Moderate
6. Online Car Club Community (DTPF6)	3.34	1.105	Moderate
7. Email (DTPF7)	3.12	1.116	Moderate
8. SMS (DTPF8)	3.14	1.145	Moderate
9. Social Chat (DTPF9)	3.17	1.121	Moderate
10. Car Telematics (DTPF10)	3.39	1.137	Moderate
11. Electronic Installment Pay Point (DTPF11)	3.45	1.122	Moderate
12. Electronic-Car Insurance Reissue Service (DTPF12)	3.43	1.087	Moderate
13. Customer Privilege Mobile App (DTPF13)	3.46	1.096	Moderate
14. Online Car Showroom for Selling (DTPF14)	3.40	1.105	Moderate
15. Online Used Car Auction (DTPF15)	3.36	1.143	Moderate
Average	**3.41**	**1.096**	**Moderate**

As shown in Table 4.6 above, the mean score of digital post-purchase brand touchpoints in frequency was moderate with a score of 3.41. Among all observed variables, social media was highest with the score of 3.76, followed by corporate website, online car guru review, and online real user review with the score of 3.63, 3.59, and 3.58 respectively. The distribution of standard deviation ranged between 0.927 and 1.145. The average score of the standard deviation of digital post-purchase brand touchpoints in frequency was 1.096. Among all observed variables, SMS had the highest standard deviation with the score of 1.145, followed by online used car auction, car telematics, and electronic instalment pay point with the scores of 1.143, 1.137, and 1.122 respectively.

Table 4.7 Mean and standard deviation for relationship quality (product)

Relationship Quality in Product	Mean	SD	Interpretation
1. I am happy with quality (RQP1)	4.42	0.600	High
2. This brand is my right choice (RQP2)	4.32	0.652	High
3. I like this brand (RQP3)	4.34	0.662	High
4. This brand gives good experience (RQP4)	4.34	0.655	High
5. The performance exceeds expectation (RQP5)	4.27	0.703	High
6. I enjoy using this brand (RQP6)	4.34	0.643	High
7. This brand cares about my need (RQP7)	4.22	0.677	High
8. This brand keeps the promises (RQP8)	4.18	0.708	High
9. This brand will help me out for whatever (RQP9)	4.12	0.748	High
10. This brand works hard for my wellbeing (RQP10)	4.14	0.717	High
11. I won't consider other brands (RQP11)	4.04	0.848	High
12. I will keep using this brand (RQP12)	4.17	0.783	High
13. I will maintain long-term with this brand (RQP13)	4.18	0.747	High
14. I enjoy relationship and will keep buying (RQP14)	4.11	0.785	High
Average	**4.23**	**0.720**	**High**

As shown in Table 4.7 above, the mean score of relationship quality in the product was high with a score of 4.23. Among all observed variables, "I am happy with the quality" was highest with the score of 4.42, followed by "I like this brand," "this brand gives good experience," "I enjoy using this brand" with the score of 3.34, 4.34, and 4.34 respectively. The distribution of standard deviation ranged between 0.600 and 0.848. The average score of the standard deviation of relationship quality in the product was 0.720.

Among all observed variables, "I won't consider other brands" had the highest standard deviation with the score of 0.848, followed by "I enjoy the relationship and will keep buying," "I will keep using this brand," and "this brand will help me out for whatever" with the scores of 0.785, 0.783, and 0.748 respectively.

Table 4.8 Mean and standard deviation for relationship quality (service)

Relationship Quality in Service	Mean	SD	Interpretation
1. I am happy with quality (RQS1)	4.23	0.643	High
2. This brand is my right choice (RQS2)	4.17	0.741	High
3. I like this brand (RQS3)	4.17	0.695	High
4. This brand gives good experience (RQS4)	4.15	0.721	High
5. The performance exceeds expectation (RQS5)	4.09	0.766	High
6. I enjoy using this brand (RQS6)	4.15	0.707	High
7. This brand cares about my need (RQS7)	4.09	0.707	High
8. This brand keeps the promises (RQS8)	4.04	0.748	High
9. This brand will help me out for whatever (RQS9)	4.02	0.777	High
10. This brand works hard for my wellbeing (RQS10)	4.03	0.745	High
11. I won't consider other brands (RQS11)	3.99	0.797	High
12. I will keep using this brand (RQS12)	4.07	0.791	High
13. I will maintain long-term with this brand (RQS13)	4.06	0.753	High
14. I enjoy relationship and will keep buying (RQS14)	4.02	0.767	High
Average	**4.09**	**0.743**	**High**

As shown in Table 4.8 above, the mean score of relationship quality in service was high with a score of 4.09. Among all observed variables, "I am happy with the quality" was highest with the score of 4.23, followed by "this brand is my right choice," "I like this brand," "This brand gives good experience" and "I enjoy using this brand" with the score of 4.17, 4.17, 4.15, and 4.15 respectively. The distribution of standard deviation ranged between 0.643-0.791. The average score of the standard deviation of relationship quality in service was 0.797. Among all observed variables, "I won't consider another brand" had the highest standard deviation with the score of 0.797, followed by "I will keep using this brand," this brand will help me out for whatever," "I enjoy the relationship and will keep buying" with the scores of 0.791, 0.777 and 0.767 respectively.

Table 4.9 Mean and standard deviation for relationship quality (customer relation)

Relationship Quality in Customer Relation	Mean	SD	Interpretation
1. I am happy with quality (RQR1)	4.12	0.652	High
2. This brand is my right choice (RQR2)	4.05	0.680	High
3. I like this brand (RQR3)	4.03	0.748	High
4. This brand gives good experience (RQR4)	4.00	0.742	High
5. The performance exceeds expectation (RQR5)	3.96	0.773	High
6. I enjoy using this brand (RQR6)	4.01	0.765	High
7. This brand cares about my need (RQR7)	4.00	0.738	High
8. This brand keeps the promises (RQR8)	3.97	0.731	High
9. This brand will help me out for whatever (RQR9)	3.96	0.753	High
10. This brand works hard for my wellbeing (RQR10)	4.00	0.748	High
11. I won't consider other brands (RQR11)	3.96	0.776	High
12. I will keep using this brand (RQR12)	4.03	0.747	High
13. I will maintain long-term with this brand (RQR13)	4.02	0.746	High
14. I enjoy relationship and will keep buying (RQR14)	3.98	0.792	High
Average	**4.01**	**0.744**	**High**

As shown in Table 4.9 above, the mean score of relationship quality in customer relation was high with a score of 4.01. Among all observed variables, "I am happy with the quality" was highest with the score of 4.12, followed by "this brand is my right choice," "I like this brand," and "I will keep using this brand" with the score of 4.05, 4.03, and 4.03 respectively. The distribution of standard deviation ranged between 0.652 and 0.792. The average score of the standard deviation of relationship quality in customer relation was 0.744. Among all observed variables, "I enjoy the relationship and will keep buying" had the highest standard deviation with the score of 0.744, followed by "I won't consider other brands," "the performance exceeds expectation," and "I enjoy using this brand" with the scores of 0.776, 0.773, and 0.765 respectively.

Table 4.10 Mean and standard deviation for self-brand connection

Self-Brand Connection	Mean	SD	Interpretation
1. Reflect myself (SBC1)	4.21	0.662	High
2. Brand & self-identification (SBC2)	4.20	0.701	High
3. Brand & self-connection (SBC3)	4.16	0.728	High
4. Express myself to public (SBC4)	4.16	0.709	High
5. Reinforce my ideal self (SBC5)	4.09	0.750	High
6. This is my brand (SBC6)	4.10	0.747	High
7. Brand fit to myself (SBC7)	4.22	0.696	High
Average	**4.16**	**0.715**	**High**

As shown in Table 4.10 above, the mean score of self-brand connection was high with a score of 4.16. Among all observed variables, "brand fits myself" was highest with the score of 4.22, followed by "reflect me," "brand and self-identification," brand and self-connection," and "express myself to the public" with the score of 4.21, 4.20, 4.16 and 4.16 respectively. The distribution of standard deviation ranged between 0.662 and 0.750. The average score of the standard deviation of self-brand connection was 0.715. Among all observed variables, "reinforce my ideal self" had the highest standard deviation with the score of 0.750, followed by "this is my brand," "brand and self-connection," and "express myself to the public" with the scores of 0.747, 0.728, and 0.709 respectively.

Table 4.11 Mean and standard deviation for customer brand engagement

Customer Brand Engagement	Mean	SD	Interpretation
1. Tell others that I use this brand (CBE1)	4.37	0.630	High
2. Make sure others know I use this brand (CBE2)	4.29	0.651	High
3. Recommend this brand to family (CBE3)	4.18	0.712	High
4. Speak positive about this brand to others (CBE4)	4.13	0.736	High
5. Recommend this brand to acquaintances (CBE5)	4.09	0.761	High
6. Recommend this brand to close friends (CBE6)	4.06	0.815	High
Average: Word of Mouth	**4.19**	**0.718**	**High**
7. Join the draws of this brand in social network (CBE7)	3.48	1.172	Moderate
8. Join this brand's contest in social media (CBE8)	3.40	1.193	Moderate
9. Join 'bring a friend' program of this brand (CBE9)	3.39	1.184	Moderate

Table 4.11 Mean and standard deviation for customer brand engagement (Cont.)

Customer Brand Engagement	Mean	SD	Interpretation
10. Join the brand's activities to win reward (CBE10)	3.29	1.250	Moderate
Average: Loyalty Program Participation	**3.39**	**1.200**	**Moderate**
11. Share my thought about this brand on website (CBE11)	3.38	1.206	Moderate
12. Write comments in this brand owned digital media (CBE12)	3.40	1.171	Moderate
13. Write comments in forums on this brand (CBE13)	3.33	1.202	Moderate
Average: Customers' Interaction	**3.37**	**1.193**	**Moderate**
14. If any idea to better serve the need, will tell them (CBE14)	3.60	1.027	High
15. If any constructive suggestion, I will tell them (CBE15)	3.74	0.915	High
16. If any useful idea to improve, will tell them (CBE16)	3.78	0.901	High
17. If experience any problem, will tell them (CBE17)	3.90	0.869	High
18. If notice a problem, I will tell them (CBE18)	3.85	0.861	High
19. If the brand gives good service, I will tell them (CBE19)	3.96	0.816	High
Average: Co-creation	**3.81**	**0.898**	**High**
Average	**3.77**	**1.033**	**High**

As shown in Table 4.11 above, the mean score of customer brand engagement was high with a score of 3.77. Among all observed variables, "tell others that I use this brand" was highest with the score of 4.37, followed by "make sure others know I use this brand," "recommend this brand to family," and "speak positively about this brand to others" with the score of 4.29, 4.18, and 4.13 respectively. The distribution of standard deviation ranged between 0.630 and 1.250. The average score of the standard deviation of customer brand engagement was 1.033. Among all observed variables, "join the brand's activities to win reward" had the highest standard deviation with the score of 1.250, followed by "share my thought about this brand on the website," "write comments in forums on this brand," and "join this brand's contest in social media" with the scores of 1.206, 1.202, and 1.193 respectively.

Table 4.12 Mean and standard deviation for repurchase intention

Repurchase Intention	Mean	SD	Interpretation
1. Talk positive about this brand (RPI1)	4.33	0.629	High
2. Regular customers of this brand (RPI2)	4.26	0.697	High
3. Recommend this brand to others (RPI3)	4.22	0.676	High
4. Buy this brand again in the future (RPI4)	4.10	0.771	High
5. Consider this brand as first choice next time (RPI5)	4.13	0.756	High
6. Will buy this brand as my next car (RPI6)	4.09	0.787	High
Average	**4.19**	**0.726**	High

As shown in Table 4.12 above, the mean score of repurchase intention was high with a score of 4.19. Among all observed variables, "talk positively about this brand" was highest with the score of 4.33, followed by "regular customers of this brand," "recommend this brand to others," and "consider this brand as first choice next time" with the score of 4.26, 4.22 and 4.13 respectively. The distribution of standard deviation ranged between 0.629 and 0.787. The average score of the standard deviation of repurchase intention was 0.726. Among all observed variables, "will buy this brand as my next car" had the highest standard deviation with the score of 0.787, followed by "buy this brand again in the future," "consider this brand as first choice next time," and regular customers of this brand" with the scores of 0.771, 0.756, and 0.697 respectively.

Table 4.13 Mean and standard deviation for latent variables

Variable	Mean	SD	Interpretation
1. Traditional Post Purchase Brand Touchpoints	3.75	0.875	High
2. Digital Post Purchase Brand Touchpoints	3.64	0.901	High
3. Relationship Quality	4.11	0.736	High
4. Self-brand Connection	4.16	0.715	High
5. Customer Brand Engagement	3.77	1.033	High
6. Repurchase Intention	4.19	0.726	High

As shown in Table 4.13 above, the latent variables with highest to lowest average score were repurchase intention, self-brand connection, relationship quality, customer brand engagement, traditional post-purchase brand touchpoints (TPP), and digital post-purchase brand touchpoints. Standard deviation (SD) of all latent variables ranged between 1.033 and 0.726. The latent variables with highest to lowest score of standard deviation (SD) were customer brand engagement, digital post-purchase brand touchpoints, traditional post-purchase brand touchpoints, relationship quality, repurchase intention, and self-brand connection.

4.3 Data Preparation

Before performing structural equation analysis, the properties of the matrix of variance and co-variance was analyzed to check the multicollinearity. It was found that all groups of variables had the square multiple correlations (R^2smc) less than 0.9, as it indicated that there was no multicollinearity as shown in table 4.14. Besides, skewness and kurtosis were conducted to test its normal distribution. It was shown that all data of the skewness index with < 3.0 and kurtosis index with <10 indicated a normal distribution of the data as exhibited in Table 4.15. Next, the linear relationship of observed variables was assessed using linear plot between the two variables as shown in Table 4.16. In addition, as shown in figures 4.1-4.3, the residual normal probability plot was close to the linear line and histogram show normal distribution. Therefore, the homoscedasticity of the residual was confirmed. Finally, reliability was tested with Cronbach's alpha, it was found that the value was more than 0.9 which indicated that the data was reliable, as shown in Table 4.17.

Table 4.14 Square multiple correlation (R^2smc)

Latent Variable	$R^2{}_{smc}$
Traditional post purchase brand touchpoints	0.56
Digital post purchase brand touchpoints	0.62
Relationship quality	0.65
Self-brand connection	0.72
Customer brand engagement	0.71
Repurchase intention	0.76

Table 4.15 Skewness and kurtosis

Latent Variable	Number of Variable	Skewness	Kurtosis
Traditional post purchase brand touchpoints	34	0.0 - 0.9	0.0 - 1.5
Digital post purchase brand touchpoints	30	0.0 - 0.7	0.0 - 1.0
Relationship quality	42	0.5 - 1.0	0.1 - 1.8
Self-brand connection	7	0.4 - 0.7	0.0 - 1.1
Customer brand engagement	19	0.5 - 1.0	0.2 - 2.0
Repurchase intention	6	0.6 - 0.8	0.6 - 1.5

Table 4.16 Linear relation

Latent Variable	Group of Variable	Result
Traditional post purchase brand touchpoints	33 Pair	Linear
Digital post purchase brand touchpoints	29 Pair	Linear
Relationship quality	41 Pair	Linear
Self-brand connection	6 Pair	Linear
Customer brand engagement	18 Pair	Linear
Repurchase intention	5 Pair	Linear
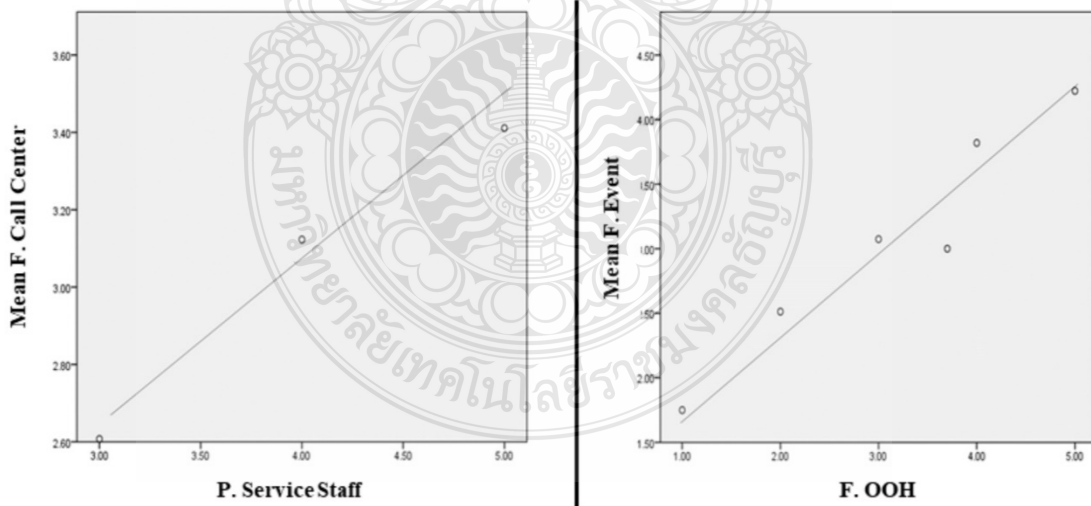
Figure 4.1 Example of scatter plot

Normal P-P Plot of F. Call Center

Normal P-P Plot of P. Service Staff
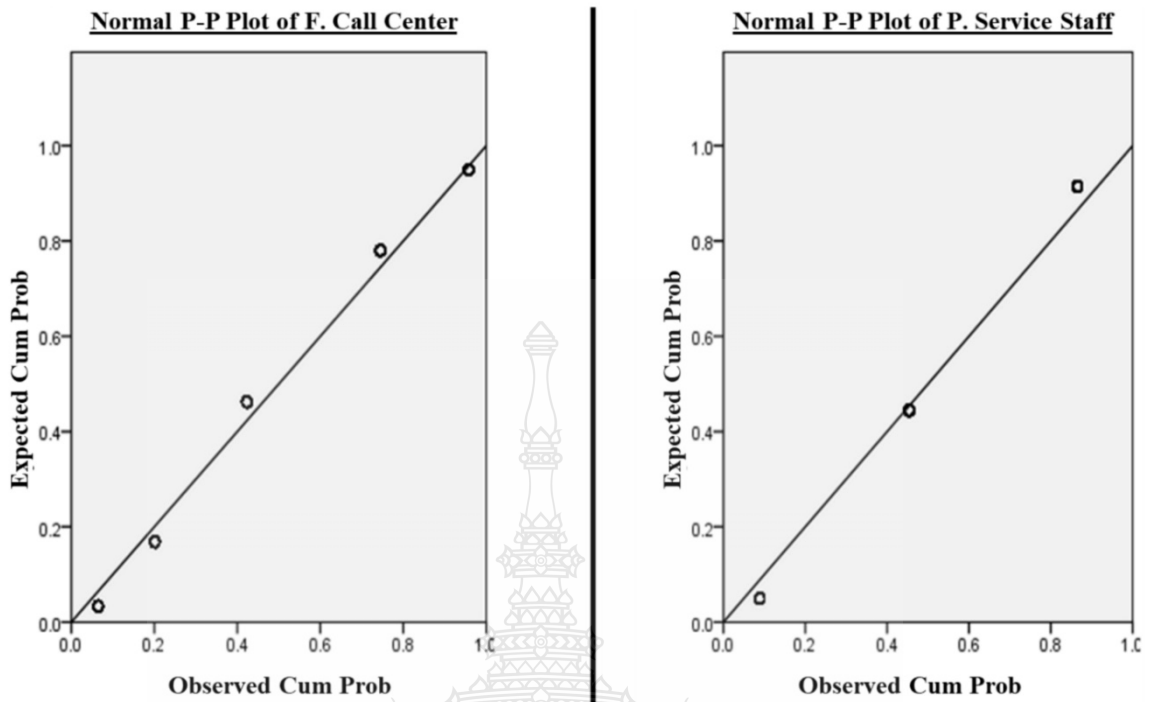
Figure 4.2 Example of homoscedascity of the residual

F. Call Center

P. Service Staff
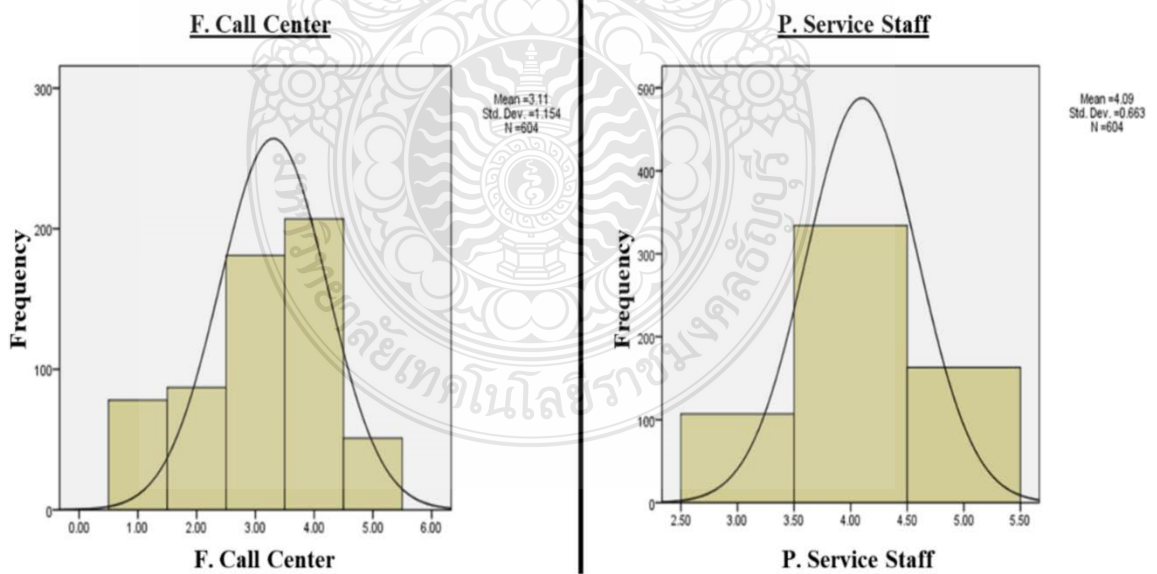
Figure 4.3 Example of histogram plot

Table 4.17 Cronbach's alpha

Latent Variable	Number of Items	Cronbach's Alpha
All parameter	138	0.982
Traditional post purchase brand touchpoints	34	0.939
Digital post purchase brand touchpoints	30	0.947
Relationship quality	42	0.978
Self-brand connection	19	0.947
Customer brand engagement	7	0.948
Repurchase intention	6	0.936

4.4 Measurement Model

The measurement models of all latent variables were analyzed to assess the model fit explained by the observed variables. At the total, there were six key measurement models which included traditional post-purchase brand touchpoints, digital post-purchase brand touchpoints, relationship quality, self-brand connection, customer brand engagement and repurchase intention.

4.4.1 Traditional Post-Purchase Brand Touchpoints

Traditional post-purchase brand touchpoints were not derived from the previous past literature, the exploratory factor analysis was applied to reduce many observed variables and group effectively into fewer numbers of factors. In the process of testing congruency between latent and observed variables, if the correlation level is low, a decision to cut off variables is needed (as stated in section 3.7). With the reliability test, Cronbach's alpha test was 0.939 which indicated that the value was close to 1.0. Then, it was concluded that it was acceptable and reliable. Besides, those observed variables were not independent to another whereas further data processing was able to be taken into action.

(a) Exploratory factor analysis of traditional post-purchase brand touchpoints. The prior assumption for factor analysis was tested. As shown in Table 4.18 below, the result of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) was .923 in which it indicated the matrix of observed variables was not the identity matrix. In addition, with Bartlett's test for Sphericity, the Chi-square, degree of freedom, and level of significance were 12217.140, 561, and 0.00 respectively

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Table 4.18 KMO and Bartlett's test of traditional post purchase brand touchpoints

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig.
.923	12217.140	561	0.000

Next, Common Factor Analysis in Exploratory Factor Analysis was performed to analyze measurement models of all latent variables used in this study. Common Factor Analysis using Principle Axis Factoring indicates eigenvalue of total variance explained of factors. From Table 4.19, with all seven factors combined, the total variance explained was 56.570 percent which was less than 70 percent (Vanichbuncha, 2019) so it was needed to cut off variables with the weak correlation by using the value of communalities.

Table 4.19 Total variance explained of traditional post purchase brand touchpoints in the first round

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	Percent of Variance	Cumulative Percent	Total	Percent of Variance	Cumulative Percent	Total
1	11.402	33.535	33.535	11.015	32.396	32.396	7.923
2	3.360	9.882	43.417	2.922	8.595	40.992	4.112
3	2.180	6.410	49.827	1.798	5.288	46.280	4.389
4	1.783	5.244	55.071	1.332	3.918	50.198	4.711
5	1.305	3.838	58.910	.812	2.389	52.587	3.988
6	1.162	3.417	62.327	.756	2.225	54.812	5.619
7	1.033	3.038	65.365	.598	1.758	56.570	4.140
8	.977	2.873	68.238				
9	.886	2.606	70.843				
10	.835	2.456	73.299				

At the first round, 13 observed variables were cut off such as TTPP1, TTPP2, TTPP3, TTPP4, TTPP5, TTPP6, TTPP8, TTPP9, TTPP10, TTPP14, TTPF1, TTPF8 and TTPF9. Further, the exploratory factor analysis was performed for another four times. At

the final round, 14 observed variables were kept for further analysis considering the criteria and the value of factor loading as shown in Table 4.20 below.

Table 4.20 Summary of observed variables in the cutting-off process of traditional post purchase brand touchpoints

Round	1st	2nd	3rd	4th	5th
KMO value	0.923	0.916	0.911	0.885	0.874
Extraction Sums of Squared Loadings (%)	56.570	60.946	65.740	66.436	67.462
Total factor	34	21	17	15	14
Number of cutting	13	4	2	1	0
Number of remaining	21	17	15	14	14
Remaining	TTPP7	TTPP12	TTPP12	TTPP12	TTPP12
	TTPP11	TTPP13	TTPP13	TTPP13	TTPP13
	TTPP12	TTPP16	TTPP16	TTPP16	TTPP16
	TTPP13	TTPP17	TTPP17	TTPP17	TTPP17
	TTPP15	TTPF2	TTPF2	TTPF2	TTPF2
	TTPP16	TTPF3	TTPF3	TTPF3	TTPF3
	TTPP17	TTPF5	TTPF5	TTPF5	TTPF5
	TTPF2	TTPF6	TTPF6	TTPF6	TTPF6
	TTPF3	TTPF7	TTPF7	TTPF12	TTPF12
	TTPF4	TTPF10	TTPF12	TTPF13	TTPF13
	TTPF5	TTPF11	TTPF13	TTPF14	TTPF14
	TTPF6	TTPF12	TTPF14	TTPF15	TTPF15
	TTPF7	TTPF13	TTPF15	TTPF16	TTPF16
	TTPF10	TTPF14	TTPF16	TTPF17	TTPF17
	TTPF11	TTPF15	TTPF17		
	TTPF12	TTPF16			
	TTPF13	TTPF17			
	TTPF14				
	TTPF15				
	TTPF16				
	TTPF17				

Final testing result of measurement model with Exploratory Factor Analysis. From Table 4.20 above, it was shown that the value of extraction sums of squared loadings in the fifth round was 67.462 percent. Since the final value of extraction sums

of squared loadings was very close to 70 percent and the values obtained between the fourth and the fifth rounds did not appear to have a big difference, hence, the result of the fifth round with the results as shown in Table 4.21 and 4.22 was taken for further Confirmatory Factor Analysis.

Table 4.21 KMO and Bartlett's test of traditional post purchase brand touchpoints in the last round (5th round)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig.
.874	5698.305	91	0.000

Table 4.22 Total variance explained of traditional post purchase brand touchpoints in the last round (5th round)

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	Percent of Variance	Cumulative Percent	Total	Percent of Variance	Cumulative Percent	Total
1	6.482	46.297	46.297	6.176	44.117	44.117	5.233
2	1.740	12.432	58.729	1.378	9.840	53.957	2.760
3	1.528	10.914	69.644	1.211	8.652	62.609	1.921
4	1.014	7.243	76.886	.680	4.854	67.462	4.953
5	.682	4.873	81.759				
6	.559	3.992	85.751				

Further, based on the analysis of Common factor analysis using Principle Axis Factoring, it turned out to have four factors whereas the eigenvalue of the first factor to the last factor was equal or larger than 1.0. With all four factors combined, the total variance explained was 67.462 percent. From test initial in communalities of traditional post-purchase brand touchpoint, the value of the variance explained was very close to 70 percent, then this was acceptable. The result of the pattern matrix was shown in Table 4.23 below.

Table 4.23 Pattern matrix of traditional post purchase brand touchpoints

Observed Variable	Factor			
	1	**2**	**3**	**4**
TTPP12	**0.741**	0.123	0.035	-0.103
TTPP13	**0.764**	0.100	0.050	-0.095
TTPP16	0.059	**0.740**	-0.002	0.139
TTPP17	0.050	**0.836**	0.009	0.033
TTPF2	-0.031	-0.030	**0.818**	-0.045
TTPF3	0.086	0.043	**0.707**	-0.025
TTPF5	-0.023	-0.022	**0.853**	0.017
TTPF6	-0.018	0.011	**0.707**	0.131
TTPF12	**0.509**	-0.171	0.072	0.438
TTPF13	**0.581**	-0.137	0.029	0.449
TTPF14	0.040	0.047	0.059	**0.773**
TTPF15	-0.074	0.071	0.090	**0.812**
TTPF16	-0.099	0.110	0.088	**0.846**
TTPF17	0.009	0.127	0.083	**0.777**

Besides, the pattern matrix of traditional post-purchase brand touchpoints shown in Table 4.23 above indicated that nine iterations were required with four factors extracted. First, F1 was composed of TTPP12 with the value of 0.741, TTPP13 with the value of 0.764, TTPF12 with the value of 0.509 and TTPF13 with the value of 0.581. Second, F2 was composed of TTPP16 with a value of 0.740 and TTPP17 with a value of 0.836. Third, F3 was composed of TTPF2 with the value of 0.818, TTPF3 with the value of 0.707, TTPF5 with the value of 0.853 and TTPF6 with the value of 0.707. Last, F4 was composed of TTPF14 with the value of 0.773, TTPF15 with the value of 0.812, TTPF16 with the value of 0.846 and TTPF17 with the value of 0.777. Dimension classification of the factor was found that all observed variables classified in each factor were related and sensible to its meaning in the context of marketing. The first factor was then named as Point of Sales Channel, the second one was Value Chain Service Positivity, and Personal Media Channel, the third one was Mass & Personal Media Channel, and the last one was Supplementary Service Channel - Frequency. Then, it was concluded that this measurement model was appropriate for further Confirmatory Factor Analysis.

(b) Confirmatory Factor Analysis of traditional post-purchase brand touchpoints. Confirmatory Factor Analysis was further performed for the analysis. Structural Equation Modelling allows connecting the error lines which shows mutual association with a reference of modification indices. Before the assessment of model fit, a significance of variables correlation in estimates was performed. The hypothesis was tested by the critical ratio indicating the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, the null hypothesis was rejected, because the factor loading was not equal to zero at 0.05 level of significance. All factors were significantly related to traditional post-purchase brand touchpoints. As the result, none of the observed variables was cut off. As the consequence, the value of Chi-square or CMIN was reduced to the goodness of fit of the model. From the modification indices, all four error lines were connected to adjust the goodness of fit. The output was shown in Figure 4.4 below, followed by the summary of the model fit was shown in Table 4.24.
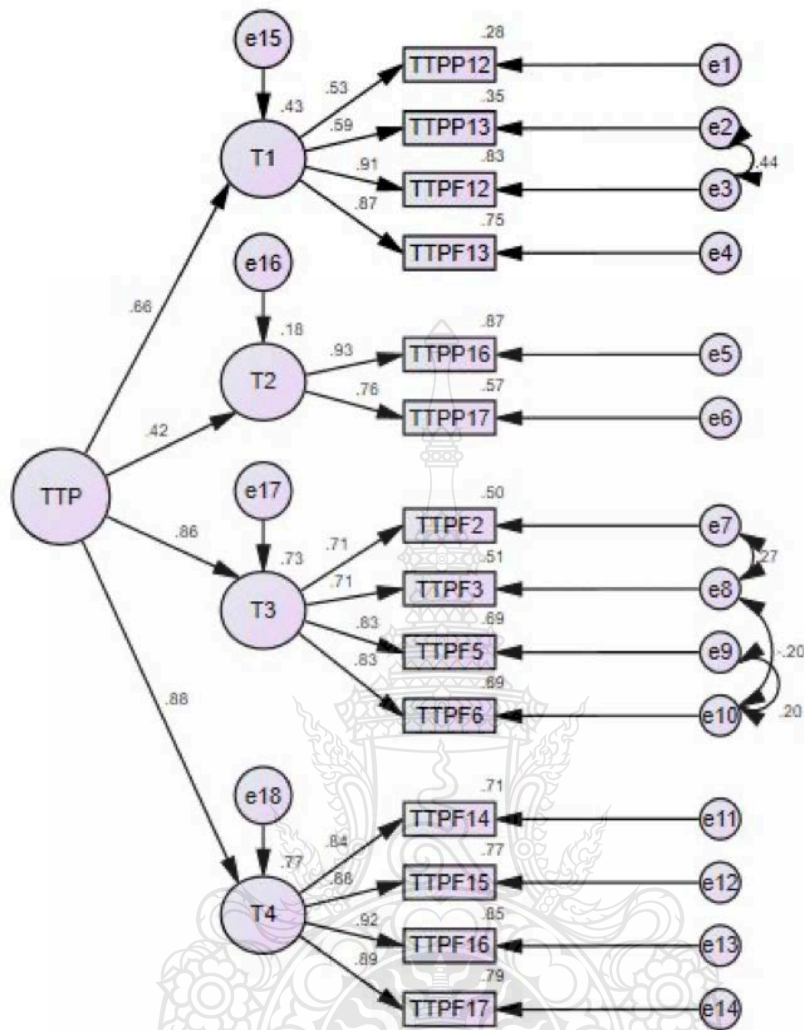
Figure 4.4 Second order group- standardized model of traditional post purchase brand touchpoints -after adjusted model

Table 4.24 Model fit summary of traditional post purchase brand touchpoints

No.	Goodness of Fit Criteria	Goodness of Fit Values	Values Obtained for TTP Group – 2nd order Model (Adjusted)
1	Chi-square		448.762
2	Df		69
3	p-value	> 0.05	.000
4	CMIN/DF	< 3	6.504
5	GFI	> 0.9	0.906
6	AGFI	> 0.9	0.857
7	RMSEA	0.05-0.08	0.960
8	RMR	<0.08	0.040
9	CFI	> 0.90	0.933
10	HOELTER 0.05	> 75-200	121
11	TLI	> 0.95	0.912
12	AIC	Less is better	520.762
13	BIC	Less is better	522.599

From Table 4.24 above, it was shown that the value of CMIN/DF was 6.504 which exceeded 3.0 after connecting the error line between selected observed variables. Since this was not derived from previous literature, it was needed to perform further testing to increase the goodness of model fit. Next, the flat model of traditional post-purchase brand touchpoints was explored in comparison, because it was aimed at obtaining the best goodness of model fit, and the group model was not applicable in this analysis.

Next, the flat model of traditional post-purchase brand touchpoints was further analyzed with Confirmatory Factor Analysis, the chosen 14 observed variables (see Table 4.20) from the previous stage were used for this analysis. The flat model, the result of model output, and the model fit summary were exhibited in Figure 4.5, Tables 4.25 and 4.26 respectively.
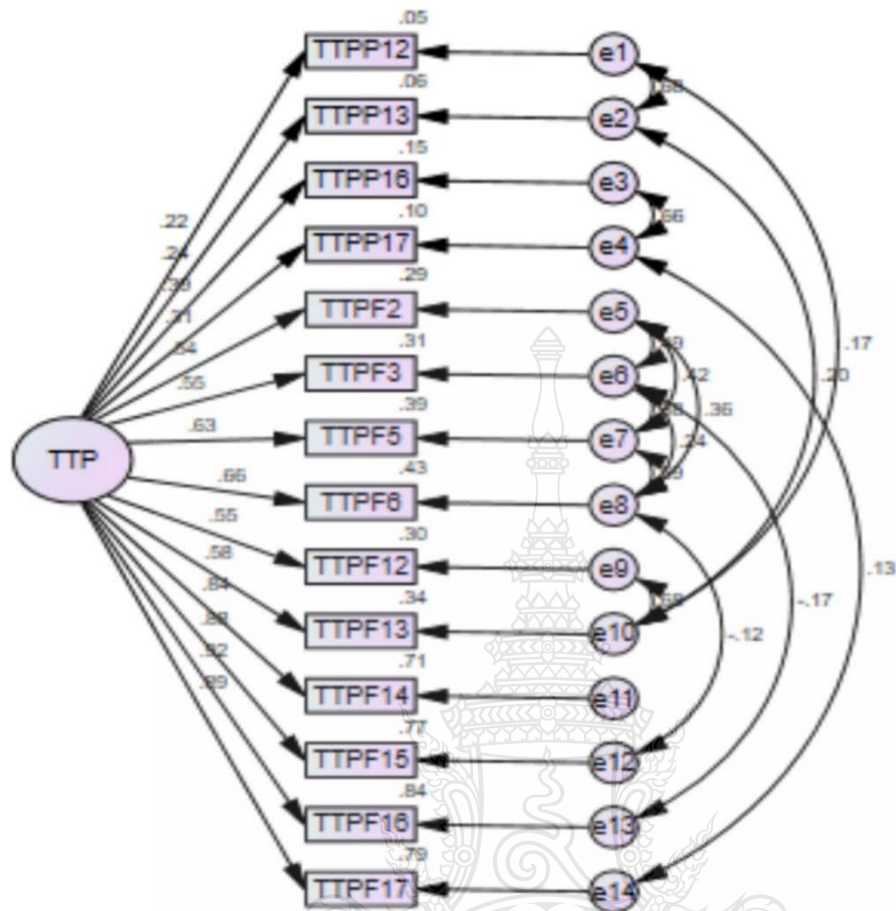
Figure 4.5 Flat standardized model of traditional post purchase brand touchpoints - after adjusted model

Table 4.25 The Model output of traditional post purchase brand touchpoints

Number of distinct sample moments	Number of distinct parameters to be estimated	Chi-square	Degrees of freedom (105 - 42)	Probability level
105	42	241.278	63	0.000

Before the assessment of model fit, a significance of variables correlation in estimates was performed. The hypothesis was tested by the critical ratio indicating the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, the null hypothesis was rejected, because the factor loading was not equal to zero at 0.05 level

of significance. All factors were significantly related to traditional post-purchase brand touchpoints. As the result, none of the observed variables was cut off.

Table 4.26 Model fit summary of traditional post purchase brand touchpoints

No.	Goodness of Fit Criteria	Goodness of Fit Values	Values Obtained for TTP Group – 2nd order Model (Adjusted)	Values Obtained for TTP flat (Adjusted Model After Cutting Variables and Error Connection)
1	Chi-square		448.762	241.278
2	Df		69	63
3	p-value	>0.05	.000	.000
4	CMIN/DF	< 3	6.504	3.830
5	GFI	> 0.9	0.906	0.946
6	AGFI	> 0.9	0.857	0.910
7	RMSEA	0.05-0.08	0.960	0.069
8	RMR	< 0.08	0.040	0.045
9	CFI	> 0.90	0.933	0.969
10	HOELTER 0.05	> 75-200	121	207
11	TLI	> 0.95	0.912	0.955
12	AIC	Less is better	520.762	325.278
13	BIC	Less is better	522.599	510.229

From Table 4.26 above, the goodness of fit values obtained for TTP group model – second-order Model (Post-adjusted) and goodness of fit values obtained for TTP flat model (Post-adjusted Model after cutting variables and error connection) were listed in comparison. It showed that the value of chi-square of the group model was 448.762, whereas the value of chi-square of the flat model was 241.278. The degree of freedom was reduced from 69 to 63. Besides, the p-value was kept at 0.000 in both models. As the result, none of the factors was cut in this stage. The Hoelter index was reported at 207 with a sample size of 604. Then, it exceeded a critical N of 200 or better which indicated that the model had a satisfactory fit. However, the value of CMIN/DF from the group model was 6.504, while the value of CMIN/DF from the flat model was 3.830. The acceptable threshold level of CMIN/DF was the value <3, so the model did not represent a fit to the data. However, taken the values of GFI, CFI, and TLI into consideration, the

goodness of fit values obtained from the group model was 0.906, 0.933, and 0.912, while the valued obtained from the flat model were 0.946, 0.969, and 0.955. The acceptable threshold values of GFI, CFI, and TLI were, >0.9, >0.9, and >0.95 respectively. Hence, it indicated that the model fit situation was acceptable.

According to the above details, all variables were significant. In addition, AIC and BIC were both penalized-likelihood criteria which were used for choosing the best predictor subsets in regression and often used for comparing non-nested models. From Table 4.26, it was found that the value of AIC and BIC of the flat model was less than that of the group or second-order model. The flat model of traditional post-purchase brand touchpoints was taken for further structural model analysis. As for further reference, the standardized estimates of traditional post-purchase brand touchpoints were exhibited in Figure 4.5 above, while the unstandardized estimates of traditional post-purchase brand touchpoints were exhibited in Figure 4.6 below.

Figure 4.6 Unstandardized estimates of traditional post purchase brand touchpoints

As a conclusion, the observed variables of traditional post-purchase brand touchpoints as latent variable were ranked by its relative importance from most to least as shown in Table 4.27 below. Considering the value of R-square, it indicated that the top five observed variables that had the strongest power in explaining the latent variable were TTPF16, TTPF17, TTPF15, TTPF14, and TTPF6.

Table 4.27 Relative importance of factor predictors of traditional post purchase brand touchpoints

Item	Observed Variable	Factor Loading	R-square
TTPF16	Monthly Payment Channel Owned by Auto Manufacturer	0.92	0.84
TTPF17	Contact from Insurance Staff to Sell or Resell Insurance Policy	0.89	0.43
TTPF15	Special Customer Privilege (Free parking in department store and others)	0.88	0.77
TTPF14	Trade-in service at Showroom or Auto Manufacturer's Network	0.84	0.71
TTPF6	Call Center	0.66	0.43
TTPF5	Direct Mail, Leaflet	0.63	0.39
TTPF13	Service Staff	0.58	0.34
TTPF3	Printed (Newspaper, Magazine)	0.55	0.31
TTPF12	Showroom	0.55	0.30
TTPF2	Radio	0.54	0.29
TTPP16	Showroom Manufacturer	0.39	0.15
TTPP17	Contact from Insurance Staff to Sell or Resell Insurance Policy	0.31	0.10
TTPP13	Service Staff	0.24	0.06
TTPP12	Showroom	0.22	0.05

4.4.2 Digital Post-Purchase Brand Touchpoints

Digital post-purchase brand touchpoints were not derived from the proven past literature, the exploratory factor analysis was applied to reduce many observed variables and the group effectively into fewer numbers of factors. In the process of testing congruency between latent and observed variables, if the relationship level is low, a decision to cut off variables is needed (as stated in section 3.7). With the reliability test, Cronbach's alpha test was 0.947 which indicated that the value was close to 1.0. Then, it was concluded that it was acceptable and reliable. In addition, those observed variables were not independent to another whereas further data processing was able to be taken into action.

(a) **Exploratory factor analysis of digital post-purchase brand touchpoints.** The prior assumption for factor analysis was tested. As shown in Table 4.28 below, the result of Kaiser-Olkin Measure of Sampling Adequacy (KMO) was .935 in which it indicated that the matrix of observed variables was not the identity matrix. In

addition, with Barlett's test for Sphericity, the Chi-square, degree of freedom, and level of significance were 13845.702, 435, and 0.00 respectively.

Table 4.28 KMO and Bartlett's test of digital post purchase brand touchpoints

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | Bartlett's Test of Sphericity | | |
	Approx. Chi-Square	df	Sig.
.935	13845.702	435	0.000

Next, Common Factor Analysis in Exploratory Factor Analysis was performed to analyze measurement models of all latent variables used in this study. Common Factor Analysis using Principle Axis Factoring indicates eigenvalue from total variance explained. From Table 4.29, with all five factors combined, the total variance explained was 61.816 percent which was less than 70 percent (Vanichbuncha, 2019) so it was needed to cut off variables with the weak correlation by using the value of communalities.

Table 4.29 Total variance explained of digital post purchase brand touchpoints

| Factor | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
	Total	Percent of Variance	Cumulative Percent	Total	Percent of Variance	Cumulative Percent
1	11.923	39.744	39.744	11.588	38.626	38.626
2	4.036	13.452	53.196	3.637	12.123	50.748
3	1.957	6.522	59.717	1.554	5.179	55.927
4	1.438	4.793	64.511	1.022	3.407	59.334
5	1.049	3.498	68.009	.745	2.482	61.816
6	.953	3.176	71.185			
7	.907	3.022	74.207			
8	.743	2.477	76.685			
9	.705	2.351	79.036			
10	.633	2.109	81.145			

At the first round, 15 observed variables were cut off such as DTPP1, DTPP10, DTPP11, DTPP2, DTPP8, DTPP12, DTPP3, DTPP4, DTPP7, DTPP9, DTPP5, DTPP6, DTPP13, DTPF1 and DTPF6. The exploratory factor analysis was further performed for another six times. At the final round, 15 observed variables were kept for further analysis considering the criteria and the value of factor loading shown in Table 4.30 below.

Table 4.30 Summary of observed variables in the cutting process of digital post purchase brand touchpoints

Round	1st	2nd	3rd	4th	5th	6th	7th
KMO value	0.935	0.934	0.933	0.935	0.939	0.934	0.929
Extraction Sums of Squared Loadings (%)	61.816	64.694	67.084	68.318	68.823	69.678	69.967
Total factor	30	27	24	20	17	16	15
Number of variables cut	3	3	4	3	1	1	0
Number of variables kept	27	24	20	17	16	15	15
List of variables kept	DTPP2	DTPP3	DTPP5	DTPP14D	DTPP14DT	DTPP14DT	DTPP14DT
	DTPP3	DTPP4	DTPP6	TPP15DTP	PP15DTPF	PP15DTPF	PP15DTPF
	DTPP4	DTPP5	DTPP13DT	F1DTPF2	2DTPF3DT	2DTPF3DT	2DTPF3DT
	DTPP5	DTPP6	PP14DTPP	DTPF3DT	PF4DTPF5	PF4DTPF5	PF4DTPF5
	DTPP6	DTPP7	15DTPF1	PF4DTPF5	DTPF6DTP	DTPF7DTP	DTPF7DTP
	DTPP7	DTPP9	DTPF2	DTPF6DT	F7DTPF8D	F8DTPF9D	F8DTPF9D
	DTPP8	DTPP13DT	DTPF3	PF7DTPF8	TPF9DTPF	TPF10DTP	TPF10DTP
	DTPP9	PP14DTPP	DTPF4	DTPF9DT	10DTPF11	F11DTPF1	F11DTPF1
	DTPP12DT	15DTPF1	DTPF5	PF10DTPF	DTPF12DT	2DTPF13D	2DTPF13D
	PP13DTPP	DTPF2	DTPF6	11DTPF12	PF13DTPF	TPF14DTP	TPF14DTP
	14DTPP15	DTPF3	DTPF7	DTPF13D	14DTPF15	F15	F15
	DTPF1	DTPF4	DTPF8	TPF14DTP			
	DTPF2	DTPF5	DTPF9	F15			
	DTPF3	DTPF6	DTPF10DT				
	DTPF4	DTPF7	PF11DTPF				
	DTPF5	DTPF8	12DTPF13				
	DTPF6	DTPF9	DTPF14DT				
	DTPF7	DTPF10DT	PF15				
	DTPF8	PF11DTPF					
	DTPF9	12DTPF13					
	DTPF10DT	DTPF14DT					
	PF11DTPF	PF15					
	12DTPF13						
	DTPF14DT						
	PF15						

Final testing result of measurement model with Exploratory Factor Analysis. From Table 4.32 above, it was shown that the value of extraction sums of squared loadings in the fifth round was 69.967 percent. the value of extraction sums of squared loadings obtained was very close to the acceptable level of 70 percent. Hence, the result of the seventh round with the results shown in Table 4.31 and 4.32 was taken for further Confirmatory Factor Analysis.

Table 4.31 KMO and Bartlett's test of digital post purchase brand touchpoints

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig.
.929	8064.164	105	0.000

Table 4.32 Total variance explained of digital post purchase brand touchpoints in the final round (7th round)

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	Percent of Variance	Cumulative Percent	Total	Percent of Variance	Cumulative Percent	Total
1	8.622	57.482	57.482	8.327	55.514	55.514	7.953
2	1.518	10.121	67.603	1.225	8.169	63.683	2.740
3	1.188	7.920	75.523	.943	6.284	69.967	5.730
4	.920	6.131	81.653				
5	.422	2.810	84.464				
6	.392	2.612	87.076				
7	.368	2.451	89.527				

Further, based on the analysis of Common Factor Analysis using Principle Axis Factoring, it turned out to have three factors whereas the eigenvalue of the first factor to the last factor was equal or larger than 1.0. With all three factors combined, the total variance explained was 69.967 percent. From test initial in communalities of digital post-purchase brand touchpoint, the value of the variance explained was very close to 70 percent, then this was acceptable. The result of the pattern matrix was shown in Table 4.33 below.

Table 4.33 Pattern matrix of digital post purchase brand touchpoints

Observed Variable	Factor		
	1	**2**	**3**
DTPP14	**0.706**	-0.016	0.031
DTPP15	**0.923**	0.011	-0.025
DTPF2	0.039	**-0.666**	0.09
DTPF3	-0.026	**-1.019**	-0.071
DTPF4	0.024	**-0.853**	0.041
DTPF5	0.029	-0.327	**0.539**
DTPF7	-0.063	-0.011	**0.83**
DTPF8	-0.069	0.067	**0.887**
DTPF9	-0.071	-0.077	**0.838**
DTPF10	-0.046	0.042	**0.82**
DTPF11	0.07	0.046	**0.812**
DTPF12	0.075	0.021	**0.8**
DTPF13	0.059	-0.053	**0.785**
DTPF14	0.077	-0.046	**0.808**
DTPF15	0.087	-0.071	**0.766**

Besides, the pattern matrix of digital post-purchase brand touchpoints shown in Table 4.33 above indicated that five iterations were required with three factors extracted. First, F1 was composed of DTPP14 with a value of 0.706 and DTPP15 with a value of

0.923. Second, F2 was composed of DTPF2 with the value of -0.666, DTPF3 with the value of -1.019 and DTPF4 with the value of -0.853. Last, F3 was composed of DTPF5 with the value of 0.539, DTPF7 with the value of 0.830, DTPF8 with the value of 0.887, DTPF9 with the value of 0.838, DTPF10 with the value of 0.820, DTPF11 with the value of 0.812, DTPF12 with the value of 0.800, DTPF13 with the value of 0.785, DTPF14 with the value of 0.808 and DTPF15 with the value of 0.766. Dimension classification of the factor was found that all observed variables classified in each factor were related and sensible to its meaning in the context of marketing. The first factor was then named as Digital Service Channel, the second one was Digital Third Person Channel, and the third one was Digital Information Channel. Then, it was concluded that this measurement model was appropriate for further confirmatory factor analysis.

(b) Confirmatory factor analysis of digital post-purchase brand touchpoints. Next, confirmatory factor analysis was further performed for the analysis. Structural Equation Modelling allows connecting the error lines which shows mutual association with a reference of modification indices. Before the assessment of model fit, a significance of variables correlation in estimates was performed. The hypothesis was tested by the critical ratio indicating the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, the null hypothesis was rejected, because the factor loading was not equal to zero at 0.05 level of significance. All factors were significantly related to digital post-purchase brand touchpoints. As the result, none of the observed variables was cut off.

As the consequence, the value of chi-square or CMIN was reduced to the goodness of fit of the model. From the modification indices, all 19 error lines were connected to adjust the goodness of fit. The output was shown in Figure 4.7 below, followed by the model fit summary was shown in Table 4.34.
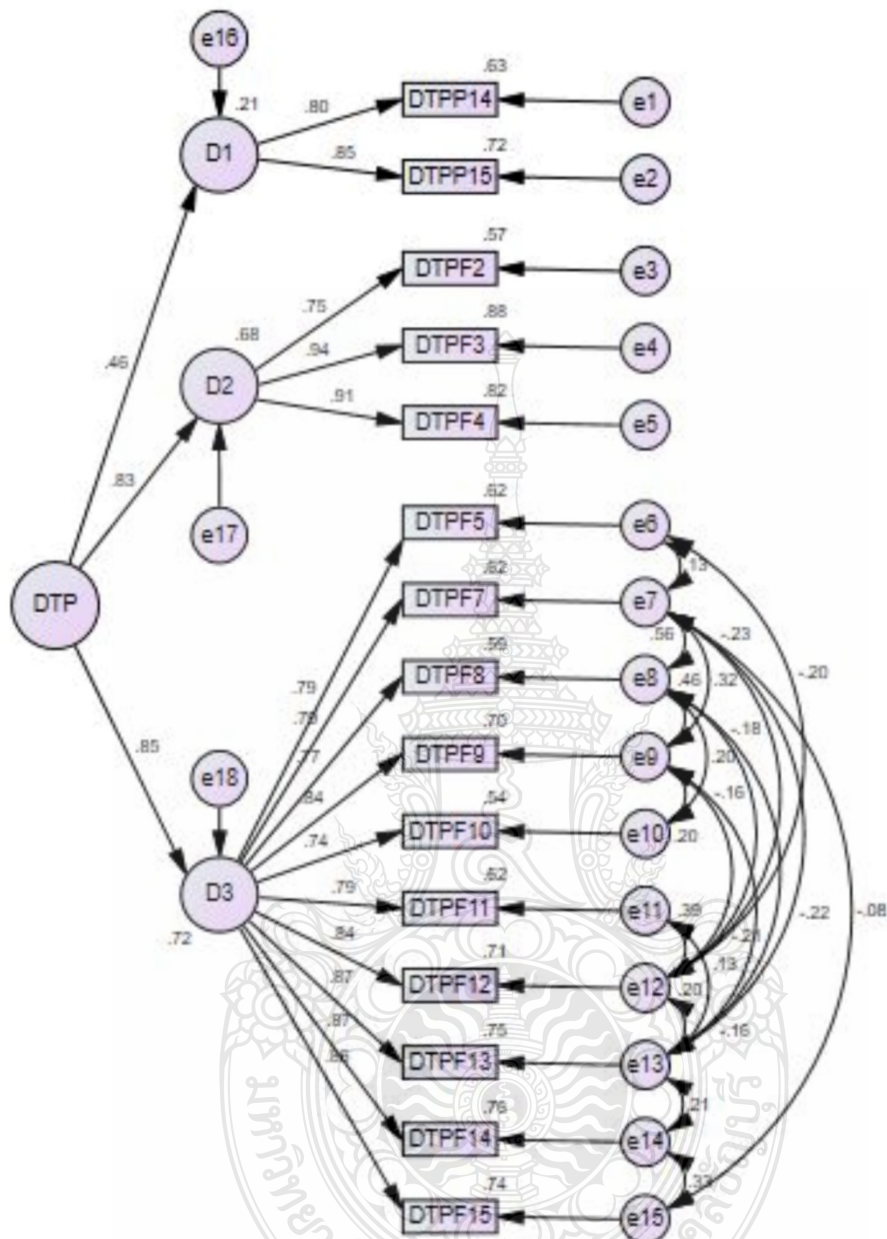
Figure 4.7 Second order group standardized model of digital post purchase brand touchpoints -after adjusted model

Table 4.34 Model fit summary of digital post purchase brand touchpoints

No.	Goodness of Fit Criteria	Goodness of Fit Values	Values Obtained for DTP -Adjusted Model After Error Connection
1	Chi-square		322.493
2	Df		68
3	p-value	>0.05	.000
4	CMIN/DF	< 3	4.743
5	GFI	> 0.9	0.934
6	AGFI	> 0.9	0.883
7	RMSEA	0.05-0.08	0.079
8	RMR	< 0.08	0.040
9	CFI	> 0.90	0.968
10	HOELTER 0.05	> 75-200	166
11	TLI	> 0.95	0.951
12	AIC	Less is better	426.493
13	BIC	Less is better	655.479

From Table 4.34 above, it was shown that the value of CMIN/DF was 4.743 which exceeded 3.0 after connecting the error line between selected observed variables. Since this was not derived from previous literature, it was needed to perform further testing to increase the goodness of model fit. Next, a flat model of digital post-purchase brand touchpoints was further analyzed in comparison. Next, the flat model of traditional post-purchase brand touchpoints was further analyzed with Confirmatory Factor Analysis, the chosen 15 observed variables (see Table 4.30) from the previous stage were used for this analysis. The flat model, the result of model output, and the model fit summary were exhibited in Figure 4.9, Tables 4.35 and 4.36.
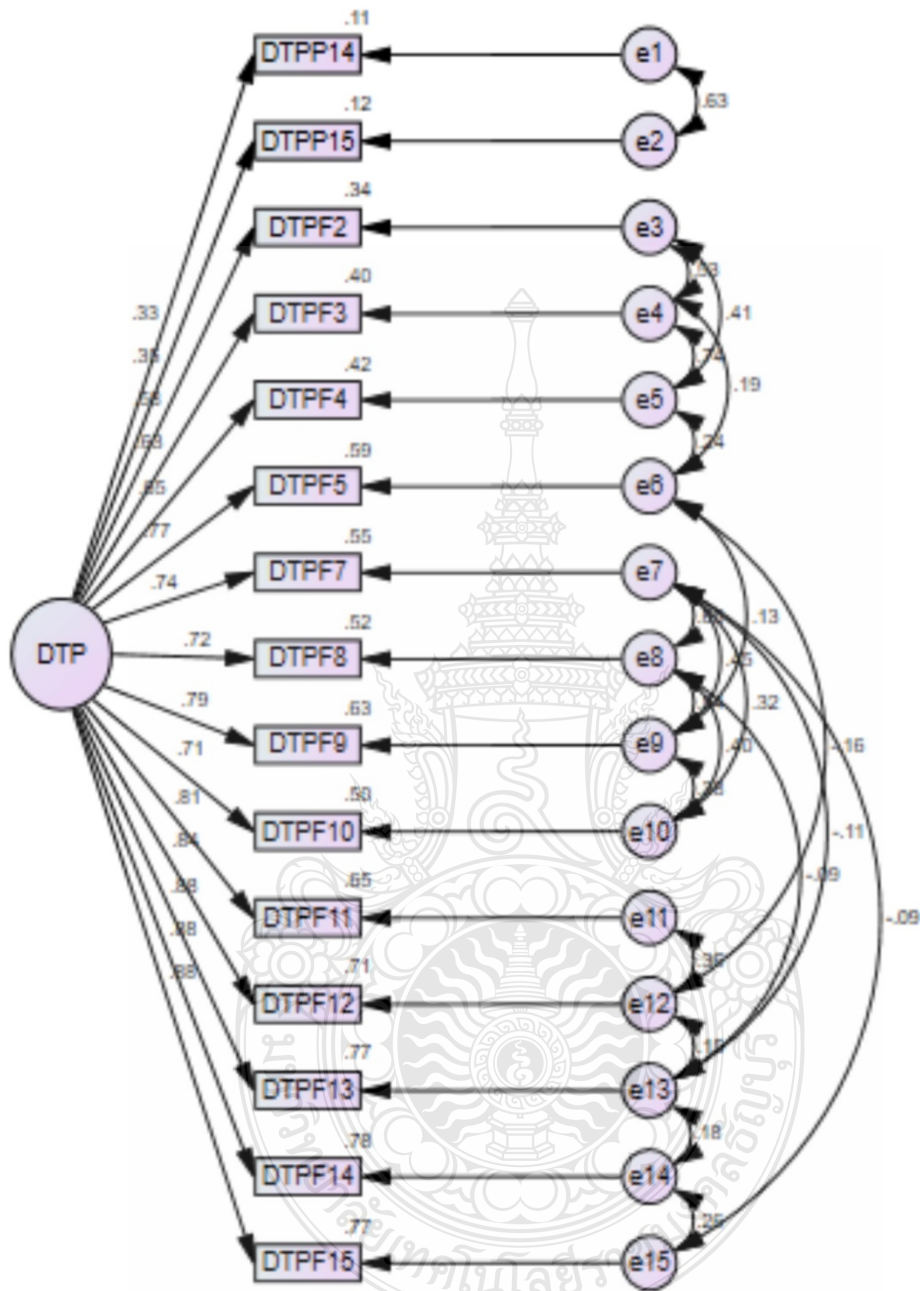
Figure 4.8 Flat standardized model of digital post purchase brand touchpoints -after adjusted model

Table 4.35 The Model output of digital post purchase brand touchpoints

Number of distinct sample moments	Number of distinct parameters to be estimated	Chi-square	Degrees of freedom (120-51)	Probability level
120	51	257.416	69	0.000

Table 4.36 Model fit summary of digital post purchase brand touchpoints

No.	Goodness of Fit Criteria	Goodness of Fit Values	Valued Obtained for DTP - Group Model (Adjusted Model After Error Connection)	Valued Obtained for DTP - Flat Model (Adjusted Model After Error Connection)
1	Chi-square		322.493	257.416
2	Df		68	69
3	p-value	>0.05	.000	.000
4	CMIN/DF	< 3	4.743	3.731
5	GFI	> 0.9	0.934	0.947
6	AGFI	> 0.9	0.883	0.907
7	RMSEA	0.05-0.08	0.079	0.067
8	RMR	< 0.08	0.040	0.035
9	CFI	> 0.90	0.968	0.977
10	HOELTER 0.05	> 75-200	166	210
11	TLI	> 0.95	0.951	0.964
12	AIC	Less is better	426.493	359.416
13	BIC	Less is better	655.479	583.999

From Table 4.36 above, the goodness of fit values obtained for DTP group model–second-order Model (Post-adjusted) and goodness of fit values obtained for DTP flat model (Post-adjusted Model after cutting variables and error connection) were listed in comparison. It showed that the value of Chi-square of the group model was 322.493, whereas the value of Chi-square of the flat model was 257.416. The degree of freedom was increased from 68 to 69. Besides, the p-value was kept at 0.000 in both models. As the result, none of the factors was cut in this stage. The Hoelter index was reported at 210

with a sample size of 604. Then, it exceeded a critical N of 200 or better which indicated that the model had a satisfactory fit. However, the values of CMIN/DF of the group and flat models were 4.743 and 3.731 respectively, where the acceptable threshold level of CMIN/DF was the value < 3.0, so the model did not represent a fit to the data. However, taken the values of GFI, CFI, and TLI into consideration, the goodness of fit values obtained from group model was 0.934, 0.968, and 0.951, whereas the goodness of fit values obtained from the flat model were 0.946, 0.969, and 0.955. The acceptable threshold values of GFI, CFI, and TLI were, >0.9, >0.9, and >0.95 respectively. Hence, it indicated that the model fit situation was acceptable.

According to the above details, all variables were significant. In addition, AIC and BIC were both penalized- likelihood criteria which were used for choosing the best predictor subsets in regression and often used for comparing non-nested models. From Table 4.36, it was found that the value of AIC and BIC of flat models were lower than that of the second-order model. The flat model of digital post-purchase brand touchpoints was taken for further structural model analysis. For further reference, the standardized estimates of digital post-purchase brand touchpoints were exhibited in Figure 4.8 above, while the unstandardized estimates of digital post-purchase brand touchpoints were exhibited in Figure 4.9 below.
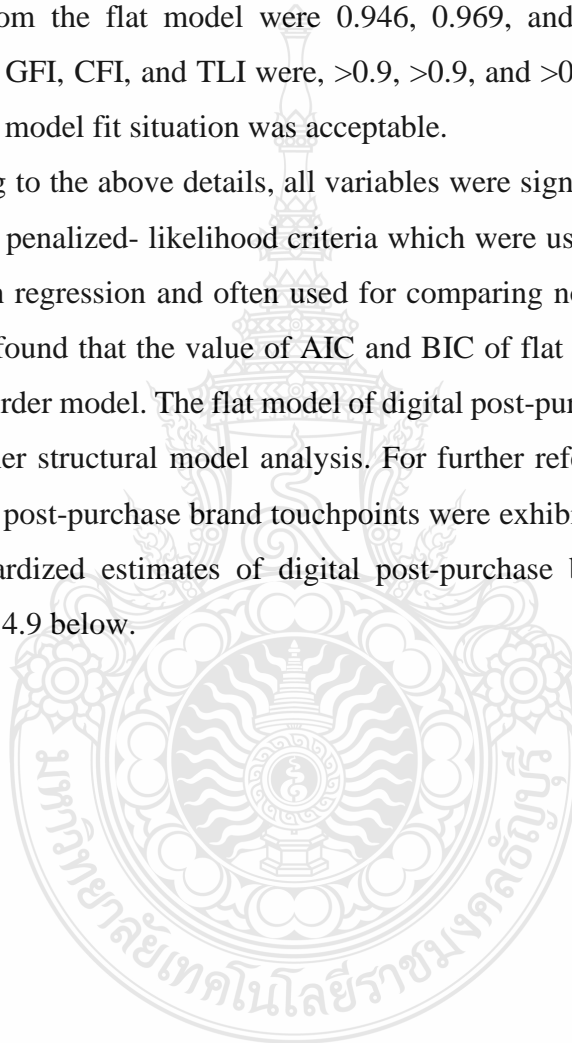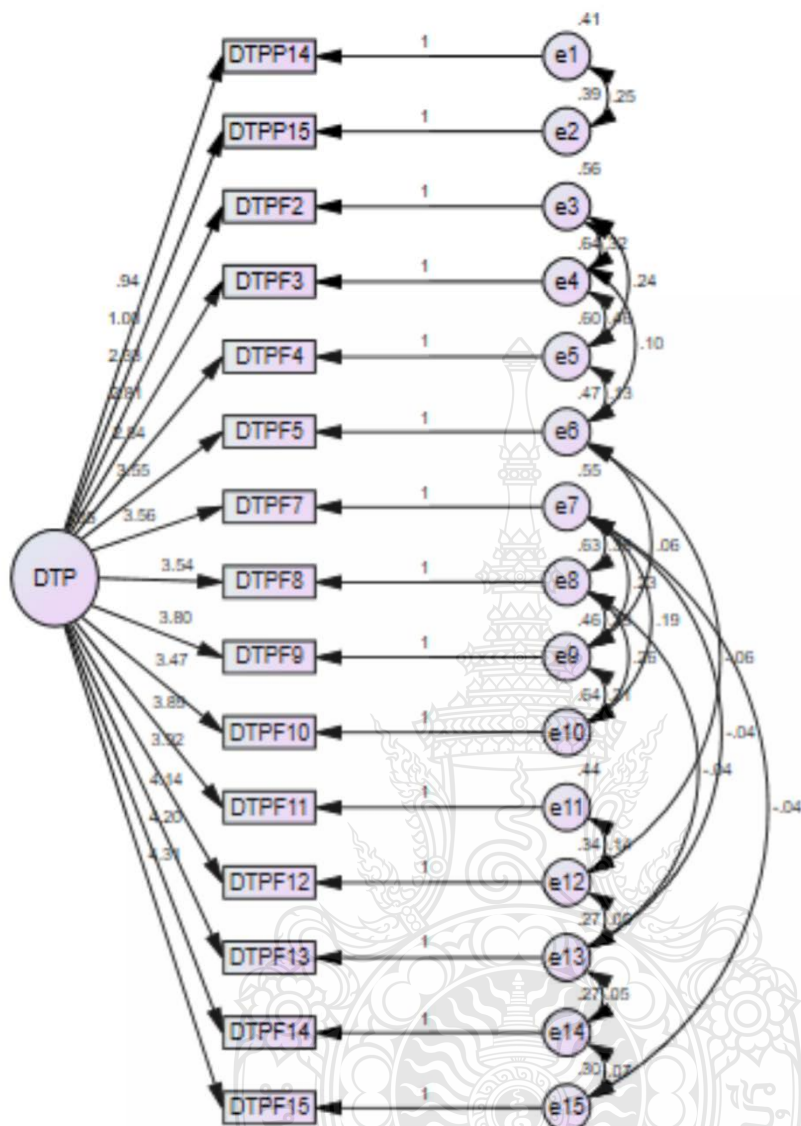
Figure 4.9 Unstandardized estimates of digital post purchase brand touchpoints

As a conclusion, the observed variables of digital post-purchase brand touchpoints as latent variable were ranked by its relative importance from most to least as shown in Table 4.37 below. Considering the value of R-square, it indicated that the top five observed variables that had the strongest power in explaining the latent variable were DTPF14, DTPF15, DTPF13, DTPF12, and DTPF11.

Table 4.37 Relative importance of factor predictors of digital post purchase brand touchpoints

Item	Observed Variable	Factor Loading	R-square
DTPF14	E-showroom for Car Selling	0.88	0.78
DTPF15	Online Trade-in service	0.88	0.77
DTPF13	Mobile App for Customer Privilege Program	0.88	0.77
DTPF12	E-Car Insurance Reissuing Service	0.84	0.71
DTPF11	E-Installment Payment	0.81	0.65
DTPF9	Social Chat/Messenger Services (Line, Messenger	0.79	0.63
DTPF5	Brand Online Community	0.77	0.59
DTPF7	Email	0.74	0.55
DTPF8	SMS	0.72	0.52
DTPF10	Installed-in-car Telematic	0.71	0.50
DTPF4	Online Auto Guru Review	0.65	0.42
DTPF3	Online User Review	0.63	0.40
DTPF2	Social Media (Facebook, Twitter, Line, YouTube)	0.58	0.34
DTPP15	Online Trade-in service	0.35	0.12
DTPP14	E-showroom for Car Selling	0.33	0.11

4.4.3. Relationship Quality

The measurement of relationship quality was derived from the proven past literature, so confirmatory factor analysis was applied to test the goodness of fit of the second order group model of relationship quality. In the process of testing congruency between latent and observed variables (as shown in Figure 4.10), if the correlation level is low, a decision to cut off variables is needed (as stated in section 3.7). With the reliability test, Cronbach's alpha test was 0.978 which indicated that the value was close

to 1.0. Then, it was concluded that it was acceptable and reliable. In addition, those observed variables were not independent to another whereas further data processing was able to be taken into action.
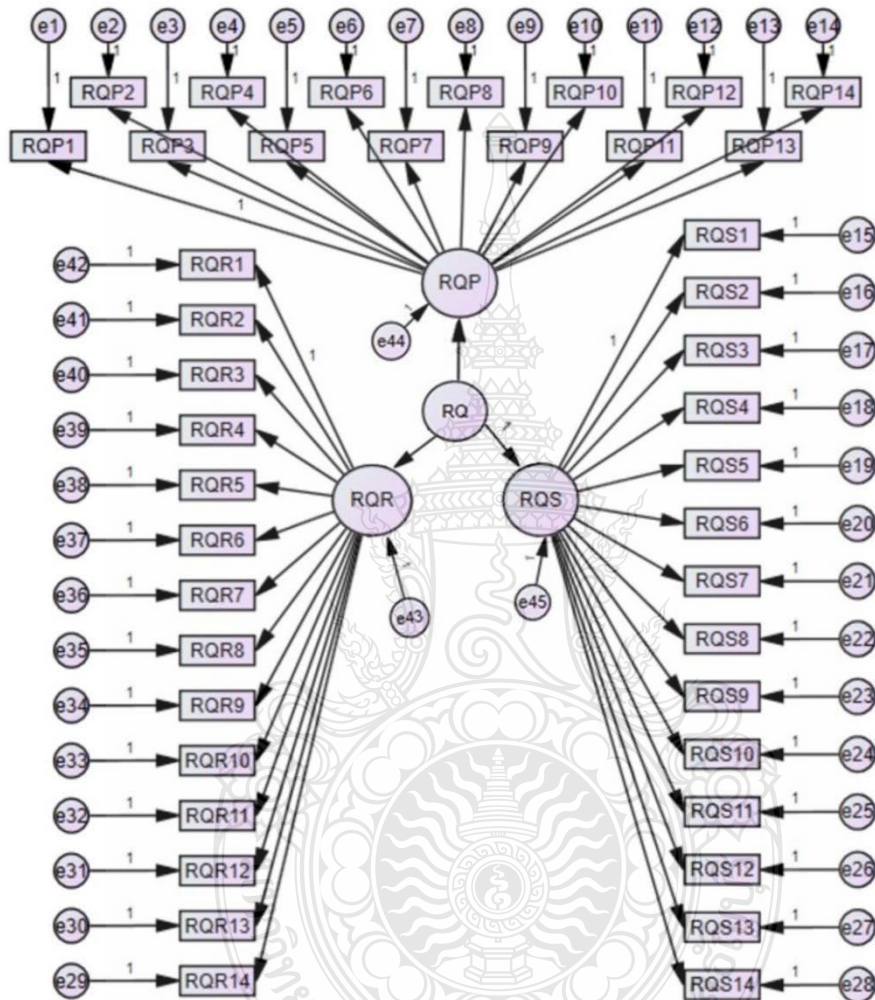
Figure 4.10 Model of relationship quality - second-order model

(a) Confirmatory factor analysis of relationship quality. The Confirmatory Factor Analysis of relationship quality was performed for the analysis. The result in Table 4.38 below revealed that the value of Likelihood Ratio Chi-Square was 5659.590, degree of freedom was 816, and probability level was 0.000 which was less than 0.05.

Table 4.38 The Model output of relationship quality

Number of distinct sample moments	Number of distinct parameters to be estimated	Chi-square	Degrees of freedom (903 - 87)	Probability level
903	87	5659.590	816	0.000

Before the assessment of model fit, a significance of variables correlation in estimates was performed. The hypothesis was tested by the critical ratio indicating the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, the null hypothesis was rejected, because the factor loading was not equal to zero at 0.05 level of significance. All factors were significantly related to Relationship Quality. As the result, none of the observed variables was cut off.

From Table 4.39 below, the CMIN/DF was further taken into consideration whereas it fits better with the complicated model. In case that CMIN/DF is less than three, the model represents a fit to the data. However, it was found that the CMIN/DF was 6.936 indicating that the model did not represent a fit to the data. Further, other goodness of fit criteria was used to test the model fit. It was found that the values obtained for GFI, CFI, and TLI were 0.597, 0.812, and 0.802. It was suggested that the acceptable goodness of fit for GFI, CFI, and TLI must be >0.9, >0.9 and >0.95. Hence, the model did not represent a fit to the data.

Table 4.39 Model fit summary of relationship quality

No.	Goodness of Fit Criteria	Goodness of Fit Values	Values Obtained of RQ (Pre-adjusted Model)	Values Obtained of RQ (Adjusted Model)
1	Chi-square		5659.590	3530.119
2	Df		816	524
3	p-value	>0.05	.0000	.0000
4	CMIN/DF	< 3	6.936	6.737
5	GFI	> 0.9	0.597	0.673
6	AGFI	> 0.9	0.554	0.629
7	RMSEA	0.05-0.08	0.099	0.098
8	RMR	< 0.08	0.028	0.023
9	CFI	> 0.90	0.812	0.854
10	HOELTER 0.05	> 75-200	95	99
11	TLI	> 0.95	0.802	0.843
12	AIC	Less is better	5833.590	3672.119
13	BIC	Less is better	6216.701	3984.773

Structural Equation Modelling allows connecting the error lines which shows mutual association with a reference of modification indices. As the consequence, the value of Chi-square or CMIN was reduced to the goodness of model fit. Figure 4.11 below showed that many error lines were connected among associated variables to adjust the goodness of model fit. Even though the relationship quality was derived from previous literature, the model did not represent a fit to the data. The Exploratory Factor Analysis was further performed to acquire appropriate variables with the increasing goodness of fit.
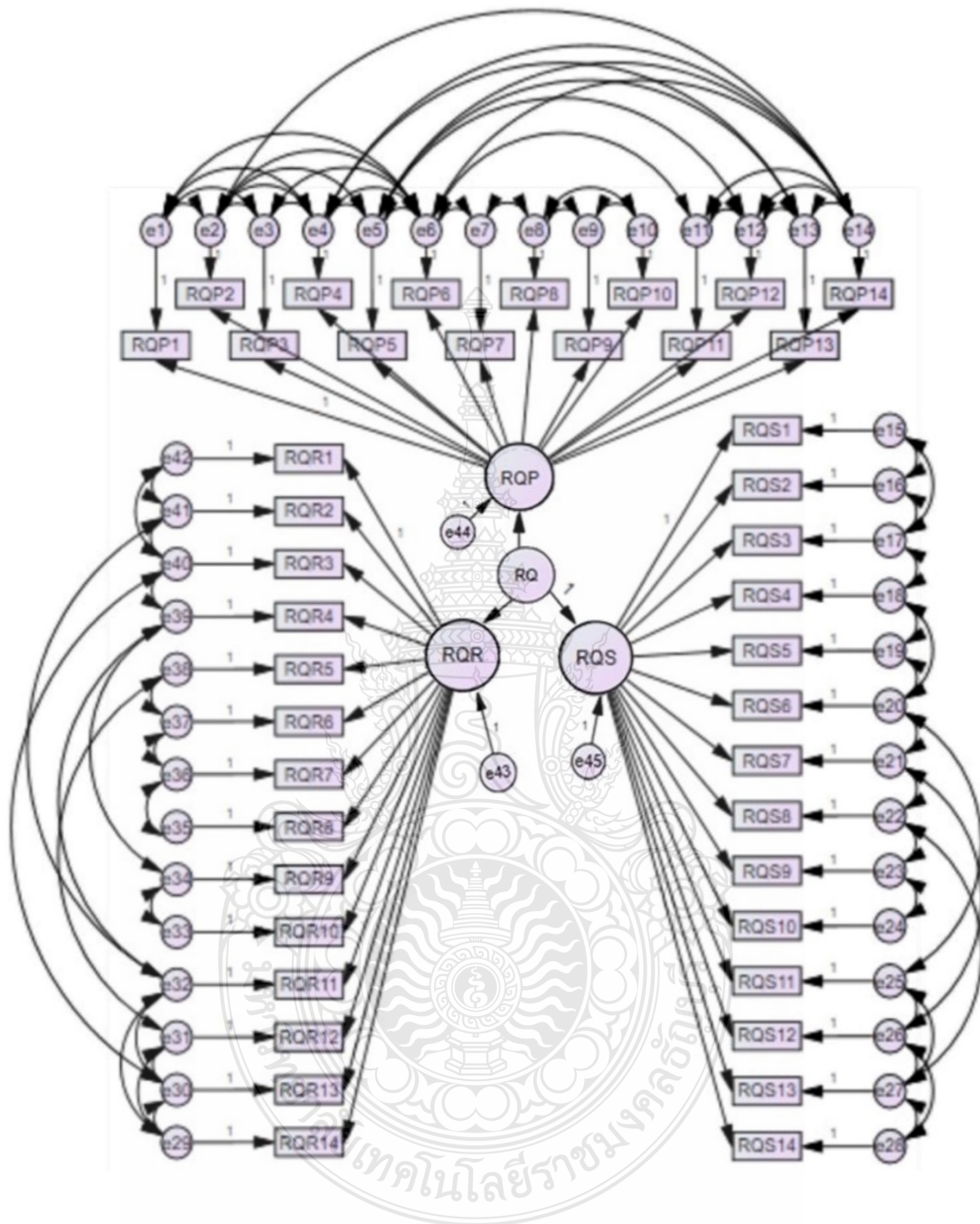
Figure 4.11 Model of relationship quality - after adjusted model

(b) Exploratory Factor Analysis of Relationship Quality – first round. Exploratory factor analysis was used for reducing many the observed variables. The prior assumption for factor analysis was tested. As shown in Table 4.40 below, the result of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .969. It indicated

that the matrix of observed variables was not the identity matrix. In addition, with Bartlett's test for Sphericity, the Chi-square, degree of freedom, and level of significance were 26034.536, 861, and 0.00 respectively.

Table 4.40 KMO and Bartlett's test of relationship quality (1st round)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig.
.969	26034.536	861	0.000

Next, Common Factor Analysis in Exploratory Factor Analysis was performed to analyze measurement models of all latent variables used in this study. Common factor analysis using Principle Axis Factoring indicates eigenvalue from total variance explained of factors. From Table 4.41, with all five factors combined, the total variance explained was 69.591 percent which was at an acceptable level of 70 percent. However, some observed variables were found to have the value that was less than 0.5 in the pattern matrix, so it was needed to cut off.

Table 4.41 Total variance explained of relationship quality (1st round)

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	Percent of Variance	Cumulative Percent	Total	Percent of Variance	Cumulative Percent	Total
1	21.997	52.375	52.375	21.702	51.672	51.672	17.339
2	3.930	9.358	61.733	3.610	8.596	60.267	10.413
3	1.999	4.759	66.492	1.695	4.036	64.304	17.864
4	1.612	3.838	70.330	1.303	3.104	67.407	3.311
5	1.216	2.894	73.225	.917	2.184	69.591	10.923
6	.887	2.112	75.337				
7	.692	1.647	76.984				
8	.667	1.589	78.573				
9	.614	1.463	80.035				
10	.521	1.241	81.276				

At the first round, four observed variables were cut off such as RQP7, RQP12, RQP23, and RQP14. The Exploratory Factor Analysis was further performed for another three times. At the final round, 34 observed variables were kept for further analysis considering the criteria and the value of factor loading as shown in Table 4.42 below.

Table 4.42 Summary of observed variables in the cutting-off process of relationship quality

Round	1st	2nd	3rd	4th
KMO value	0.969	0.968	0.967	0.968
Extraction Sums of Squared Loadings (%)	69.591	70.016	70.500	66.311
Total factor	42	38	36	34
Number of variables cut	4	2	2	0
Number of variables kept	38	36	34	34
List of variables kept	RQP1	RQP1	RQP1	RQP1
	RQP2	RQP2	RQP2	RQP2
	RQP3	RQP3	RQP3	RQP3
	RQP4	RQP4	RQP4	RQP4
	RQP5	RQP5	RQP5	RQP5
	RQP6	RQP6	RQP6	RQP6
	RQP8	RQP9	RQS1	RQS1
	RQP9	RQP10	RQS2	RQS2
	RQP10	RQS1	RQS3	RQS3
	RQP11	RQS2	RQS4	RQS4
	RQS1	RQS3	RQS5	RQS5
	RQS2	RQS4	RQS6	RQS6
	RQS3	RQS5	RQS7	RQS7
	RQS4	RQS6	RQS8	RQS8
	RQS5	RQS7	RQS9	RQS9
	RQS6	RQS8	RQS10	RQS10
	RQS7	RQS9	RQS11	RQS11
	RQS8	RQS10	RQS12	RQS12
	RQS9	RQS11	RQS13	RQS13
	RQS10	RQS12	RQS14	RQS14
	RQS11	RQS13	RQR1	RQR1
	RQS12	RQS14	RQR2	RQR2
	RQS13	RQR1	RQR3	RQR3
	RQS14	RQR2	RQR4	RQR4
	RQR1	RQR3	RQR5	RQR5
	RQR2	RQR4	RQR6	RQR6
	RQR3	RQR5	RQR7	RQR7
	RQR4	RQR6	RQR8	RQR8
	RQR5	RQR7	RQR9	RQR9
	RQR6	RQR8	RQR10	RQR10
	RQR7	RQR9	RQR11	RQR11
	RQR8	RQR10	RQR12	RQR12
	RQR9	RQR11	RQR13	RQR13

Table 4.42 Summary of observed variables in the cutting-off process of relationship quality (Cont.)

Round	1st	2nd	3rd	4th
	RQR10	RQR12	RQR14	RQR14
	RQR11	RQR13		
	RQR12	RQR14		
	RQR13			
	RQR14			

Final testing result of measurement model with exploratory factor analysis indicated in Table 4.42 above that the value of extraction sums of squared loadings at the fourth round was 66.311 percent. The value obtained was very close to the acceptable level of 70 percent as shown in Tables 4.43 and 4.44 below.

Table 4.43 KMO and Bartlett's test of relationship quality in last round (4th round)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig.
.968	20695.982	561	0.000

Table 4.44 Total variance explained of relationship quality in last round (4th round)

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	Percent of Variance	Cumulative Percent	Total	Percent of Variance	Cumulative Percent	Total
1	18.383	54.066	54.066	18.053	53.098	53.098	15.754
2	3.227	9.492	63.558	2.877	8.462	61.561	8.713
3	1.954	5.746	69.305	1.615	4.750	66.311	16.230
4	1.282	3.771	73.076				
5	.797	2.343	75.419				

Further, based on the analysis of Common Factor Analysis using Principle Axis Factoring, it turned out to have three factors whereas the eigenvalue of the first factor to the last factor was equal or larger than 1.0. With all three factors combined, the total variance explained was 66.311 percent. From the initial test in communalities of relationship quality, the value of the variance explained was very close to 70 percent, then this was acceptable. The result of the pattern matrix was shown in Table 4.45 below.

Table 4.45 Pattern matrix of relationship quality

Observed Variable	Factor		
	1	**2**	**3**
RQP1	-.004	**.695**	-.054
RQP2	.044	**.757**	-.022
RQP3	.035	**.805**	-.011
RQP4	-.006	**.840**	.013
RQP5	.029	**.735**	-.022
RQP6	.012	**.779**	-.016
RQS1	-.072	.156	**-.701**
RQS2	.035	.094	**-.698**
RQS3	-.038	.123	**-.726**
RQS4	-.046	.039	**-.799**
RQS5	-.012	.023	**-.814**
RQS6	.003	.096	**-.724**
RQS7	.038	-.046	**-.817**
RQS8	.063	-.062	**-.828**
RQS9	.009	-.117	**-.911**
RQS10	.031	-.096	**-.864**
RQS11	.052	-.068	**-.831**
RQS12	.045	.043	**-.777**
RQS13	.039	.012	**-.809**
RQS14	.032	.048	**-.765**

Table 4.45 Pattern matrix of relationship quality (Cont.)

Observed Variable	Factor		
	1	**2**	**3**
RQR1	**.731**	.059	.026
RQR2	**.724**	.061	-.026
RQR3	**.813**	.031	.046
RQR4	**.896**	.049	.101
RQR5	**.853**	-.005	.002
RQR6	**.879**	.011	.041
RQR7	**.873**	-.048	-.006
RQR8	**.857**	-.076	-.030
RQR9	**.817**	-.059	-.075
RQR10	**.789**	-.023	-.068
RQR11	**.763**	-.056	-.113
RQR12	**.786**	.051	-.020
RQR13	**.819**	.043	.013
RQR14	**.737**	.027	-.093

Besides, the pattern matrix of relationship shown in Table 4.45 above indicated that three factors were extracted. First, F1 was composed of RQR1 with the value of 0.731, RQR2 with the value of 0.724, RQR3 with the value of 0.813, RQR4 with the value of 0.896, RQR5 with the value of 0.853, RQR6 with the value of 0.879, RQR7 with the value of 0.873, RQR8 with the value of 0.857, RQR9 with the value of 0.817, RQR10 with the value of 0.789, RQR11 with the value of 0.763, RQR12 with the value of 0.786, RQR13 with the value of 0.819 and RQR14 with the value of 0.737. Second, F2 was composed of RQP1 with the value of 0.695, RQP2 with the value of 0.757, RQP3 with the value of 0.805, RQP4 with the value of 0.840, RQP5 with the value of 0.735 and RQP1 with the value of 0.779. Last, F3 was composed of RQS1 with the value of -0.701, RQS2 with the value of -0.698, RQS3 with the value of -0.726, RQS4 with the value of -0.799, RQS5 with the value of -0.814, RQS6 with the value of -0.724, RQS7 with the

value of -0.817, RQS8 with the value of -0.828, RQS9 with the value of -0.911, RQS10 with the value of -0.864, RQS11 with the value of -0.831, RQS12 with the value of -0.777, RQS13 with the value of -0.809 and RQS14 with the value of -0.765. Dimension classification of the factor was found that all observed variables classified in the first factor were then named as relationship quality in product, and the second one was relationship quality in service, and the last one was relationship quality in customer relation. Then, it was concluded that this measurement model was appropriate for further confirmatory factor analysis.

      (c) Confirmatory Factor Analysis of Relationship Quality. Confirmatory factor analysis was further performed for the analysis. Structural Equation Modelling allows connecting the error lines which show mutual association with a reference of modification indices. Before the assessment of model fit, this step must check the significance of variables correlation in estimates. The hypothesis was tested by the critical ratio (C.R) showing the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, H0 was rejected, because the factor loading was not equal to zero at 0.05 level of significance. All factors were significantly related to relationship quality. As the result, none of the observed variables was cut off. As the consequence, the value of Chi-square or CMIN was reduced to the goodness of fit of the model overall 52 error lines were connected to adjust the goodness of fit. The output was shown in Figure 4.12, followed by the summary of the model fit in Table 4.46.
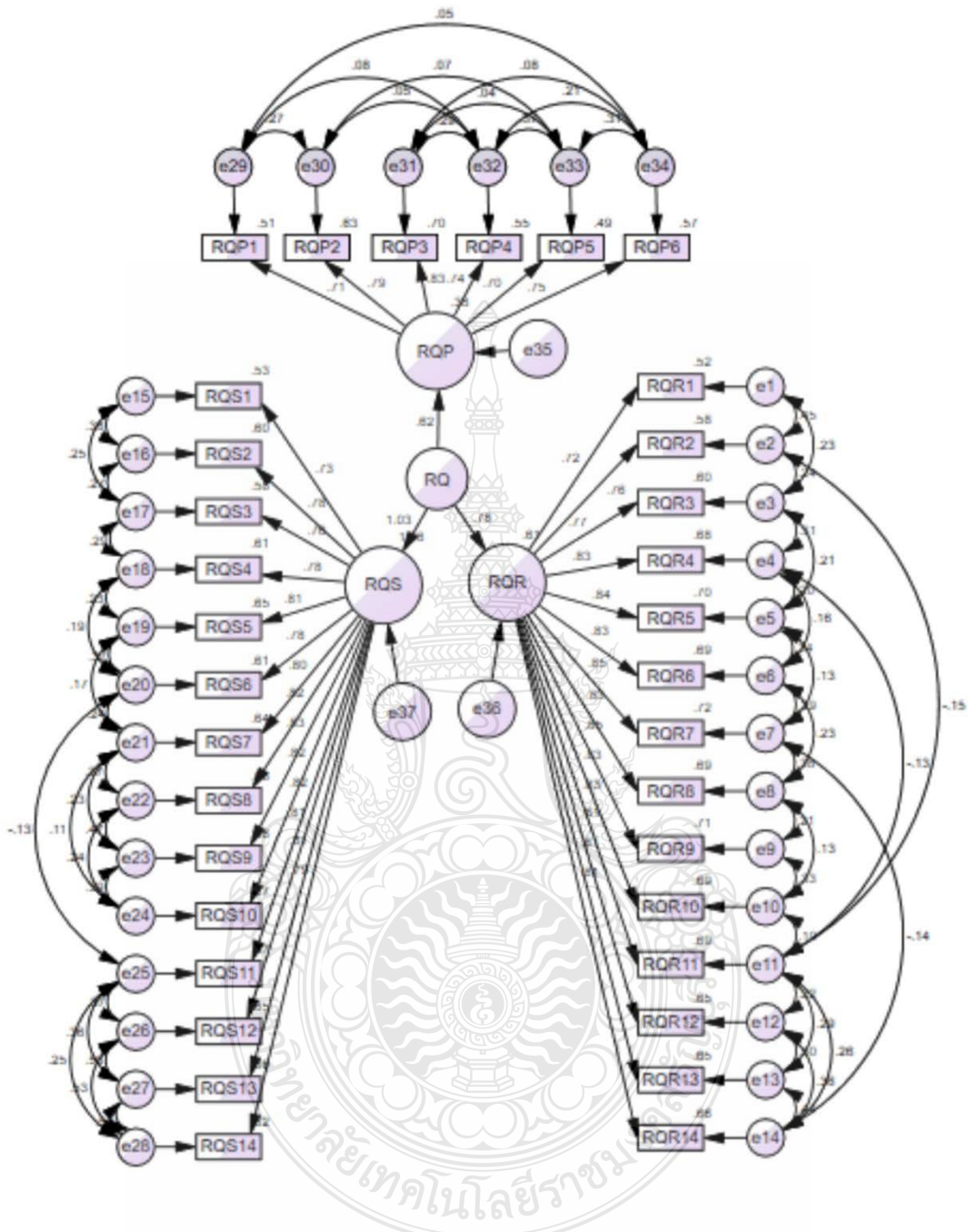
Figure 4.12 Standardized model of relationship quality- after adjusted model

Table 4.46 Model fit summary of relationship quality

No.	Goodness of Fit Criteria	Goodness of Fit Values	Values Obtained for RQ - Adjusted Model After Cutting Variables	Values Obtained for RQ - Post-adjusted Model After Cutting Variables and Error Connection
1	Chi-square		3530.119	1168.980
2	Df		524	466
3	p-value	>0.05	.0000	.0000
4	CMIN/DF	< 3	6.737	2.509
5	GFI	> 0.9	0.673	0.898
6	AGFI	> 0.9	0.629	0.869
7	RMSEA	0.05-0.08	0.098	0.050
8	RMR	< 0.08	0.023	0.017
9	CFI	> 0.90	0.854	0.966
10	HOELTER 0.05	> 75-200	99	267
11	TLI	> 0.95	0.843	0.959
12	AIC	Less is better	3672.119	1426.980
13	BIC	Less is better	3984.773	1995.041

Table 4.46 above listed the goodness of fit values obtained for relationship quality-adjusted model after cutting variables and for relationship quality - post-adjusted model after cutting variables and error connection in comparison. It was found that the value of Chi-square of the adjusted model was 3530.119, whereas the value of Chi-square of the post-adjusted model was 1168.980. The degree of freedom was reduced from 524 to 466, while the p-value was maintained at 0.00. The model fit criteria suggested that the significance value (p-value) must exceed 0.05, then H0 was rejected. In this case, the model did not represent a fit to the data. Further, other goodness of fit criteria was used to test the model fit and found that the value of Goodness-of-fit statistic (GFI), Comparative fit index (CFI), and Tucker-Lewis index (TLI) of the adjusted model were 0.673, 0.854, and 0.843 respectively, whereas those values of the adjusted model were 0.898, 0.966, and 0.959. As the acceptable model fit values for GFO, CFI, and TLI were >0.9, >0.9, and >0.95 respectively. As the result, the adjusted model (group model) represented a fit to the data, so the measurement model was further used for further structural analysis. The unstandardized estimates of relationship quality were exhibited in Figure 4.13.
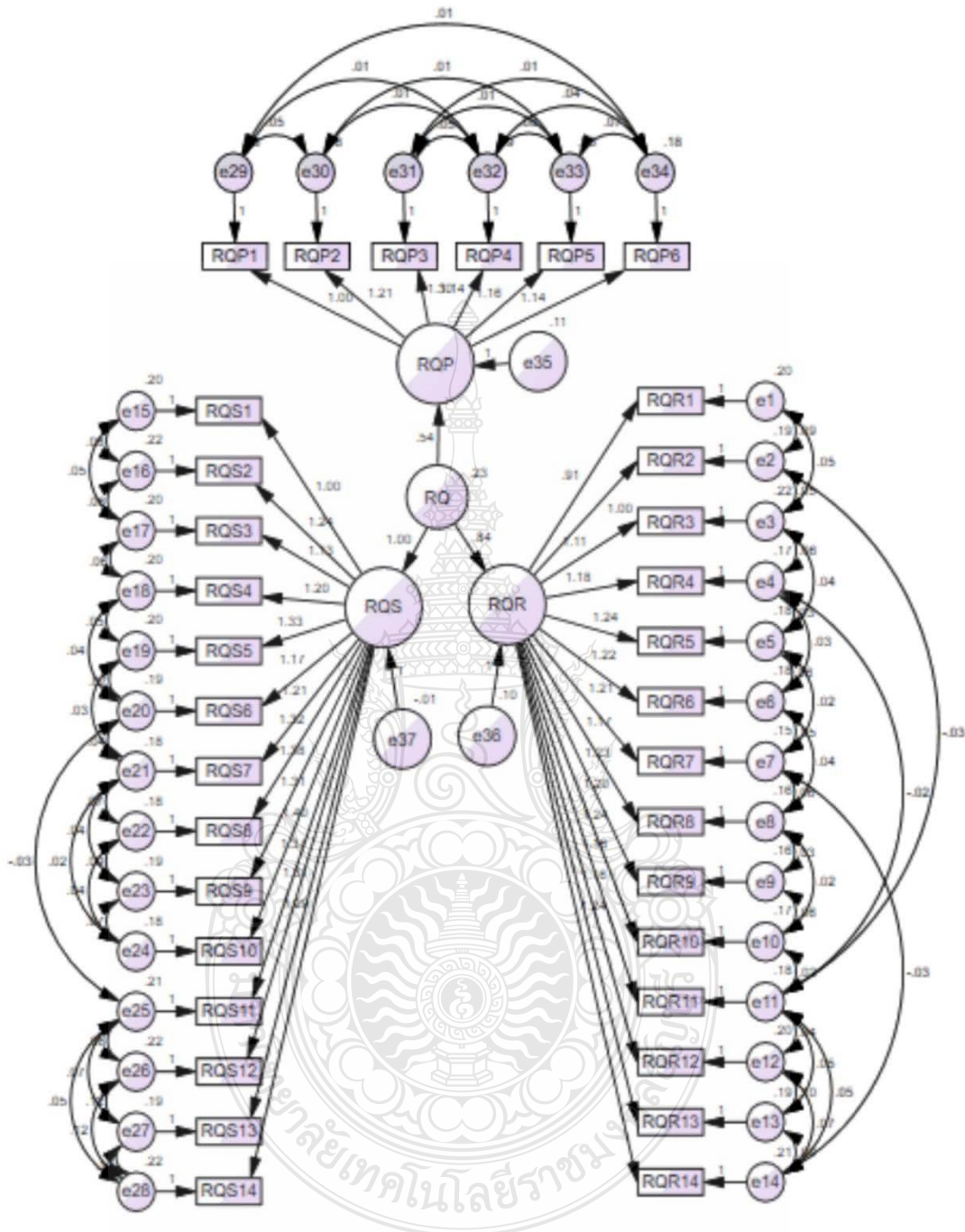
Figure 4.13 Unstandardized estimates of relationship quality

As a conclusion, the observed variables of relationship quality as latent variable were ranked by its relative importance from most to least. Considering the value of R-square, it indicated that top three observed variables that had the strongest power in explaining the latent variable of relationship quality in the product were RQP3, RQP2,

and RQP6, as shown in Table 4.47. The top three observed variables that had the strongest power in explaining the latent variable of relationship quality in service were RQS9, RQS8, and RQS10 as shown in Table 4.48. Lastly, the top three observed variables that had the strongest power in explaining the latent variable of relationship quality in customer relation were RQR7, RQR9, and RQR5 as shown in Table 4.49.

Table 4.47 Relative importance of factor predictors: relationship quality in product

Item	Observed Variable	Factor Loading	R-square
RQP3	I like this brand	0.83	0.70
RQP2	This brand is my right choice	0.79	0.63
RQP6	I enjoy using this brand	0.75	0.57
RQP4	This brand gives good experience	0.74	0.55
RQP1	I am happy with quality	0.71	0.51
RQP5	The performance exceeds expectation	0.70	0.49

Table 4.48 Relative importance of factor predictors: relationship quality in service

Item	Observed Variable	Factor Loading	R-square
RQS9	This brand will help me out of whatever	0.83	0.68
RQS8	This brand keeps the promise	0.82	0.68
RQS10	This brand works hard for my wellbeing	0.82	0.67
RQS11	I won't consider other brands	0.82	0.67
RQS13	I will maintain long-term with this brand	0.81	0.66
RQS12	I will keep using this brand	0.81	0.65
RQS5	The performance exceeds expectation	0.81	0.65
RQS7	This brand cares about my need	0.80	0.64
RQS14	I enjoy relationship and will keep using	0.79	0.62
RQS6	I enjoy using this brand	0.78	0.61
RQS4	This brand gives good experience	0.78	0.61

Table 4.48 Relative importance of factor predictors: relationship quality in service (Cont.)

Item	Observed Variable	Factor Loading	R-square
RQS2	This brand is my right choice	0.78	0.60
RQS3	I like this brand	0.76	0.58
RQS1	I am happy with quality	0.73	0.53

Table 4.49 Relative importance of factor predictors: relationship quality in customer relation

Item	Observed Variable	Factor Loading	R-square
RQR7	This brand cares about my need	0.85	0.72
RQR9	This brand will help me out for whatever	0.85	0.71
RQR5	The performance exceeds expectation	0.84	0.70
RQR11	I won't consider other brands	0.83	0.69
RQR10	This brand works hard for my wellbeing	0.83	0.69
RQR8	This brand keeps the promises	0.83	0.69
RQR6	I enjoy using this brand	0.83	0.69
RQR4	This brand gives good experience	0.83	0.68
RQR14	I enjoy relationship and will keep using	0.81	0.66
RQR13	I will maintain long-term with this brand	0.81	0.65
RQR12	I will keep using this brand	0.81	0.65
RQR3	I like this brand	0.77	0.60
RQR2	This brand is my right choice	0.76	0.58
RQR1	I am happy with quality	0.72	0.52

4.4.4. Self-Brand Connection

The measurement of self-brand connection was derived from the previous literature, so Confirmatory Factor Analysis was conducted for the analysis with the result as shown in Figure 4.14 below. With a reliability test, Cronbach's alpha test was 0.947 which was close to 1.0. Then it was concluded that it was acceptable and reliable. In addition, those observed variables were not independent of one another whereas further data processing was able to be taken into action.
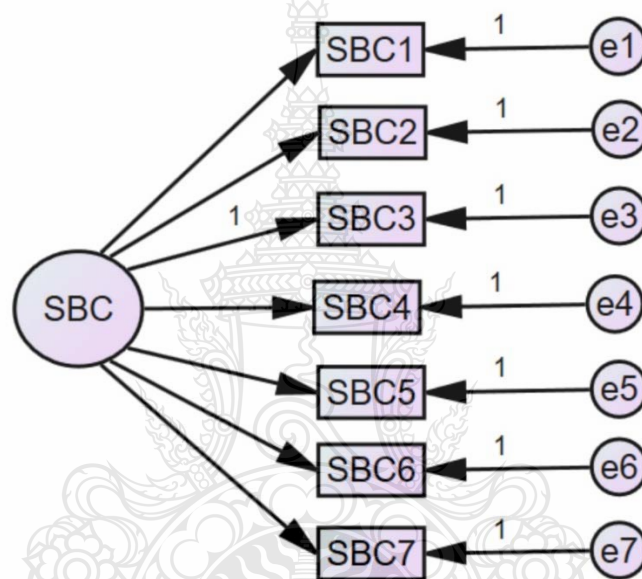
Figure 4.14 Model of self-brand connection

As shown in Table 4.50, the result showed that the Likelihood Ratio Chi-Square was 257.927 with the degree of freedom of 14 and the probability level of 0.000. In this case, the result of p-value indicated that the model did not represent a fit to the data because its significance level was at 0.5 level.

Table 4.50 The Model output of self-brand connection (before linked error lines)

Number of distinct sample moments	Number of distinct parameters to be estimated	Chi-square	Degrees of freedom (28-14)	Probability level
28	14	257.927	14	0.000

Before the assessment of model fit, a significance of variables correlation in estimates was performed. The hypothesis was tested by the critical ratio indicating the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, the null hypothesis was rejected, because the factor loading was not equal to zero at 0.05 level of significance. All factors were significantly related to Self-Brand Connection. As the result, none of the observed variables was cut off. Next, the CMIN/DF was further taken into consideration whereas it fits better with the complicated model. If CMIN/DF is less than three, the model represents a fit to the data; however, it was found that the CMIN/DF was 18.423 indicating that the model did not represent a fit to the data. Further, other goodness of fit criteria were used to test the model fit. It was indicated that the value of Goodness-of-fit statistic (GFI), Comparative fit index (CFI), and Tucker-Lewis index (TLI) were 0.878, 0.938, and 0.907 respectively. Based on the values obtained, those obtained values were not up to the acceptable goodness of fit. Hence, it was concluded that the model did not represent the fit to the data.

The Hoelter index stated the sample size at which Chi-square would not be significant (alpha = .05), i.e., that was how small one's sample size would have to be for the result to be no longer significant. The index should only be computed if the Chi-square is statistically significant. The index represents the sample size at which the chi-square would not be nonsignificant. The Hoelter only makes sense to interpret if N > 200 and the chi-square is statistically significant. If the value is less than 75 indicating that the model has a very poor fit and exceeds 200 indicating that the model has a good fit. The value of Hoelter index at 0.05 level was 56 which was less than 200. It indicated that the model had a very poor fit to the data. Next, the error lines which show mutual association with a reference of modification indices were connected between observed variables. As the consequence, the value of Chi-square or CMIN was reduced to the goodness of fit of

the model. From Figure 4.15 below, all 11 error lines were connected to adjust the goodness of fit.
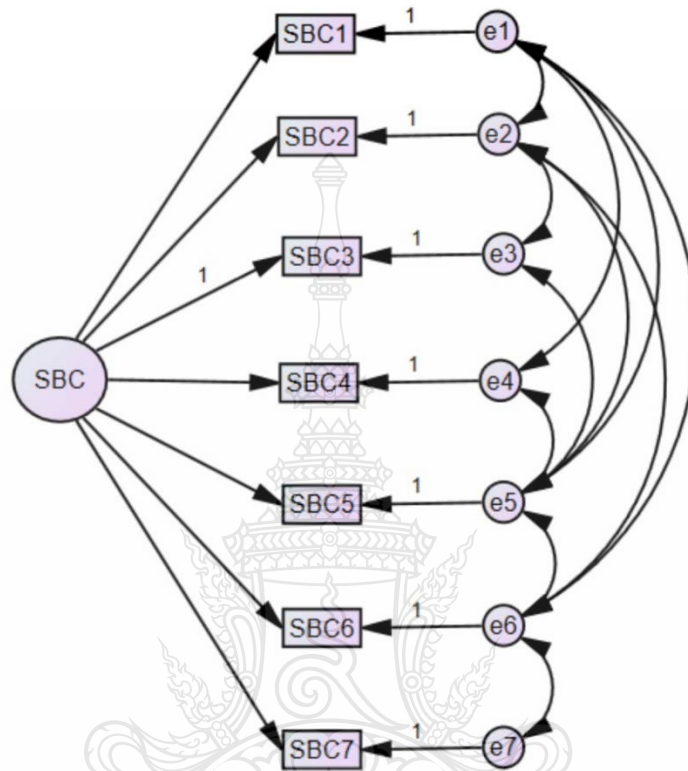
Figure 4.15 Model of self-brand connection- after adjusted model

Table 4.51 The Model output of self-brand connection (after linked error lines)

Number of distinct sample moments	Number of distinct parameters to be estimated	Chi-square	Degrees of freedom (28-25)	Probability level
28	25	3.984	3	0.263

Table 4.52 Model fit summary of self-brand connection

No.	Goodness of Fit Criteria	Goodness of Fit Values	Values Obtained for SBC - Pre-adjusted Model	Values Obtained for SBC - Adjusted Model with Error Connection
1	Chi-square		257.927	3.984
2	Df		14	3
3	p-value	>0.05	.000	.263
4	CMIN/DF	< 3	18.423	1.328
5	GFI	> 0.9	0.878	0.998
6	AGFI	> 0.9	0.755	0.982
7	RMSEA	0.05-0.08	0.170	0.023
8	RMR	< 0.08	0.018	0.002
9	CFI	> 0.90	0.938	1.000
10	HOELTER 0.05	> 75-200	56	1183
11	TLI	> 0.95	0.907	0.998
12	AIC	Less is better	285.927	53.984
13	BIC	Less is better	347.577	164.073

Table 4.52 above listed the goodness of fit values obtained both for self-brand connection - pre-adjusted model and for self-brand connection - adjusted model with error connection in comparison. The value of Chi-square of the pre-adjusted model was 257.927, while the value obtained for the adjusted model was 3.984. The goodness of fit criteria suggested that the significance value must exceed 0.05, then H0 is accepted. Hence, it was indicated that the model represented a fit to the data. Besides, the value obtained for CMIN/DF was reduced from 18.423 to 1.328. The values obtained of GFI, CFI and TLI of the pre-adjusted model were 0.878, 0.938, and 0.907 respectively, whereas those valued obtained for the adjusted model were 0.998, 1.00, and 0.998 respectively. All values of the adjusted model achieved the acceptable goodness of fit. Hence, the model represented a fit to the data. The unstandardized and standardized estimates of self-brand connection were exhibited in Figures 4.16 and 4.17.
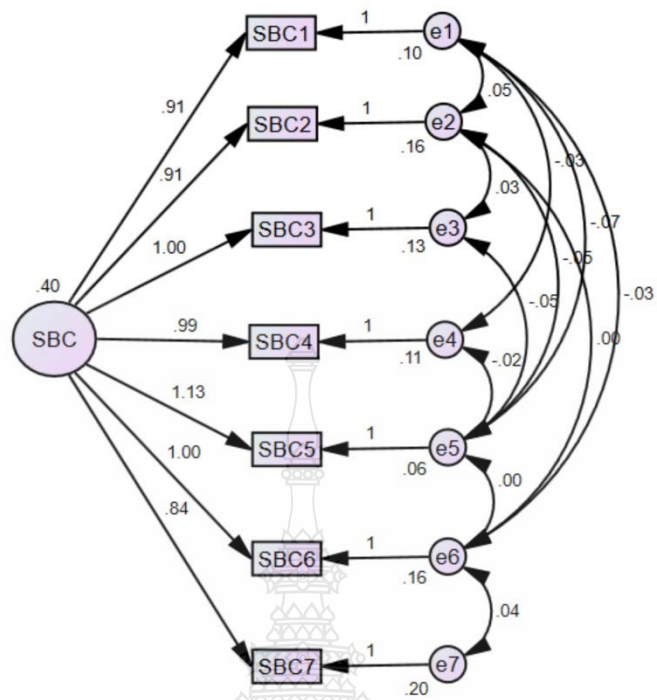
Figure 4.16 Unstandardized estimates of self-brand connection
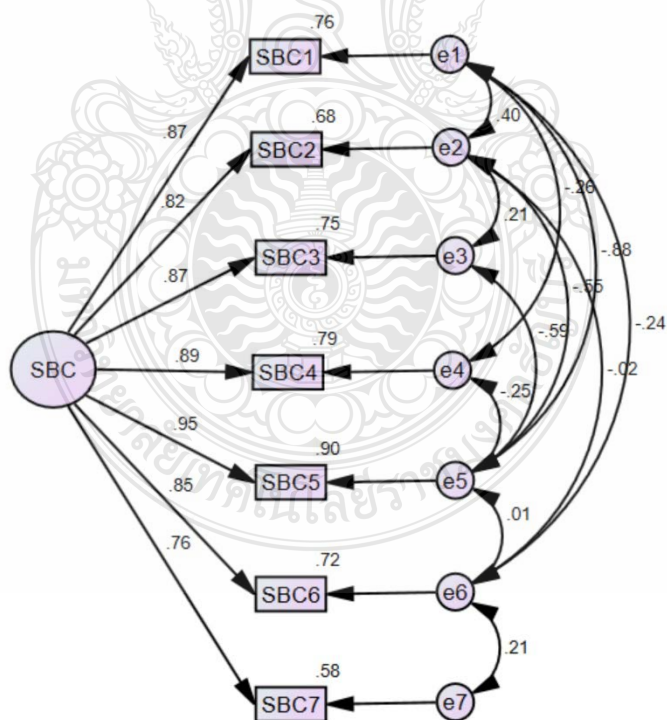
Figure 4.17 Standardized estimates of self-brand connection

As a conclusion, the observed variables of self-brand connection as latent variable were ranked by its relative importance from most to least as shown in Table 4.53 below. Considering the value of R-square, it indicated that the top three observed variables that had the strongest power in explaining the latent variable were SBC5, SBC4, and SBC1.

Table 4.53 Relative importance of factor predictors of self-brand connection

Item	Observed Variable	Factor Loading	R-square
SBC5	Reinforce my ideal self	0.95	0.90
SBC4	Express myself to public	0.89	0.79
SBC1	Reflect myself	0.87	0.76
SBC3	Brand and self-connection	0.87	0.75
SBC6	This is my brand	0.85	0.72
SBC2	Brand and self-identification	0.82	0.68
SBC7	Brand fit to myself	0.76	0.58

4.4.5. Customer Brand Engagement

The measurement of customer brand engagement was derived from the previous past literature, so the analysis with Confirmatory Factor Analysis was conducted for the analysis as shown in Figure 4.18. With a reliability test, Cronbach's alpha test was 0.948 which was close to 1.0. Then it was concluded that it was acceptable and reliable. In addition, those observed variables were not independent of one another whereas further data processing was able to be taken into action.
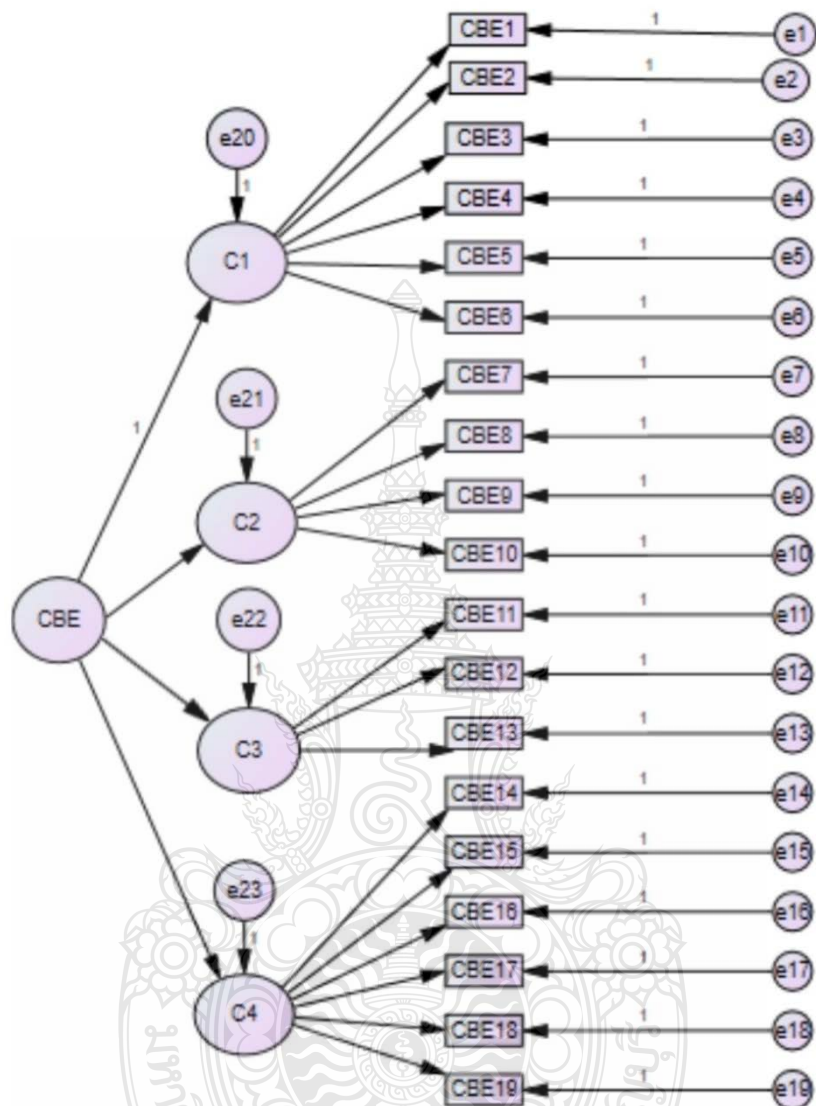
Figure 4.18 Model of customer brand engagement (second-order)

(a) **Confirmatory Factor Analysis of Customer Brand Engagement.** As shown in Table 4.54, the result showed that the value of Likelihood Ratio Chi-square was 1291.072, degree of freedom was 146, and probability level was 0.000 which was less than 0.05. In this case, the result of p-value indicated that the model did not represent a fit to the data because of its significance level at 0.5 level.

Table 4.54 The Model output of customer brand engagement

Number of distinct sample moments	Number of distinct parameters to be estimated	Chi-square	Degrees of freedom (190-44)	Probability level
190	44	1291.072	146	0.000

Before the assessment of model fit, a significance of variables correlation in estimates was performed. The hypothesis was tested by the critical ratio indicating the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, the null hypothesis was rejected, because the factor loading was not equal to zero at 0.05 level of significance. All factors were significantly related to Customer Brand Engagement. As the result, none of the observed variables was cut off. Next, the CMIN/DF was further taken into consideration whereas it fits better with the complicated model. If CMIN/DF is less than three, the model represents a fit to the data; however, it is found that the CMIN/DF was 8.843 in which it indicated that the model did not represent a fit to the data. Further, other goodness of fit criteria was used to test the model fit. It was found that the values obtained for GFI, CFI, and TLI were 0.787, 0.905, and 0.889 respectively. It was suggested that the values of GFI, CFI, and TLI must exceed 0.9, 0.9, and 0.95 respectively to achieve the goodness of fit. Hence, the model did not represent a fit to the data.

Table 4.55 Model fit summary of customer brand engagement

No.	Goodness of Fit Criteria	Goodness of Fit Value	Value Obtained (Pre-adjusted Model)	Value Obtained (Adjusted Model)
1	Chi-square		1291.072	1514.058
2	Df		146	116
3	p-value	>0.05	.000	.000
4	CMIN/DF	< 3	8.843	13.052
5	GFI	> 0.9	0.787	0.733
6	AGFI	> 0.9	0.723	0.647
7	RMSEA	0.05-0.08	0.114	0.141
8	RMR	> 0.08	0.070	0.071
9	CFI	> 0.90	0.905	0.877
10	HOELTER 0.05	> 75-200	82	57
11	TLI	> 0.95	0.889	0.856
12	AIC	Less is better	1379.072	1588.058
13	BIC	Less is better	1572.829	1750.991

Table 4.55 above listed the goodness of fit values obtained between the pre-adjusted and adjusted model of customer brand engagement in comparison. The value of CMIN/DF obtained for the pre-adjusted model was 8.843, whereas the value obtained for the adjusted model was 12.052. Hence, the model did not represent a fit to the data. Further, other goodness of fit criteria was used to test the model fit. The values of Goodness-of-fit statistic (GFI), Comparative fit index (CFI), and Tucker-Lewis index (TLI) obtained for the pre-adjusted model were 0.787, 0.905, and 0.889 respectively, while those valued obtained for the adjusted model were 0.733, 0.877, and 0.856 respectively. As it was suggested that the acceptable goodness of fit for GFI, CFI, and TLI must be >0.9, >0.9, and >0.95, then the model did not represent the fit to the data.

Structural Equation Modelling allows connecting the error lines which show mutual association with a reference of modification indices. As the consequence, the

value of Chi-square or CMIN was reduced to the goodness of fit of the model. From Figure 4.19 below, overall 15 error lines were connected to adjust the goodness of fit. Even though such variable as customer brand engagement was derived from past literature, the exploratory factor analysis was needed to further perform to obtain appropriate variables with the increasing goodness of fit.

Figure 4.19 Model of customer brand engagement - after adjusted model

(b) Exploratory Factor Analysis of Customer Brand Engagement – first round. Exploratory factor analysis was used for reducing many the observed variables. The prior assumption for factor analysis was tested. As shown in Table 4.56 below, the result of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .936. It indicated

that the matrix of observed variables was not the identity matrix. In addition, with Bartlett's test for Sphericity, the Chi-square, degree of freedom, and level of significance were 12087.255, 171, and 0.00 respectively.

Table 4.56 KMO and Bartlett's test of customer brand engagement

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | Bartlett's Test of Sphericity | | |
	Approx. Chi-Square	df	Sig.
.936	12087.255	171	0.000

Next, Common Factor Analysis in Exploratory Factor Analysis was performed to analyze the measurement models of all latent variables used in this study. Common Factor Analysis using Principle Axis Factoring indicates eigenvalue from total variance explained of factors. From Table 4.57 below, with all three factors combined, the total variance explained was 73.073 percent.

Table 4.57 Total variance explained of customer brand engagement (1st round)

| Factor | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings |
	Total	Percent of Variance	Cumulative Percent	Total	Percent of Variance	Cumulative Percent	Total
1	9.858	51.882	51.882	9.623	50.650	50.650	8.212
2	3.152	16.590	68.471	2.817	14.824	65.474	4.844
3	1.687	8.880	77.352	1.437	7.563	73.037	7.018
4	.762	4.008	81.360				
5	.586	3.083	84.443				

With all three factors combined, the total variance explained was 73.037 percent which was more than 70 percent (Vanichbuncha, 2019) so it was not needed to cut off variables with the weak correlation with a reference to the value of communalities. However, it was found that the value of communality was too less. Moreover, the observed variables were not properly classified into the groups that it should be. As the result, the further cutting-off process was implemented.

At the first round, two observed variables were cut off such as CBE1 and CBE2. The Exploratory Factor Analysis was further performed for another two rounds. At the final round, 17 observed variables were kept for further analysis considering the criteria and the value of factor loading as shown in Table 4.58 below.

Table 4.58 Summary of observed variables in the cutting-off process of customer brand engagement

Round	1st	2nd	3rd
KMO value	0.936	0.939	0.938
Extraction Sums of Squared Loadings (%)	73.037	74.773	76.618
Total factor	19	18	17
Number of variables cut	1	1	0
Number of variables kept	18	17	17
List of variables kept	CBE2	CBE3	CBE3
	CBE3	CBE4	CBE4
	CBE4	CBE5	CBE5
	CBE5	CBE6	CBE6
	CBE6	CBE7	CBE7
	CBE7	CBE8	CBE8
	CBE8	CBE9	CBE9
	CBE9	CBE10	CBE10
	CBE10	CBE11	CBE11
	CBE11	CBE12	CBE12
	CBE12	CBE13	CBE13
	CBE13	CBE14	CBE14
	CBE14	CBE15	CBE15
	CBE15	CBE16	CBE16
	CBE16	CBE17	CBE17
	CBE17	CBE18	CBE18
	CBE18	CBE19	CBE19
	CBE19		

Final testing result of measurement model with exploratory factor analysis indicated in Table 4.58 above that the value of extraction sums of squared loadings at the third round was 76.168 percent in which it was above the acceptable level of 70 percent. Hence, the result of the third round exhibited in Tables 4.59 and 4.60 was taken for further Confirmatory Factor Analysis.

Table 4.59 KMO and Bartlett's test of customer brand engagement in last round (3rd round)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig.
.938	11369.373	136	0.000

Table 4.60 Total variance explained of customer brand engagement in last round (3rd round)

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	Percent of Variance	Cumulative Percent	Total	Percent of Variance	Cumulative Percent	Total
1	9.697	57.041	57.041	9.475	55.733	55.733	8.359
2	2.365	13.913	70.954	2.115	12.440	68.172	4.738
3	1.682	9.895	80.849	1.436	8.445	76.618	6.880
4	.616	3.622	84.471				
5	.394	2.315	86.786				

Further, based on the analysis of common factor analysis using Principle Axis Factoring, it turned out to have three factors whereas the eigenvalue of the first factor to the last factor was equal or larger than 1.0. With all three factors combined, the total variance explained was 76.618 percent. From the initial test in communalities of customer brand engagement, the value of the variance explained was more than 70 percent, then this was acceptable. The result of the pattern matrix was shown in Table 4.61 below.

Table 4.61 Pattern matrix of customer brand engagement

Observed Variable	Factor		
	1	2	3
CBE3	.009	**.782**	.027
CBE4	-.053	**.857**	.033
CBE5	.074	**.860**	.017
CBE6	.090	**.821**	.022
CBE7	**.819**	.149	-.012
CBE8	**.926**	.085	-.069
CBE9	**.912**	.103	-.054
CBE10	**.925**	.025	-.042
CBE11	**.895**	-.019	.061
CBE12	**.858**	-.037	.090
CBE13	**.859**	-.082	.090
CBE14	**.518**	-.083	.473
CBE15	.307	-.094	**.643**
CBE16	.158	.009	**.725**
CBE17	-.062	.042	**.880**
CBE18	.005	.063	**.845**
CBE19	-.117	.115	**.864**

Besides, the pattern matrix of customer brand engagement shown in Table 4.61 above indicated that three iterations were required with three factors extracted. First, F1 has composed of CBE7with the value of 0.836, CBE8 with the value of 0.850, CBE9 with the value of 0.860, CBE10 with the value of 0.835, CBE11with the value of 0.865, CBE12 with the value of 0.845, CBE13 with the value of 0.819, CBE14 with the value of 0.817, CBE15 with the value of 0.756, CBE16 with the value of 0.748, CBE17 with the value of 0.692, CBE18 with the value of 0.738 and CBE19 with the value of 0.672. All variables with a value of 0.5 were acceptable. Second, F2 was composed of CBE3 with the value of 0.594, CBE4 with the value of 0.670, CBE5 with the value of 0.632 and CBE6 with

the value of 0.598. All variables with the value of 0.5 were acceptable. Last, F3 did not contain any variables as the value was less than 0.5. Dimension classification of a factor was found that all observed variables classified in each factor were related and sensible in the context of marketing. All observed variables classified in the first factor were then named as Interactivity, and the second one was involvement, and the third one was co-creation. Then, it was concluded that this measurement model was appropriate for further confirmatory factor analysis.

(c) **Confirmatory** **Factor** **Analysis** **for** **Customer** **Brand** **Engagement.** Confirmatory factor analysis was further performed for the analysis. Structural Equation Modelling allows connecting the error lines which show mutual association with a reference of modification indices. Before the assessment of model fit, a significance of variables correlation in estimates was performed. The hypothesis was tested by the critical ratio indicating the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, the null hypothesis was rejected, because the factor loading was not equal to zero at 0.05 level of significance. All factors were significantly related to Customer Brand Engagement. As the result, none of the observed variables was cut off. As the consequence, the value of Chi-square or CMIN was reduced to the goodness of fit of the model. All 26 error lines were connected to adjust the goodness of fit. The output was shown in Figure 4.20 below, followed by the summary of the model fit in Table 4.62.
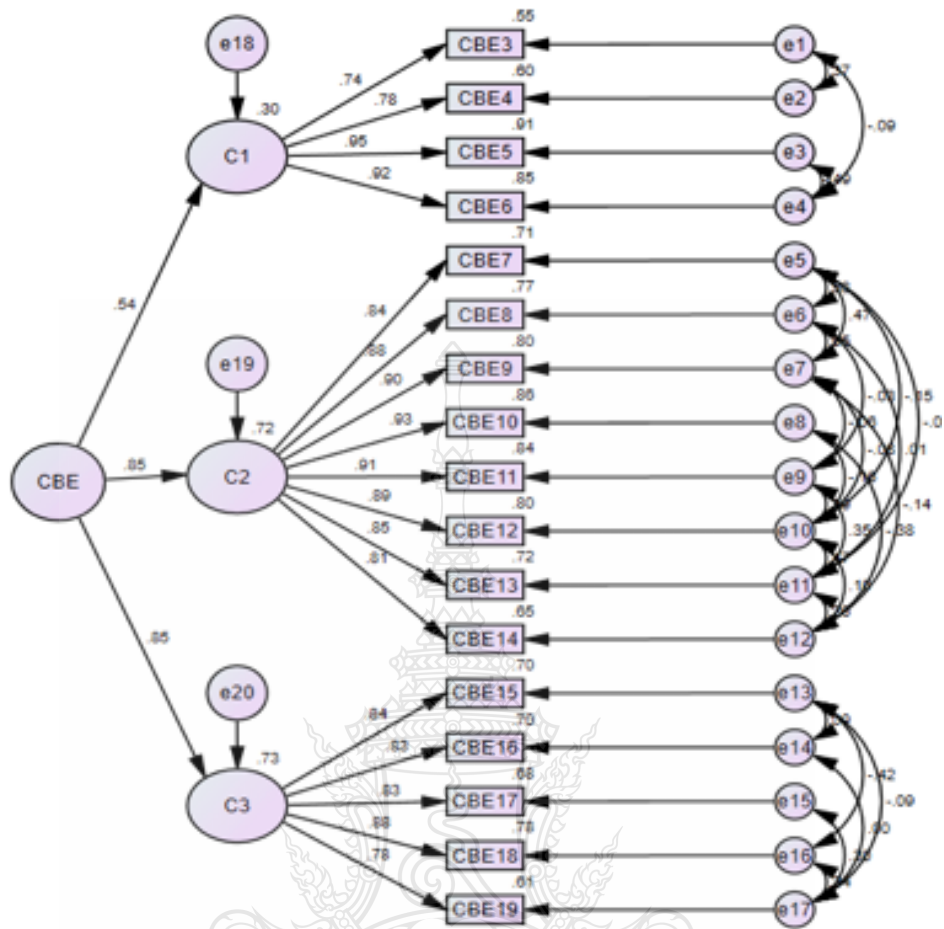
Figure 4.20 Standardized model of customer brand engagement - after adjusted model

Table 4.62 Model fit summary of customer brand engagement

No.	Goodness of Fit Criteria	Goodness of Fit Value	Values Obtained for CBE - Post Adjusted Model After Cutting Variables	Values Obtained for CBE - Post-adjusted Model After Cutting Variables and Error Connection
1	Chi-square		1514.058	561.781
2	Df		116	90
3	p-value	>0.05	.000	.000
4	CMIN/DF	< 3	13.052	6.242
5	GFI	> 0.9	0.733	0.911
6	AGFI	> 0.9	0.647	0.848
7	RMSEA	0.05-0.08	0.141	0.093
8	RMR	< 0.08	0.071	0.051
9	CFI	> 0.90	0.877	0.958
10	HOELTER 0.05	> 75-200	57	122

Table 4.62 Model fit summary of customer brand engagement (Cont.)

No.	Goodness of Fit Criteria	Goodness of Fit Value	Values Obtained for CBE - Post Adjusted Model After Cutting Variables	Values Obtained for CBE - Post-adjusted Model After Cutting Variables and Error Connection
11	TLI	> 0.95	0.856	0.937
12	AIC	Less is better	1588.058	687.781
13	BIC	Less is better	1750.991	965.206

From Table 4.62 above, it was shown that the value of Chi-square was reduced from 1514.058 to 561.781, degree of freedom was 90 and p-value was 0.00. The significance value did not exceed 0.05, then H0 was rejected which indicated that the model did not represent a fit to the data. However, the value of CMIN/DF, GFI, CFI, and TLI were 6.242, 0.911, 0.958 and 0.937 respectively. The model fit of this measurement model was satisfactory, then this model was further used for further structural analysis. The after-adjusted model of relationship quality was taken for further structural analysis. For further reference, the standardized estimates of customer brand engagement were exhibited in Figure 4.20, while the unstandardized estimates of customer brand engagement were exhibited in Figure 4.21.
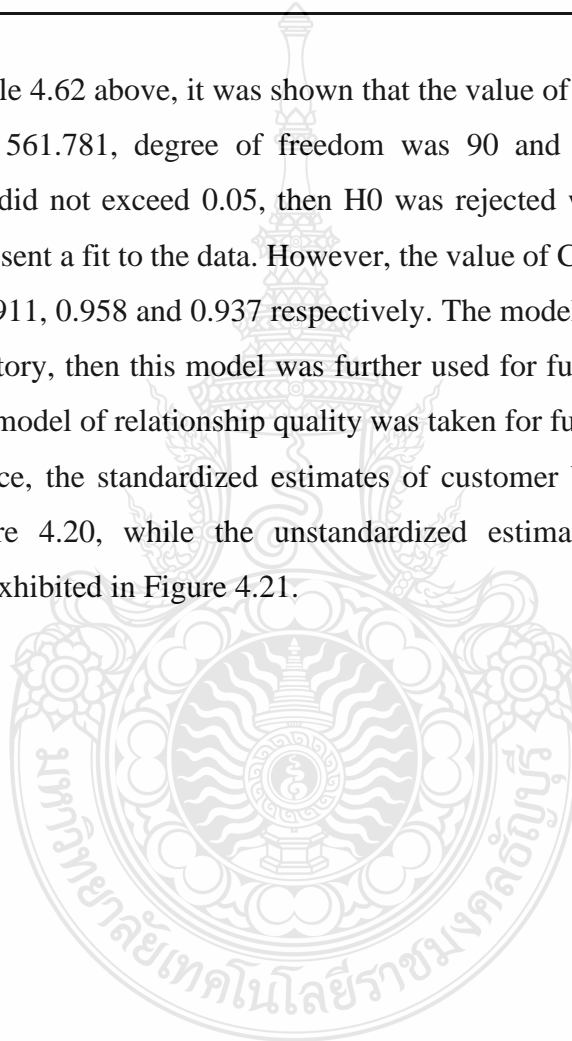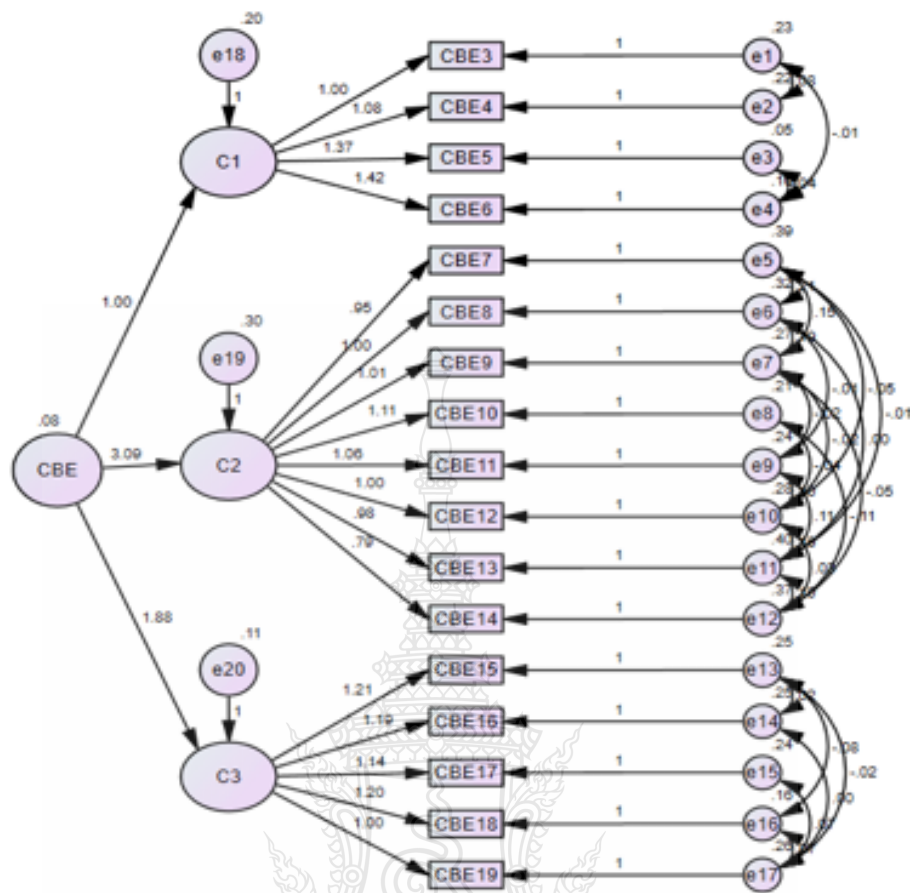
Figure 4.21 Unstandardized estimates of second-order model of customer brand engagement

In conclusion, the observed variables of customer brand engagement as a latent variable were ranked by its relative importance from most to least. Considering the value of R-square, it indicated that the top three observed variables that had power in explaining interactivity of customer brand engagement were CBE5, CBE6, and CBE4 (as shown in Table 4.63). The top three observed variables that had power in explaining the involvement of customer brand engagement were CBE10, CBE11, and CBE9 (as shown in Table 4.64). Lastly, the top three observed variables that had power in explaining the co-creation of customer brand engagement were CBE18, CBE15, and CBE16 (as shown in Table 4.65).

Table 4.63 Relative importance of factor predictors: C1 - interactivity of customer brand engagement

Item	Observed Variable	Factor Loading	R-square
CBE5	Recommend this brand to acquaintances	0.95	0.91
CBE6	Recommend this brand to close friends	0.92	0.85
CBE4	Speak positive about this brand to others	0.78	0.60
CBE3	Recommend this brand to family	0.74	0.55

Table 4.64 Relative importance of factor predictors: C2 - involvement of customer brand engagement

Item	Observed Variable	Factor Loading	R-square
CBE10	Join the brand's activities to win award	0.93	0.86
CBE11	Share my thought about this brand on website	0.91	0.84
CBE9	Join 'bring a friend' program of this brand	0.90	0.80
CBE12	Writ comments in this brand owned digital media	0.89	0.80
CBE8	Join this brand's contest in social media	0.88	0.77
CBE13	Write comments in forums on this brand	0.85	0.72
CBE7	Join the draws of this brand in social network	0.84	0.71
CBE14	If any idea to better serve the need, will tell them	0.81	0.65

Table 4.65 Relative importance of factor predictors: C3 - Co-creation of customer brand engagement

Item	Observed Variable	Factor Loading	R-square
CBE18	If notice a program, I will tell them	0.88	0.78
CBE15	If any constructive suggestion, I will tell them	0.84	0.70
CBE16	If any useful idea to improve, will tell them	0.83	0.70
CBE17	If experience any problem, will tell them	0.83	0.68
CBE19	If the brand gives good service, I will tell them	0.78	0.61

4.4.6 Repurchase Intention

The measurement of repurchase intention was derived from the previous past literature. Confirmatory Factor Analysis was conducted for the analysis with the result as shown in Figure 4.22 below. With a reliability test, Cronbach's alpha test was 0.936

which was close to 1.0. Then it was concluded that it was acceptable and reliable. In addition, those observed variables were not independent of one another whereas further data processing was able to be taken into action.
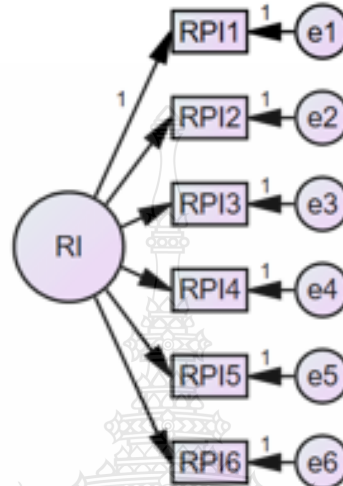
Figure 4.22 Model of repurchase intention - before adjusted model

As shown in Table 4.66, the result showed that the Likelihood Ratio Chi-Square is 273.165 with the degree of freedom of nine and a probability level of 0.000. In this case, the result of p-value indicated that the model did not represent a fit to the data because its significance level was at 0.5 level.

Table 4.66 The Model output of repurchase intention

Number of distinct sample moments	Number of distinct parameters to be estimated	Chi-square	Degrees of freedom (21-12)	Probability level
21	12	273.165	9	0.000

Before the assessment of model fit, a significance of variables correlation in estimates was performed. The hypothesis was tested by the critical ratio indicating the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, the null hypothesis was rejected, because the factor loading was not equal to zero at 0.05 level

of significance. All factors were significantly related to Repurchase Intention. As the result, none of the observed variables was cut off. Next, CMIN/DF was further taken into consideration whereas it fits better with the complicated model. If CMIN/DF is less than three, the model represents a fit to the data; however, it is found that the CMIN/DF was 30.352 indicating that the model did not represent a fit to the data. Further, other goodness of fit criteria were used to test the model fit. It was indicated that the value of Goodness-of-fit statistic (GFI), Comparative fit index (CFI), and Tucker-Lewis index (TLI) were 0.844, 0.917, and 0.862 respectively. Based on the values obtained, those obtained values were not up to the goodness of fit. Hence, it was concluded that the model did not represent the fit to the data.

The Hoelter index stated that the sample size at which Chi-square would not be significant (alpha =.05), i.e., that was how small one's sample size would have to be for the result to be no longer significant. The index should only be computed if the Chi-square is statistically significant. The index represents the sample size at which the Chi-square would not be nonsignificant. The Hoelter only makes sense to interpret of N>200 and the Chi-square is statistically significant. The value is less than 75 indicating that the model has a very poor fit and exceeds 200 indicating that the model has a good fit. The value of Hoelter index at 0.05 level was 38 which was less than 200. It indicated that the model had a very poor fit to the data. Next, the error lines which show mutual association with a reference of modification indices were connected between observed variables. As the consequence, the value of Chi-square or CMIN was reduced to the goodness of fit of the model. From Figure 4.23 below, overall three error lines were connected to adjust the goodness of fit.

167
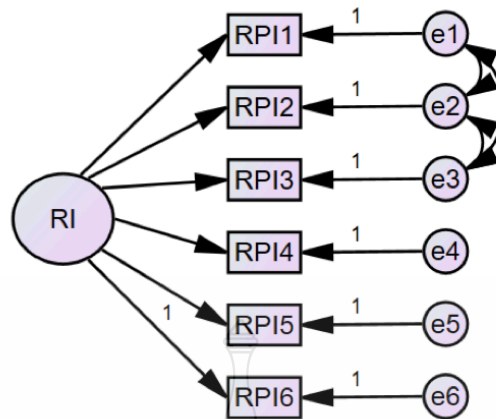
Figure 4.23 Model of Repurchase Intention - After Adjusted Model

Table 4.67 The Model output of repurchase intention

Number of distinct sample moments	Number of distinct parameters to be estimated	Chi-square	Degrees of freedom (21-15)	Probability level
21	15	10.062	6	0.122

Note. *p < .05. **p < .01.

Table 4.68 Model fit summary of repurchase intention

No	Goodness of Fit Criteria	Goodness of Fit Value	Value Obtained for RI - Pre-adjusted Model	Value Obtained for RI - Post-adjusted Model After Error Connection
1	Chi-square		273.165	10.062
2	Df		9	6
3	p-value	>0.05	.000	.122
4	CMIN/DF	< 3	30.352	1.677
5	GFI	> 0.9	0.844	0.994
6	AGFI	> 0.9	0.635	0.980
7	RMSEA	0.05-0.08	0.221	0.034
8	RMR	< 0.08	0.027	0.004
9	CFI	> 0.90	0.917	0.999
10	HOELTER 0.05	> 75-200	38	755

Table 4.68 Model fit summary of repurchase intention

No	Goodness of Fit Criteria	Goodness of Fit Value	Value Obtained for RI - Pre-adjusted Model	Value Obtained for RI - Post-adjusted Model After Error Connection
11	TLI	> 0.95	0.862	0.997
12	AIC	Less is better	297.165	40.062
13	BIC	Less is better	350.008	106.115

Note. $*p < .05.$ $**p < .01.$

From Table 4.68 above, the value of Chi-square was reduced from 273.165 to 10.062, degree of freedom was six and p-value was 0.122. The significance value exceeded 0.05, then H_0 was accepted which indicated that the model represented a fit to the data. Moreover, the value of CMIN/DF, GFI, CFI, and TLI were 1.677, 0.994, 0.999, and 0.997 respectively. The unstandardized and standardized estimates of repurchase intention were exhibited in Figures 4.24 and 4.25.
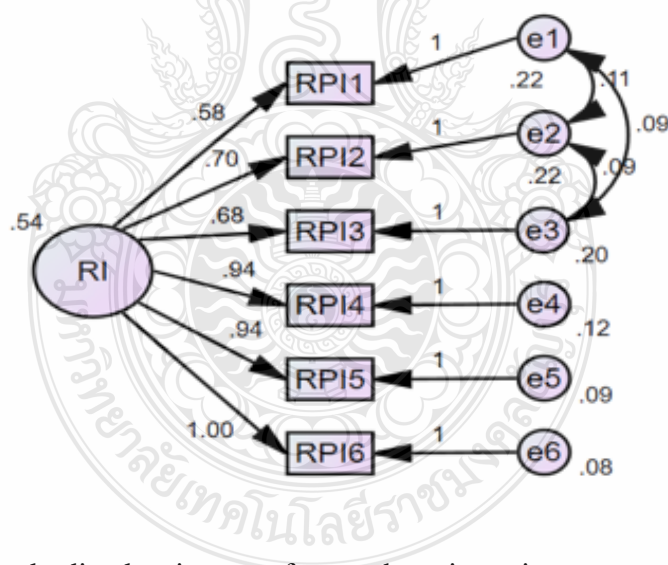
Figure 4.24 Unstandardized estimates of repurchase intention
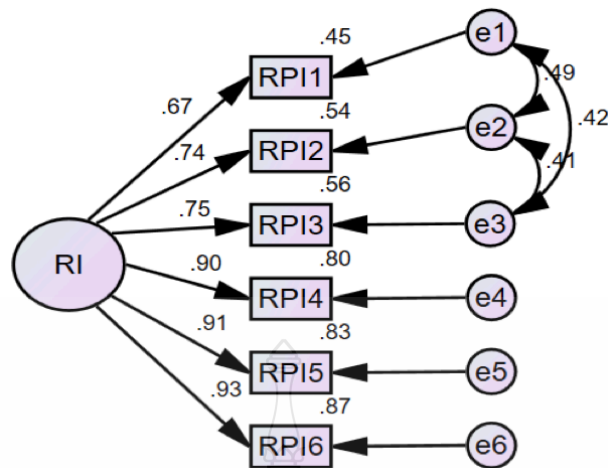
Figure 4.25 Standardized estimates of repurchase intention

In conclusion, the observed variables of repurchase intention as a latent variable were ranked by its relative importance of factors as shown in Table 4.69 below. Considering the value of R-square, it indicated that the top three observed variables that had the strongest power in explaining the latent variable were RPI16, PRPI15, and RPI14 respectively.

Table 4.69 The Relative importance of factor predictors: repurchase intention

Item	Observed Variable	Factor Loading	R-square
RPI6	Will buy this brand as my next car	0.93	0.87
RPI5	Consider this brand as first choice next time	0.91	0.83
RPI4	Buy this brand again in the future	0.90	0.80
RPI3	Recommend this brand to others	0.75	0.56
RPI2	Regular customers of this brand	0.74	0.54
RPI1	Talk positive about this brand	0.67	0.45

4.5 Structural Model

At this stage, six measurement models were chosen for path analysis which included Traditional Post Purchase Brand Touchpoints, Digital Post Purchase Brand Touchpoints, Relationship Quality, Self-brand Connection, Customer Brand Engagement and Repurchase Intention as follows:

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4.5.1 Traditional Post Purchase Brand Touchpoints

Overall, the chosen measurement model for traditional post-purchase brand touchpoints was composed of 14 observed variables with 14 error connection with the acceptable fit of model fit as shown in Figure 4.26.
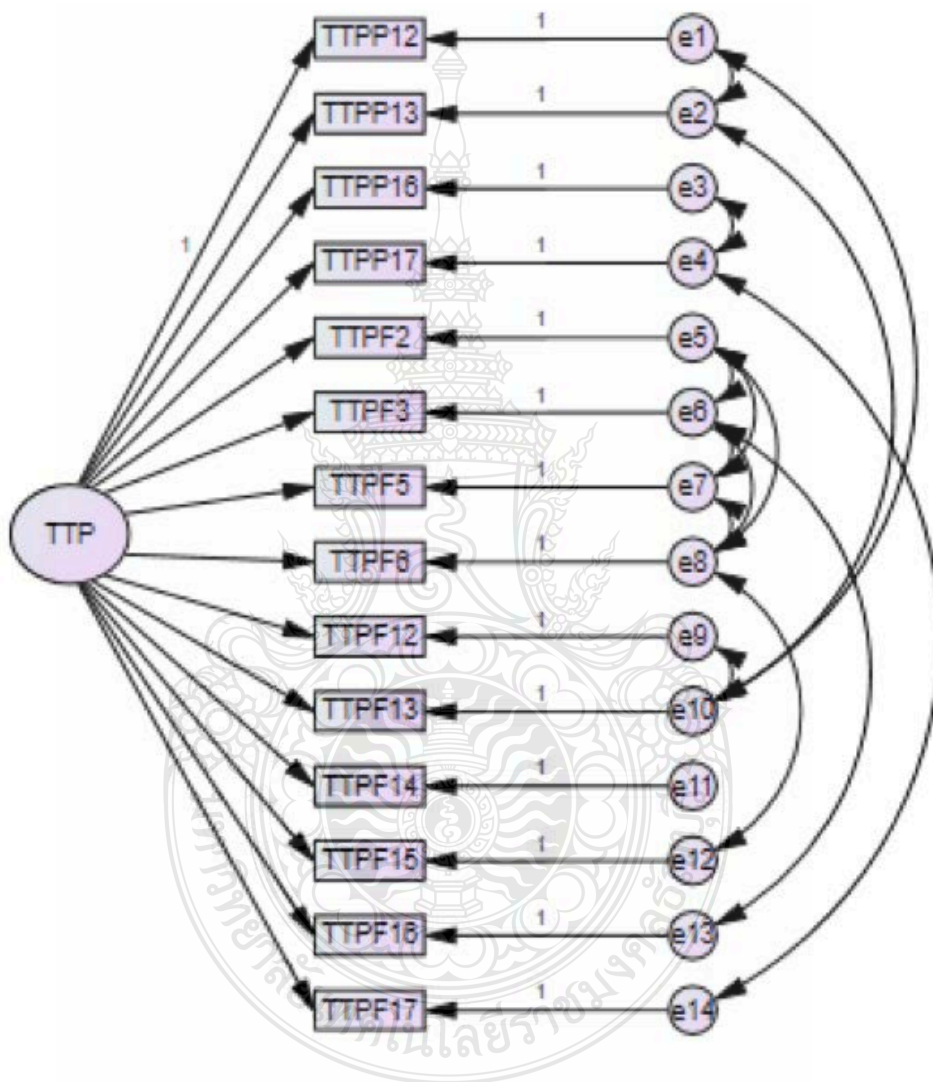
Figure 4.26 Model used for path analysis of traditional post purchase brand touchpoints

4.5.2 Digital Post Purchase Brand Touchpoints

Overall, the chosen measurement model for digital post-purchase brand touchpoints was composed of 15 observed variables with 21 error connection with the best goodness of model fit as shown in Figure 4.27.
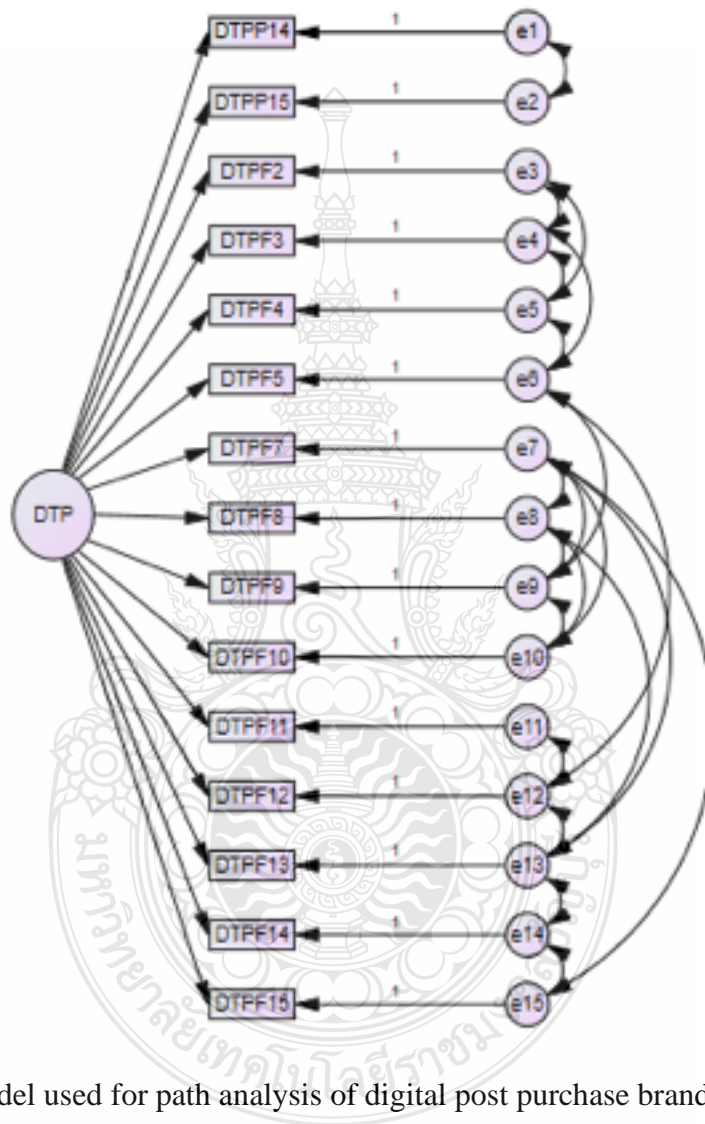
Figure 4.27 Model used for path analysis of digital post purchase brand touchpoints

4.5.3 Relationship Quality

Overall, the chosen measurement model for relationship quality was composed of 14 observed variables with 34 error connection with the best goodness of model fit as shown in Figure 4.28.
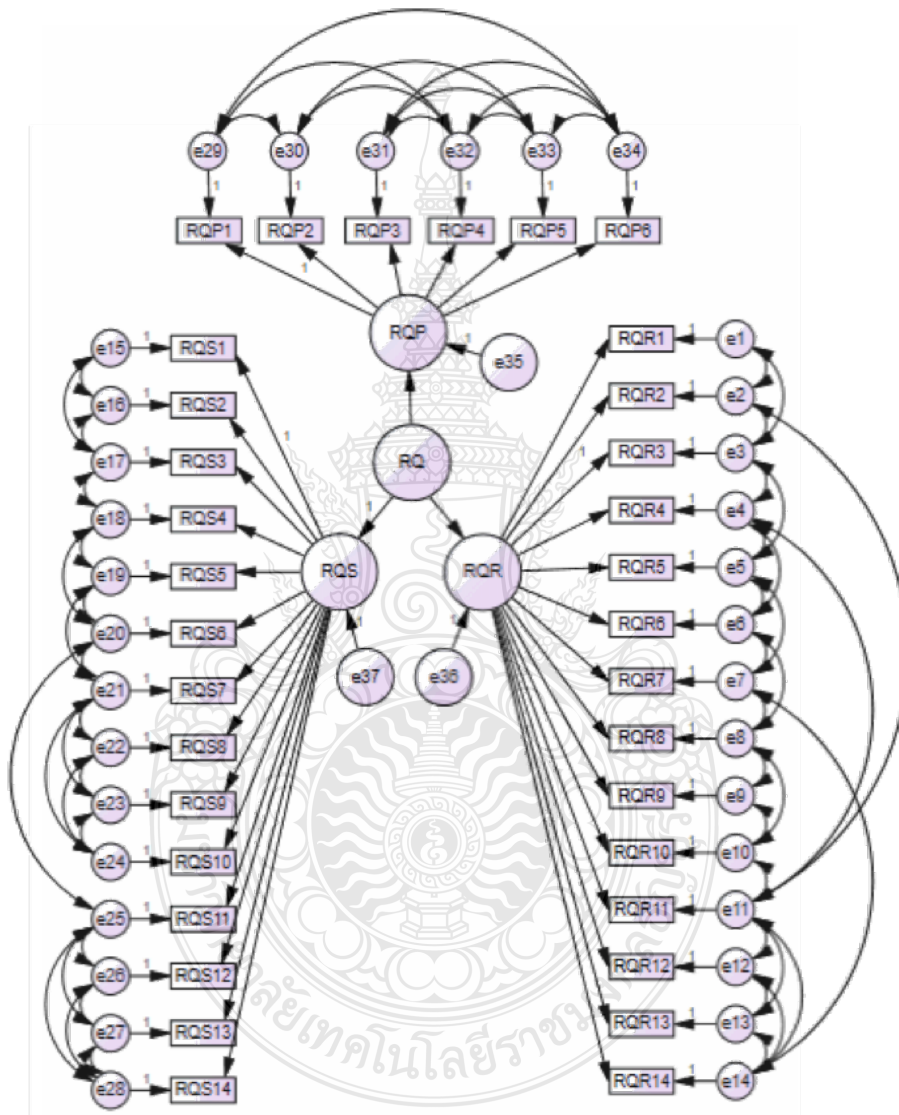
Figure 4.28 Model used for path analysis of relationship quality

4.5.4 Self-brand Connection

Overall, the chosen measurement model for self-brand connection was composed of seven observed variables with 11 error connection with the best goodness of model fit as shown in Figure 4.29.
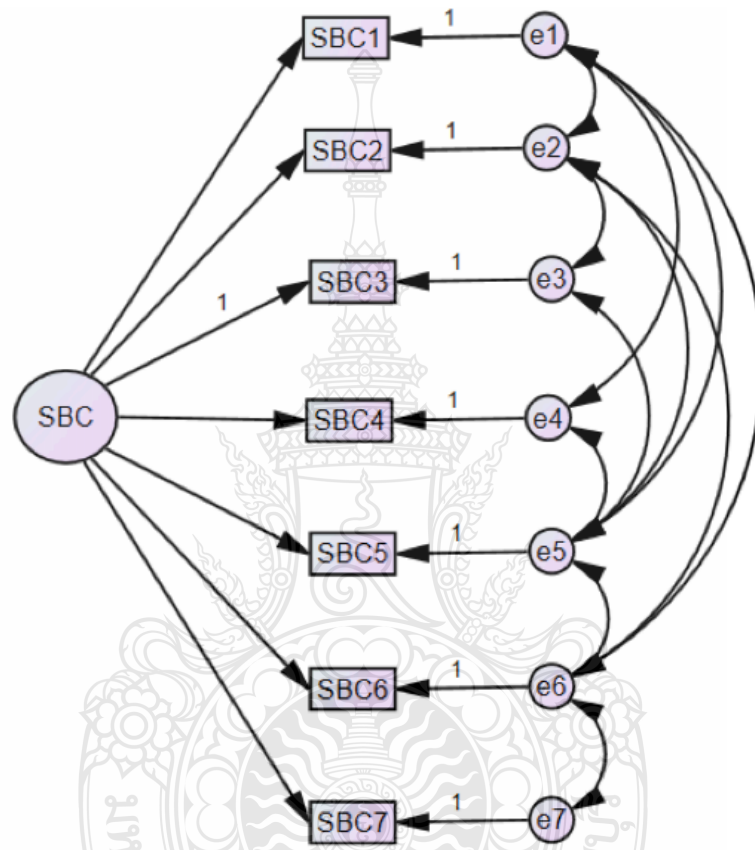
Figure 4.29 Model used for path analysis of self-brand connection

4.5.5 Customer Brand Engagement

Overall, the chosen measurement model for Customer Brand Engagement was composed of 17 observed variables with 25 error connection with the best goodness of model fit as shown in Figure 4.30.
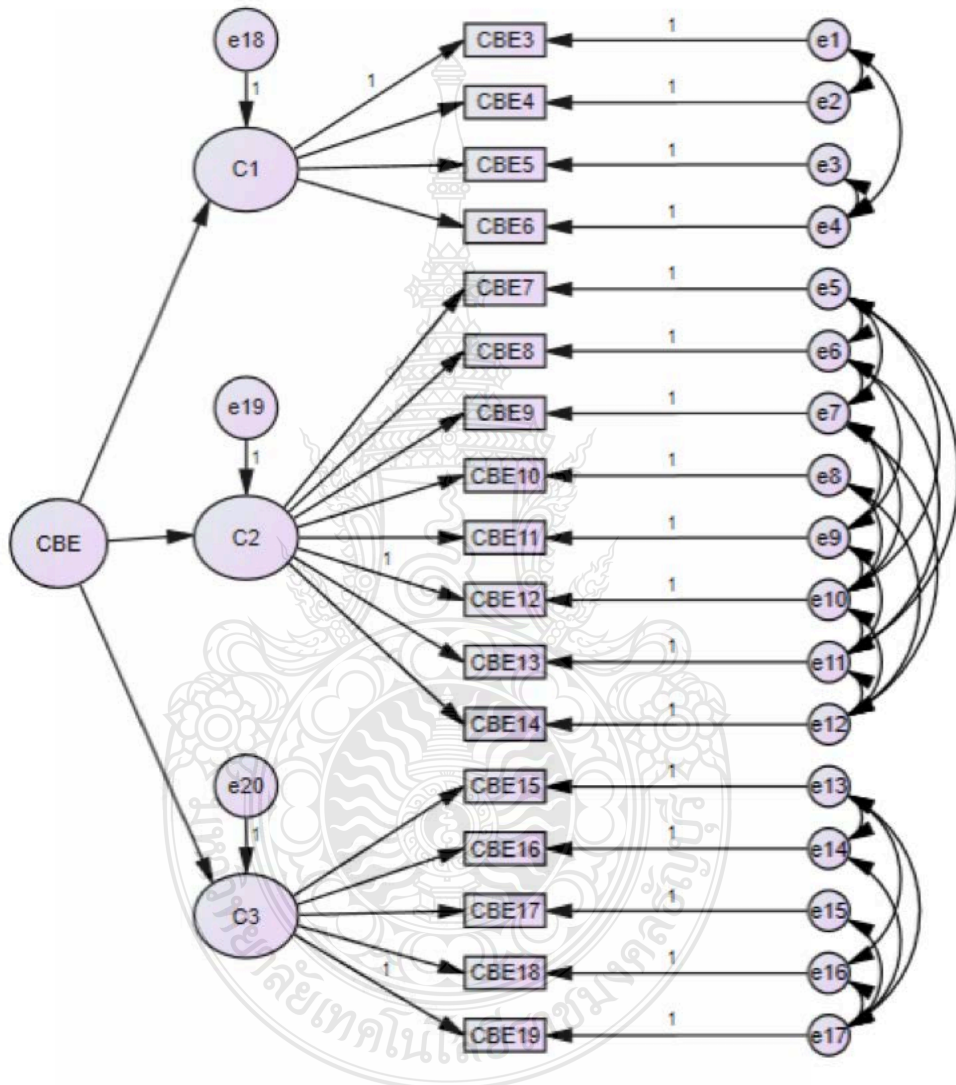
Figure 4.30 Model used for path analysis of customer brand engagement

4.5.6 Repurchase Intention

Overall, the chosen measurement model for repurchase intention was composed of six observed variables with three error connection with the best goodness of model fit as shown in Figure 4.31.
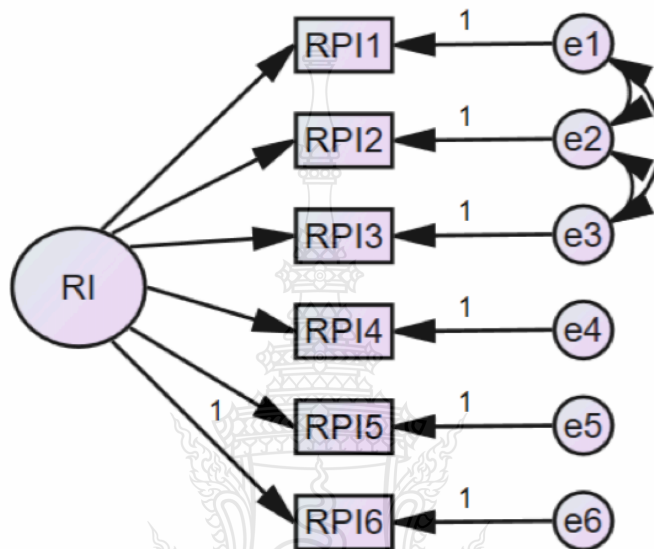
Figure 4.31 Model used for path analysis of repurchase Intention

All the above six sets of observed and latent variables which included traditional post-purchase brand touchpoints, digital post-purchase brand touchpoints, relationship quality, self-brand connection, customer brand engagement, and repurchase intention were found to represent a fit to the models according to the parameters as shown in Table 4.70 below. All of them further proceeded for further structural analysis.

Table 4.70 Model fit summary from confirmatory factor analysis in AMOS by observed variable

No.	Goodness of Fit Criteria	TTP	DTP	RQ	SBC	CBE	RI
1	Chi-square	241.278	257.416	1168.98	3.984	561.781	10.062
2	df	63	69	466	3	90	6
3	p-value	0.000	0.000	0.000	0.263	0.000	0.122
4	CMIN/DF	3.83	3.731	2.509	1.328	6.242	1.677
5	GFI	0.946	0.947	0.989	0.998	0.911	0.994
6	AGFI	0.91	0.907	0.869	0.982	0.848	0.98
7	RMSEA	0.069	0.067	0.05	0.023	0.093	0.034
8	RMR	0.045	0.035	0.017	0.002	0.051	0.004
9	CFI	0.969	0.977	0.966	1	0.958	0.999
10	HOELTER 0.05	207	210	267	1183	122	755
11	TLI	0.955	0.964	0.959	0.998	0.937	0.997
12	AIC	325.278	359.416	1426.98	53.984	687.781	40.062
13	BIC	510.229	583.999	2124.041	164.073	965.206	106.115

4.5.7 Structural Equation Model

The structural model used for path analysis was based on the variables stated from the previous chapter, as shown in Figures 4.32 and 4.33 below.
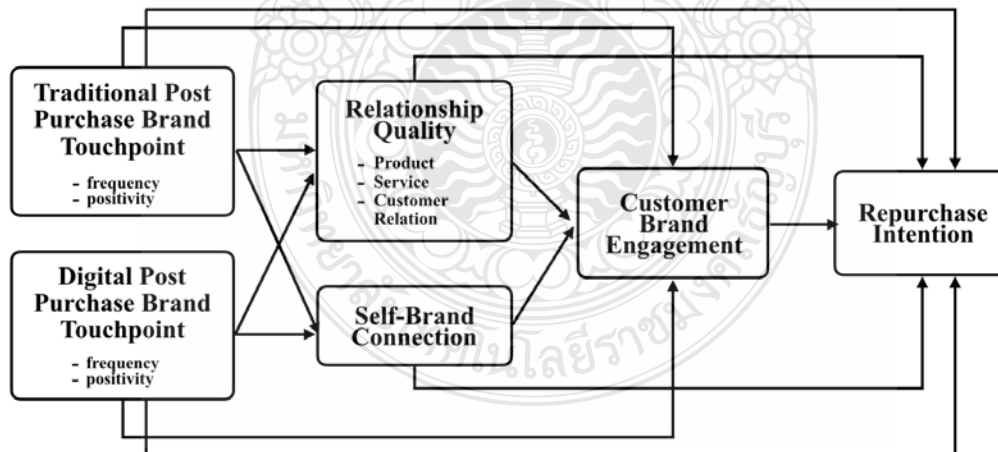
Figure 4.32 Conceptual model

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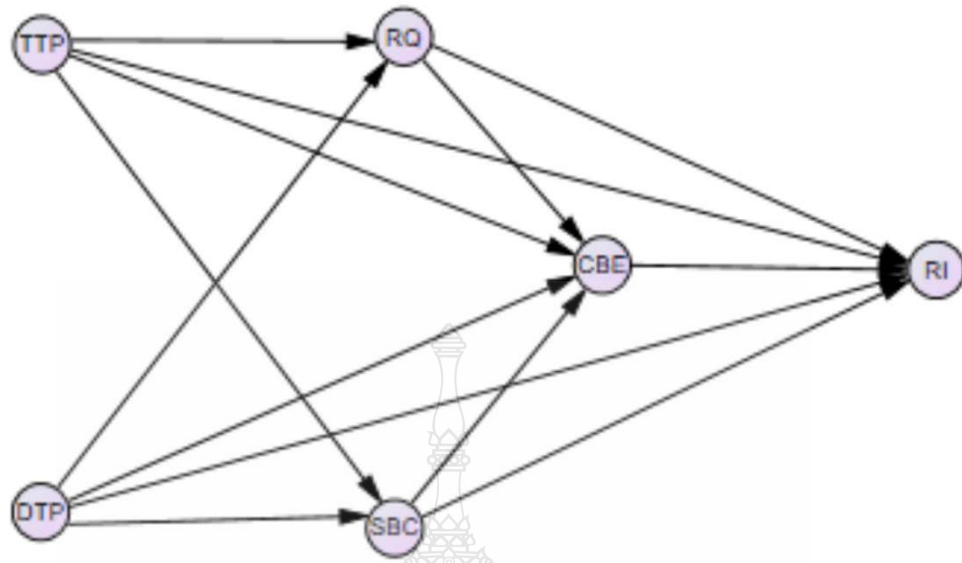
Figure 4.33 The Connection of path analysis in AMOS program

This model was the medium size of the model which was composed of six latent variables. All six latent variables were being analyzed with path analysis as shown in Figure 4.34 below. Model fit indices were Chi-square= 11093.6, df=4050, p-value=0.000, CMIN/DF=2.739, GFI=0. 0.724, AGFI=0.702, RMSEA=0.054, RMR=0.171, CFI=0.88, HOELTER 0.05=229, TLI=0.873, AIC=11735.6, BIC=13149.15.
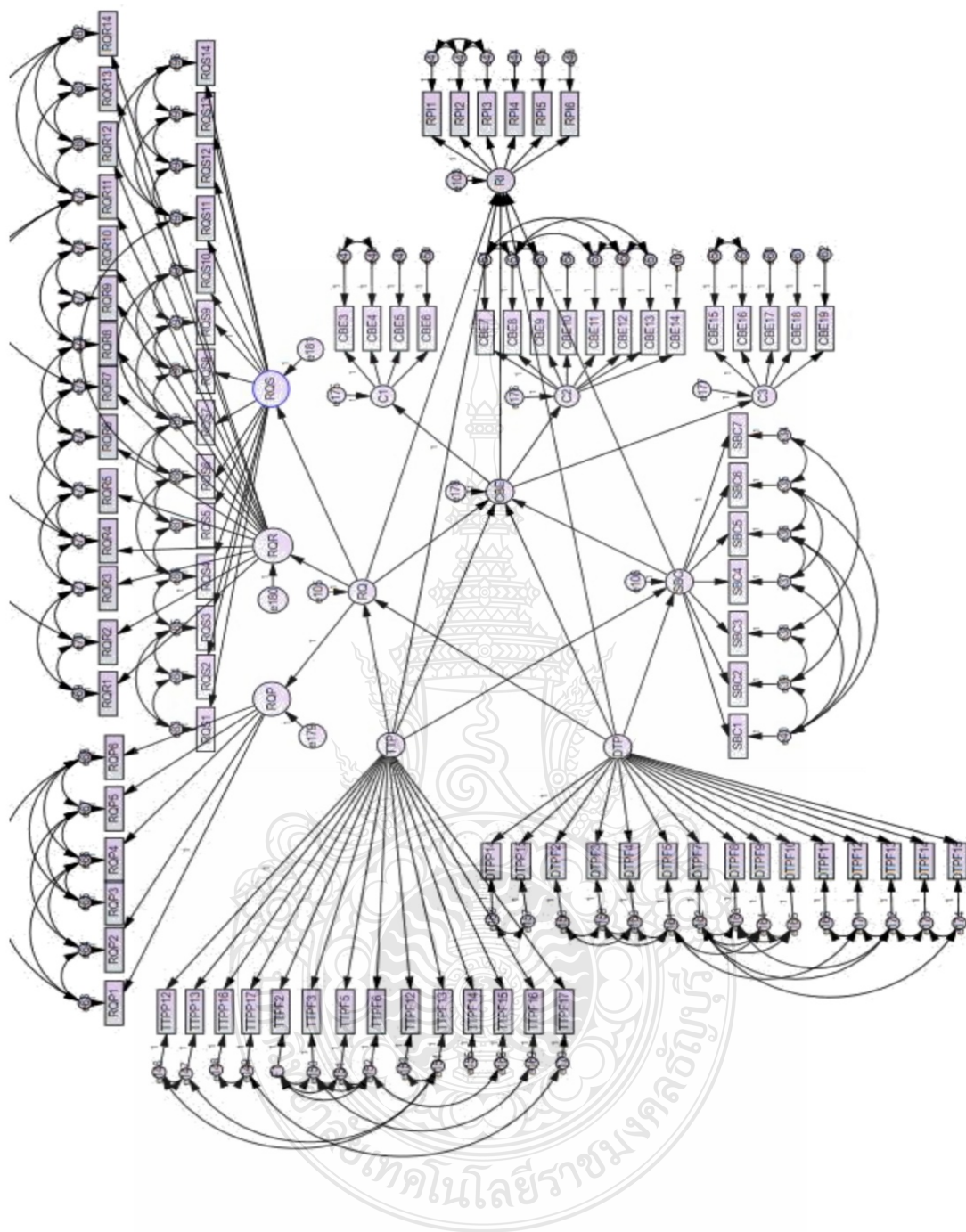
Figure 4.34 The Connection of path analysis in AMOS

      (a) Default Model. The result (as shown in Table 4.71) revealed that the value if Likelihood Ratio Chi-Square was 11093.601, the degree of freedom is 4050, and probability level was 0.000 which was less than 0.05. According to Schlermelleh-Engel

et al. (2003) and Vandenberg (2006), the "Chi-square" statistic and its associated "probability" or p-value should not be statistically significant if there is a good model fit. In this case, the result of p-value showed that the model did not represent a fit to the data because its significance level was at 0.5 level. However, the Chi-square statistic was very sensitive to sample size and no longer relied upon as a basis for acceptance or rejection (Schlermelleh-Engel et al. 2003, Vandenberg 2006). In this case, the larger sample size might lead to the rejection of H0, so other related statistics were further taken into consideration of model fit.

Table 4.71 The Model output of structural analysis

No.	Goodness of Fit Criteria	Goodness of Fit Values for Medium Model	Values Obtained
1	Chi-square		11093.601
2	df		4050
3	p-value	> 0.05	0.000
4	CMIN/DF	< 3	2.739
5	GFI	> 0.8	0.724
6	AGFI	> 0.8	0.702
7	RMSEA	< 0.08	0.054
8	RMR	< 0.08	0.171
9	CFI	> 0.8	0.88
10	HOELTER 0.05	>75-200	229
11	TLI	> 0.8	0.873
12	AIC	Less is better	11735.601
13	BIC	Less is better	13149.148

(b) Model Fit. From Table 4.71, under consideration of medium model size, selective five model fit indices were used to determine the degree of model fit. First, the acceptable threshold of CMIN/DF was less than three. The result showed that CMIN/DF was 2.739 indicating that the model represented a fit to the data. Second, the acceptable threshold of the Tucker-Lewis index (TLI) was the value that was greater than 8.0 for the moderate model size. The result showed that the GFI index was 0.88. Third, the

acceptable threshold level of RMSEA must be greater than 0.05 but less than 0.08. The result showed that the RMSEA index was 0.054. Fourth, the acceptable threshold level of Hoelter index must be greater than 200, while the sample size of this study was 604 which were considered suitable. Last, in consideration of BIC index, only if BIC index was default model and had the lowest score, compared with the value of saturated and independence model, it could conclude that the model represented a fit to the data. In this case, the result showed that the BIC index of default model was 13149.148, while the value of the saturated model and independence model were 27990.023 and 63485.340 respectively. At the aggregate level, it was concluded that the model represented a fit to the data in which it could be further conducted for path analysis.

Table 4.72 Summary of structural analysis

Number of distinct sample moments:	Number of distinct parameters to be estimated:	Degrees of freedom (190-44):
4371	321	4050

Structural equation modelling is allowed to connect error lines within latent variables to increase the fitness of the model. The measures were applied to all measurement models whereas the results had a good fit according to the criteria of moderate size model. Under these circumstances, the analysis structural model was further conducted for testing research hypotheses for this study.
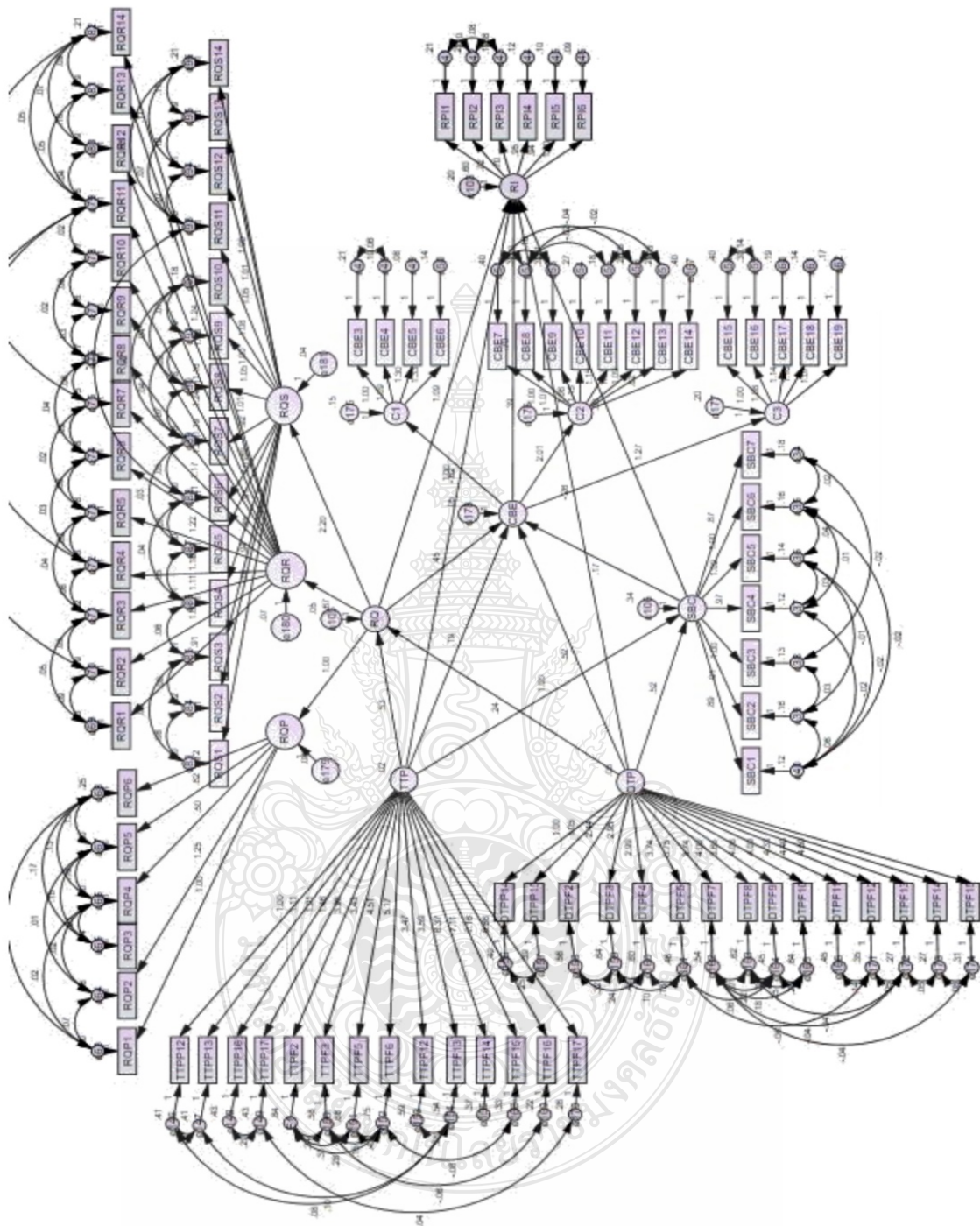
Figure 4.35 The Connection of path analysis and path value

Table 4.73 Unstandardized of structural equation model

Unstandardized Regression Weights			Estimate
RQ	<---	TTP	0.53
SBC	<---	TTP	1
CBE	<---	TTP	0.19
RI	<---	TTP	-0.62
RQ	<---	DTP	0.24
SBC	<---	DTP	0.52
CBE	<---	DTP	0.52
RI	<---	DTP	-0.26
CBE	<---	RQ	0.45
RI	<---	RQ	1.09
CBE	<---	SBC	0.17
RI	<---	SBC	0.3
RI	<---	CBE	0.7

Figure 4.36 and Table 4.73 showed that the unstandardized estimate of factor loading could not be used for comparative purposes, so the standardized estimates was shown in Table 4.74.
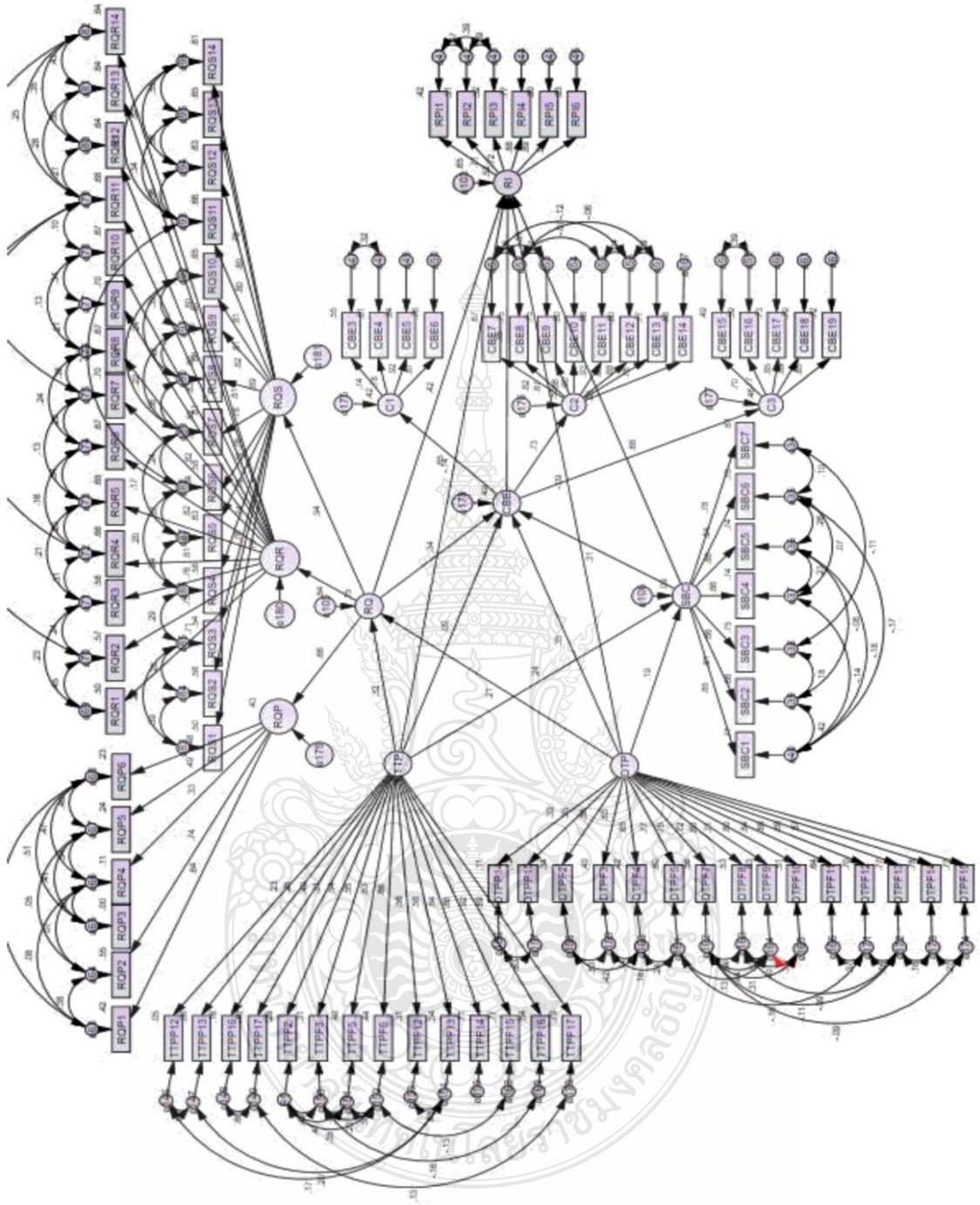
Figure 4.36 Standardized estimates

Table 4.74 Standardized R-Squared of structural equation model

Standardized Regression Weight			Factor Loading	R-square
RQ	<---	TTP	0.32	0.146
SBC	<---	TTP	0.24	0.094
CBE	<---	TTP	0.09	0.495
RI	<---	TTP	-0.14	0.521
RQ	<---	DTP	0.21	0.146
SBC	<---	DTP	0.19	0.094
CBE	<---	DTP	0.35	0.495
RI	<---	DTP	-0.09	0.521
RI	<---	RQ	0.42	0.521
CBE	<---	RQ	0.34	0.495
CBE	<---	SBC	0.31	0.495
RI	<---	SBC	0.28	0.521
RI	<---	CBE	0.35	0.521

4.6 Effects of Model and Hypotheses

Besides the measurement of model fit, an assessment of the regression coefficient was further conducted to figure out regression weight as shown in Table 4.75. The hypothesis relating to factor loading or regression weight was as follows:

H_0: Factor loading (λ) or regression weight of CBE to RI was equal to zero

H_1: Factor loading (λ) or regression weight of CBE to RI was not equal to zero

The hypothesis was tested by the critical ratio (C.R) showing the Z value and p-value. The symbol *** indicated that the value was close to zero. Hence, H0 was rejected, because the factor loading of CBE to RI was not equal to zero at 0.05 level of significance. It was concluded that customer brand engagement was significantly related to repurchase intention.

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Table 4.75 Regression weights: (Group number 1 - default model)

			Estimate	S.E.	C.R.	P
RQ	<---	TTP	0.535	0.192	2.779	0.005
SBC	<---	TTP	0.997	0.428	2.332	0.020
RQ	<---	DTP	0.242	0.113	2.137	0.033
SBC	<---	DTP	0.524	0.267	1.96	0.050
CBE	<---	TTP	0.193	0.205	0.939	0.348
CBE	<---	DTP	0.525	0.151	3.475	***
CBE	<---	RQ	0.45	0.101	4.461	***
CBE	<---	SBC	0.168	0.036	4.625	***
RI	<---	TTP	-0.624	0.342	-1.825	0.068
RI	<---	DTP	-0.259	0.229	-1.133	0.257
RI	<---	RQ	1.09	0.172	6.345	***
RI	<---	SBC	0.301	0.054	5.566	***
RI	<---	CBE	0.698	0.135	5.151	***

As shown in Table 4.75, among all regression weights, four sets of them were under the consideration of p-value with more than 0.05 level and low C.R. value.

1. TTP → CBE (P=0.348) TTP had no effect on CBE
2. DTP →SBC (P=0.050) DTP had no effect on SBC
3. TTP → RI (P=0.068) TTP had no effect on RI
4. DTP → RI (P=0.257) DTP had no effect on RI

The proposed conceptual model was adjusted from the testing result into a tested model as shown in Figure 4.37 below considering the regression coefficient and R-square as shown in Figure 4.38.

——— Results were supported.   - - - - - - Results were not supported.
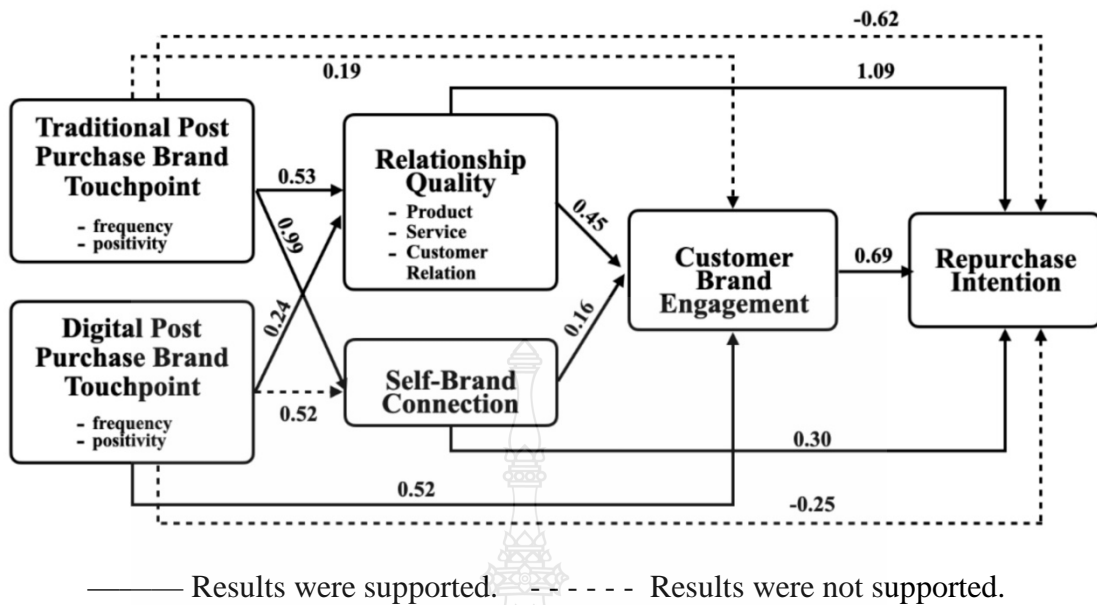
Figure 4.37 Result of the testing model - unstandardized regression weight

——— Results were supported   - - - - - Results were not supported
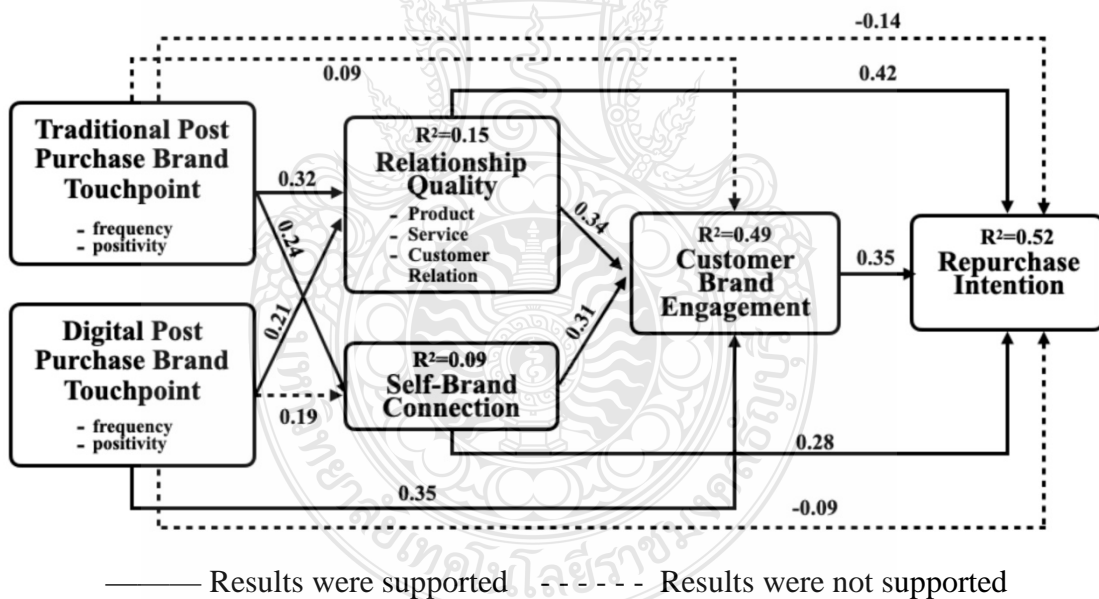
Figure 4.38 Result of testing model - standardized regression weight

The path coefficients were displayed in Figure 4.38 and were summarized in Table 4.74 under direct effects. Any coefficient equal to or larger than .20 was statistically significant as a result of the medium sample size. The model was able to account for 52

percent of the variance of the volume of repurchase intention. Almost all of this was due to the direct effects of relationship quality, customer brand engagement, and self-brand connection respectively. The model was also able to explain 49 percent of the variance of customer brand engagement, 15 percent of the variance of relationship quality, and nine percent of self-brand connection, whereas customer brand engagement was predicted by the direct effects of digital post-purchase brand touchpoints, relationship quality, and self-brand connection and to some extent indirectly by traditional post-purchase brand touchpoints.

In specific detail, the casual effects of such latent variables as repurchase intention, customer brand engagement, relationship quality, and self-brand connection are described as follows:

(a) Causal Effect of Repurchase Intention. The hypothesized model of repurchase intention was displayed as shown in Figure 4.39.
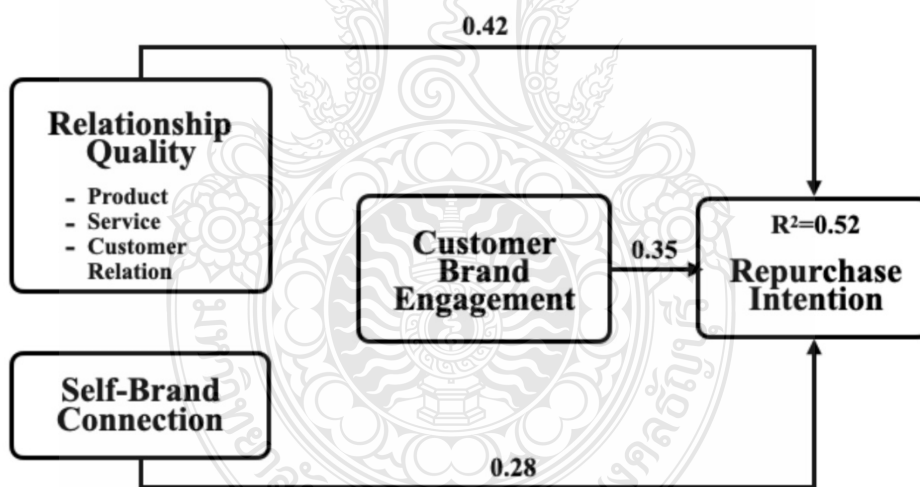
Figure 4.39 Causal effects of repurchase intention

From Figure 4.39 above, the causal effect of the hypothesized model was able to account for 52 percent of the variance of the volume of repurchase intention. Relationship quality has the most effect on repurchase intention with the regression weight of 0.42. Customer brand engagement and self-brand connection were shown to have less direct effects with the value of 0.35 and 0.28 respectively. In other words,

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repurchase intention was predicted by the direct effects of relationship quality, customer brand engagement, and self-brand connection.

        (b) Causal Effect of Customer Brand Engagement. The hypothesized model of customer brand engagement was displayed as shown in Figure 4.40.
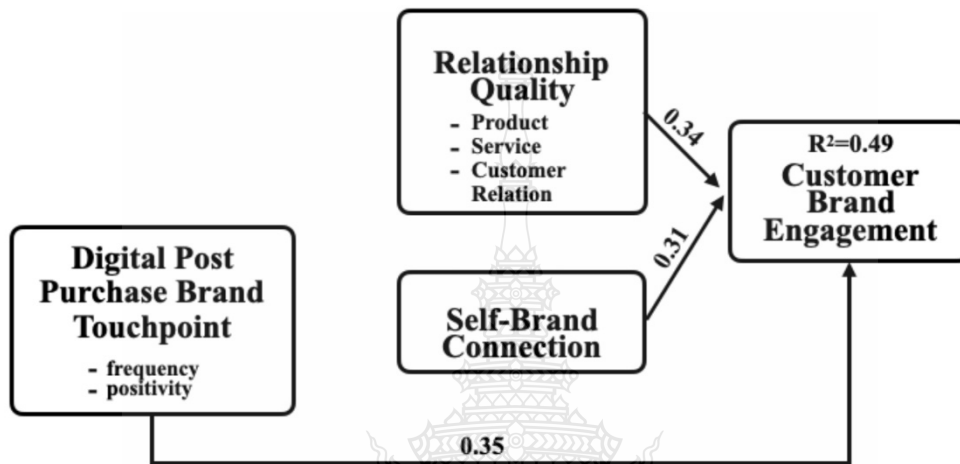
Figure 4.40 Causal effects of customer brand engagement

        From Figure 4.40 above, the causal effect of the hypothesized model was able to account for 49 percent of the variance of customer brand engagement. Digital post-purchase brand touchpoints, relationship quality, and self-brand connection affected repurchase intention with almost equal effect size with the regression weight of 0.35. 0.34, and 0.31 and 0.49 respectively. In other words, customer brand engagement was predicted by the direct effects of digital post-purchase brand touchpoints, relationship quality, self-brand connection.

(c) Causal Effect of Relationship Quality. The hypothesized model of relationship quality was displayed as shown in Figure 4.41.
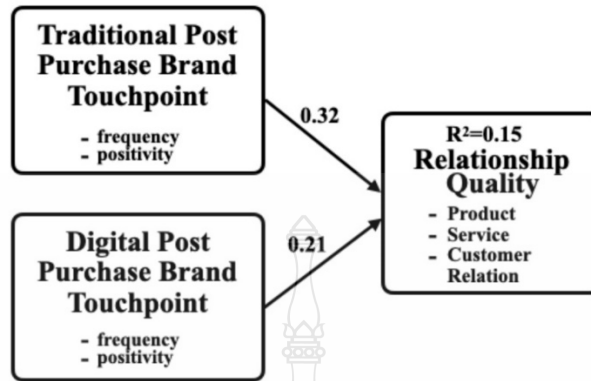
Figure 4.41 Causal effects of relationship quality

From Figure 4.41 above, the causal effect of the hypothesized model was able to account for 15 percent of the variance of relationship quality. Traditional post-purchase brand touchpoints have the most effect on repurchase intention with the regression weight of 0.32, while digital post-purchase brand touchpoints were shown to have less direct effects with the value of 0.21. In other words, repurchase intention was predicted by the direct effects of traditional and digital post-purchase brand touchpoints.

(d) Causal Effect of Self-brand Connection. The hypothesized model of self-brand connection was displayed as shown in Figure 4.42.
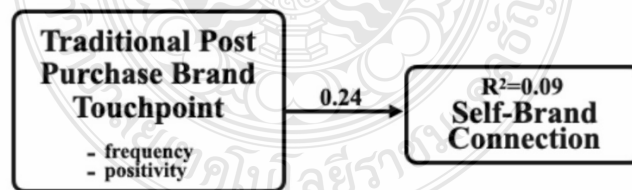
Figure 4.42 Causal effects of self-brand connection

From Figure 4.42 above, the causal effect of the hypothesized model was able to account for nine percent of the variance of self-brand connection. Only traditional post-purchase brand touchpoints were shown to have direct effects with the value of 0.24. In

other words, self-brand connection was predicted by the direct effects of traditional post-purchase brand touchpoints.

The result of the total effect, direct effect, and indirect effect was shown in Tables 4.76-4.81 below, as these were orderly arranged in pairs of unstandardized effects and standardized effects as follows:

Table 4.76 Direct Effects (Group number 1 - Default model)

	DTP	TTP	RQ	SBC	CBE	RI
RQ	0.242	0.535	0	0	0	0
SBC	0.524	0.997	0	0	0	0
CBE	0.525	0.193	0.45	0.168	0	0
RI	-0.259	-0.624	1.09	0.301	0.698	0

Table 4.77 Standardized direct effects (Group number 1 - default model)

	DTP	TTP	RQ	SBC	CBE	RI
RQ	0.215	0.316	0	0	0	0
SBC	0.19	0.24	0	0	0	0
CBE	0.353	0.086	0.341	0.311	0	0
RI	-0.088	-0.141	0.417	0.281	0.352	0

Table 4.78 Indirect effects (Group number 1 - default model)

	DTP	TTP	RQ	SBC	CBE	RI
RQ	0	0	0	0	0	0
SBC	0	0	0	0	0	0
CBE	0.197	0.408	0	0	0	0
RI	0.925	1.301	0.314	0.117	0	0

Table 4.79 Standardized Indirect Effects (Group number 1 - Default model)

	DTP	TTP	RQ	SBC	CBE	RI
RQ	0	0	0	0	0	0
SBC	0	0	0	0	0	0
CBE	0.132	0.183	0	0	0	0
RI	0.314	0.294	0.12	0.109	0	0

Table 4.80 Total effects (Group number 1 - default model)

	DTP	TTP	RQ	SBC	CBE	RI
RQ	0.242	0.535	0	0	0	0
SBC	0.524	0.997	0	0	0	0
CBE	0.721	0.6	0.45	0.168	0	0
RI	0.665	0.678	1.404	0.418	0.698	0

Table 4.81 Standardized Total Effects (Group number 1 - Default model)

	DTP	TTP	RQ	SBC	CBE	RI
RQ	0.215	0.316	0	0	0	0
SBC	0.19	0.24	0	0	0	0
CBE	0.485	0.269	0.341	0.311	0	0
RI	0.226	0.153	0.537	0.391	0.352	0

To gain in-depth insight into the results showing effects above, selected numerical values indicating direct, indirect, and total effects of each latent variables were described as follows:

(a) Effects of Traditional Post Purchase Brand Touchpoints. Traditional post-purchase brand touchpoints were shown to have effects on relationship quality, self-brand connection, customer brand engagement, and repurchase intention. Each pair was explained in order. First, in terms of traditional post-purchase brand touchpoints and relationship quality, the direct effect of traditional post-purchase brand touchpoints on relationship quality was 0.535, while there was no indirect effect. The total effect is 0.535. Second, in terms of traditional post-purchase brand touchpoints and self-brand connection, the direct effect of traditional post-purchase brand touchpoints on self-brand connection was 0.977, while there was no indirect effect. The total effect is 0.997. Third, in terms of traditional post-purchase brand touchpoints and customer brand engagement, the direct effect of traditional post-purchase brand touchpoints on customer brand engagement was 0.193, while the indirect effect of traditional post-purchase brand touchpoints on customer brand engagement was 0.408. The total effect was 0.60. Comparing standardized direct effect and standardized indirect effect of traditional post-purchase brand touchpoints on customer brand engagement, it was found that the direct effect (0.086) was less than the indirect effect (0.183). Last, in terms of traditional post-purchase brand touchpoints and repurchase intention, the direct effect of traditional post-purchase brand touchpoints on repurchase intention was -0.64, while the indirect effect of traditional post-purchase brand touchpoints on repurchase intention was 1.301. The total effect is 0.678. Comparing standardized direct effect and standardized indirect effect of traditional post-purchase brand touchpoints and RI, it was found that the direct effect (-0.141) was less than the indirect effect (0.294).

(b) Effects of Digital Post Purchase Brand Touchpoints. Digital post-purchase brand touchpoints were shown to have effects on relationship quality, self-brand connection, customer brand engagement, and repurchase intention. Each pair was explained in order. First, in terms of digital post-purchase brand touchpoints and relationship quality, the direct effect of digital post-purchase brand touchpoints on relationship quality was 0.242, while there was no indirect effect. The total effect was 0.242. Second, in terms of digital post-purchase brand touchpoints and self-brand connection, the direct effect of digital post-purchase brand touchpoints on self-brand connection was 0.524, while there was no indirect effect. The total effect is 0.524. Third, in terms of digital post-purchase brand touchpoints and customer brand engagement, the direct effect of digital post-purchase brand touchpoints on customer brand engagement was 0.525, while the indirect effect of digital post-purchase brand touchpoints on customer brand engagement was 0.197. The total effect was 0.721. Comparing standardized direct effect and standardized the indirect effect of digital post-purchase brand touchpoints and customer brand engagement, it was found that the direct effect (0.353) was larger than the indirect effect (0.132). Last, in terms of digital post-purchase brand touchpoints and RI, the direct effect of digital post-purchase brand touchpoints to repurchase intention was -0.259, while the indirect effect of digital post-purchase brand touchpoints on repurchase intention was 0.925. The total effect was 0.665. Comparing standardized direct effect and standardized indirect effect of traditional post-purchase brand touchpoints on repurchase intention, it was found that the direct effect (-0.088) was less than the indirect effect (0.314).

(c) Effects of Relationship Quality. Relationship quality was shown to have effects on customer brand engagement and repurchase intention. Each pair was explained in order. First, in terms of relationship quality and customer brand engagement, the direct effect of relationship quality on customer brand engagement was 0.45, while there was no indirect effect. The total effect was 0.45. Second, in terms of relationship quality and repurchase intention, the direct effect of relationship quality on repurchase intention was 1.09, while the indirect effect of relationship quality on repurchase intention was 0.314. The total effect was 1.404. Comparing standardized direct effect and standardized the

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indirect effect of digital post-purchase brand touchpoints on customer brand engagement, it was found that the direct effect (0.417) was larger than the indirect effect (0.12).

(d) **Effects of Self-brand Connection.** Self-brand connection was shown to have effects on customer brand engagement and repurchase intention. Each pair was explained in order. In terms of self-brand connection and customer brand engagement, the direct effect of self-brand connection on customer brand engagement was 0.168, while there was no indirect effect. The total effect was 0.168. Besides, in terms of self-brand connection and repurchase intention, the direct effect of self-brand connection on repurchase intention was 0.301, while the indirect effect of self-brand connection on repurchase intention was 0.117. The total effect was 0.418. Comparing standardized direct effect and standardized the indirect effect of SBC on repurchase intention, it was found that the direct effect (0.281) was larger than the indirect effect (0.109).

(e) **Effects of Customer Brand Engagement.** Customer brand engagement was shown to have effects on repurchase intention. In terms of customer brand engagement and repurchase intention, the direct effect of customer brand engagement on repurchase intention was 0.698, while there was no indirect effect. The total effect was 0.698.

Table 4.82 Summary of causal effects of the hypothesized model

Outcome	Determinant	Casual Effects		
		Direct	Indirect	Total
Relationship Quality	Traditional Post Purchase Brand Touchpoints	0.53	—	0.53
(R^2=.15)	Digital Post Purchase Brand Touchpoints	0.24	—	0.24
Self-brand Connection	Traditional Post Purchase Brand Touchpoints	0.99	—	0.99
(R^2=.09)	Digital Post Purchase Brand Touchpoints	0.52	—	0.52
Customer Brand Engagement	Traditional Post Purchase Brand Touchpoints	0.19	0.40	0.60
(R^2=.49)	Digital Post Purchase Brand Touchpoints	0.52	0.19	0.72
	Relationship Quality	0.45	—	0.45
	Self-brand Connection	0.16	—	0.16
Repurchase Intention	Traditional Post Purchase Brand Touchpoints	-0.62	1.30	0.67
(R^2=.52)	Digital Post Purchase Brand Touchpoints	-0.25	0.92	0.66
	Relationship Quality	1.09	0.31	1.40
	Self-brand Connection	0.30	0.11	0.41
	Customer Brand Engagement	0.69	—	0.69

4.7 Results of Hypothesis Testing

The findings of the structural model analysis discussed in previous sections were used to respond such two research questions as (1) how traditional and digital post-purchase brand touchpoints had any impact on repurchase intention of an automobile? and (2) how relationship quality, self-brand connection, and customer brand engagement played any role in the relationship between traditional and digital post-purchase brand touchpoints on repurchase intention? These two research questions were allocated into four groups of research hypothesis with a total of 25 items of research hypotheses. The first group was related to the effect of traditional post-purchase brand touchpoints. The second group was digital post-purchase brand touchpoints. The third group was relationship quality. The fourth group was a self-brand connection, whereas the last group was customer brand engagement. Each group was discussed in elaboration as follows:

(a) **Effects of Traditional Post Purchase Brand Touchpoints.** The effects of traditional post-purchase brand touchpoints were composed of four hypotheses (H_1, H_3, H_5, and H_7) in which all were supported. Firstly, traditional post-purchase brand touchpoints had a direct effect on relationship quality with regression weight of 0.535 at a statistical significance level of less than .05. Secondly, traditional post-purchase brand touchpoints had a direct effect on self-brand connection with regression weight of 0.997 at a statistical significance level of less than .05 and with the total effect of 0.997 with a statistical significance level of less than .05. Thirdly, traditional post-purchase brand touchpoints had no direct effect on customer brand engagement. Lastly, the traditional post-purchase brand touchpoints had no direct effect on repurchase intention.

(b) **Effects of Digital Post Purchase Brand Touchpoints.** The effects of digital post-purchase brand touchpoints were composed of four hypotheses (H_2, H_4, H_6, and H_8) in which the first two hypotheses were supported, and the last two hypotheses were not supported. To be specific, the findings of supported hypotheses were (1) digital post-purchase brand touchpoints have a direct effect on relationship quality with regression weight of 0.242 at a statistical significance level of less than .05, and (2) digital post-purchase brand touchpoints had no direct effect on a self-brand connection. Based on the unsupported hypotheses, it was indicated that (1) digital post-purchase brand

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touchpoints had no direct effect on customer brand engagement, and (2) digital post-purchase brand touchpoints had no direct effect on repurchase intention.

(c) **Effects of Relationship Quality.** The effects of relationship quality were composed of six hypotheses (H_9-H_{14}) in which all were supported. Firstly, relationship quality had a direct effect on customer brand engagement with regression weight of 0.45 at the statistical significance level of less than .05. Secondly, relationship quality had a direct effect on repurchase intention with a regression weight of 1.09 at a statistical significance level of less than .05. Thirdly, relationship quality was shown to have meditating effect in explaining the relationship between traditional post-purchase brand touchpoints and customer brand engagement. The mediating effect size was 0.23 at a significant level of less than .05. Fourthly, relationship quality was shown to have meditating effect in explaining the relationship between digital post-purchase brand touchpoints and customer brand engagement. The mediating effect size was 0.10 at a significant level of less than .05. Fifthly, relationship quality was shown to have meditating effect in explaining the relationship between traditional post-purchase brand touchpoints and repurchase intention. The mediating effect size was 0.47 at the significant level of less than .05. Lastly, relationship quality was shown to have meditating effect in explaining the relationship between digital post-purchase brand touchpoints and repurchase intention. The mediating effect size was 0.02 at a significant level of less than .05.

(d) **Effects of Self-brand Connection.** The effects of self-brand connection were composed of six hypotheses (H_{15}-H_{20}) in which four of them were supported, while the others were not. The findings from the supported hypotheses suggested that (1) self-brand connection had a direct effect on customer brand engagement with regression weight of 0.168 at a statistical significance level of less than .05, (2) self-brand connection had a direct effect on repurchase intention with regression weight of 0.301 at a statistical significance level of less than .05, (3) self-brand connection was shown to have meditating effect in explaining the relationship between traditional post-purchase brand touchpoints and customer brand engagement. The mediating effect size was 0.15 at a significant level of less than .05, and (4) self-brand connection was shown to have meditating effect in explaining the relationship between traditional post-purchase brand

touchpoints and repurchase intention. The mediating effect size was 0.29 at a significant level of less than .05. Moreover, based on the findings of unsupported hypotheses, it was indicated that (1) relationship quality was not shown to have meditating effect in explaining the relationship between digital post-purchase brand touchpoints and customer brand engagement, and (2) self-brand connection was not shown to have meditating effect in explaining the relationship between digital post-purchase brand touchpoints and repurchase intention.

(e) Effects of Customer Brand Engagement. The effects of customer brand engagement were composed of five hypotheses (H_{21}-$H2_5$) in which four of them were supported, while only one of them was not supported. The findings from the supported hypotheses suggested that (1) customer brand engagement had a direct effect on repurchase intention with regression weight of 0.698 at a statistical significance level of less than .05, (2) customer brand engagement was shown to have meditating effect in explaining the relationship between relationship quality and repurchase intention. The mediating effect size was 0.31 at a significant level of less than .05, (3) customer brand engagement was shown to have meditating effect in explaining the relationship between self-brand connection and repurchase intention. The mediating effect size was 0.41 at a significant level of less than .05, and (4) customer brand engagement was shown to have meditating effect in explaining the relationship between digital post-purchase brand touchpoints and repurchase intention. The mediating effect size was .35 at a significant level of less than .05. Moreover, based on the findings of unsupported hypotheses, it was suggested that customer brand engagement was not shown to have meditating effect in explaining the relationship between traditional post-purchase brand touchpoints and repurchase intention.

In conclusion, the model was able to account for 52 percent of the variance of repurchase intention, as shown in Table 4.83 below.

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Table 4.83 Results of hypothesis testing

Hypothesis	Description	Result
H_1	Traditional post-purchase brand touchpoint is related with relationship quality.	Supported
H_2	Digital post-purchase brand touchpoint is related with relationship quality.	Supported
H_3	Traditional post-purchase brand touchpoint is related with self-brand connection.	Supported
H_4	Digital post-purchase brand touchpoint is related with self-brand connection.	Not Supported
H_5	Traditional post-purchase brand touchpoint is related with customer brand engagement.	Not Supported
H_6	Digital post-purchase brand touchpoint is related with customer brand engagement.	Supported
H_7	Traditional post-purchase brand touchpoint is related with repurchase intention.	Not Supported
H_8	Digital post-purchase brand touchpoint is related with repurchase intention.	Not Supported
H_9	Relationship quality is related with customer brand engagement.	Supported
H_{10}	Relationship quality is related with repurchase intention.	Supported
H_{11}	Relationship quality mediates the relationship between traditional post-purchase brand touchpoint and customer brand engagement	Supported
H_{12}	Relationship quality mediates the relationship between digital post-purchase brand touchpoint and customer brand engagement	Supported
H_{13}	Relationship quality mediates the relationship between traditional post-purchase brand touchpoint and repurchase intention.	Supported
H_{14}	Relationship quality mediates the relationship between digital post-purchase brand touchpoint and repurchase intention.	Supported
H_{15}	Self-brand connection is related with customer brand engagement.	Supported
H_{16}	Self-brand connection is related with repurchase intention.	Supported
H_{17}	Self-brand connection mediates the relationship between traditional post-purchase brand touchpoint and customer brand engagement	Supported

Table 4.83 Results of hypothesis testing (Cont.)

Hypothesis	Description	Result
H_{18}	Self-brand connection mediates the relationship between digital post-purchase brand touchpoint and customer brand engagement	Not Supported
H_{19}	Self-brand connection mediates the relationship between traditional post-purchase brand touchpoint and repurchase intention.	Supported
H_{20}	Self-brand connection mediates the relationship between digital post-purchase brand touchpoint and repurchase intention.	Not Supported
H_{21}	Customer brand engagement is related with repurchase intention.	Supported
H_{22}	Customer brand engagement mediates the relationship between relationship quality and repurchase intention.	Supported
H_{23}	Customer brand engagement mediates the relationship between self-brand connection and repurchase intention.	Supported
H_{24}	Customer brand engagement mediates the relationship between traditional post-purchase brand touchpoint and repurchase intention.	Not Supported
H_{25}	Customer brand engagement mediates the relationship between digital post-purchase brand touchpoint and repurchase intention.	Supported

CHAPTER 5
CONCLUSION AND RECOMMENDATIONS

This chapter began with a brief conclusion of the problem, the methodology, and the key findings of the study. Next, a discussion of the research findings was presented, and followed by contributions of the study, and research limitations and suggestions for future research.

5.1 Conclusion

The study was aimed at investigating the impact of traditional post-purchase brand touchpoints and digital post-purchase brand touchpoints on customer brand engagement and repurchase intention in the automobile industry in Thailand. As evidence indicated by past literature (Hogan et al., 2005; Baxendale et al., 2015; Marco & Cristina, 2017), the direct effect of traditional post-purchase brand touchpoints and digital post-purchase brand touchpoints on customer engagement and repurchase intention was not found. However, the impact of brand experience through brand touchpoints (for example, traditional post-purchase brand touchpoints and digital post-purchase brand touchpoints) on relationship quality and self-brand connection were suggested (Bowden & Dagger, 2011; Ismail et al., 2011; Hazel & Vincent-Wayne, 2013). In addition, the effect of relationship quality and self-brand connection on customer brand engagement and repurchase intention was found (Van Doorn et al., 2010; Hollebeek, 2011; Beckers et al., 2014).

As a matter of the fact, this study then further investigated the mediating role of both relationship quality and self-brand connection that explained the relationship between brand touchpoints (both traditional post-purchase brand touchpoints and digital post-purchase brand touchpoints) and customer brand engagement. Furthermore, this study also assessed the mediating role of both relationship quality and self-brand connection that explained the relationship between brand touchpoints (both traditional post-purchase brand touchpoints and digital post-purchase brand touchpoints) and repurchase intention. In conclusion, the conceptual framework was developed from past empirical research. Brand touchpoints (both traditional post-purchase brand touchpoints

and digital post-purchase brand touchpoints) were defined as independent variables, whereas customer brand engagement and repurchase intention were identified as dependent variables. Also, relationship quality and self-brand connection were tested as mediators.

Data was collected from current owners of the medium segment of the passenger car in Thailand. The sample of this study was both men and women, aged between 18-60 years old, who lived in Bangkok and its vicinities currently own Toyota Camry or Honda Accord (2014–2017-year models). All were the main buying decision-maker of the automobile. Stratified random sampling was used for sample selection. Survey research with a structured questionnaire as the key instrument in assessing the experience of traditional and digital post-purchase brand touchpoints, relationship quality, self-brand connection, customer brand engagement, and repurchase intention. The survey was administered through a pen and pencil approach.

Besides descriptive research, structural equation modelling was selected as the data analysis tool for the hypothesis testing procedure. The result of the study was exhibited in Figure 5.1 below with a note that a solid line represented supported results, whereas a dotted line represented results that were not supported. Besides, the result of the hypothesis testing was summarized in Table 5.1.
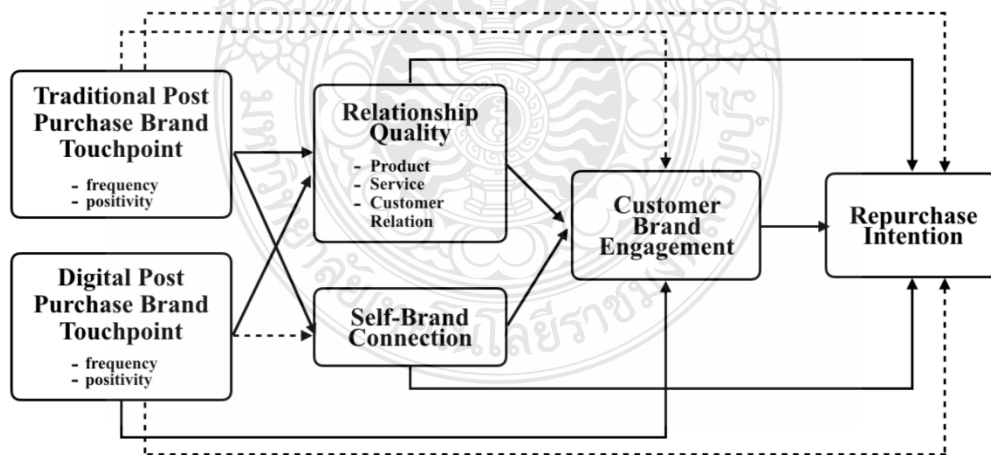
Note. "Solid line" indicated that the results were supported; 'dotted line' showed the unsupported results

Figure 5.1 Result of the study

Table 5.1 Summary of hypothesis testing

Hypothesis	Description	Result
H_1	Traditional post-purchase brand touchpoint is related with relationship quality.	Supported
H_2	Digital post-purchase brand touchpoint is related with relationship quality.	Supported
H_3	Traditional post-purchase brand touchpoint is related with self-brand connection.	Supported
H_4	Digital post-purchase brand touchpoint is related with self-brand connection.	Not Supported
H_5	Traditional post-purchase brand touchpoint is related with customer brand engagement.	Not Supported
H_6	Digital post-purchase brand touchpoint is related with customer brand engagement.	Supported
H_7	Traditional post-purchase brand touchpoint is related with repurchase intention.	Not Supported
H_8	Digital post-purchase brand touchpoint is related with repurchase intention.	Not Supported
H_9	Relationship quality is related with customer brand engagement.	Supported
H_{10}	Relationship quality is related with repurchase intention.	Supported
H_{11}	Relationship quality mediates the relationship between traditional post-purchase brand touchpoint and customer brand engagement	Supported
H_{12}	Relationship quality mediates the relationship between digital post-purchase brand touchpoint and customer brand engagement.	Supported

Table 5.1 Summary of hypothesis testing (Cont.)

Hypothesis	Description	Result
H_{13}	Relationship quality mediates the relationship between traditional post-purchase brand touchpoint and repurchase intention.	Supported
H_{14}	Relationship quality mediates the relationship between digital post-purchase brand touchpoint and repurchase intention.	Supported
H_{15}	Self-brand connection is related with customer brand engagement.	Supported
H_{16}	Self-brand connection is related with repurchase intention.	Supported
H_{17}	Self-brand connection mediates the relationship between traditional post-purchase brand touchpoint and customer brand engagement	Supported
H_{18}	Self-brand connection mediates the relationship between digital post-purchase brand touchpoint and customer brand engagement	Not Supported
H_{19}	Self-brand connection mediates the relationship between traditional post-purchase brand touchpoint and repurchase intention.	Supported
H_{20}	Self-brand connection mediates the relationship between digital post-purchase brand touchpoint and repurchase intention.	Not Supported
H_{21}	Customer brand engagement is related with repurchase intention.	Supported

Table 5.1 Summary of hypothesis testing (Cont.)

Hypothesis	Description	Result
H_{22}	Customer brand engagement mediates the relationship between relationship quality and repurchase intention.	Supported
H_{23}	Customer brand engagement mediates the relationship between self-brand connection and repurchase intention.	Supported
H_{24}	Customer brand engagement mediates the relationship between traditional post-purchase brand touchpoint and repurchase intention.	Not Supported
H_{25}	Customer brand engagement mediates the relationship between digital post-purchase brand touchpoint and repurchase intention.	Supported

Among twenty-five research hypotheses, eighteen research hypotheses were supported, whereas other seven research hypotheses were not supported. Overall, six research discoveries were derived from the findings that were discussed and elaborated of how those research discoveries built up the existing marketing knowledge and provided insights in the main research stream of customer brand engagement in marketing.

5.2 Discussion

In order to delve into the meaning, importance, and relevance of the result, this section explained and evaluated what was found and how those findings related to past literature. Further, a discussion of how it could support the overall conclusion of the study was included. The results were concluded into five key research discoveries in which each was discussed in detail as follows:

5.2.1 Direct Effect of Brand Touchpoints (Both Traditional Post-Purchase Brand Touchpoints and Digital Post-Purchase Brand Touchpoints) on Repurchase Intention.

The result indicated that brand touchpoints (both traditional post-purchase brand touchpoints and digital post-purchase brand touchpoints) had no direct on repurchase intention; however, the brand touchpoints had indirect on repurchase intention. Past research (Baxendale et al., 2015) indicated that brand touchpoints (for example, brand advertising, retailer advertising, in-store communication, peer-to-peer conversation, traditional earned media, and peer observation) had an impact on brand consideration. The result of this study further elaborated the past finding of Baxendale et al. (2015) that brand touchpoints could drive brands into the consideration set of consumers; however, brand touchpoints alone could not drive the repurchase decision of automobiles.

The reason behind the fact that brand touchpoints (of both traditional and digital post-purchase brand touchpoints) did not have an effect on repurchase intention was related to a formation of brand attitude after acquiring brand experience. Amoroso and Ackaradejruangsri (2017) explored the association between brand experience, brand attitude, and consumer responses of digital mobile wallets in Thailand. It was reported that customer experience through post-purchase brand touchpoints were brand and product information sources in which the customers could accumulate knowledge and form a positive brand attitude. The cognitive, affective, and conative consequences of the positive attitude formation were customer satisfaction, purchase, and repurchase decision.

5.2.2 Differential Effects of Traditional Post-Purchase Brand Touchpoints and Digital Post-Purchase Brand Touchpoints

The findings of this study supported past research (Spengler & Muller, 2008), as it was found that different brand touchpoints (for example, traditional brand touchpoints, digital brand touchpoints, and the like) had different degrees of impact on consumer responses. This study found four differential effects of traditional post-purchase brand touchpoints and digital post-purchase brand touchpoints as follows:

(a) Both Traditional and Digital Post-Purchase Brand Touchpoints had a Direct Effect on Relationship Quality

The findings of this study supported (Bowden & Dagger, 2011; Ismail et al., 2011) as it was found that traditional post-purchase brand touchpoints and digital post-purchase brand touchpoints had an impact on relationship quality. Also, this was in line with what was previously proposed by Chowdhury et al. (2015), as customer experience accumulated through brand touchpoints would be used as input into consumers' information processing.

In the repurchase of an automobile, customers' relationship quality could be influenced by both traditional and digital post-purchase brand touchpoints. For example, if a salesman (as one of the personal selling types of traditional post-purchase brand touchpoints) who sold the current car to a customer has maintained a good relationship with the customer, there is a high probability that the customer will return to buy the next car with the salesman. Likewise, customers who engage and redeem reward points of the customer privilege program on regular basis through a branded mobile application (as one of the digital post-purchase brand touchpoints), are likely to consider re-buying the brand again.

(b) Traditional Post-Purchase Brand Touchpoints had a Direct Effect on Self-Brand Connection, whereas Digital Post-Purchase Brand Touchpoints did not have a Direct Effect on the Self-Brand Connection

Past research (Grisaffe & Nguyen, 2011) explored antecedents of self-brand connection and asserted that four possible antecedents were sentimentality/emotional memory, socialization, superior marketing characteristics, and user-derived benefit. However, past research did not literally explore brand touchpoints (both traditional and digital post-purchase brand touchpoints) as the antecedent of self-brand connection (Hazel & Vincent-Wayne, 2013). The findings of this study made clear evidence that traditional post-purchase brand touchpoints had an impact on self-brand connection.

After discriminating the characteristics of traditional and digital post-purchase brand touchpoints, it was convinced that interpersonal relationship was attributed to the phenomenon. Traditional post-purchase brand touchpoints did lead to self-brand connection, because the interpersonal relationship existed, whereas digital post-purchase

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brand touchpoints did not lead to self-brand connection, because the interpersonal relationship was virtual. In other words, traditional post-purchase brand touchpoints allowed personal interaction between social members, then that personal interaction formed an emotional connection with the brand which included self-brand congruence. In other circumstances, when customers interacted with a brand through digital post-purchase brand touchpoints, such interaction was virtual. As the result, the emotional connection within a certain social context did not exist.

(c) Digital Post-Purchase Brand Touchpoint had a Direct Effect on Customer Brand Engagement, but Traditional Post-Purchase Brand Touchpoint did not have a Direct Effect on Customer Brand Engagement

The findings of this study supported Farook & Abeysekera (2016) which examined the influence of social media marketing on customer engagement. The results demonstrated that media and content type of posts exert a significant effect on customer online engagement. It also emphasized that the higher the influence of social media marketing, the higher would be the customer engagement. The differential effect of traditional and digital post-purchase brand touchpoints was attributed to the interactivity of communication. One-way communication approach was only applied to traditional post-purchase brand touchpoints, so it did not lead to customer brand engagement. In other ways, the interactive mode of communication was possible through digital post-purchase brand touchpoints. Customer brand engagement through the digital mode of brand touchpoints was highly possible.

Further, compared with traditional brand touchpoints, digital brand touchpoints facilitated a much higher degree of customer brand engagement in which both marketers and consumers could modify the form and content of the environment in real-time (Deighton & Kornfeld, 2009). In addition, consumers were allowed to engage with retailers by comparing information pertaining to products and services in their decision-making process (Shankar & Malthouse, 2006). Last, customer brand engagement in digital brand touchpoints could stimulate attitude, learning, retention, purchases, and repurchases (Parise et al., 2016), because of the digital stimuli of technology.

(d) Digital Post-Purchase Brand Touchpoints were more Powerful than Traditional Post-Purchase Brand Touchpoints in Driving Customer Brand Engagement.

There was no doubt about the increasing power of digital brand touchpoints, as the growing rate of internet users in Thailand sharply increased 7.4% in January 2021, compared with last year (DataReportal 2021). With digital brand touchpoints, consumers were more convenient in using technologies in facilitating a transaction, such as placing an order, scanning a product, and paying (Meuter et al., 2000). In addition, consumers could easily search for information related to products and services, such as the mobile application developed for specific retailers (Amirkhanpour et al., 2014), social media, information kiosks (Zielke et al., 2011), pervasive and immersive technologies (Papagiannidis et al., 2017).

Traditional brand touchpoints were considered as one-way communication and non-personal approach or as a closed system (Belch & Belch, 2009) where the audience was unable to interact with the sender of the message. Also, there was no real person to communicate with them. Further, Lui and Shirum (2005) asserted that synchronicity could not be found in the traditional brand touchpoints as they did not have interactive capabilities. In other words, traditional brand touchpoints were paid platforms where there was a restriction of space that mass consumers could not participate.

Even though it was found that digital brand touchpoints were more powerful than traditional brand touchpoints, marketers must not opt for only digital brand touchpoints, as it would not be at the most advantage. Deloitte (2013) asserted a new point of view on the digital transformation of customer service. In the past, companies developed channel or product-specific support models which competed for supremacy. However, in the eyes of the customer, it was a single organization, and the result was a diminished customer experience. Instead, an omnichannel customer service approach was required that blended both digital channels (mobile, social, kiosks) and traditional channels (call center, branch/stores). With this approach, the different support brand touchpoints were designed to complement each other, allowing users to switch between channels without the need to repeat information.

Furthermore, multiple channels can be used simultaneously (for example, browsing a physical store while ordering the goods for home delivery from a mobile device). This explained the reason behind the findings that digital post-purchase brand touchpoint is more powerful. This was because once the digital innovation as the traditional and digital brand touchpoints were used to complement one another, the customer experience would be much improved. For example, when traditional car maintenance was complemented with digital brand touchpoints, online 24/7 maintenance service appointment was implemented with a significant result of overwhelming customer satisfaction.

5.2.3 The Effect of Relationship Quality on Customer Brand Engagement

The findings supported past research (Bowden, Dagger, & Elliott, 2013; Solem, 2016; Amoroso & Ackaradejruangsri, 2017), indicating that relationship quality influenced customer brand engagement. The positive affection toward a brand was attributed to the customer brand engagement, as Solem (2016) found that positive short-term effects of customer brand engagement on brand loyalty, mediated by brand satisfaction. Besides, among customers using social media, positive customer brand engagement effects gained from brand engagement strengthened also brand satisfaction. Moreover, Bowden, Dagger, & Elliott (2013) found that relationship quality could drive customer brand engagement in form of customer loyalty. Also, Amoroso & Ackaradejruangsri (2017) studying consumer attitudes as the key factor that drives satisfaction, increases loyalty and improves repurchase intention of mobile wallet applications in Thailand.

Besides, the findings of this study supported Beckers et al. (2014), in which they asserted that satisfaction, trust, and commitment (which were components of relationship quality) were potential antecedents of customer brand engagement in such engaging behavior as identification, enthusiasm, attention, absorption, and interaction. Also, this finding supported Can Doorn et al. (2010), which explored the impact of customer-based antecedents of customer brand engagement (which included satisfaction, trust, and commitment) on such customer brand engagement as valence, modality, scope, nature of the impact, and customer goals. In conclusion, relationship quality (satisfaction, trust, and

commitment) toward the current brand of automobile that the customers owned affected their customer brand engagement decision.

5.2.4 The Effect of Self-Brand Connection on Customer Brand Engagement

The findings of this study indicated that self-brand connection had a direct effect on customer brand engagement. This finding supported Harrigan et al. (2017), which found that self-brand connection had an effect on such three components of customer brand engagement as a cognitive process, affection, and activation. This was attributed to the fact that consumers were motivated to include others in how they see themselves to increase physical, social resources, and identities that helped fulfilled self-enhancement (Aron et al., 2004; Aron & Aron, 1997). Further, consumers defined the material process as an asset of the relationship between a specific individual and a specific material possession that was mentally appropriated, de-commodified, and singularized through person-object interaction (Klein, Klein, & Allen, 1995).

However, the findings of this study provided additional insight into the previous findings of Hollebeek et al. (2014), which proposed that consumers were likely to engage with a certain brand only if they found that the brand and themselves had some degree of attachment. In short, a self-brand connection was the consequence of customer brand engagement.

Rather, the result of this study indicated that customer brand engagement was the consequence of self-brand connection. Taking consideration into Hollebeek et al. (2014), Harrigan et al. (2017), and the finding of this study, it could draw a solid conclusion that self-brand connection could become both antecedent and consequence of customer brand engagement.

5.2.5 The Effect of Customer Brand Engagement on Repurchase Intention

The findings of this study did not only support the past research (Hollebeek et al., 2014) but also provided additional insight into the purchase and repurchase context of an automobile. The findings of this study supported Hollebeek et al. (2014), which reported that customer brand engagement (which is composed of cognitive processing, affection, and activation) resulted in brand usage intention. Previous research (Deng et al., 2010) found that customer loyalty was a principal variable predicting repurchase intention. This study provided additional insight that in the repurchase of an automobile,

customer brand engagement was also a predictor of repurchase decisions. The findings of this study supported Mai and Ness (2006), indicating that customer brand engagement could cultivate a long-term relationship between customers and brands, as it would take effect in an increased chance of repurchase.

Furthermore, the results of Samir & Ali (2017) revealed that enthused participation and social connection dimensions significantly and positively influence customer satisfaction. Also, they disclosed that all customer engagement dimensions significantly and positively influenced repurchase intention. Customer satisfaction significantly and positively affects repurchase intention. Additionally, customer satisfaction partially mediated the relationship between customers engagement and repurchase intention.

5.3 Contributions of the Study

5.3.1 Theoretical Contributions

A discussion of research findings on the theoretical perspective uncovered in-depth insights into the approach that this study contributed to the building block of existing marketing theories. Based on the findings, there were five domains of the research perspectives. First, this research pioneered in exploring the differential effects of traditional and digital brand touchpoints within the post-purchase customer experience. Second, this research extended Baxendale et al (2015) and Van Dorn et al (2010). Third, this research resolved conflicting points of view of past literature on the effect of customer satisfaction on repurchase intention. Fourth, this research tested the role of relationship quality and self-brand connection. Last, this research tested the cross-category effect of customer brand engagement. Details of each domain were described and elaborated as follows:

5.3.1.1 Pioneering in Exploring Differential Effects of Traditional and Digital Brand Touchpoints within the Post-Purchase Customer Experience

Past research (Dunn & Davis, 2004; Dhebar, 2012) investigated the effect of controllable and uncontrollable brand touchpoints, while others focused on the impact of experience-based brand touchpoints. It was found that past research did not assess the differential effect of traditional and digital brand touchpoint, especially in the perspective

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of the post-purchase experience, that was the key reason why this study considers this issue. Further, this study also focused on both an investigation of the direct and indirect effect of traditional post-purchase brand touchpoints and digital post-purchase brand touchpoints on relationship quality, self-brand connection, customer brand engagement, and repurchase intention.

However, the findings suggested that traditional post-purchase brand touchpoints were exhibited to have a direct effect on relationship quality and self-brand connection. Besides, both relationship quality and self-brand connection were found to mediate the relationship between traditional post-purchase brand touchpoints and customer brand engagement and repurchase intention. Digital post-purchase brand touchpoints were found to have a direct effect on relationship quality, but not on the self-brand connection. Also, only relationship quality was found to mediate the relationship between digital post-purchase brand touchpoints and customer brand engagement and repurchase intention. This was because traditional post-purchase brand touchpoints created social expressive value, which was the consequence of social interaction, whereas digital post-purchase brand touchpoints did not.

Another, traditional post-purchase brand touchpoints did not have a direct effect on customer brand engagement, whereas digital post-purchase brand touchpoints were found to have a direct effect on customer brand engagement. This was because digital post-purchase brand touchpoints allowed customers to have engagement and interactivity, while traditional post-purchase brand touchpoints did not. In conclusion, the research findings unquestionably suggested that this study suggested that there was evidence indicating the differential effects of traditional and digital post-purchase brand touchpoints.

5.3.1.2 Extending Previous Research of Baxendale et al (2015) and Van Dorn et al (2010)

First, Baxendal et al. (2015) found that there was a relationship between brand touchpoints and brand consideration. The findings of Baxendale et al (2015) were congruent with other previous research (Katherine & Verhoef, 2016; Marco & Cristina, 2017) stating that there was a relationship between brand touchpoint and repurchase intention in the consumer retail industry. Baxendal et al. (2015) suggested future research

to investigate the direct effect of brand touchpoints on repurchase intention. This research studied in the extension of Baxendal et al (2015) and found that there was no direct relationship between brand touchpoints and repurchase intention in the repurchase of the automobile. The discrepancy of these findings was likely because consumers tended to have different consumption patterns in different product categories.

As the automobile class of product was classified as high involvement category whereas the consumers generally were faced by the high risk and high investment throughout a more complicated buying process, hence solely exposure to brand and product information via traditional and digital post-purchase brand touchpoints alone could not immediately lead to repurchase decision. Besides, past research (Van Doorn et al., 2010) asserted that there was a relationship between customer brand engagement, relationship quality, and self-brand connection. However, no past research investigated the direct effect of traditional and digital post-purchase brand touchpoints on customer brand engagement, relationship quality, and self-brand connection. The result of this study suggested that traditional post-purchase brand touchpoints had a direct effect on relationship quality, and the traditional post-purchase brand touchpoints had a direct effect on self-brand connection, while the traditional post-purchase brand touchpoints did not have a direct effect on customer brand engagement.

Further, digital post-purchase brand touchpoints had a direct effect on relationship quality and self-brand connection. In addition, the digital post-purchase brand touchpoints also affected customer brand engagement. As the result, this study drew a solid conclusion that in the repurchase of the automobile, traditional post-purchase brand touchpoints drove relationship quality, and self-brand connection, while it did not directly lead to repurchase intention. Besides, in the repurchase of the automobile, digital post-purchase brand touchpoints drove customer brand engagement, while it did not have a direct effect on self-brand connection and repurchase intention. However, digital post-purchase brand touchpoints had an indirect effect to repurchase intention through relationship quality and customer brand engagement.

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5.3.1.3 Resolving Conflicting Points of View of Past Literature of the Effect of Customer Satisfaction on Repurchase Intention

The result of this study resolved the conflicting points discussed in the past literature. There were two streams of the past research concluding the effect of relationship quality on repurchase intention. The first research stream found that the effect of customer satisfaction (as part of relationship quality) drove the repurchase intention across all product categories, especially low involvement product categories. As an instance, Helier et al. (2003) asserted that repurchase intention was the effect of customer satisfaction and trust (which are two of three elements explained in relationship quality).

Besides, Kha et al. (2011) developed a model explaining the repurchase intention of Proton automobile and found that repurchase intention was driven by brand loyalty, whereas brand loyalty mediated the effects of brand trust and customer satisfaction on repurchase. In contrast, the second stream of the research proposed that in the repurchase of the automobile, satisfaction (as part of relationship quality) might not lead to the repurchase (Pophaney, 2010), as it was believed that satisfaction was just a self-report, not a reliable indicator of repurchase. However, the result of this study confirmed that the previous research findings of the first stream of the research (Kha et al. (2011)) agreed with this study. That was, the relationship quality (which was composed of satisfaction, trust, and commitment) could directly drive repurchase intention.

5.3.1.4 Testing a new Role of Relationship Quality and Self-Brand Connection

Taking the effect of relationship quality and customer brand engagement into consideration, So et al. (2014) and Hollebeek et al. (2014) asserted that relationship quality could be both antecedent and consequence of customer brand engagement. This study tested relationship quality as the antecedent of customer brand engagement and found that relationship quality drove customer brand engagement, as it was completely consistent with the previous research. As stated earlier, no past research investigated the effect of traditional and digital brand touchpoints on relationship quality, customer brand engagement, and repurchase intention. Rather, this research took relationship quality as a

mediating effect in the relational assessment between traditional and digital post-purchase brand touchpoints and customer brand engagement and repurchase intention.

Nevertheless, the findings built on a new perspective to the existing body of marketing knowledge in the way that the relationship quality mediated the relationship between traditional post-purchase brand touchpoints and customer brand engagement. Besides, the relationship quality mediated the relationship between traditional post-purchase brand touchpoints and repurchase intention. Nevertheless, the relationship quality had a mediating effect on the relationship between the digital post-purchase brand touchpoints and customer brand engagement and repurchase intention.

Furthermore, considering the effect of self-brand connection, this research assumed that self-brand connection affected customer brand engagement, as being affirmed by Civilai et al. (2016) which stated that self-expressive brand led to customer brand engagement in which the customer brand engagement directly drove repurchase intention of telecommunication products. Besides, it was assumed that self-brand connection had no effect on repurchase intention within the repurchase context of high involvement products, as the past literature including Hapsari and Adiwijaya (2014), and Premayani et al. (2018) showing a significant relationship between self-brand connection and repurchase intention were tested with shopping goods.

Moreover, the result indicated that there was a significant relationship between self-brand connection and customer brand engagement and repurchase intention. It was shown that these findings were consistent with Hapsari and Adiwijaya (2014) and Premayani et al. (2018) in which such a relationship could be explained across high and low involvement categories. As stated earlier, no past research investigated the effect of traditional and digital brand touchpoints on self-brand connection, customer brand engagement, and repurchase intention. Rather, this research assumed self-brand connection as mediating effect in the relational assessment between traditional and digital post-purchase brand touchpoints and customer brand engagement and repurchase intention in the context of repurchase of automobiles among current customers.

However, the findings built on a new perspective to the existing body of marketing knowledge in the way that the self-brand connection mediated the relationship between traditional post-purchase brand touchpoints and customer brand engagement.

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Besides, the self-brand connection mediated the relationship between traditional post-purchase brand touchpoints and repurchase intention. Nevertheless, the self-brand connection did not have any mediating effect on the relationship between the digital post-purchase brand touchpoints and customer brand engagement and repurchase intention.

5.3.1.5 Testing Cross-Category Effect of Customer Brand Engagement

The result indicated that customer brand engagement was significantly related to the repurchase intention of the automobile. This was consistent with Civilai et al. (2016) which affirmed that the customer brand engagement directly drove repurchase intention of telecommunication products. Beyond, the customer brand engagement was assessed its mediating effect in the relationship between relationship quality and repurchase intention. The finding was congruent with So et al. (2014) as it profounds that relationship quality could be both antecedent and consequence of customer brand engagement. Also, customer brand engagement directly led to repurchase intention.

Further, the customer brand engagement was assessed its mediating effect in the relationship between self-brand connection and repurchase intention. The result showed that customer brand engagement had a mediating role in explaining the relationship between self-brand connection and repurchase intention. This was consistent with Romero and Okazaki (2015), Brown et al. (2005), and Bettencourt (1997) which asserted that self-brand connection was the consequence of customer brand engagement. Also, it was congruent with Civilai et al. (2016) which affirmed that the self-expressive brand led to customer brand engagement in which the customer brand engagement directly drove repeat purchase.

5.3.2 Managerial Implications

The findings of this study were impactful to the automobile now and in the future, as all automobile manufacturers could use it for further developing their short and long-term plans to increase their customer retention, recurring sales from returning customers, and profitability. The results of this research were assimilated into six facets of managerial implications for marketing practitioners. These included (1) optimizing cost efficiency, (2) achieving maximized customer retention, (3) enriching digital experience, (4) harnessing the power of digital brand touchpoints, (5) developing new

digital businesses, and (6) enhancing core businesses of the automobile industry. Each facet of managerial implications was discussed in detail as follows:

5.3.2.1 Optimizing Cost Efficiency

Nowadays post-purchase experience of current automobile customers was greatly prominent. Most marketing practitioners turned their attention to customer experience management, especially at the post-purchase stage with the goal of keeping current customers. Customer retention at the post-purchase stage was very critical to the survival of the business of automobiles, as it had a direct impact on revenue, profit, and loss of the business. Car manufacturers or auto dealers who were successful in getting returning customers normally had higher revenue streams from car maintenance and repair, body and paint, loan installment services, car insurance service, on-road services, used-car trade-in, and up to a rebuy a new car.

Customer retention was more predominant than customer acquisition. Despite its relatively small comparative impact on profits, some businesses still focused excessively on customer acquisition over customer retention. Customer retention was much more advantageous than customer acquisition, because the cost of acquiring a single customer was approximately five times the cost of reengaging an existing customer, and the cost of cultivating a lifetime relationship with a new customer was sixteen times the cost of maintaining a good relationship with an already-reengaged customer (Kotler 2019).

5.3.2.2 Achieving Maximized Customer Retention

The findings suggested that customer experience through traditional and digital post-purchase brand touchpoints did not lead to repurchase intention. Rather, the traditional and digital post-purchase brand touchpoints must be effectively utilized to enhance relationship quality, self-brand connection, and customer brand engagement. Customer retention was likely to increase with the management of customer experience through these key factors.

The findings of this study suggest that the drivers of repurchase intention of the automobile are (1) relationship quality, (2) self-brand connection, and (3) customer brand engagement. All three factors have both direct and indirect effects on repurchase intention. Among these, relationship quality had the most impact on repurchase intention

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(Regression weight = 0.42), followed by customer engagement (Regression weight = 0.35), and self-brand connection (Regression weight = 0.28). Also, relationship quality and self-brand connection had a direct effect on customer brand engagement at an almost equivalent level. These findings provided a pragmatic recommendation to marketing practitioners that effective customer experience management started with the management of relationship quality through the cultivation of satisfaction, trust, and commitment, and creation of self-brand connection to make customers feel like part of the brand.

5.3.2.3 Enriching of Digital Experience

The key findings indicated that digital post-purchase brand touchpoints had a direct effect on relationship quality, and customer brand engagement had a direct effect on repurchase intention. As stated earlier, customer brand engagement was very essential, as it could create brand advocates who are passionate and vocal about brands they loved. An approach to building customer brand engagement could be achieved through the enriching digital experience of post-purchase brand touchpoints. The findings suggested that digital post-purchase brand touchpoints had a direct impact on relationship quality and customer brand engagement. An investment in creating the digital experience of post-purchase brand touchpoints was a good choice. Examples of that were omnichannel marketing, e-commerce auto services, 24/7 service desk, digital car auction, and the like.

5.3.2.4 Harnessing the Power of Digital Brand Touchpoints

It was found that digital post-purchase brand touchpoints were more powerful than traditional post-purchase brand touchpoints in creating customer brand engagement and driving repurchase intention. The total effect of traditional post-purchase brand touchpoints on customer brand engagement was 0.27, while the total effect of traditional post-purchase brand touchpoints on repurchase intention was 0.15. Also, the total effect of digital post-purchase brand touchpoints on customer brand engagement was 0.48, while the total effect of digital post-purchase brand touchpoints on repurchase intention was 0.21. In conclusion, the digital post-purchase brand touchpoints had more influences on customer brand engagement than traditional post-purchase brand touchpoints.

Besides, digital post-purchase brand touchpoints also had more influences on repurchase intention than traditional post-purchase brand touchpoints. Digital post-purchase brand touchpoints were a predominant and worth business investment. Up to date, a new automobile that just launched into the market has offered in-car telematics devices in which it will enhance a new level of experience and convenience to the consumers. With that, automobile companies can collect big data which is a collection of digital information, including unstructured and multi-structured data, derived from interactions between people and cars. The big data will be a prominent brand touchpoint for automobile manufacturers to gain in-depth insights into consumers' behavior, as the data will be a continuous stream of information conducive for ongoing discovery and analysis. Also, these big data with the emerging technology of the Internet of Things (IoT) will be further developed into promising autonomous vehicles and smart traffic control systems shortly.

5.3.2.5 Developing new Digital Businesses

There was a big shift in the managerial perspective of the post-purchase experience of brand touchpoints. From the traditional perspectives of traditional post-purchase brand touchpoints, the customer experience management focused on the frequency and positivity of brand touchpoints. Customers mainly got exposure with such service points as showroom, service center, call center. The frequency of brand touchpoints allowed the business to improve their post-purchase services overtime in which could eventually lead to the positivity of brand touchpoints.

However, there was a big shift from traditional to modern post-purchase brand touchpoints in the digital age, as the result of technology disruption. New digital brand touchpoints emerged, which included online payment, online service appointments, online inquiry, and the like. Moreover, it created a new business idea such as Pay-How-You-Drive Insurance (PHYD) in which customers paid the fee according to their driving behavior, instead of the annual fixed rate. Evidently, digital delimits the past impossibilities in life. By now, any marketer worth his or her salt knows that consolidating, strengthening, and/or building a digital presence was all about targeting millennials.

5.3.2.6 Enhancing core Businesses of the Automobile Industry

Even though the digital bran touchpoint was likely to be in power, the core business of automobiles which was built upon the foundation of traditional post-purchase brand touchpoints was needed to maintain. However, those existing traditional post-purchase brand touchpoint-based services must be connected or plugged in with digital brand touchpoints. This would become a digital transformation of businesses in which it would secure a promising future.

5.4 Research Limitations and Suggestions for Future Research

Future research was recommended to further explore such four aspects of research as (1) confirmation, (2) elaboration, (3) prediction, and (4) generalization. The direction of future research for each aspect was described in detail as follows:

5.4.1 Future Research as Confirmation

This research investigated within the context of the repurchase of automobiles which was considered as a high involvement product. Future research was suggested to test the model with other high involvement products or other classes of products. Besides, there was a high tendency that the findings of this research could be generalized to other categories of an automobile such as Eco-car, SUV, and Pickup. However, future research was encouraged to replicate the study with a different sample from different categories of the automobile. Besides, there was a high probability that different findings might be found with an exploration with other low involvement products such as shopping goods or other high-priced product categories such as luxury or high-end fashion products.

5.4.2 Future Research as Elaboration

The result of this study indicated that digital post-purchase brand touchpoints did not affect the self-brand connection. Future research was suggested to explore the cause or the reason behind it. The researcher assumed that social expressive value was the reason that could explain this phenomenon. In addition, traditional post-purchase brand touchpoints did not affect customer brand engagement. Future research was suggested to further explore the reason behind it. However, the researcher believed that interactivity value is the factor that could well explain this phenomenon. Also, a cross-cultural factor might be further taken into serious consideration. It was believed that

individualistic culture in western countries might yield a different result than that of collective culture in Asia.

5.4.3 Future Research as a Prediction

The result of this study indicated that digital post-purchase brand touchpoints were more powerful than traditional post-purchase brand touchpoints. The researcher strongly believed that the research topic on customer experience on digital post-purchase brand touchpoints would be the focal point of interest among academicians and marketing practitioners. There was a high tendency that the traditional post-purchase brand touchpoints would be substituted by digital post-purchase brand touchpoints. Future research is suggested to investigate the impact of digital post-purchase brand touchpoints and their substitutability of traditional post-purchase brand touchpoints. Further, the generation cohort was assumed to have a relationship with digital adoption. Future research was recommended to assess the impact of digital brand touchpoints by comparing consumers in different generations (for example, Baby Boomer, Generation X, Generation Y, Millennial, and Generation Z).

5.4.4 Future Research as a Generalization

Since the infrastructure and advancement of traditional and digital brand touchpoints varied by country, the findings may be generalizable to countries with similar economic size and scale as Thailand. Future research is recommended to investigate the impact of traditional and digital brand touchpoints in other countries with different infrastructure and advancement of brand touchpoints.

Further, the result of this study suggested that post-purchase brand touchpoints were considered essential for automobile business because an automobile's purchase was not a one-time off, but automobile manufactures had to build up a strong service network and comprehensive ecosystem for post-purchase services. These were accounted for a reason to buy and reason to rebuy among current customers. Future research was suggested to prove if the competitive advantage could be generalized into other products or product categories.

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APPENDICES
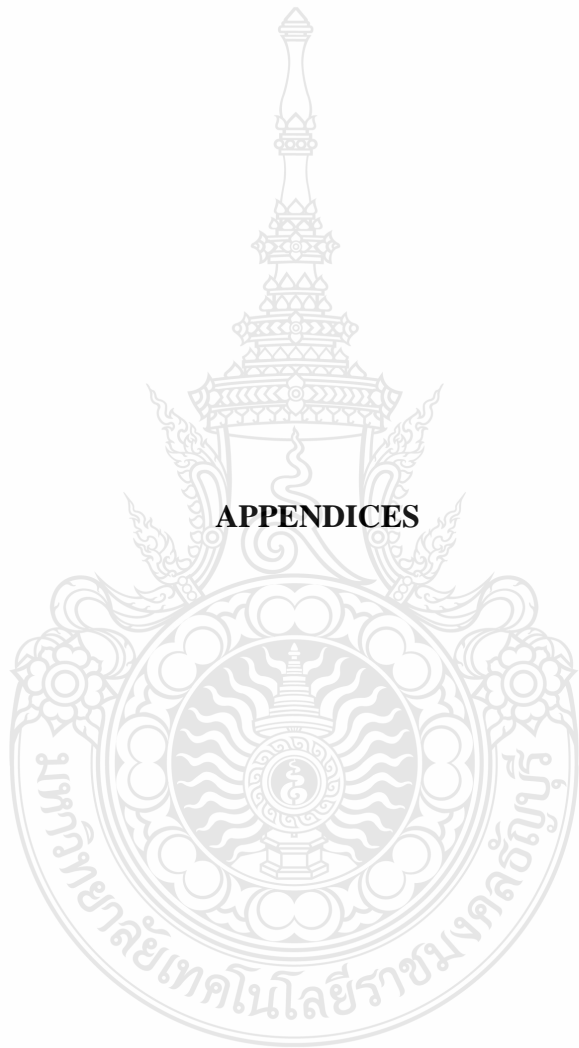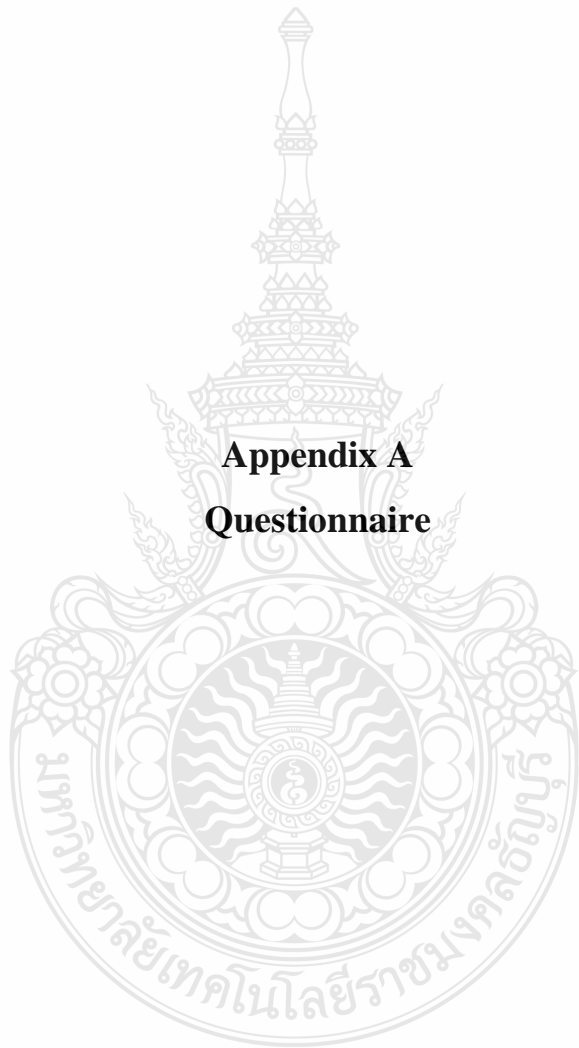
Appendix A

Questionnaire

Questionnaire: Toyota Camry/Honda Accord/Honda Accord Users

Screening Question:

S1. Do you own Toyota Camry/Honda Accord?

        Yes…………………………………………………………..Continue

        No……………………………………………………………Stop

S2. Are you the one who made or partially made purchase decision of this Toyota Camry/Honda Accord?

        Yes…………………………………………………………..Continue

        No……………………………………………………………Stop

S3. How often do you use this Toyota Camry/Honda Accord on the regular basis?

        Always………………………………………………………Continue

        Often………………………………………………………Continue

        Sometimes…………………………………………………Continue

        Occasionally………………………………………………Continue

        Never…………………………………………………………Stop

S4. How often do you have your car for the after-sales services with authorized dealers after you purchased this Toyota Camry/Honda Accord?

        Always……………………………………………………….Continue

        Often………………………………………………………Continue

        Sometimes…………………………………………………Continue

        Occasionally………………………………………………Continue

        Never…………………………………………………………Stop

S5. How often do you receive any news from Toyota Camry/Honda Accord after you purchased this Toyota Camry/Honda Accord?

        Always………………………………………………………Continue

        Often………………………………………………………Continue

        Sometimes…………………………………………………Continue

        Occasionally………………………………………………Continue

        Never…………………………………………………………Stop

S6. How often do you participate any activities held by Toyota Camry/Honda Accord after you purchased this Toyota Camry/Honda Accord?

        Always………………………………………………………Continue

Often…………………………………………………………Continue

Sometimes……………………………………………………Continue

Occasionally…………………………………………………Continue

Never………………………………………………………….Stop

S7. Please describe your purchase pattern of this automobile from the following choices.

This is my and my family first car………………………………1

I bought it in addition to the one I have used…………………….Continue S8

I replaced it with that one I had used…………………………….Continue S9

S8. Please tell me the brand/model (that you have used along with this Toyota Camry/Honda Accord).

_____

S9. Please tell me the brand/model (that you have replaced with this Toyota Camry/Honda Accord).

_____
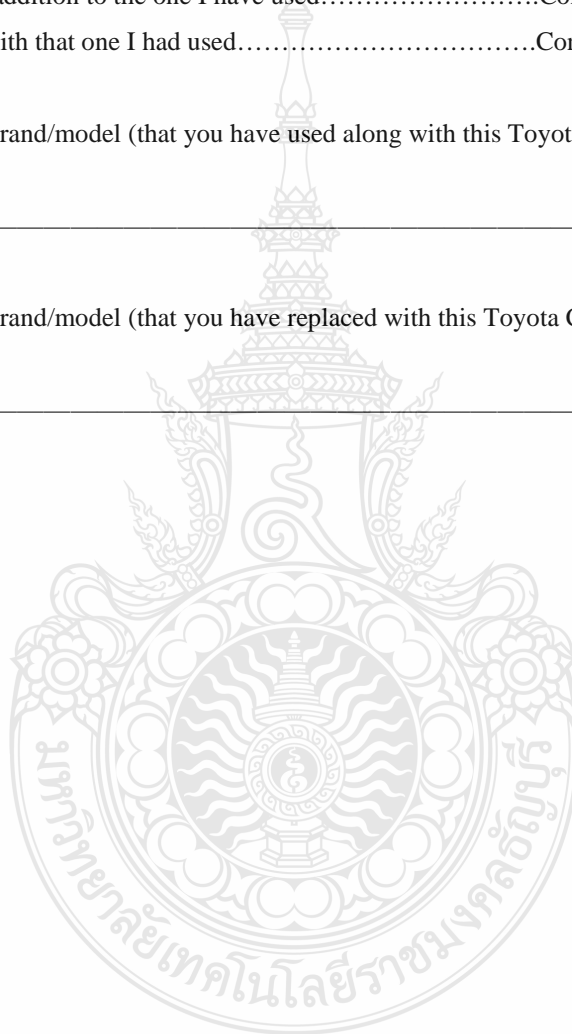
1A How did it make you feel about following brand touchpoint of Toyota Camry/Honda Accord?

No	List of Brand Touchpoint	Extremely Positive	Somewhat Positive	Average	Somewhat Negative	Extremely negative
P1	TV	5	4	3	2	1
P2	Radio	5	4	3	2	1
P3	Printed (Newspaper, Magazine)	5	4	3	2	1
P4	Out of Home (Billboard, LED Screen, Cut-out)	5	4	3	2	1
P5	Direct Mail, Leaflet	5	4	3	2	1
P6	Call Center	5	4	3	2	1
P7	Event	5	4	3	2	1
P8	Car Usage	5	4	3	2	1
P9	Corporate Website	5	4	3	2	1
P10	Social Media (Facebook, Twitter, Line, YouTube)	5	4	3	2	1
P11	Online User Review	5	4	3	2	1
P12	Online Auto Guru Review	5	4	3	2	1
P13	Seek advice from anyone personally (WOM, Recommendation)	5	4	3	2	1
P14	Customer Relationship Program (Greet Card on Birthday, and others)	5	4	3	2	1
P15	Brand Online Community	5	4	3	2	1
P16	Car Club Online Community (User Created Online Community)	5	4	3	2	1
P17	Email	5	4	3	2	1
P18	SMS	5	4	3	2	1
P19	Social Chat/Messenger Services (Line, Messenger)	5	4	3	2	1
P20	Installed-in-car Telematic	5	4	3	2	1
P21	Salesman	5	4	3	2	1
P22	Showroom	5	4	3	2	1
P23	Service Staff	5	4	3	2	1
P24	Electronic Installment Payment	5	4	3	2	1
P25	Electronic Car Insurance Reissuing Service	5	4	3	2	1
P26	Mobile App for Customer Privilege Program	5	4	3	2	1

No	List of Brand Touchpoint	Extremely Positive	Somewhat Positive	Average	Somewhat Negative	Extremely negative
P27	E-showroom for Car Selling	5	4	3	2	1
P28	Online Trade-in service	5	4	3	2	1
P29	Trade-in service at Showroom or Auto Manufacturer's Network	5	4	3	2	1
P30	Special Customer Privilege (Free parking in department store and others)	5	4	3	2	1
P31	Monthly Payment Channel Owned by Auto Manufacturer	5	4	3	2	1
P32	Contact from Insurance Staff to Sell or Resell Insurance Policy	5	4	3	2	1

1B How often did you encounter the following brand touchpoints of Toyota Camry/Honda Accord?

No	List of Brand Touchpoint	Often	Sometimes	Rarely	Seldom	Never
F1	TV	5	4	3	2	1
F2	Radio	5	4	3	2	1
F3	Printed (Newspaper, Magazine)	5	4	3	2	1
F4	Out of Home (Billboard, LED Screen, Cut-out)	5	4	3	2	1
F5	Direct Mail, Leaflet	5	4	3	2	1
F6	Call Center	5	4	3	2	1
F7	Event	5	4	3	2	1
F8	Car Usage	5	4	3	2	1
F9	Corporate Website	5	4	3	2	1
F10	Social Media (Facebook, Twitter, Line, Youtube)	5	4	3	2	1
F11	Online User Review	5	4	3	2	1
F12	Online Auto Guru Review	5	4	3	2	1
F13	Seek advice from anyone personally (WOM, Recommendation)	5	4	3	2	1
F14	Customer Relationship Program (Greet Card on Birthday, and others)	5	4	3	2	1

No	List of Brand Touchpoint	Often	Sometimes	Rarely	Seldom	Never
F15	Brand Online Community	5	4	3	2	1
F16	Car Club Online Community (User Created Online Community)	5	4	3	2	1
F17	Email	5	4	3	2	1
F18	SMS	5	4	3	2	1
F19	Social Chat/Messenger Services (Line, Messenger)	5	4	3	2	1
F20	Installed-in-car Telematic	5	4	3	2	1
F21	Salesman	5	4	3	2	1
F22	Showroom	5	4	3	2	1
F23	Service Staff	5	4	3	2	1
F24	Electronic Installment Payment	5	4	3	2	1
F25	Electronic Car Insurance Reissuing Service	5	4	3	2	1
F26	Mobile App for Customer Privilege Program	5	4	3	2	1
F27	E-showroom for Car Selling	5	4	3	2	1
F28	Online Trade-in service	5	4	3	2	1
F29	Trade-in service at Showroom or Auto Manufacturer's Network	5	4	3	2	1
F30	Special Customer Privilege (Free parking in department store and others)	5	4	3	2	1
F31	Monthly Payment Channel Owned by Auto Manufacturer	5	4	3	2	1
F32	Contact from Insurance Staff to Sell or Resell Insurance Policy	5	4	3	2	1

Section 2: Relationship quality

2A. To what extent do you agree with the following statements related with product dimension of Toyota Camry/Honda Accord?

No	Product Dimension of Relationship Quality	Somewhat Agree	Average	Somewhat Disagree	Disagree	Strongly Disagree
R1	The product quality of Toyota Camry/Honda Accord is exactly what I want.	5	4	3	2	1
R2	I don't regret choosing Toyota Camry/Honda Accord.	5	4	3	2	1
R3	I really like the product, namely Toyota Camry/Honda Accord.	5	4	3	2	1
R4	Using product, namely Toyota Camry/Honda Accord is a good experience for me.	5	4	3	2	1
R5	The product performance of Toyota Camry/Honda Accord is better than I expected.	5	4	3	2	1
R6	I really enjoy using product namely, Toyota Camry/Honda Accord.	5	4	3	2	1
R7	The product, namely Toyota Camry/Honda Accord always cares about the consumers' needs.	5	4	3	2	1
R8	The product namely, Toyota Camry/Honda Accord keeps its promises.	5	4	3	2	1
R9	Whatever happens, I believe that the product namely, Toyota Camry/Honda Accord would help me.	5	4	3	2	1
R10	The product namely, Toyota Camry/Honda Accord works hard for my well-being.	5	4	3	2	1
R11	I don't have to consider product from other brands because I have product namely, Toyota Camry/Honda Accord.	5	4	3	2	1
R12	I want to keep using product namely, Toyota Camry/Honda Accord.	5	4	3	2	1
R13	I want to maintain a long-term relationship with product namely, Toyota Camry/Honda Accord.	5	4	3	2	1
R14	I enjoy my relationship with product namely, Toyota Camry/Honda Accord, so I want to keep buying it.	5	4	3	2	1

2B. To what extent do you agree with the following statements related with service dimension of Toyota Camry/Honda Accord?

No	Service Dimension of Relationship Quality	Somewhat Agree	Average	Somewhat Disagree	Disagree	Strongly Disagree
V1	The service quality provided by Toyota Camry/Honda Accord is exactly what I want.	5	4	3	2	1
V2	I don't regret choosing the service offered by Toyota Camry/Honda Accord.	5	4	3	2	1
V3	I really like the service offered by Toyota Camry/Honda Accord.	5	4	3	2	1
V4	Using the service of Toyota Camry/Honda Accord is a good experience for me.	5	4	3	2	1
V5	The service performance of Toyota Camry/Honda Accord is better than I expected.	5	4	3	2	1
V6	I really enjoy using the service of Toyota Camry/Honda Accord.	5	4	3	2	1
V7	The service offered by Toyota Camry/Honda Accord always cares about the consumers' needs.	5	4	3	2	1
V8	The service offered by Toyota Camry/Honda Accord keeps its promises.	5	4	3	2	1
V9	Whatever happens, I believe that the service provided by Toyota Camry/Honda Accord would help me.	5	4	3	2	1
V10	The service provided by Toyota Camry/Honda Accord works hard for my well-being.	5	4	3	2	1
V11	I don't have to consider service from other brands because I have good service from Toyota Camry/Honda Accord.	5	4	3	2	1
V12	I want to keep using service from Toyota Camry/Honda Accord.	5	4	3	2	1
V13	I want to maintain a long-term relationship with the service provided by Toyota Camry/Honda Accord.	5	4	3	2	1
V14	I enjoy my relationship with the service provided by Toyota Camry/Honda Accord, so I want to keep buying it.	5	4	3	2	1

2C. To what extent do you agree with the following statements related with customer relation dimension of Toyota Camry/Honda Accord?

No	Customer Relation Dimension of Relationship Quality	Somewhat Agree	Average	Somewhat Disagree	Disagree	Strongly Disagree
U1	The customer relation of Toyota Camry/Honda Accord is exactly what I want.	5	4	3	2	1
U2	I don't regret experiencing the customer relation offered by Toyota Camry/Honda Accord.	5	4	3	2	1
U3	I really like the customer relation of Toyota Camry/Honda Accord.	5	4	3	2	1
U4	Encountering customer relation provided by Toyota Camry/Honda Accord is a good experience for me.	5	4	3	2	1
U5	The customer relation's performance of Toyota Camry/Honda Accord is better than I expected.	5	4	3	2	1
U6	I really enjoy experiencing customer relation provided by Toyota Camry/Honda Accord.	5	4	3	2	1
U7	The customer relation provided by Toyota Camry/Honda Accord always cares about the consumers' needs.	5	4	3	2	1
U8	The customer relation provided by Toyota Camry/Honda Accord keeps its promises.	5	4	3	2	1
U9	Whatever happens, I believe that customer relation provided by Toyota Camry/Honda Accord would help me.	5	4	3	2	1
U10	The customer relation provided Toyota Camry/Honda Accord works hard for my well-being.	5	4	3	2	1
U11	I don't have to consider other brands because I have good customer relation provided by Toyota Camry/Honda Accord.	5	4	3	2	1
U12	I want to keep using Toyota Camry/Honda Accord, due to good customer relation.	5	4	3	2	1
U13	I want to maintain a long-term relationship with Toyota Camry/Honda Accord, due to good customer relation.	5	4	3	2	1
U14	I enjoy my relationship with customer relation provided by Toyota Camry/Honda Accord, so I want to keep buying it.	5	4	3	2	1

Section 3: Self-brand connection

3. To what extent do you agree with the following statements related with self-brand connection between you and Toyota Camry/Honda Accord?

No	Self-brand connection	Somewhat Agree	Average	Somewhat Disagree	Disagree	Strongly Disagree
C1	Toyota Camry/Honda Accord could reflect who I am.	5	4	3	2	1
C2	I could identify with Toyota Camry/Honda Accord.	5	4	3	2	1
C3	I could feel a personal connection to Toyota Camry/Honda Accord.	5	4	3	2	1
C4	I could use Toyota Camry/Honda Accord to communicate who I am to other people.	5	4	3	2	1
C5	I think Toyota Camry/Honda Accord could help me become the type of person I want to be.	5	4	3	2	1
C6	I would consider Toyota Camry/Honda Accord to be "me" (it reflects who I consider myself to be or the way that I want to present myself to others).	5	4	3	2	1
C7	Toyota Camry/Honda Accord would suit me well.	5	4	3	2	1

Section 4: Customer brand engagement

4. To what extent do you agree with the following statements related with customer brand engagement that you had with Toyota Camry/Honda Accord?

No	Customer brand engagement	Somewhat Agree	Average	Somewhat Disagree	Disagree	Strongly Disagree
E1	I mention to others that I use Toyota Camry/Honda Accord.	5	4	3	2	1
E2	I make sure that others know that I own Toyota Camry/Honda Accord.	5	4	3	2	1
E3	I recommended Toyota Camry/Honda Accord to family members.	5	4	3	2	1
E4	I speak positively of Toyota Camry/Honda Accord to others.	5	4	3	2	1
E5	I recommend Toyota Camry/Honda Accord to acquaintances.	5	4	3	2	1

No	Customer brand engagement	Somewhat Agree	Average	Somewhat Disagree	Disagree	Strongly Disagree
E6	I recommended Toyota Camry/Honda Accord to close personal friends.	5	4	3	2	1
E7	I participate in the draws that Toyota Camry/Honda Accord organizes at social networks.	5	4	3	2	1
E8	I participate in the contests that Toyota Camry/Honda Accord organizes at social networks.	5	4	3	2	1
E9	I would participate in a "bring a friend" program organized by Toyota Camry/Honda Accord.	5	4	3	2	1
E10	In general, I participate in the activities organized by Toyota Camry/Honda Accord in which I can win a reward.	5	4	3	2	1
E11	I assess and share with other users my opinions and experiences about the products and services of Toyota Camry/Honda Accord on the company website.	5	4	3	2	1
E12	I write comments in the blog and/or in the profile of Toyota Camry/Honda Accord in social networks (e.g., Facebook, Twitter, etc.).	5	4	3	2	1
E13	I write comments in the forums on Toyota Camry/Honda Accord.	5	4	3	2	1
E14	I let Toyota Camry/Honda Accord know of ways that they can better serve my needs.	5	4	3	2	1
E15	I make constructive suggestions to Toyota Camry/Honda Accord about how to improve its service.	5	4	3	2	1
E16	If I have a useful idea of how to improve service, I give it to someone at Toyota Camry/Honda Accord.	5	4	3	2	1
E17	When I experience a problem at this store, I let someone know so they can improve the service.	5	4	3	2	1
E18	If I notice a problem, I inform an employee of Toyota Camry/Honda Accord even if it does affect me.	5	4	3	2	1
E19	If Toyota Camry/Honda Accord gives me good service, I let them know.	5	4	3	2	1

Section 5: Repurchase intention

5. To what extent do you agree with the following statements related with your repurchase intention of Toyota Camry/Honda Accord when you are buying next car?

No	Repurchase intention	Somewhat Agree	Average	Somewhat Disagree	Disagree	Strongly Disagree
I1	I consider myself a loyal patron of Toyota Camry/Honda Accord.	5	4	3	2	1
I2	I will do more purchases with Toyota Camry/Honda Accord soon	5	4	3	2	1
I3	I consider Toyota Camry/Honda Accord as my first choice for next purchase.	5	4	3	2	1
I4	I intend to purchase Toyota Camry/Honda Accord again when I will replace this car or buying in addition.	5	4	3	2	1

<u>Section 6:</u> **Personal Data**

601. Gender

[ ] Male   [ ] Female

602. Education

[ ] No formal education   [ ] Studying primary school   [ ] Finish primary school

[ ] Studying junior high school   [ ] Finish junior high school   [ ] Studying senior high

school

[ ] Finish senior high school   [ ] Studying vocational degree   [ ] Finish vocational degree

[ ] Studying undergraduate degree) [ ] Finish undergraduate degree [ ] Studying graduate

degree

[ ] Finish graduate degree

603.Marital status

[ ] Single   [ ] Married   [ ] Others

604. Occupation

[ ] Business owner   [ ] Shop owner

[ ] Special profession (architect, engineer, doctors) [ ] Government official- junior level

[ ] Government official - mid level   [ ] Government official - senior level

[ ] Company employee   [ ] Housewife

[ ] Student   [ ] Retired

[ ] Freelance   [ ] Others

605. Monthly Personal income

[ ] Below 30,000 Baht   [ ] 30,000-39,999 Baht   [ ] 40,000-49,999 Baht

[ ] 50,000-59,999 Baht   [ ] 60,000-69,999 Baht   [ ] 70,000-79,999 Baht

[ ] 80,000-89,999 Baht   [ ] 90,000-99,999 Baht   [ ] 100,000-199,999 Baht

[ ] 200,000-299,999 Baht   [ ] 300,000-399,999 Baht   [ ] 400,000-499,999 Baht

[ ] 500,000-599,999 Baht   [ ] 600,000-699,999 Baht   [ ] 700,000-799,999 Baht

[ ] 800,000-899,999 Baht   [ ] 900,000-999,999 Baht   [ ] 1,000,000 Baht and upper

606. Monthly household income

[ ] Below 30,000 Baht   [ ] 30,000-39,999 Baht   [ ] 40,000-49,999 Baht

[ ] 50,000-59,999 Baht   [ ] 60,000-69,999 Baht   [ ] 70,000-79,999 Baht

[ ] 80,000-89,999 Baht   [ ] 90,000-99,999 Baht   [ ] 100,000-199,999 Baht

[ ] 200,000-299,999 Baht   [ ] 300,000-399,999 Baht   [ ] 400,000-499,999 Baht

[ ] 500,000-599,999 Baht   [ ] 600,000-699,999 Baht   [ ] 700,000-799,999 Baht

[ ] 800,000-899,999 Baht   [ ] 900,000-999,999 Baht   [ ] 1,000,000 Baht and upper

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