STRUCTURAL EQUATION MODEL FOR FACTORS AFFECTING CUSTOMER ENGAGEMENT AND CUSTOMER DEVOTION TO COMMUNITY PHARMACY
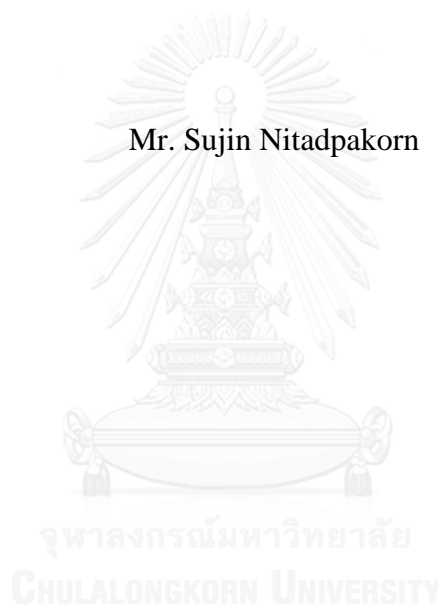
Mr. Sujin Nitadpakorn

A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy Program in Social and Administrative
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Faculty of Pharmaceutical Sciences
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แบบจำลองสมการโครงสร้างสำหรับปัจจัยที่มีผลต่อการสร้างความผูกพัน และการอุทิศตนของลูกค้าร้านยา

นายสุจินต์ นิทัศน์ปกรณ์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรดุษฎีบัณฑิต
สาขาวิชาเภสัชศาสตร์สังคมและบริหาร ภาควิชาเภสัชศาสตร์สังคมและบริหาร
คณะเภสัชศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
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ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

Thesis Title	STRUCTURAL EQUATION MODEL FOR FACTORS AFFECTING CUSTOMER ENGAGEMENT AND CUSTOMER DEVOTION TO COMMUNITY PHARMACY
By	Mr. Sujin Nitadpakorn
Field of Study	Social and Administrative Pharmacy
Thesis Advisor	Assistant Professor Tanattha Kittisopee, Ph.D.

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สุจินต์ นิทัศน์ปกรณ์ : แบบจำลองสมการโครงสร้างสำหรับปัจจัยที่มีผลต่อการสร้างความผูกพัน และการอุทิศตนของลูกค้าร้านยา (STRUCTURAL EQUATION MODEL FOR FACTORS AFFECTING CUSTOMER ENGAGEMENT AND CUSTOMER DEVOTION TO COMMUNITY PHARMACY) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ผศ. ภญ. ร.ต.อ.หญิง ดร. ฐณัฏฐา กิตติโสภี, 134 หน้า.

การศึกษานี้มีวัตถุประสงค์เพื่อพัฒนาแบบจำลองโครงสร้างในการอธิบายความสัมพันธ์ระหว่างของการอุทิศตนของลูกค้ากับปัจจัยการรับรู้ของลูกค้าเกี่ยวกับตัวเภสัชกร การรับรู้ของลูกค้าเกี่ยวกับสภาพร้านยา และส่วนผสมทางการตลาด ทั้งทางตรงและทางอ้อมผ่านความผูกพันของลูกค้าร้านยา โดยสุ่มตัวอย่างแบบจำเพาะเจาะจงจากลูกค้าจำนวน 420 คนที่มาใช้บริการร้านยาจำนวน 28 ร้าน ใน 7 เขต ของพื้นที่กรุงเทพมหานคร และปริมณฑล ทำการเก็บข้อมูลด้วยแบบสอบถามที่ลูกค้าร้านยาเป็นผู้ตอบเองระหว่างเดือนกุมภาพันธ์ - เมษายน 2559 การวิเคราะห์ข้อมูลทำโดยใช้หลักการของสมการโครงสร้างพบว่า การรับรู้ของลูกค้าเกี่ยวกับสภาพร้านยา การรับรู้ของลูกค้าเกี่ยวกับตัวเภสัชกร และส่วนผสมทางการตลาดไม่มีอิทธิพลโดยตรงต่อการอุทิศตนของลูกค้าร้านยา แต่การรับรู้ของลูกค้าเกี่ยวกับตัวเภสัชกร และส่วนผสมทางการตลาดมีอิทธิพลทางอ้อมต่อการอุทิศตนของลูกค้าร้านยาโดยส่งผ่านความผูกพันของลูกค้าร้านยา (β = 0.27 และ 0.55 ตามลำดับ) และความผูกพันของลูกค้าร้านยามีความสัมพันธ์สูงกับการอุทิศตนของลูกค้าร้านยา (β = 0.95) เมื่อทำการวิเคราะห์กลุ่มลูกค้าที่ได้รับบริการทางเภสัชกรรมในระดับสูงพบว่า มีเพียงการรับรู้ของลูกค้าเกี่ยวกับตัวเภสัชกรเท่านั้นที่มีอิทธิพลโดยตรงต่อการอุทิศตนของลูกค้าร้านยา (β = 0.19) และยังมีอิทธิพลโดยอ้อมส่งผ่านความผูกพันของลูกค้าร้านยา (β = 0.34) ต่อการอุทิศตนของลูกค้าร้านยา ส่วนผสมทางการตลาดมีอิทธิพลโดยอ้อมต่อการอุทิศตนของลูกค้าร้านยาโดยส่งผ่านความผูกพันของลูกค้าร้านยา (β = 0.31)   ส่วนการรับรู้ของลูกค้าเกี่ยวกับสภาพร้านยาไม่มีอิทธิพลทั้งโดยตรง และโดยอ้อมต่อการอุทิศตนของลูกค้าร้านยา และผลการวิเคราะห์ในกลุ่มลูกค้าที่ได้รับบริการบริการทางเภสัชกรรมในระดับต่ำพบว่ามีเพียงส่วนผสมการตลาดเท่านั้นที่มีผลโดยอ้อมต่อการอุทิศตนของลูกค้าโดยส่งผ่านความผูกพันของร้านยา (β = 0.70) ผลที่ได้จากการศึกษานี้แสดงให้เห็นว่าการรับรู้ของลูกค้าเกี่ยวกับสภาพร้านยาไม่ได้มีอิทธิพลต่อการอุทิศตนของลูกค้า การสร้างความผูกพันของลูกค้าร้านยาเป็นปัจจัยตัวกลางที่สำคัญมากที่ส่งผลต่อการอุทิศตนของลูกค้าร้านยา สำหรับธุรกิจร้านยาการใช้กลยุทธ์การให้บริการทางเภสัชกรรมในระดับสูง และการรับรู้ของลูกค้าเกี่ยวกับตัวเภสัชกรที่ดีสามารถสร้างความผูกพันของลูกค้าร้านยา และการอุทิศตนของลูกค้าร้านยาได้ดีกว่าการใช้กลยุทธ์ส่วนผสมทางการตลาด และจะช่วยดึงลูกค้าที่ภักดีต่อร้านยาไว้ได้อันจะส่งผลต่อธุรกิจร้านยาในระยะยาวได้

ภาควิชา   เภสัชศาสตร์สังคมและบริหาร   ลายมือชื่อนิสิต _____

สาขาวิชา   เภสัชศาสตร์สังคมและบริหาร   ลายมือชื่อ อ.ที่ปรึกษาหลัก _____

ปีการศึกษา 2559

5576555433 : MAJOR SOCIAL AND ADMINISTRATIVE PHARMACY

KEYWORDS: PROFESSIONAL PHARMACY SERVICES, PHARMACY CUSTOMER ENGAGEMENT, PHARMACY CUSTOMER DEVOTION, COMMUNITY PHARMACY THAILAND

SUJIN NITADPAKORN: STRUCTURAL EQUATION MODEL FOR FACTORS AFFECTING CUSTOMER ENGAGEMENT AND CUSTOMER DEVOTION TO COMMUNITY PHARMACY. ADVISOR: ASST. PROF. TANATTHA KITTISOPEE, Ph.D., 134 pp.

This study aimed to develop a model for explaining the relationship among professional pharmacy services, perception about pharmacist, perceived quality of pharmacy structure, marketing mix and pharmacy customer devotion via pharmacy customer engagement. Self-administered questionnaires were sent to a purposive sampling of 420 pharmacy customers from 28 community pharmacies in 7 districts of Bangkok and vicinity area during February and April 2016. Results from structural equation modeling (SEM) showed that perceived quality of pharmacy structure, perception about pharmacist and marketing mix had no direct effect to pharmacy customer devotion. However, perception about pharmacist and marketing mix showed indirect effect to pharmacy customer devotion via pharmacy engagement ($\beta = 0.27$ and 0.55 respectively). Pharmacy engagement had a strong association with pharmacy customer devotion ($\beta = 0.95$). In subgroup analysis of pharmacy customers receiving high professional pharmacy services, it was found that perception about pharmacist was the only factor showing direct effect to pharmacy customer devotion ($\beta = 0.19$) and demonstrating indirect effect to pharmacy customer devotion via pharmacy engagement ($\beta = 0.34$). Marketing mix had no direct effect to pharmacy customer devotion but showed indirect effect to pharmacy customer devotion via pharmacy engagement ($\beta = 0.31$). Perceived quality of pharmacy structure had no direct and indirect effect to pharmacy customer devotion. With regards to the subgroup analysis of pharmacy customers receiving low professional pharmacy services, only marketing mix show indirect effect through pharmacy engagement ($\beta = 0.70$). The findings manifested perceived quality of pharmacy structure had no influence on pharmacy customer devotion. Pharmacy engagement was a very important mediator for pharmacy customer devotion. It can be concluded that the use of high professional pharmacy services and positive perception about pharmacist can increase both pharmacy engagement and pharmacy customer devotion more effectively than the use of marketing mix strategy. It helped retain loyal customers and create a long term impact for community pharmacy business.

Department:	Social and Administrative Pharmacy	Student's Signature	_____
		Advisor's Signature	_____
Field of Study:	Social and Administrative Pharmacy		
Academic Year:	2016		

ACKNOWLEDGEMENTS

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AEC	ASEAN Economic Cooperation
ASEAN	Association of South East Asian Nations
CMR	Comprehensive Medication Review
F/U	Follow–up Plan
MD	Medication Dispensing
MM	Marketing Mix
MTM	Medication Therapy Management
MTR	Medication Review
PAP	Perception about Pharmacist
PE	Pharmacy Engagement
PCD	Pharmacy Customer Devotion
P/DC	Patient/ Drug Counseling
PMR	Patient Medication Record
PPS	Professional Pharmacy Services
PQPS	Perceived Quality of Pharmacy Structure

Chapter 1 Introduction

Problem Analysis

The system that community pharmacy business operates today is very much different from the past. Over a decade, the community pharmacy business in Thailand has been growing well despite strong competition and over supplies of drug stores. The situation of substantial decrease in profit of retail pharmacy in the past decade has been realized in other countries (Gavilan D, 2014). From pharmaceutical business survey in 2013, the volume of drug store transaction was estimated to THB 20,000 Million (USD 660 Million) with the growth of 15-20% every year ("Drug Store Wars in Thailand," 2013) from existing 15,000 drug stores available in Thailand. However, considering more in details, there are a lot of changes negatively affect conventional 'commodity type' drug stores to operate particularly in a heavy price cutting environment together with a sharp increasing number of new chain drug stores in the markets (Prachachatnews, 2014). The situation is expected to be critical after an influx of foreign chain drug stores to the country due largely to a start of ASEAN Economic Cooperation (AEC) in 2016 (KomchadluekNewsOnline, 2012; Piyawat, 2015). Under the new regulation, all ASEAN nations are allowed to set up and trade freely in any ASEAN member countries with zero tariffs and taxes. If local drug store business in the country is left without any intervention, they will face a big challenge (Promlekha, 2013).

Currently, the competition particularly the price war is getting stronger. It is anticipated a number of small to medium size community pharmacies would eventually perish. If almost all community pharmacy business race purely on price

and sales promotion campaign, this will pose a big threat to pharmacy profession. Subsequently, quality of pharmaceutical services in the community pharmacies as well as patient safety will be at risk due to loss of patient focus and patient engagement.

To have a clearer picture, we have reviewed a situation of drug store in Thailand from statistics data of the bureau of drug control, Thai Food and Drug Administration. It evidently shows the number of registered type 1 pharmacy increased over 75% in the last decade as shown in Figure1 (Bureau of Drug Control, 2015). Consumer spending trend in drugstore channel from 2005 onwards was surprisingly on a reverse as shown in Figure 2. The spending in drug store channel declined significantly as the government planned to implement the expansion of universal coverage scheme (Drug Store Business Report, 2007). The analysis, therefore, confirms the drugstore business will even be more difficult to survive in the future if tough market condition persists.
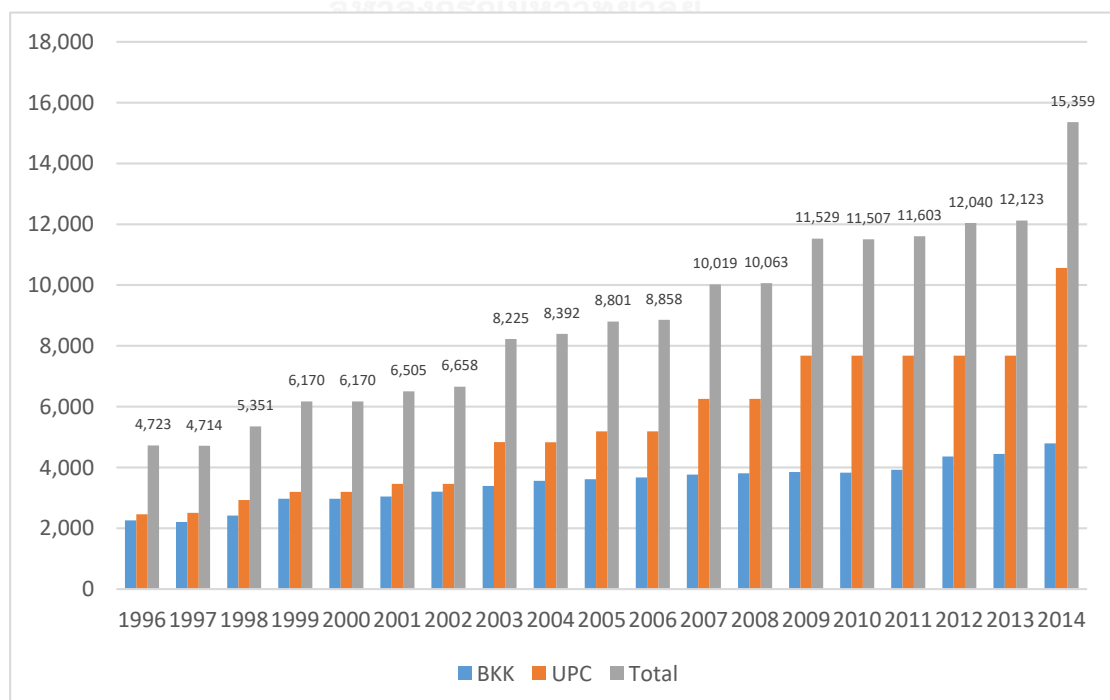
Figure 1: Number of Register Type 1 Pharmacy in Thailand from 1996-2014 (Bureau of Drug Control, 2015)
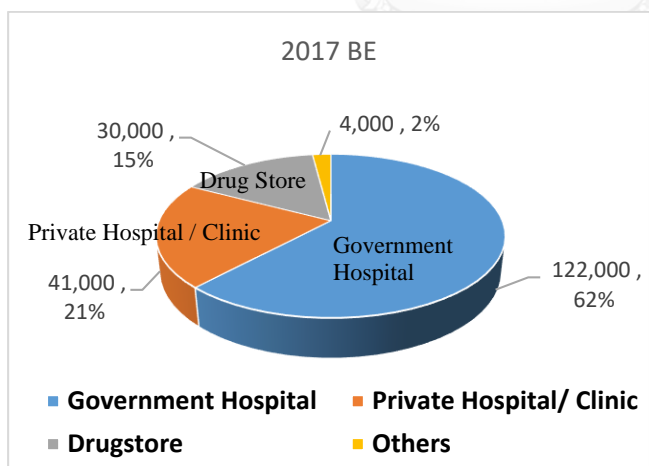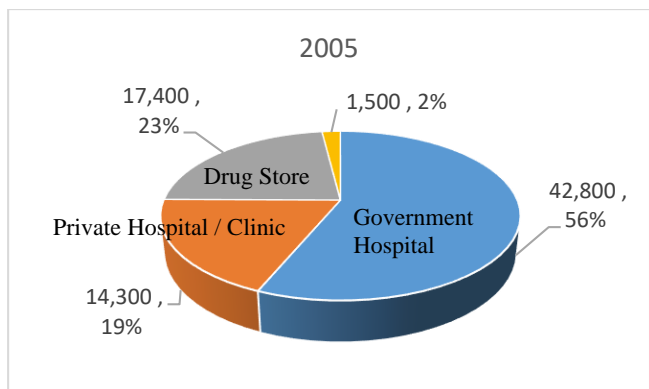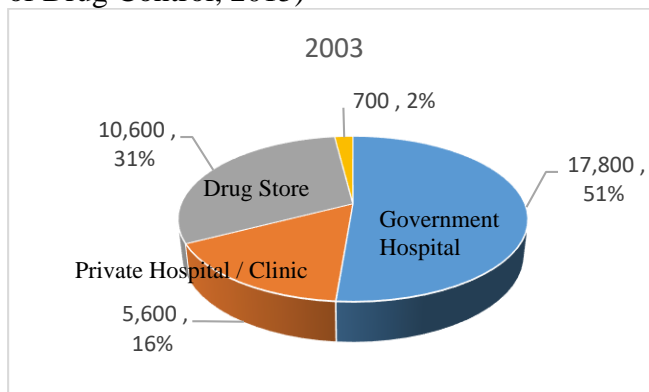
Figure 2: Sales Value (Million Thai Baht) and Percentage of Drug Spend from Various Channel in 2003, 2005 and Best Estimated of 2017 (Drug Store Business Report, 2007)

Similarly, the competitive situation holds true in other business sectors which also face this rapid change. The faster the economy transpires with new innovations and opportunities creating more options for customers, the harder for business to retain customers who can shift loyalty without delay to give themselves greater value and choices. In this case, customer retention can substantially induce profitability. Repeat purchase customers not only correspond to a stable source of revenues, but also create positive Word-of-Mouth (WoM). As a result, retaining customers can become a priority for business operations (Yang, 2008). To better perform in commercially turbulent environment, business needs to ensure a proper number of customers by creating new customers or keeping existing customers satisfied and loyal to the firms (Cadogan, 2000). It has been proven by academic researches and business practices that having business with the existing customers creates much more value with a low operating cost in comparison to bringing in new customers (Smith, 2005). To retain existing customers, business requires a combining act of repeat purchase, WoM and constructive feedback which can be called 'customer devotion'. It has been clearly shown that customer devotion plays a pivotal role in long term business success in various business types (Pimentel & Reynolds, 2004).

Several studies in sales, marketing and service business portrayed a relationship between customer loyalty, engagement and sales turnover in various business arenas i.e. hotel, telecommunication, retail stores, consultant business (Bodet, 2008; Frank, Kleipa, & Pohl, 2013; Noonark, 2011; Orel & Kara, 2014; Puccinelli et al., 2009; Segoro, 2013; Shoemaker & Lewis, 1999; van Doorn et al., 2010; Vesel & Zabkar, 2009). An evidence from international study across eight countries in telecommunication services i.e., Australia, Brazil, Canada, China, France,

Spain, UK, and USA revealed positive outcomes of the customer engagement and loyalty factors on a long term profitability to organizations (Aksoy, Buoye, Aksoy, Larivière, & Keiningham, 2013). However, there were a limited number of studies conducted to explore the role of the connections between pharmacists and customers in the loyalty area in a community pharmacy setting. To serve purposes of the research, this was in the researcher's interest to identify and evaluate factor(s) that strongly attract and retain current customers of a particular community pharmacy by adapting the concept to pharmacy customers and term it 'Pharmacy customer devotion'.

Questions on which factors can positively influence pharmacy customer devotion have been raised. From extensive literature review, there are numerous factors directly affecting customer devotion, however only two factors were mostly cited. Studies from 1994-2014 highlighting in service business, customer relationship management and retail marketing have directed to customer engagement (Bolton, 2011; Bowden, 2009; Greve, 2014; Hamilton, 2009; Hollebeek, 2013; So, King, Sparks, & Wang, 2014; Vivek, Beatty, & Morgan, 2012) and marketing mix (N. Brooks & Simkin, 2012; Constantinides, 2006; D'Esopo & Almquist, 2007; Goi, 2009; Gronroos, 1994; Wise & Sirohi, 2005). Considering this new concept and the emerging term in customer relationship management, customer engagement is defined as the intensity of an individual's participation in and connection with an organization's offerings or organizational activities, which either the customer or the organization initiates (Brodie, Hollebeek, Juric, & Ilic, 2011; T. Carter, 2008). The cognitive and affective elements of customer engagement incorporate the experiences and feeling of customer and the behavioral and social elements capture the

participation by current and potential customers (Vivek et al., 2012). The term has recently been derived from the concept of customer satisfaction which was used in relationship marketing concept over two decades ago. And yet, customer satisfaction is now proved no longer valid with regard to customer retention effect (Smith, 2005). Moreover, recent surveys done by Gall-up during 2001-2014 demonstrated that there was no relationship with customer satisfaction and business turnover (Smith, 2005). On the contrary, it turns out that customer engagement actually has enormously contributed to customer retention in other business categories i.e. banking and retail business (Smith, 2005; van Doorn et al., 2010). Also, it strongly affected repeat purchase, customer commitment or customer devotion (N. Brooks & Simkin, 2012; Goi, 2009). The study done by Castaldo et al revealed that in the loyalty building path, trust in pharmacist was a major driver directly or indirectly through satisfaction for the loyalty in community pharmacies (Castaldo, Grosso, Mallarini, & Rindone, 2016). The next factor which has been proved to be a major factor to customer devotion is marketing mix. It comprises four key marketing elements i.e., product, price, place and promotion which are definitely proved to be strong factors in various business types. In this research, the influences of elements in the marketing mix on pharmacy customer devotion were also investigated.

Considering of the pharmacist manpower supply side, the situation has been changed with a big increase in a number of pharmacy graduates. There has been a pharmacy 6- year curriculum in Thailand started since 1999 by Naresuan University, as the first university to produce 6-year pharmacy graduates. According to the Pharmacy Council of Thailand, all universities needs to offer the 6- year Pharm.D program by 2014 (Prakongpan & Pongcharoensuk, 2012). With a job limitation in

pharmaceutical industry, there is a high demand in patient care area. A minimum of 10,000 pharmacists are required to fill up the pharmacies if pharmacists are to offer full professional pharmacy services. It was anticipated a 6-year Pharm.D curriculum would generate pharmacists for community pharmacies throughout the country (Prakongpan & Pongcharoensuk, 2012). In this case, there will be a sufficient supply of pharmacy graduate to provide 'Professional Pharmacy Services' in community pharmacies. Regarding the current situation, community pharmacies are not forced to provide the professional pharmacy services, however, it can be delivered upon requests. With an increase number of pharmacists around the country, the professional pharmacy services will help engage customers to be with pharmacies in a high drugstore business competition.

In the community pharmacy context, professional pharmacy services such as medication therapy management (MTM) and perceived service quality are believed to be the two important factors to engage pharmacy customers due to a strong demand in receiving good pharmaceutical care services from quality community pharmacies. Professional pharmacy services have made a significance change in quality care and benefited the patients in many ways particularly patient safety and quality of medication treatment. Concerning to benefits of professional pharmacy services, certain multinational studies confirmed that patients received MTM intervention had a better control of their medical conditions. In addition, the clinical outcomes and cost savings associated with pharmaceutical care provision were observed in most developed countries particularly in the elderly (Bernsten et al., 2001) There were growing evidences to support patients' expectation of the role of community pharmacists to give professional pharmacy services with both professional and

courtesy manners (Sabater-Galindo, Ruiz de Maya, & Benrimo, 2016). On the contrary, it was mentioned in the research done by Antunes et al that pharmacist-patient communication can determine the loyalty to the pharmacy. Pharmacy loyalty was not based only on pharmacists' professional competencies. Instead, it purely relied on pharmacist's relational skills (Antunes, Gomes, & Cavaco, 2015).

There was an attempt to increase the quality of patient care in community pharmacies, the 'Accredited pharmacy program' was introduced in 2003 ("Accredited Pharmacy Project," 2003). It has been presented in the accredited pharmacy guideline since 2003 that professional pharmacy service was one of the criteria that a particular community pharmacy need to implement in order to get certified as an accredited community pharmacy ("Standard of Accredited Pharmacy," 2009).

Following to professional pharmacy service, there is another factor called 'Perceived services quality'. It also played an important part in customer decision to purchase and repurchase products or services (Cronin, Brady, & Hult, 2000; González, Comesaña, & Brea, 2007; Zhao, Lu, Zhang, & Chau, 2012). Therefore, we would like to explore whether professional pharmacy service and perceived service quality have direct or indirect effects with pharmacy customer devotion. In the community pharmacy context, the perceived service quality can be divided into the perceived quality service of pharmacy structure and perceived quality services of pharmacist.

The researcher anticipates that results from the study will enhance more knowledge and profound understanding on the impact of professional pharmacy service, perceived service quality on pharmacy customer engagement and devotion in

addition to the current marketing mix effect. If there is a positive relationship among professional pharmacy services, perceived service quality, pharmacy engagement and pharmacy customer devotion, it would help promote more professional pharmacy services in the community pharmacies throughout the country. Further, the current study will provide more knowledge as well as insights to all concerned parties i.e. pharmacy entrepreneurs, chain pharmacy stores, the community pharmacy association and health policy makers in Thailand to fully provide professional pharmacy services in drugstores. This implication of the research is to promote professional pharmacy services as a key strategic driver which can help increase pharmaceutical care quality, patient safety as well as competitive edge of the community pharmacies in the future.

Research Objectives

To create a structural equation model to explain the relationship among professional pharmacy services, perception about pharmacist, perceived quality of pharmacy structure, marketing mix and pharmacy customer devotion via pharmacy customer engagement in Thai community pharmacy setting.

Research Questions

1. Did professional pharmacy service directly affect pharmacy customer devotion or indirectly affect pharmacy customer devotion via pharmacy customer engagement?

2. Did perception about pharmacist directly affect pharmacy customer devotion or indirectly affect pharmacy customer devotion via pharmacy customer engagement?

3. Did perceived service quality of pharmacy structure directly affect pharmacy customer devotion or indirectly affect pharmacy customer devotion via pharmacy customer engagement?

4. Did marketing mix directly affect pharmacy customer devotion or indirectly affect pharmacy customer devotion via pharmacy customer engagement?

Significance of the Study

The study substantially contributed to both academic and business area of social and administrative pharmacy, community pharmacy, professional pharmacy services, and service marketing. The benefits in detail were shown as follows;

1. The study can increase more scientific knowledge of customer engagement with a proper engagement model in the area of social and administrative pharmacy, service marketing, consumer behavior and psychology. The results provided the support for the use of professional pharmacy services as a strategy to fully engage pharmacy customers with community pharmacies.

2. The study helps confirm community pharmacy entrepreneurs, chain drug store and the community pharmacy association of Thailand, and health authorities in Thailand that professional pharmacy services can increase pharmacy customer devotion, improve profitability and pharmacy customer engagement and devotion at the community pharmacy level.

Chapter 2 Literature review

In this chapter, related articles and relevant concepts of the research have been extensively reviewed. The sections outlining below were to use as guidance in order to have an appropriate study design and define constructs linked in the study. There were six parts which were described below;

1. Concepts of professional pharmacy services in community pharmacy including pharmaceutical care and medication therapy management
2. Pharmacy customer devotion
3. Customer relation management:
   a. Customer satisfaction
   b. Customer engagement and pharmacy customer engagement
4. Theory of perceived service quality, perception about pharmacist, perceived quality of pharmacy structure
5. Marketing mix
6. Conceptual framework

Professional Pharmacy Services in Community Pharmacy

Pharmaceutical care concept was initiated in the US in the early 1990's and expanded to Europe and other developed countries. According to Hepler and Strand, pharmaceutical care was defined as 'the responsible provision of drug therapy for the purpose of achieving definite outcomes which improve a patient's quality of life' (Mil, Schulz, & Tromp, 2004). Pharmacists have expanded their roles in practice settings and now serve as integral members of an interdisciplinary health-care system.

In every country, it is quite crucial to understand how public respond to a more patient-focused pharmacy practice (Nunes, Anderson, & Martins, 2014).

The pharmaceutical care concept in community pharmacies was later developed to more patient focused activity which is called 'medication therapy management' or MTM. MTM is a distinct service or group of pharmaceutical care services or activities developed by the American Pharmacists Association (APhA). MTM and related pharmaceutical care concept have been implemented in many countries with a major objective to provide quality patient care (Bennett et al., 2008; Gonzalez & Noga, 2008; McGivney et al., 2007). In the United States, the Medicare Modernization Act of 2003 requires Medicare Part D prescription drug plans to include MTM services beginning in 2006. MTM services target beneficiaries who have multiple chronic conditions. As appeared in the MTM practice guideline, there are 5 components i.e. medication therapy review, personal medication record, medication-related action plan, intervention and/or referral and documentation and follow-up (Bennett et al., 2008).

With regard to the MTM activities, the program requires pharmacists or other qualified providers to give counseling and other services to enrollees who have high drug costs due to multiple medications for treating multiple chronic conditions. With the new pharmaceutical care service, MTM can be new sources of revenue of community pharmacies as the increasing societal demand for health care has influenced some pharmacies to expand their practice. Since its inception, MTM has been implemented globally i.e. USA, UK, Australia, and other countries around the world with much success. The services hold the promise to improve drug therapy for

patients at the pharmacies particularly the elderly and there is evidence that MTM services improves health outcomes and reduce health care costs (J. Brooks et al., 2008). From various researches confirm the demands for the service are in the group of older adults who are sicker, and adults with complex medication regimens. From a survey in the US in 2013, it showed that patients preferred their usual pharmacy or convenient places to have a comprehensive medication review (CMR). Also, a number of patients who received CMRs expressed a positive attitude toward and satisfaction with pharmacist-provided services (Doucette et al., 2013).

In MTM activities provided environment, the pharmacist evaluates the medicine, including non-prescription and health supplements, taken by patients and any problems they experience. A care plan is then designed so that the patient obtains maximum benefit from medicines taken. The care plan and a history of biometric readings will be available for the patient to take to the doctor at his or her next appointment. The benefits of MTM to the pharmacy customers are shown as follows:

1. Economic benefits due to fewer medications prescribed and needed

2. Improved health as a direct result of an integrated health plan that is targeted at each specific health issue

3. Reduced risk of adverse reactions to drugs prescribed and potentially hospitalization – in essence an overall improvement to health and wellbeing

4. A network of health support

The pharmaceutical care services have been proved to be useful and its benefits have been seen in managing various disease areas in many countries

(Christensen & Farris, 2006; Farris, Fernandez-Llimos, & Benrimoj, 2005).   It was

also proved to help increase patients' quality of life in developed countries (Bernsten

et al., 2001) as appeared in table1.

Table 1: Change in 36-Item Short Form (SF36) Health Survey Scores over Time
          Using the Area under the Curve Summary Measure

SF-36 domain	Denmark		Germany		The Netherlands		Northern Ireland		Portugal		Sweden		Total	
	I	C	I	C	I	C	I	C	I	C	I	C	I	C
General health	+1.84*	-1.55	+0.51	-0.44	+0.44	-0.16	-2.56	-1.36	+0.78	+1.15	-0.87	-0.80	+0.28	-0.66
Mental health	-0.08	-1.74	+0.49	-2.26	-0.25	-1.04	-3.59	-0.83	-2.84	+0.92	-2.13	-1.46	-0.80	-1.34
Physicial functioning	+0.26	-1.55	+2.35	+1.92	-0.78	-1.06	-6.83*	+7.14	-7.47	+1.74	-1.75	-2.67	-0.95	-0.68
Role emotional	+3.45*	-2.73	+2.94	+2.57	+1.02	+2.52	-7.33	-4.46	+9.26	-4.04	-4.56	-5.13	+0.20	-2.88
Role physical	+4.43	-0.39	+1.88	-4.41	-2.76	+1.96	-6.52*	+7.11	-1.87	+0.48	-4.52	-4.56	-1.10	-0.31
Vitality	+0.98	-1.57	+1.00	-3.53	-1.06	-0.66	-2.26*	+7.24	-1.56	-1.83	-1.28	-1.00	-0.48	-0.82
Bodily pain	+0.81	-0.17	+2.64	-1.20	-0.69	+1.17	-2.22	+3.78	-0.93	+2.01	1.05	0.42	-0.06	+0.53
Social functioning	+0.49	-1.97	+0.21	-4.59	-0.43	+0.01	-0.86	-0.22	-5.63	-3.84	-2.62	-2.34	-065	-1.51

*C = control, I = intervention, * p< 0.05 (independent t-test) vs control*

One study conducted by Isetts et al in 2017 demonstrate positive outcome in

both clinical and economic outcomes of medication therapy management services in

Mennesota, USA.   The pharmaceutical care particularly MTM can substantially help

reduce the treatment cost (Isetts et al., 2008) as shown in table 2.

Table 2 Total Per –Person Claimed Annual Health Expenditures before and after
         MTM (Medication Therapy Management) Services Intervention (n = 186)

Study group & type of claim	Before intervention $/person-year, mean $\pm$ SD (% distribution of expenditures)	After intervention $/person-year, mean $\pm$ SD (% distribution of expenditures)
Facilities	6,77.67 $\pm$ 45,848 (56.7)	2,856.67 $\pm$ 7,782.81 (34.8)
Professional	2,812.14 $\pm$ 5,672.05 (23.5)	2,498.94 $\pm$ 3,242.86 (30.5)
Prescription	2,373.46 $\pm$ 2,301.29 (19.8)	2,841.71 $\pm$ 2,724.19 (34.7)
Total	11,965.27 $\pm$ 48,969.64 (100)[a]	8,197.33 $\pm$ 10,551.02 (100)[a]

[a]*Statistically significant difference (p = 0.0000011) between the before and after total claimed annual expenditures per person for the intervention group when tested with a paired two-sample t test*

One of the key barriers to the adoption of pharmaceutical care is a lack of interest regarding financial benefit and proper model to implement and maintain care services at the community pharmacies. Thailand also faces similar situation with the low number of community accredited pharmacy which pharmaceutical care has been incorporated in the program. The issue will be solved if we can prove that providing pharmaceutical care to patients is the key success factor of community pharmacy business. A systematic review of 50 studies done by Patwardhan et al showing that there were community pharmacists' cognitive activities widely available in community pharmacies in the US, Canada, Finland, Malta, and Vietnam i.e., asthma or tobacco cessation (Patwardhan, Amin, & Chewning, 2014). A qualitative research conducted in Australia revealed the potential for community pharmacies to act as a health hub destination, which pharmacy staff assist consumers with chronic ailments by providing information and support services, giving advice for their medicinal use, and provide health advocacy (McMillan et al., 2013). Moreover, community pharmacists could extend their roles to care givers who were responsible for patients at home as Community pharmacies could be often contacted by careers involved in medication management. This would open up a chance for community pharmacists to assist those who need professional pharmacy care services (McMillan et al., 2013).

MTM services are not yet fully implement in Thailand, thus, in this research we used the term 'Professional Pharmacy Services' for the pharmaceutical services or activities carried out by pharmacists which has been under the 'Accredited Pharmacy Program' endorsed by the Thai Pharmacy council ("Accredited Pharmacy Project," 2003). This was to prevent confusion and wrong interpretation of the pharmaceutical care currently available in Thailand. Under the 'Accredited Pharmacy Program'

which has been operated since 2003, pharmacists were to deliver the pharmaceutical care services in the community pharmacies in order to get certified as 'Accredited Pharmacies''. The pharmaceutical services provision are similar to what is required in MTM services ("Accredited Pharmacy Project," 2003). In this research we were interested in assessing the number of pharmacy professional services and the quality provided by community pharmacists. Pharmacy professional services in this study included 5 topics which were patient medication record, patient/ drug counseling, medication therapy review, medication dispensing, and follow-up of the drug use. The definitions of elements of professional pharmacy services based on MTM guideline (Bennett et al., 2008) as below;

1. Patient Medication Record (PMR): a systemic record of medication use

2. Patient/ Drug counseling (P/DC): providing medication information verbally or in written form to the patients or their representatives on directions of use, advice on side effects, precautions, storage, diet and life style modifications particularly in chronic disease (Palaian, Prabhu, & Shankar, 2006).

3. Medication Review (MTR): a systematic process of collecting patient-specific information, assessing medication therapies to identify medication-related problems, developing a prioritized list of medication-related problems, and creating a plan to resolve them (Burns, 2008).

4. Medication Dispensing (MD): an activity which a pharmacist explains the patient clearly on drug treatment verbally and in written format before dispensing

5. Follow–up (F/U) plan: a quality of follow-up of a community pharmacist

with a consistent pharmaceutical care services in accordance with the

patent's unique medication related needs (Burns, 2008).

With a recent research conducted by Saber-Galindo, there was an evidence to

support patients' expectation of the role of community pharmacists to give

professional pharmacy services with both professional and courtesy expectations

(Sabater-Galindo et al., 2016). A good communication skill during the consultation

was however expected and need to be consistent during the pharmaceutical care

intervention (van Eikenhorst, Salema, & Anderson, 2017).

Regarding the prevention of certain diseases, patients expected the

pharmacists' support in the secondary prevention of chronic disease i.e.

cardiovascular and hypertension (Planas, Crosby, Mitchell, & Farmer, 2009;

Puspitasari, Costa, & Aslani, 2016). Pourrat et al observed an increased role of

community pharmacy intervention in patients with renal impairment. They observed

to see how community pharmacists can add value in monitoring chronic kidney

problem which helped eventually by one third of patient cases modify prescription by

clinicians (Pourrat et al., 2015).

Pharmacy Customer Devotion

Concerning customer engagement behavior or customer devotion, we can

classify them in three items namely 1) repeat purchase, 2) willingness to refer others

to a product or service or word of mouth (WoM), and 3) constructive advices to firms.

The three elements can be perceived as a customer commitment to the brand and

service (Heskett, 2002). In addition, the elements of customer devotion reflect a

relationship commitment which is believed to be fundamental tenets of long-term customer-provider relationships (Bowen & Shoemaker, 1998; Vivek et al., 2012). Concerning behavioral elements, Eisingerich et al used the measurement scales of customer engagement behaviors or customer devotion by looking at the behaviors of repeat purchase, word of mouth (WOM) and constructive advices to firms (Eisingerich, Auh, & Merlo, 2014). It was also realized that building customer trust and relationship commitment can result in a stronger relationship between customer and provider (Zillifro & Morais, 2004).

The term 'customer devotion', or customer engagement behavior can also be identified as connections with brands when reaching a level of loyalty so intense that it survives poor product performance, high prices, and absence of promotional efforts. The example found in the literature review was the loyalty that motivates customers to buy T-shirts, baseball caps, and bumper stickers in order to display the brand name and trademark. The term also implies religious fervor and it includes elements of sacredness (Pimentel & Reynolds, 2004) . The details of each component are described as below;

Repeat Purchase

Repeat purchase is the buying process which have multiple steps to ensure satisfaction of the customers for goods and services. The process is created from good impression, loyalty and attitude towards particular goods and service and result in frequent purchase (Kotler & Keller, 2006). One study revealed that repurchase a service was influenced by customer perceptions of quality, equity and value, customer satisfaction, past loyalty, expected switching cost and brand preference The cause of

repurchase is from a motivation which is basically a behavioral trait. It portrays an unobservable and inestimable attribute. From various type of product and service, there was a direct and positive association between customer satisfactions and repurchase motivation. The potential of a customer to repurchase a specific brand can be regarded as a latent trait, generated by the experiences and satisfaction gained from previous consumption (Hellier, Geursen, Carr, & Rickard, 2003).

Additionally, another research focusing on major drivers of repeat purchase revealed three major factors which are service relationship attributes, relationship driving benefits motivational value (Paul, Hennig-Thurau, Gremler, Gwinner, & Wiertz, 2009). The details of each factor in different service types with various contact and customization were displayed in table 3.

Table 3. Relative Importance of Attributes, Benefits, and Motivational Values for
Repeat Purchase Behavior (Paul et al., 2009)

Driver	All Services	High contact/ High customization services	Low contact/ High customization services	Moderate contact/ High customization services
		(type I)	(type II)	(type III)
Service relationship attributes				
Service product	34.5	33.4	37.9	32.5
Service delivery	30.1	31.3	35	24.7
Service environment	3.9	6.6	0	5
Service location	14.8	5.7	14.1	23.2
Relationship characteristics	13.4	20.8	9.8	10.1
Company characteristics	3.3	2.2	3.2	4.5
Relationship- driving benefits				
Functional benefits	45.5	30.9	50.6	53.7
Psychological benefits	43	57.6	44.1	29.2
Social benefits	11.5	11.5	5.3	17.1
Motivational values				
Individual Motivational values	52.8	49.9	53.5	54.3
Collective motivational values	26.4	28.7	25.3	25.4
Mixed motivational values	20.8	21.4	21.2	20.3

Remarks: All Number are percentages of each driver within its general category (i.e. attributes, benefits, or motivational values)

In this research, it was intended to focus on the repeat purchase at the same community pharmacy in the past 3 months.

Positive Word of Mouth

Word of Mouth (WoM) by definition is relating pleasant, vivid, or novel experiences; recommendations to others; and even visible display. Evidences suggested that satisfaction affects WoM, which in turn acts as the ultimate predictor of future sales (Keiningham, Cooil, Aksoy, Andreassen, & Weiner, 2007; Reichheld, 2003). De Matos and Rossi proved that antecedents of WoM are satisfactions, loyalty, quality, commitment, trust and perceived value. It was mentioned that WoM is usually mentioned in terms of informing others about new products rather than customer talks about existing products (de Matos & Rossi, 2008). This can be either positive or negative word spreading from customers however most studies focused on positive WoM (Richins, 1983). Several studies outlined customer buying habit was highly dependent on WoM communication. A study conducted by Uncles et al confirmed that market share is highly associated with word-of-mouth volume which varies according to industry and brands. Also, there was more tendency of having strong market share effect in small brands (East, Hammond, & Lomax, 2008; Uncles, East, & Lomax, 2010). Alternatively, WoM was considered one of the factors that created brand switching (Wangenheim & Bayón, 2004).

One survey in the US led by the US Office of Consumer Affairs revealed one disappointed customer could be expected to inform nine other individuals about the experiences that resulted in the dissatisfaction. At the same time, satisfied customers

related their story to averagely five other people. It was explicitly shown that WoM communication exerts a strong influence on consumer purchasing behavior, influencing both short-term and long-term buying decision. A positive WoM had basically a greater impact than negative WoM. A probability of purchase tended to be increased when comparing to negative WoM (East et al., 2008). Another research done by Brockway et al showed that the WoM communication was triggered by the firm's promotional efforts, satisfied or dissatisfied or someone's observance of the need for a service. Also, the result exhibited that customers usually have WoM on quality, value and price (Mangold, Miller, & Brockway, 1999).

In this research, the definitions of the 'positive' WoM were displayed below;

a) Referring of positive things about the pharmacy

b) Recommending or encouraging people to help supporting pharmacies by receiving/ trying the products of services

Constructive Customer Feedback to Business

One of the studies concerning service business demonstrated that satisfied customers had a high tendency to give feedback and information which were useful to the firms. Imparting supportive comments and guidance needed an eagerness to exert effort on behalf of the relationship (Eisingerich et al., 2014). It was well-accepted that positive experiences with a firm would act as a motivator to customers to make a concerted effort on behalf of their relationship with the firm.

Recognizing the unique position of customers in providing feedback and guidance on service improvement, research has encouraged firms to extend their view of productive resources beyond the traditional boundaries of the firm and to capitalize

on the input of their customers.   Benefits of having customer feedback was the access

to improve product or service as customers were the one who experienced with

services of the firm. Customers can be the best experts and an inexpensive source as

company advisors. The firms which regularly seek customer feedback are at

competitive advantage in comparison with ones who do not actively look for feedback

from customers (East et al., 2008; Eisingerich et al., 2014).

In this research, the definition of constructive feedback to business was

suggestion from customers had an effect on improving or developing the services

offered at the community pharmacies.

Customer Relation Management

Customer relation management concept emerged in 1990's in the sciences of

marketing. Businesses are still driven to embrace CRM to create bonding with their

customers more effectively irrespective of the size of a firm. An enhanced

relationship with one's customers can eventually lead to better customer satisfaction,

loyalty and retention and most importantly, profitability (Ngai, 2005).

In this section, we will focus on the two concepts i.e. customer satisfaction and

customer engagement which are dominant in the field of service marketing. The

concepts highlight various meaning and key components to link with the concept of

customer devotion.

Customer Satisfaction

The concept of customer satisfaction has been established in marketing theory

and practice since 1970's. It was driven by a strong belief that satisfied customers are

highly likely to give more business to the firms. Customer Satisfaction is characterized as customers' evaluations of a product or service with regard to their needs and expectations (Rust & Oliver, 1993).

Marketing researchers have paid more attention towards measurement of service quality to understand customer satisfaction (Sivadas & Baker-Prewitt, 2000). Both researchers and practitioners give more importance to customer satisfaction, because, a high degree of customer satisfaction can lead to customer retention and increased market share. From the literature search of e-retailing environment, it was mentioned that service quality is the key factor to increase customer satisfaction (Subramanian, Gunasekaran, Yu, Cheng, & Ning, 2004). Customer satisfaction is often considered as an important determinant of repurchase intention and customer loyalty (Chen, 2012). The results support the notion of direct effects of customer satisfaction on three criterion variables i.e. 1) decision to stay with the existing service provider, 2) engagement in word-of-mouth communications, and 3) intentions to switch service providers (Athanassopoulos, Gounaris, & Stathakopoulos, 2001). The effect can be found in most of telecommunication service businesses e.g. mobile phone - mobile value-added (Zhao et al., 2012).

However, the findings are somewhat different across the studies and more researches are needed to investigate the possible mediating role of customer satisfaction in the relationship between service quality and behavioral intentions (Dabholkar, Shepherd, & Thorpe, 2000). There was a big survey done by Gallup in 2005 demonstrated that regardless of how high a company's satisfaction levels may appear to be, satisfying customers without creating an emotional connection with

them has no real value. In several case studies revealed that extremely satisfied

customers were just as likely to stop doing business with a bank as were customers

who were less satisfied. Furthermore, at a leading supermarket chain, extremely

satisfied customers, on average, spent no more than less satisfied customers. In other

words, financial outcomes were not affected by customer satisfaction scores. A

difference in financial outcomes only when they isolated customers who were both

extremely satisfied with the company and emotionally connected to the company with

which they were doing business (Smith, 2005). Also, a study done by van Doorn et al

in banking and insurance business type concluded that satisfaction measurement could

predict current business performance from sales revenue growth however the

prediction of future company growth rates was not valid (van Doorn, Leeflang, &

Tijs, 2013).

Increasingly, more researches in the field of service and retail marketing

revealed that there has been a big shift from 'customer satisfaction' to the new

concept of 'customer engagement' which is more applicable to use in both academic

and business. The rationale behind is that it can help increase sales, growth and

profits and create sustainable business (Malfa, 2006).

Customer Engagement and Pharmacy Customer Engagement

Customer engagement concept has recently been brought in to fill in the gap

of satisfaction and purchase intention. The key concept is shown as customer

behaviors that go beyond transactions or customer manifestations that have a brand or

firm focus, beyond purchase, resulting from motivational drivers (van Doorn et al.,

2010). In a customer-centric business environment, there has been a shift from doing

business *to* customers to doing business with customer (van Doorn et al., 2010; Verhoef & Lemon, 2013).

Crucial aims of customer engagement are attracting, creating, enhancing or maintaining connections with potential and existing clients. From the available in marketing literature, the use of customer engagement highlighted on offensive strategies for customer acquisition. The cognitive and affective elements incorporate the experiences and feelings of customers whereas the behavioral and social elements captured the participation by current and potential customers (Vivek et al., 2012). It was stated by Brodie et al that interactive, dynamic business environments, customer engagement represented a strategic imperative for generating enhanced corporate performance, including sales growth, superior competitive advantage and profitability (Brodie & Hollebeek, 2011). It was highlighted in quite number of customer engagement behavior literatures that 'co-created value' and 'commitment' were the 2 antecedents or consequences of customer engagement process (van Doorn, 2011). Furthermore, customer engagement was considered as interactivity between customers and a company as the core of the engagement construct. Adoption of this concept results in a broad conceptualization of customer engagement, probably extending to all exchange relationships and to all customers, implying that every customer is also an engaged customer.

The engagement could be done via activities or offering initiated. With regards to activities initiated, it can be achieved with the programs, events or activities offered by providers to create unique experiences to customers. The general concept

of customer engagement (Brodie et al., 2011; van Doorn, 2011) could be delineated

in Figure 3.

Potential Customer Engagement Antecedents		Customer Engagement		Potential Customer Engagement Consequence/ Behaviors
• Involvement • Interactivity • Rapport • Brand performance perceptions	→	• Identification • Enthusiasm • Attention • Absorption • Interaction	→	• Financial Outcomes • Brand recognition • Commitment • Co-created Value
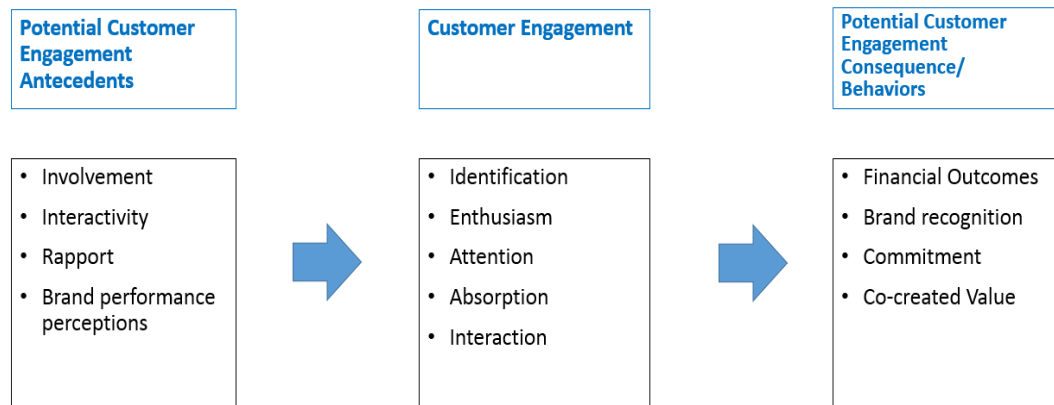
Figure 3: Conceptual Model of Customer Engagement

As a result, the activity could be applied in professional pharmacy services

activities in community pharmacies. In this research, we apply the concept of

'Customer Engagement' to community pharmacies and name it 'Pharmacy Customer

Engagement'. The measuring of pharmacy customer engagement covers all

psychological dimensions (Bolton, 2011). With regards to measuring level of

customer engagement in terms of psychological components, in the literature

considering engagement, it measured customer engagement by five components

which will be applied in this research (So, King, & Sparks, 2014). With regards to

community pharmacy setting, found that relational skill was far more important than

pharmacy technical skills as it could create patients' loyalty. The topics to engage

customer could be continuity of care, patients' social and lifestyle-related content

(Antunes et al., 2015).

The definitions of each pharmacy customer engagement dimensions were provided below;

1. Identification: The degree of a pharmacy customer's perceived oneness with or belongingness to the brand.

2. Enthusiasm: The degree of attentiveness, focus, and connection that a pharmacy customer had with a particular community pharmacy.

3. Attention: The degree of excitement and interest that a pharmacy customer had in the brand.

4. Absorption: A pleasant state which described a pharmacy customer as being fully concentrated, happy, and deeply engrossed while playing the role as a pharmacy customer of the community pharmacy.

5. Interaction: Various participation that a pharmacy customer had with the community pharmacy or other customers outside of purchase. To substantiate the engagement process in the community pharmacy context, it was concluded in one of the community pharmacy researches that pharmacist-patient communication can determine the loyalty to the pharmacy were not based on medication related competencies of pharmacists. Instead, it was driven by pharmacists' relational skills (Antunes et al., 2015).

Theory of Perceived Service Quality

In service marketing studies, it was well accepted that perceived service quality was cognitive and followed by satisfaction (Rust & Oliver, 1993). Several researches confirmed a higher level of service quality was related to a higher level of customer satisfaction (Bradya & Robertson, 2001). This can be measured by the

instrument called SERVPERF which was developed under the theory of 'Perceived Service Quality'. The SERVPERF scale is recommended to be the tool when one is interested in undertaking service quality comparisons across service industries (Jain & Gupta, 2004). In the healthcare setting, there was also a confirmed study delineating the models that measure service quality as performance (without expectation considerations) are superior to models that measure service quality as a function of performance and expectation (McAlexander, Kaldenberg, & Koenig, 1994).

Perception about Pharmacist, and Perceived Quality of Pharmacy structure

SERVPERF score was used in this research to measure perceived service quality of pharmaceutical care in community pharmacy setting in the dimension of tangibility, reliability, responsiveness, assurance and empathy by using the service quality scales (Mittal & Lassar, 1996). Perceived quality service was divided into 2 categories which were 'Perceived quality service on pharmacy structure' and 'Perceived quality service on pharmacist'. The definitions of terms of five of perceived service quality based on SERVPERF dimensions were shown below;

1. Tangibles: Physical facilities, equipment, and appearance of personnel. The environment of community pharmacy and assortment can influence trust in community pharmacies (Castaldo et al., 2016)

2. Reliability: Ability to perform the promised service dependably and accurately. The study done by Castaldo et al demonstrated that reliability or trust played an important role of the relationship between pharmacists and their customers in the loyalty-building path. Reliability or trust in

pharmacists can build loyalty to community pharmacy directly or

indirectly via satisfaction (Castaldo et al., 2016).

3. Responsiveness: Willingness to help customers and provide prompt

service

4. Assurance: Knowledge and courtesy of pharmacists and their ability to

inspire trust and confidence;

5. Empathy: Caring, individualized attention which pharmacists provides

their customers.

Tangibles related to pharmacy structure therefore the concept of tangibles

would be used for the operationalization of quality of pharmacy structure (PQPS).

The rest of the of service quality was concerned with perception about pharmacist

(PAP) due to the fact that concept of reliability, responsiveness, assurance and

empathy were mostly concerned with pharmacist who performs the professional

pharmacy services.

Marketing Mix

Marketing mix has long been well-accepted as a key factors in marketing and

management in all business segment (Kotler & Keller, 2006) and some elements of

the concepts have been adjusted and expanded. (Zineldin & Philipson, 2007). It

comprises 4P's i.e. Product, Price, Place and Promotion. Since the inception of the

marketing mix concept, the 4Ps has been criticized by number of studies. According

to Constantinides and Gronroos, there were six key criticisms which could be

highlighted against the marketing mix framework (Constantinides, 2006; Gronroos,

1990) described as follows;

1. The marketing mix did not consider customer behavior.

2. The marketing mix regarded customers as passive; it did not allow
   interaction and could not capture relationships.

3. The marketing mix did not offer help for personification of marketing
   activities.

4. The marketing mix did not take into consideration the unique elements of
   services marketing.

5. Product was stated in the singular but most companies did not sell a
   product in isolation. Marketers sell product lines, or brands, all
   interconnected in the mind of the consumer

6. The marketing mix did not mention relationship building which had
   become a major marketing focus, or the experiences that consumers buy.

There was also several criticisms on the focus the marketing concept on 4P's
rather than the customer relationship as key marketing concept had been moving
toward customer relationship (Gronroos, 1994). The main comments were that the
4P's model had been applied to product only which is not suitable in other marketing
context e.g. in marketing services and industrial marketing (Magrath, 1986).

In spite of its deficiencies, the 4Ps remain a cornerstone of the marketing mix
(Goi, 2009). Most of marketing executives and business entrepreneurs have largely
employed the 4P's concept and used it as a cornerstone to ensure business success
(D'Esopo & Almquist, 2007; O'Cass & Julian, 2003). There was a survey in
Scandinavia countries showed no company exclusively used the relationship
marketing approach. Some were merely utilizing the traditional marketing concept of

4Ps; others were blending a relationship and transactional marketing mix (Zineldin & Philipson, 2007).

Another study confirmed that the marketing mix concepts were further develop into the special models to understand brand identity, firm reputation, brand switching and competition (Carpenter & Lehmann, 1985; Melewar & Saunders, 2000). There was an evidence which revealed that price and advertising in conjunction with brand names and other product features were significant determinants of brand switching and of competition (Carpenter & Lehmann, 1985). It can be understood from the science of business and marketing that marketing mix or 4P's has a strong influence in every business operation and customer behavior regardless of business type. Concerning to community pharmacy setting, the effect of marketing mix on repeat purchasing was also studied by Lostakova and Horakova in the traditional community pharmacy. Customers decided to buy in a particular pharmacy repeatedly not only the prices of medicines in the store but also other aspects such as easy accessibility, opening hours beyond, normal operation, and professionalism, courtesy and helpfulness of the staff. On the contrary, the same study found that small tokens and extra- services, such as blood pressure measurement, weighing, body mass index (BMI) measurement were not related to the act of repeat purchases in a pharmacy (Lostakova & Horakova, 2014).

A strong effect of marketing mix on pharmacy customer devotion was anticipated in this research. The definitions of terms of the marketing mix (4P's) will be described as follows;

1. Pharmacy reputation/ branding: the core competencies, expertise, or differentiation of community pharmacy

2. Price: Price of product sold in the community pharmacy. The price included the price of services related to the products

3. Place: Pharmacy location. The location was one of marketing mix. It would have positive effect if the store was accessible to the pharmacy customers.

4. Promotion: Discount or free goods program given to pharmacy clients was proved to a certain extent giving a positive effect of the marketing mix.

Conceptual Framework

As mentioned in the literature review, the conceptual framework depicted the effect of professional pharmacy services, perception about pharmacist, perceived service quality of pharmacy structure and pharmacy engagement on pharmacy customer devotion (Figure 4).
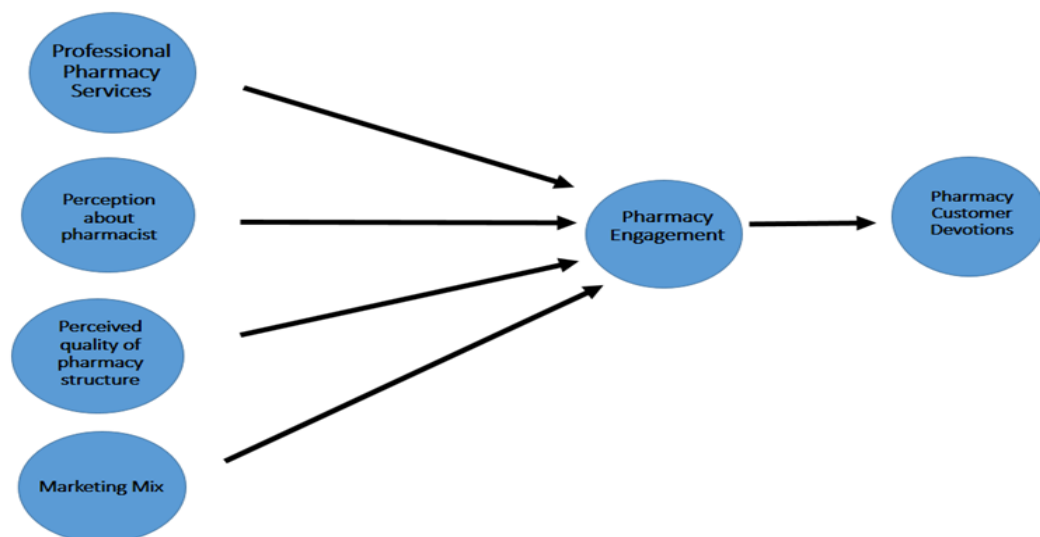
Figure 4: Conceptual Framework Depicts the Effect of Professional Pharmacy Services, Perception about Pharmacist, Perceived Quality of Pharmacy Structure, Marketing Mix and Pharmacy Engagement on Pharmacy Customer Devotion

Chapter 3 Methodology

The current study aimed to identify important factors in pharmaceutical care services which created pharmacy customer engagement and pharmacy customer devotion. A structure model was created to explain the relationship among professional pharmacy services, perception about pharmacist, perceived service quality of pharmacy structure and pharmacy customer devotion via pharmacy engagement in community pharmacy setting. There were four research questions to be answered from the study which were displayed as follows;

1. Did professional pharmacy services directly affect pharmacy customer devotion or indirectly affect pharmacy customer devotion via pharmacy customer engagement?

2. Did perception about pharmacist directly affect pharmacy customer devotion or indirectly affect pharmacy customer devotion via pharmacy customer engagement?

3. Did perceived service quality practice of pharmacy structure directly affect pharmacy customer devotion or indirectly affect pharmacy customer devotion via pharmacy customer engagement?

4. Did marketing mix directly affect pharmacy customer devotion or indirectly affect pharmacy customer devotion via pharmacy customer engagement?

This chapter explained research methodology which covered population & samples description, study design, its rationale then details of operationalization, data collections, description of measurement, data management and analysis plans.

Research Design

The research was designed as quantitative study to assess a causal relationship of professional pharmacy services, perceptions about pharmacist, perceived service quality of pharmacy structure, marketing mix on pharmacy customer devotion via pharmacy customer engagement. The survey was carried out by using self-administered questionnaires. Pharmacy customers from a purposive sampling of 30 community pharmacies in seven districts of Bangkok area was chosen to collect data. customer The questionnaire was approved by Chulalongkorn university ethical committee on Dec 25, 2015 (see appendix C). The period of data collection was from Feb to Apr 2016.

Study Population

The study population was Thai citizen who resided in the Bangkok Metropolitan area and used to receive service from community pharmacies in Bangkok and vicinity in the past three months. From National Statistics of Thailand, the population of Bangkok registered in 2013 was 5,686,252 (Source: Department of Provincial Administration, Ministry of Interior compiled by Statistical Forecasting Bureau, National Statistical Office).

The criteria for including the participants into the study were Thai citizen 1) who earned a living, 2) could read or write Thai language, 3) who received pharmaceutical services at the community pharmacy in the past three months

Sample, Sampling and Data Collection

Sample size was calculated based on a generally accepted ratio to minimize problems with deviations from normality is at least 5-10 respondents for each parameter estimated in the model as per various literatures for structural equation modeling rule (Hair, Black, Babin, & Anderson, 2010). The ratio of respondents to parameters needs to increase as data may deviate more from the assumption of multivariate normality. In addition, several SEM studies, the minimum sample should be 150's. The parameter to be tested was 30 so the minimum sample was 300's. In the study the data collection of 420's was done to ensure sufficient samples for SEM analysis.

Purposive sampling was used to select the pharmacies providing professional pharmacy services in Bangkok area to ensure coverage of the participants receiving the professional pharmacy services. The data was collected from customers visited community pharmacies either accredited or non-accredited pharmacies in 7 districts of Bangkok metropolitan i.e. Pathumwan, Klongtoey, Jatujak, Bangkapi, Bangrak, Ratchathevi, and Huaykwang as displayed in table 4.

Table 4. Number of Pharmacy Customers of Each Community Pharmacy from Seven Areas in Bangkok and Vicinities (Registered Type 1 Community Pharmacy in Thailand at Thai FDA, 2011)

Area of sampling (number of community pharmacies in the area)	Number of			
	type 1 accredited pharmacy	customers for each community pharmacy	customers for each community pharmacy	Total customers
Pathumwan (57)	26	15	15	60
Klongtoey (36)	18	15	15	60

Area of sampling (number of community pharmacies in the area)	Number of			
	type 1 accredited pharmacy	customers for each community pharmacy	customers for each community pharmacy	Total customers
Jatujak (33)	19	15	15	60
Bangkapi (31)	19	15	15	60
Bangrak (29)	15	15	15	60
Rajthevi (26)	11	15	15	60
Huaykwang (26)	7	15	15	60
				420

Self- administered questionnaire was used for data collection process. The questionnaires focused on the measure of professional pharmacy service levels, their perceptions about pharmacists, pharmacy structures and marketing mix, customer engagement and customer devolution, which were repeated purchase, positive word of mouth, and constructive customer feedback to business. It was given out by hand to the participant at selected community pharmacies with professional pharmacy services.

A distribution of 420 copies of questionnaires was done at 14 accredited pharmacies and14 non-accredited pharmacies from seven districts in Bangkok area. A convenient sampling of 15 customers per a community pharmacy was used to collect data. Questionnaires were distributed to every other pharmacy customer who visit the community pharmacies and used services at community pharmacies in the past three months on the data collection date.

Measurement

The measurement of professional pharmacy services (PPS) was done by using
binary scales (yes or no) to track pharmacy customer recall of PPS. The rational not
using the continuous Likert scale was that it would be difficult for customer to
retrieve the range of pharmacy services received in the past three months. The rest of
the questionnaire used to collect the information on pharmacy quality structure
(PQPS), perception about pharmacist (PAP), marketing mix (MM), pharmacy
engagement (PE), and pharmacy customer devotion (PCD) was conducted by having
continuous measurement of 5 point Likert scales. The operationalization of each
concept to observed variables was displayed in table 5 -10.

Table 5. Measurement: Professional Pharmacy Services

Dimension	Conceptual Definition	Operational Definition (Indicative Variable)
Patient Medication Record	The pharmacist has a systemic record of medication used	There is a record of my medication used at the pharmacy
Patient Drug Counseling	The pharmacist provides drug counseling and knowledge	The pharmacist provides proper knowledge which is suitable for my treatment
		The pharmacist provides patient/ drug counseling service when asked or before dispensing
Medication Review	The pharmacist provides medication review, ask about medication history or change or cancel some medications before dispensing.	The pharmacist provides medication review before dispensing medication
		The pharmacist asked me about the medication history before dispensing medication
		The pharmacist changes or cancels some duplicating medications in my prescription

Dimension	Conceptual Definition	Operational Definition (Indicative Variable)
Medication Action Plan	The pharmacist provides me with the medication action plan to achieve maximal treatment outcome	The pharmacist explains me clearly verbally and in writing on how I should take the medication before dispensing.
		The pharmacist explains clearly verbally and in writing and provides me with the list of items I should do to achieve maximal treatment outcome before dispensing
Follow-up plan	The pharmacist asked me about my previous treatment outcome and help me follow up with the treatment	The pharmacist asked me about my previous treatment outcome
		The pharmacist helps plan drug therapy, dose adjustment for effective medication used

Table 6. Measurement: Perceived Quality of Pharmacy Structure

Conceptual Definition	Operational Definition (Indicative Variable)
The pharmacy is clean, has separate area and looks professional. A pharmacist dresses up professionally	This pharmacy which a customer regularly visits look clean, has enough light and look professional
	The pharmacist dresses professionally
	The pharmacy has a separate counseling area

Table 7. Measurement: Perception about Pharmacist

Dimension	Conceptual Definition	Operational Definition (Indicative Variable)
Reliability	The pharmacist provides accurate knowledge and dependable service.	This pharmacy which a customer regularly visits provides the customer a pharmaceutical care service (consultation of disease and medication) with accurate knowledge and dependable service
Responsiveness	The pharmacist willing to provide prompt pharmaceutical care service	This pharmacy which a customer regularly visits provides the customer a prompt pharmaceutical care service (consultation of disease and medication)
Empathy	The pharmacist provides me caring service with willingness	This pharmacy which a customer regularly visits provides the customer a pharmaceutical care service (consultation of disease and medication) with willingness
Assurance	The pharmacist is knowledgeable, courteous and create trust and confidence.	The pharmacist is knowledgeable and courteous
		The pharmacist has ability to inspire trust and confidence giving me a focus on my health

Table 8. Measurement: Marketing Mix

Dimension	Conceptual Definition	Operational Definition (Indicative Variable)
Product/ Pharmacy Branding	The community pharmacy has variety of medication and good reputation	The pharmacy which a customer regularly visits has a variety of medicinal products
		The pharmacy which a customer regularly visits has a good reputation

Dimension	Conceptual Definition	Operational Definition (Indicative Variable)
Price	Medicinal products at the community pharmacy are reasonable or priced lower than other stores	The pharmacy which a customer regularly visits has a reasonable price of medicine
		The pharmacy which a customer regularly visits has a comparatively lower price of medicine at this pharmacy which attracts me to the pharmacy
Place	Access to the pharmacy is good due to the proximity to customer's residence or workplace	The pharmacy which a customer regularly visits has a near access to my home or work place
		The pharmacy which a customer regularly visits has given me a convenience to access the pharmacy
Promotion	The community pharmacy provides normally provide a	The pharmacy which a customer regularly visits has given me a good discount
	good promotion i.e. discount and gives additional free of charge services	The pharmacy which a customer regularly visits has provided me additional free of charge service e.g. measuring blood pressure, blood glucose and bone density

Table 9. Measurement: Pharmacy Engagement

Dimension	Conceptual Definition	Operational Definition (Indicative Variable)
Identification	The customer feels he or she becomes a partner of the pharmacy	The customers feel like he or she would like to participate in sharing or exchanging ideas about the pharmacy
		The customers feel like a personal compliment when someone one praises the pharmacy he or she regularly visits

Dimension	Conceptual Definition	Operational Definition (Indicative Variable)
Enthusiasm	A customer is appreciated and enjoyable with the service provided by the pharmacy	The customers feel passionate about goods and services every time when coming to the pharmacy he or she regularly visits
		The customers feel really excited to receive professional pharmacy service (e.g. consultation of disease or medication) at the pharmacy he or she regularly visits
Attention	A customer involved and focus on the service provide by the pharmacy	The customers feel like to know more about products and services at the pharmacy he or she regularly visits
Absorption	A customer is very satisfied when receiving the pharmaceutical care service at the pharmacy	The customers feel happy when receiving the services at the pharmacy he or she regularly visits
		The customers feel like he or she does not want to visit other pharmacies when receiving the services at the pharmacy he or she regularly visits
Interaction	A customer is happily involved and interacting with others about the pharmacy	The customers feel like to get involved and interacted with others about the pharmacy he or she regularly visits
		The customers feel like being enthusiastic to inform others about the pharmacy he or she regularly visits

Table 10. Measurement: Pharmacy Customer Devotion

Concept/ Dimension	Conceptual definition	Operationalized Definition (Indicative variable)
Repeat Purchase	A customer makes up a decision to purchase medication, he or she plans to go back to the same community pharmacy	The customer comes back to purchase the medication at the community pharmacy I regularly visit

Concept/ Dimension	Conceptual definition	Operationalized Definition (Indicative variable)
Word of Mouth	A customer mention to others about good pharmaceutical care service and encourage friends to use the service at the community pharmacy	The customer says positive things about the pharmacy to other people
		The customer encourages friends and relatives to receive pharmaceutical care service with the pharmacy I regularly visit
Constructive Advice	A customer gives constructive advice on how to improve the service to the community pharmacy	The customer gives the pharmacy advice to improve the pharmacy or services of this pharmacy
		The customer gives the pharmacy other constructive advices

The study concepts have been operationalized to from indicative variables by using the information from literature review. Indicative variables of professional pharmacy services were adapted from items of medication management therapy (Bennett et al., 2008). Indicative variables for perceived quality pharmacy structure and perception about pharmacist were developed from SERVEQUAL and SERVPER scale from theory of perceived service quality and perceived service performance (Jain & Gupta, 2004). Items for measuring the pharmacy engagement were modified from the study of So et al (So, King, & Sparks, 2014). Indicative variables for pharmacy customer devotion were derived from a model for consumer devotion (Pimentel & Reynolds, 2004).

The questionnaire was divided into two parts. The first part was about demographic of pharmacy customers. The objective of this part was to capture main characteristics of the patients visiting community pharmacy. The second part covered the measurement of variables which were professional pharmacy services, perceived quality of pharmacy structure, and perception about pharmacist, pharmacy

engagement, marketing mix, and pharmacy customer devotion. It was given out by hand to the target group at the selected community pharmacies with pharmacy professional services in Bangkok metropolitan area. The questionnaire was given out to the pharmacy customers at the community pharmacy in selected 7 districts. The questionnaire was pre-tested for 30 samples to check understanding of respondents the questionnaire.

Validity and Reliability of the Measurements

The content validity was done by having item-objective congruence (IOC) value. The validity test was employed by 3 experts in the area of community pharmacy, marketing and education measurement. The experts rated individual items on the degree for the extent to which they agreed or disagreed the question measuring against operational definitions and objectives. The scoring system for each questionnaire item was +1 (clearly measuring), 0 (degree to which it measured the content area was unclear) and - 1 (clearly not measuring). The IOC value of most of the questions were in line with the principle of IOC ranging from 0.67 to 1.00 (Tongprasert, Rapipong, & Buntragulpoontawee, 2014). However, seven questions with score lower than 0.67 were still included in the questionnaires as they reflected key concept of perceived quality of pharmacy structure, marketing mix, pharmacy engagement and pharmacy customer devotion. They were displayed as follows;

1. The community pharmacy I regularly visited had a separate counseling area

2. I felt like to get involved and interacted with others about the pharmacy I regularly visited

3. I felt like I did not want to visit other pharmacies when receiving the services at the pharmacy I regularly visited

4. I felt like being enthusiastic to inform others about the pharmacy I regularly visited

5. I came back to purchase the medication at the community pharmacy I regularly visited

6. I gave the pharmacy other constructive advices

7. The pharmacist in the community pharmacy I regularly visit gave me a good discount.

One question with regards to 'customer engagement concept' was changed to 'I felt really excited to receive professional pharmacy service (e.g. consultation of disease or medication) at the pharmacy I regularly visited'. The results of the IOC were shown in appendix B.

With regards to reliability, internal consistency was acceptable with Cronbach's alpha coefficient > 0.65 for each construct measurement. Reliability test was performed for all constructs i.e. PQPS, MM, PAP, PE, and PCD by Cronbach alpha test. The result was shown the value was 0.65, 0.67, 0.98, 0.86 and 0.86 respectively. After the pilot survey with 30 samples, questions with low consistency were eliminated from the measurement to ensure a proper reliability of the result.

Data analysis

Standard statistical analysis and 'Structural Equation Model' (SEM) were employed by IBM SPSS Statistics AMOS version 22. Descriptive statistics by SPSS was used to characterize the findings i.e. age, gender, socio-demographic, education

level, and income. A confirmatory analysis and path analysis were performed by

AMOS to establish a structural equation model.

Variables

All variables were transformed from latent variables into observed variables as

follows

Independent Variables

- Professional pharmacy services (PPS)

- Perceived quality of pharmacy structures (PQPS)

- Perception about pharmacist (PAP)

- Marketing mix (MM)

Mediator Variable

- Pharmacy Engagement (PE)

Dependent Variables

- Pharmacy Customer Devotion (PCD)

Chapter 4 Results

This study aimed to develop a model for explaining the relationship among professional pharmacy services, perception about pharmacist, perceived quality of pharmacy structure, marketing mix and pharmacy customer devotion via pharmacy customer engagement. Self-administered questionnaires were sent to a purposive sampling of 420 pharmacy customers from 28 community pharmacies in 7 districts of Bangkok and vicinity area. Professional Pharmacy Services the level of PPS was collected in a binary score attribute (0 = no PPS service, 1 = PPS services available) because it was more realistic to answer. It was, however, not possible to run structural equation model with the binary score using Amos statistic package. Therefore, the analysis method was altered to measure the effect of PPS by subgroup analysis of separating model of the high PPS group and low PPS group instead.

 Results, thus, were presented in total samples, high PPS group and low PPS group. Mean and standard deviation of each observed variable and construct, correlations between independent variables, mediating agent and dependent variable, confirmatory factor analysis (CFA), structural equation model (SEM) or path analysis of pharmacy engagement and customer devotion were presented in this chapter.

Demographic Data

A total of 420 copies of questionnaires were returned for analysis; the response rate was 100%. Majority of participants were female (76.3%); age between 20-40 years with bachelor degree (64.8%). The reason to purchase medicine ranked in order were 1) purchasing general medication, 2) getting consultation from pharmacist

and 3) refilling medication for chronic treatment. The community pharmacy store location was in the urban area (95.7%) and suburban area (4%).

Taking into account the reasons to regularly visit the pharmacy, using Chi-square test, the high PPS group visited the pharmacy regularly to get consultation from pharmacists (26.9%) statistically significantly higher than those in the low PPS group (p = 0.02) table 11.

Table 11. Demographic data

	Total N (%)	High PPS N (%)	Low PPS N (%)	p- value*
Gender				0.11
Male	112 (26.7%)	60 (23.7%)	52 (31.1%)	
Female	308 (73.3%)	193 (76.3%)	115 (68.9%)	
Age				0.11
< 20 years	31 (7.4%)	17 (6.7%)	38 (22.7%)	
20 - 40 years	272 (64.8%)	164 (64.8%)	95 (56.9%)	
41 - 60 years	97 (23%)	55 (21.8%)	17 (10.2%)	
> 61 years	20 (4.8%)	17 (6.7%)	17 (10.2%	
Education Level				0.48
Lower than bachelor degree	104 (24.8%)	66 (26.1%)	38 (22.7%)	
Bachelor Degree	221 (52.6%)	126 (49.8%)	95 (56.9%)	
Higher than bachelor degree	43 (10.2%)	26 (10.3%)	17 (10.2%)	
Others	52 (12.4%)	35 (13.8%)	17 (10.2%)	
Reasons to visit the pharmacy regularly				
Purchase general medication	324 (77.1%)	188 (74.3)	136 (81.4%)	0.97
Get consultation from pharmacist	96 (22.9%)	68 (26.9%)	28 (16.8%)	0.02*
Refill medication for chronic treatment	59 (14%)	37 (14.6%)	22 (13.2%)	0.77
Others	33 (7.9%)	21 (8.3%)	12 (7.2%)	0.72
Location				1.00
Urban	400 (95.2%)	242 (95.7%)	158 (94.6%)	
Suburban	17 (4%)	10 (4%)	7 (4.2%)	
Others	3 (0.8%)	1 (0.3%)	2 (1.2%)	

Chi-square test

Professional Pharmacy Services (PPS)

Using median score of professional pharmacy services (PPS) 7 out of 10 as a cut-off point, sample was divided into 2 groups which were the high PPS group (N=253) and low PPS group (N=157). Frequency of receiving each professional pharmacy services were shown in table 12.

Total Sample

The data from 420 respondents showed top 3 PPS which pharmacy customers viewed they received at the community pharmacy were receiving patient or drug counseling (95.2%), receiving medication administration explanation (90.5%), and receiving proper knowledge for the treatment form pharmacist (88.3%). On the other hand, the least services obtaining from the pharmacy was medication record (18.80%).

High Professional Pharmacy Services Group

The data from 253 respondents showed top 3 PPS which pharmacy customers viewed they received at the community pharmacy were receiving patient or drug counseling (98.8%), receiving medication administration explanation (98%), and receiving proper knowledge for the treatment form pharmacist (98%). The same as the total group, the services that were least recalled by respondents were medication record (26.1%), cancellation of duplicating medication (56.1%) and enquiry of previous treatment outcome (79.1%). However, the percentage of receiving all professional pharmacy services in the high PPS group was higher than in the low PPS group.

Low Professional Pharmacy Services Group

The data from 167 respondents showed top 3 PPS which pharmacy customers viewed they received at the community pharmacy were receiving patient or drug counseling (89.8%), receiving medication administration explanation (79.6%) and receiving proper knowledge for the treatment form pharmacist (76.0%). In the similar manner of the data from total group and high PPS group, the services that were least recalled by respondents were medication record (7.8%), cancellation of duplicating medication (9.6%) and enquiry of previous treatment outcome (12.0%).

Table 12. Frequency of Customers Receiving Professional Pharmacy Services in Total Group, High PPS Group and Low PPS Group

Professional Pharmacy Services	Total N (%)	High PPS N (%)	Low PPS N (%)
There is a record of my medication used at the pharmacy	79 (18.8)	66 (26.10)	13 (7.8)
The pharmacist provides proper knowledge which is suitable for my treatment	371 (88.3)	244 (96.46)	127 (76)
The pharmacist provides patient/ drug counseling service when asked or before dispensing	400 (95.2)	250 (98.8)	150 (89.8)
The pharmacist provides medication review before dispensing medication	354 (84.3)	248 (98)	106 (63.5)
The pharmacist asked me about the medication history before dispensing medication	260 (61.9)	227 (89.7)	33 (19.8)
The pharmacist changes or cancels some duplicating medications in my prescription	158 (37.6)	142 (56.1)	16 (9.6)

Professional Pharmacy Services	Total N (%)	High PPS N (%)	Low PPS N (%)
The pharmacist explains me clearly verbally and in writing on how I should take the medication before dispensing.	380 (90.5)	247 (97.6)	133 (79.6)
The pharmacist explains clearly verbally and in writing and provides me with the list of items I should do to achieve maximal treatment outcome before dispensing	352 (83.8)	248 (98)	104 (62.3)
The pharmacist asked me about my previous treatment outcome	220 (52.4)	200 (79.1)	12 (12)
The pharmacist helps plan drug therapy, dose adjustment for effective medication used	284 (67.6)	229 (90.5)	55 (32.9)

Descriptive Data

Total Sample

The four constructs ranked in terms of highest value were perceived quality pharmacy structure (4.21 ± 0.62). The following constructs which were ranked 2nd, 3rd, 4th in terms of score were, perceptions about pharmacist (4.15 ± 0.62), marketing mix 3.90 ± 0.51, pharmacy engagement (3.77 ±0.63), and pharmacy customer devotion (3.65 ± 0.77), as displayed in table 13.

High Professional Pharmacy Services Group

From table 13 the highest mean among 4 constructs were perceptions about pharmacist (4.37 + 0.54). The following constructs which were ranked 2nd, 3rd, 4th in terms of score are perceived quality pharmacy structure (4.29 ± 0.55), marketing mix 4.02 ± 0.48, pharmacy engagement (3.91 ± 0.63), and pharmacy customer devotion (3.80 ± 0.75)

Low Professional Pharmacy Services Group

From table 13, the highest mean among 4 constructs were perceptions about pharmacist (3.96 ± 0.66). The following constructs which were ranked 2nd, 3rd, 4th in terms of score were perceived quality pharmacy structure (3.95 ± 0.66), marketing mix (3.72 ± 0.50), pharmacy engagement (3.57 ± 0.59), and pharmacy customer devotion (3.42 + 0.74).

When comparing the high PPS group and low PPS group mean of every independent variable, were statistical difference. (p < 0.001). Comparing average score of all indicative variables in between the high PPS group and low PPS group, results showed significant difference in except one indicative variable of the perceived quality pharmacy structure which was "the pharmacy looks clean and has enough light and looks professional", p = 0.106).

Table 13. Mean and Standard Deviation of Constructs in High PPS Group and Low
PPS Group

Construct	High PPS Mean ± SD	Low PPS Mean ± SD	p value
Pharmacy Quality Structure	4.29 ± 0.55	3.95 ± 0.66	0.000
Perception about Pharmacist	4.37 ± 0.54	3.96 ± 0.66	0.000
Marketing Mix	4.02 ± 0.48	3.72 ± 0.50	0.000
Pharmacy Engagement	3.91 ± 0.63	3.57 ± 0.59	0.000
Pharmacy Customer Devotion	3.80 ± 0.75	3.42 ± 0.74	0.000

The indicative variable ranked highest score (4.35 + 0.61) of perceived quality pharmacy structure was 'the pharmacy which I regularly visit look clean, has enough light and look professional' as shown in table 14.

Table 14. Mean and Standard Deviation of Variables of Total, High PPS Group and Low PPS Group: Perceived Quality of Pharmacy Structure

Items	Total (N= 420) Mean $\pm$ SD	High PPS (N= 253) Mean $\pm$ SD	Low PPS (N=167) Mean $\pm$ SD
The pharmacy which I regularly visit look clean, has enough light and look professional	4.35 $\pm$ 0.61	4.39 $\pm$ 0.65	4.30 $\pm$ 0.55
The pharmacist in the pharmacy which I regularly visit dresses professionally	4.26 $\pm$ 0.74	4.41 $\pm$ 0.66	4.02 $\pm$ 0.81
The pharmacy which I regularly visit has a separate counseling area	3.86 $\pm$ 0.97	4.08 $\pm$ 0.82	3.52 $\pm$ 1.09

The indicative variable ranked highest score (4.35 $+$ 0.61) of marketing mix was 'the pharmacy which I regularly visit has a near access to my home or work place' as shown in table 15.

Table 15. Mean and Standard Deviation of Variables of Total, High PPS Group and Low PPS Group: Marketing Mix

Items	Total (N= 420) Mean $\pm$ SD	High PPS Mean $\pm$ SD (N= 253)	Low PPS Mean $\pm$ SD (N=167)
The pharmacy which I regularly visit has a near access to my home or work place	4.33 $\pm$ 0.77	4.46 $\pm$ 0.73	4.13 $\pm$ 0.78
The pharmacy which I regularly visit has a variety of medicinal products	4.32 $\pm$ 0.67	4.43 $\pm$ 0.66	4.15 $\pm$ 0.65
The pharmacy which I regularly visit gives me a convenience to access the pharmacy	4.32 $\pm$ 0.72	4.41 $\pm$ 0.67	4.18 $\pm$ 0.77
The pharmacy which I regularly visit gives a reasonable price of medicine	4.13 $\pm$ 0.76	4.27 $\pm$ 0.74	3.93 $\pm$ 0.74

Items	Total (N= 420) Mean $\pm$ SD	High PPS Mean $\pm$ SD (N= 253)	Low PPS Mean $\pm$ SD (N=167)
The pharmacy which I regularly visit has a good reputation	3.89 $\pm$ 0.77	3.98 $\pm$ 0.76	3.77 $\pm$ 0.78
The pharmacy which I regularly visit has a comparatively lower price of medicine at this pharmacy when comparing to others	3.76 $\pm$ 0.91	3.91 $\pm$ 0.89	3.53 $\pm$ 0.90
The pharmacy which I regularly visit give me a good discount	3.30 $\pm$ 1.01	3.41 $\pm$ 1.04	3.13 $\pm$ 0.95
The pharmacy which I regularly visit provide me additional free of charge service e.g. measuring blood pressure, blood glucose and bone density	3.15 $\pm$ 1.29	3.32 $\pm$ 1.31	2.91 $\pm$ 1.22

The indicative variable ranked highest score (4.28 $\pm$ 0.67) of perception about pharmacist was 'the pharmacist at the drug store I regularly visit is knowledgeable and courteous' as shown in table 16.

Table 16. Mean and Standard Deviation of Variables of Total, High PPS Group and Low PPS Group: Perception about Pharmacist

Items	Total (N= 420) Mean $\pm$ SD	High PPS (N= 253) Mean $\pm$ SD	Low PPS (N=167) Mean $\pm$ SD
The pharmacist at the drug store I regularly visit is knowledgeable and courteous	4.28 $\pm$ 0.67	4.41 $\pm$ 0.60	4.09 $\pm$ 0.72
The pharmacist at the drug store I regularly visit has ability to inspire trust and confidence	4.24 $\pm$ 0.72	4.40 $\pm$ 0.65	3.99 $\pm$ 0.76

Items	Total (N= 420) Mean $\pm$ SD	High PPS (N= 253) Mean $\pm$ SD	Low PPS (N=167) Mean $\pm$ SD
The pharmacist at the drug store I regularly visit provides the customer a pharmaceutical care service (consultation of disease and medication) with willingness	4.21 ± 0.72	4.37 ± 0.63	3.96 ± 0.78
The pharmacist at the drug store I regularly visit provide the customer a pharmaceutical care service (consultation of disease and medication) with accurate knowledge and dependable service	4.19 ± 0.71	4.37 ± 0.60	3.91 ± 0.77
The pharmacist at the drug store I regularly visit provides the customer a prompt pharmaceutical care service (consultation of disease and medication)	4.14 ± 0.72	4.32 ± 0.65	3.86 ± 0.74

The indicative variable ranked highest score (4.09 ± 0.69) of pharmacy engagement was 'I feel happy when receiving the services at the pharmacy' as shown in table 17.

Table 17. Mean and Standard Deviation of Variables of Total, High PPS Group and
Low PPS Group: Pharmacy Engagement

Items	Total (N= 420) Mean ± SD	High PPS (N= 253) Mean ± SD	Low PPS (N=167) Mean ± SD
I feel happy when receiving the services at the pharmacy	4.09 ± 0.69	4.25 ± 0.65	3.84 ± 0.69
I feel really excited to receive professional pharmacy service (e.g. consultation of disease or medication) at the pharmacy he or she regularly visits	3.98 ± 0.81	4.12 ± 0.82	3.75 ± 0.76
I feel passionate about goods and services every time when coming to the pharmacy he or she regularly visits	3.87 ± 0.74	3.96 ± 0.75	3.73 ± 0.70
I feel like to know more about products and services at the pharmacy he or she regularly visits	3.84 ± 0.79	3.97 ± 0.80	3.63 ± 0.72
I feel like a personal compliment when someone one praises the pharmacy he or she regularly visits	3.82 ± 0.84	3.92 ± 0.84	3.67 ± 0.84
I feel like I do not want to visit other pharmacies when receiving the services at the pharmacy he or she regularly visits	3.66 ± 0.93	3.83 ± 0.94	3.41 ± 0.86
I feel like I would like to participate in sharing or exchanging ideas about the pharmacy	3.59 ± 0.96	3.67 ± 0.95	3.46 ± 0.96
I feel like being enthusiastic to inform others about the pharmacy he or she regularly visits	3.57 ± 0.97	3.74 ± 0.94	3.31 ± 0.94
I feel like to get involved and interacted with others about the pharmacy he or she regularly visits	3.55 ± 0.89	3.68 ± 0.88	3.35 ± 0.87

The indicative variable ranked highest score (4.05 + 0.80) of pharmacy

customer devotion was 'I come back to purchase the medication at the community

pharmacy I regularly visit' as shown in table 18.

Table 18: Mean and Standard Deviation of Variables of Total, High PPS Group and
Low PPS group: Pharmacy Customer Devotion

Items	Total (N= 420) Mean + SD	High PPS (N= 253) Mean + SD	Low PPS (N=167) Mean + SD
I come back to purchase the medication at the community pharmacy I regularly visit	4.05 + 0.80	4.17 + 0.79	3.86 + 0.77
I say positive things about the pharmacy to other people	3.77 + 0.92	3.93 +0.90	3.53 + 0.90
I encourage friends and relatives to receive pharmaceutical care service with the pharmacy I regularly visit	3.75 + 0.95	3.94 + 0.92	3.47 + 0.92
I give the pharmacy other constructive advices	3.34 + 1.02	3.49 + 1.01	3.13 + 1.01
I give the pharmacy advice to improve the pharmacy or services of this pharmacy	3.32 + 1.04	3.46 + 1.03	3.12 + 1.02

Correlation Analysis

Total Sample

Pharmacy engagement was very strongly positive correlated with pharmacy

customer devolution. Positive strong correlations were found between perception

about pharmacist and pharmacy customer devolution; marketing mix and pharmacy

customer devolution; marketing mix and pharmacy engagement; marketing mix and

pharmacy engagement; perception about pharmacist and marketing mix; and

pharmacy quality structure and marketing mix. Moderate significant positive

correlations were found between pharmacy quality structure and perception about

pharmacist; and pharmacy quality structure and pharmacy customer devolution (table

19).

Table 19. Pearson Correlations among Constructs

Construct	PQS	PAP	MM	PE	PCD
Pharmacy Quality Structure (PQS)	1				
Perception about Pharmacist (PAP)	.451**	1			
Marketing Mix (MM)	.522**	.566**	1		
Pharmacy Engagement (PE)	.368**	.566**	.544**	1	
Pharmacy Customer Devotion (PCD)	.297**	.501**	.522**	.800**	1

**. Correlation is significant at the 0.01 level (2-tailed).

High PPS Group and Low PPS Group

Correlations between pharmacy customer devotions and marketing mix; and

between pharmacy customer devotions and pharmacy quality structure were stronger

in the low PPS group than the high PPS group. On the other hand, the correlation

between pharmacy customer devotions and perception about pharmacist was stronger

in the high PPS group than the low PPS group.

Correlations between pharmacy engagement and marketing mix; and between

pharmacy engagement and pharmacy quality structure were also stronger in the low

PPS group than the high PPS group. On the other hand, the correlation between

pharmacy engagement and perception about pharmacist was stronger in the high PPS

group than the low PPS group.

Table 20. Pearson Correlations of Constructs between High PPS Group and Low PPS
Group

Construct	PQS		PAP		MM		PE		PCD	
	High PPS	Low PPS	High PPS	Low PPS	High PPS	Low PPS	High PPS	Low PPS	High PPS	Low PPS
Pharmacy Quality Structure (PQS)	1	1								
Perception about Pharmacist (PAP)	.31*	.49*	1	1						
Marketing Mix (MM)	.41*	.57*	.47*	.58*	1	1				
Pharmacy Engagement (PE)	.26*	.41*	.52*	.45*	.47*	.57*	1	1		
Pharmacy Customer Devotion (PCD)	.18*	.33*	.51*	.41*	.43*	.57*	.79*	.78*	1	1

Confirmatory Factor Analysis

There were 3 observed variables for perceived quality of pharmacy structure
(PQPS), 5 observed variables for perceptions about pharmacist, 8 observed variables
for marketing mix, 9 observed variables for pharmacy engagement, and 5 observed
variables for pharmacy customer devotion. The factor loadings of both standardized
and un-standardized as well as Cronbach alpha value were displayed in table 21-35.

Table 21. Confirmatory Factor Analysis of Perceived Quality of Pharmacy Structure
in Total sample

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Pharmacy Quality Structure	0.677		
The pharmacy which I regularly visit Look clean, has enough light and look professional		0.684	1.000

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
The pharmacy which I regularly visit The pharmacist dresses professionally		0.729	0.811
The pharmacy which I regularly visit has a separate counseling area		0.526	0.486

Table 22. Confirmatory Factor Analysis of Perception about Pharmacist in Total Sample

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Perception about Pharmacist	0.716		
The pharmacist at the drug store I regularly visit provides the customer a pharmaceutical care service (consultation of disease and medication) with accurate knowledge and dependable service		0.822	0.946
The pharmacist at the drug store I regularly visit provides the customer a prompt pharmaceutical care service (consultation of disease and medication)		0.837	0.981
The pharmacist at the drug store I regularly visit provides the customer a pharmaceutical care service (consultation of disease and medication) with willingness		0.895	1.057
The pharmacist at the drug store I regularly visit is knowledgeable and courteous		0.831	0.905
The pharmacist at the drug store I regularly visit has ability to inspire trust and confidence		0.862	1.000

Table 23. Confirmatory factor Analysis of Marketing Mix in Total Sample

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Marketing Mix	0.93		
The pharmacy which I regularly visit has a variety of medicinal products		0.667	0.591

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
The pharmacy which I regularly visit has a good reputation		0.437	0.448
The pharmacy which I regularly visit give a reasonable price of medicine		0.671	0.676
The pharmacy which I regularly visit has a comparatively lower price of medicine at this pharmacy when comparing to others		0.575	0.697
The pharmacy which I regularly visit has a near access to my home or work place		0.266	0.271
The pharmacy which I regularly visit gives me a good discount		0.518	0.701
The pharmacy which I regularly visit gives me a convenience to access the pharmacy		0.338	0.320
The pharmacy which I regularly visit provides me additional free of charge service e.g. measuring blood pressure, blood glucose and bone density		0.579	1.000

Table 24. Confirmatory Factor Analysis of Pharmacy Engagement in total sample

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Pharmacy Engagement	0.897		
I feel like I would like to participate in sharing or exchanging ideas about the pharmacy		0.655	1.000
I feel like a personal compliment when someone one praises the pharmacy he or she regularly visits		0.711	0.967
I feel passionate about goods and services every time when coming to the pharmacy he or she regularly visits		0.588	0.697
I feel really excited to receive professional pharmacy service (e.g. consultation of disease or medication) at the pharmacy he or she regularly visits		0.713	0.925
I feel like to know more about products and services at the pharmacy he or she regularly visits		0.628	0.798
I feel happy when receiving the services at the pharmacy		0.942	1.044

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
I feel like I do not want to visit other pharmacies when receiving the services at the pharmacy he or she regularly visits		0.770	1.151
I feel like to get involved and interacted with others about the pharmacy he or she regularly visits		0.704	1.005
I feel like being enthusiastic to inform others about the pharmacy he or she regularly visits		0.747	1.169

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Table 25. Confirmatory factor analysis of Pharmacy Customer Devotion in Total
Sample

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Pharmacy Customer Devotion	0.871		
I come back to purchase the medication at the community pharmacy I regularly visit		0.680	1.000
I say positive things about the pharmacy to other people		0.793	1.390
I encourage friends and relatives to receive pharmaceutical care service with the pharmacy I regularly visit		0.806	1.445
I give the pharmacy advice to improve the pharmacy or services of this pharmacy		0.710	1.382
I give the pharmacy other constructive advices		0.719	1.369

Table 26. Confirmatory Factor Analysis of Perceived Quality of Pharmacy Structure
in High PPS Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Perceived Quality Pharmacy Structure	0.650		
The pharmacy which I regularly visit look clean, has enough light and look professional		0.598	1.000
The pharmacy which I regularly visit the pharmacist dresses professionally		0.586	0.710
The pharmacy which I regularly visit has a separate counseling area		0.663	0.714

Table 27. Confirmatory Factor Analysis of Perception about Pharmacist in High PPS
Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Perception about Pharmacist	0.980		
The pharmacist at the drug store I regularly visit provides the customer a pharmaceutical care service (consultation of disease and medication) with accurate knowledge and dependable service		0.879	1.000
The pharmacist at the drug store I regularly visit provides the customer a prompt pharmaceutical care service (consultation of disease and medication)		0.859	0.935
The pharmacist at the drug store I regularly visit provides the customer a pharmaceutical care service (consultation of disease and medication) with willingness		0.877	1.034
The pharmacist at the drug store I regularly visit is knowledgeable and courteous		0.819	1.056
The pharmacist at the drug store I regularly visit has ability to inspire trust and confidence		0.839	0.997

Table 28. Confirmatory Factor Analysis of Marketing Mix in High PPS Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Marketing Mix	0.670		
The pharmacy which I regularly visit has a variety of medicinal products		0.564	1.000
The pharmacy which I regularly visit has a good reputation		0.276	0.836
The pharmacy which I regularly visit give a reasonable price of medicine		0.626	0.822
The pharmacy which I regularly visit has a comparatively lower price of		0.510	0.831

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
medicine at this pharmacy when comparing to others			
The pharmacy which I regularly visit has a near access to my home or work place		0.228	0.655
The pharmacy which I regularly visit gives me a good discount		0.445	0.377
The pharmacy which I regularly visit gives me a convenience to access the pharmacy		0.360	0.299
The pharmacy which I regularly provides me additional free of charge service e.g. measuring blood pressure, blood glucose and bone density		0.421	0.430

Table 29. Confirmatory Factor Analysis of Pharmacy Engagement in High PPS Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Pharmacy Engagement	0.860		
I feel like I would like to participate in sharing or exchanging ideas about the pharmacy		0.800	1.000
I feel like a personal compliment when someone one praises the pharmacy he or she regularly visits		0.703	0.768
I feel passionate about goods and services every time when coming to the pharmacy he or she regularly visits		0.573	0.566
I feel really excited to receive professional pharmacy service (e.g. consultation of disease or medication) at the pharmacy he or she regularly visits		0.734	0.782
I feel like to know more about products and services at the pharmacy he or she regularly visits		0.627	0.666
I feel happy when receiving the services at the pharmacy		1.000	0.893
I feel like I do not want to visit other pharmacies when receiving the services at the pharmacy he or she regularly visits		0.741	0.918
I feel like to get involved and interacted with others about the pharmacy he or she regularly visits		0.818	0.950
I feel like being enthusiastic to inform others about the pharmacy he or she regularly visits		0.747	0.933

Table 30. Confirmatory Factor Analysis of Pharmacy Customer Devotion in High
PPS Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Pharmacy Customer Devotion	0.860		
I come back to purchase the medication at the community pharmacy I regularly visit		0.617	1.000
I say positive things about the pharmacy to other people		0.742	1.374
I encourage friends and relatives to receive pharmaceutical care service with the pharmacy I regularly visit		0.786	1.481
I give the pharmacy advice to improve the pharmacy or services of this pharmacy		0.692	1.469
I give the pharmacy other constructive advices		0.719	1.480

Table 31. Confirmatory Factor Analysis of Perceived Quality of Pharmacy Structure
in Low PPS Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Pharmacy Quality Structure	0.678		
The pharmacy which I regularly visit look clean, has enough light and look professional		0.570	0.421
The pharmacy which I regularly visit the pharmacist dresses professionally		0.810	0.872
The pharmacy which I regularly visit has a separate counseling area		0.690	1.000

Table 32. Confirmatory Factor Analysis of Perception about Pharmacist in Low PPS
      Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Perception about Pharmacist	0.715		
The pharmacist at the drug store I regularly visit provides the customer a pharmaceutical care service (consultation of disease and medication) with accurate knowledge and dependable service		0.810	0.913
The pharmacist at the drug store I regularly visit provides the customer a prompt pharmaceutical care service (consultation of disease and medication)		0.840	0.898
The pharmacist at the drug store I regularly visit provides the customer a pharmaceutical care service (consultation of disease and medication) with willingness		0.810	0.915
The pharmacist at the drug store I regularly visit is knowledgeable and courteous		0.870	0.913
The pharmacist at the drug store I regularly visit has ability to inspire trust and confidence		0.910	1.000

Table 33. Confirmatory Factor Analysis of Market Mix in Low PPS Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Marketing Mix	0.926		
The pharmacy which I regularly visit has a variety of medicinal products		0.570	0.492
The pharmacy which I regularly visit has a good reputation		0.560	0.596
The pharmacy which I regularly visit gives a reasonable price of medicine		0.680	0.683
The pharmacy which I regularly visit has a comparatively lower price of medicine at this pharmacy when comparing to others		0.570	0.694
The pharmacy which I regularly visit has a near access to my home or work place		0.210	0.224

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
The pharmacy which I regularly visit gives me a good discount		0.550	0.689
The pharmacy which I regularly visit gives me a convenience to access the pharmacy		0.230	0.233
The pharmacy which I regularly visit provides me additional free of charge service e.g. measuring blood pressure, blood glucose and bone density		0.600	1.000

Table 34. Confirmatory Factor Analysis of Pharmacy Engagement in Low PPS Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Pharmacy Engagement	0.880		
I feel like I would like to participate in sharing or exchanging ideas about the pharmacy		0.580	1.000
I feel like a personal compliment when someone one praises the pharmacy he or she regularly visits		0.700	1.080
I feel passionate about goods and services every time when coming to the pharmacy he or she regularly visits		0.510	0.659
I feel really excited to receive professional pharmacy service (e.g. consultation of disease or medication) at the pharmacy he or she regularly visits		0.670	0.922
I feel like to know more about products and services at the pharmacy he or she regularly visits		0.540	0.723
I feel happy when receiving the services at the pharmacy		0.910	1.133
I feel like I do not want to visit other pharmacies when receiving the services at the pharmacy he or she regularly visits		0.730	1.147
I feel like to get involved and interacted with others about the pharmacy he or she regularly visits		0.760	1.220
I feel like being enthusiastic to inform others about the pharmacy he or she regularly visits		0.770	1.333

Table 35. Confirmatory Factor analysis of Pharmacy Customer Devotion in Low PPS
Group

	Cronbach alpha	Standardized factor loading	Unstandardized factor loading
Pharmacy Customer Devotion	0.860		
I come back to purchase the medication at the community pharmacy I regularly visit		0.562	1.000
I say positive things about the pharmacy to other people		0.876	1.829
I encourage friends and relatives to receive pharmaceutical care service with the pharmacy I regularly visit		0.855	1.816
I give the pharmacy advice to improve the pharmacy or services of this pharmacy		0.715	1.678
I give the pharmacy other constructive advices		0.711	1.631

Model Fit

Analysis of model fit in Total Sample

The observed model was fit the theory with p value = 0.068 (recommended

value > 0.05), Goodness-of- fit χ2/df = 1.128 (recommended value < 3.0), GFI =

0.926 (recommended value > 0.90), CFI = 0.992 (recommended value > 0.90), and

RMSEA =0.023(recommended value < 0.05) as show in table 36.

Table 36. Model Fit in Total Sample

Model	P	CMIN/DF	CFI	GFI	RMSEA
Default model	0.118	1.102	0.996	0.955	0.016
Recommended value	>0.05	<3.0	>0.9	>0.9	≤0.05

Analysis of Model fit in High PPS group

The observed model was fit the theory with p value = 0.068 (recommended value > 0.05), Goodness-of- fit χ^2/df = 1.128 (recommended value < 3.0), GFI = 0.926 (recommended value > 0.90), CFI = 0.992 (recommended value > 0.90), and RMSEA =0.023(recommended value < 0.05) as show in table 37.

Table 37. Model Fit in High PPS

Model	P	CMIN/DF	CFI	GFI	RMSEA
Default model	0.068	1.128	0.992	0.926	0.023
Recommended value	>0.05	<3.0	>0.9	>0.9	≤0.05

Analysis of model fit in Low PPS group

The observed model was fit the theory with p value = 0.087 (recommended value > 0.05), Goodness-of- fit χ^2/df = 1.114 (recommended value < 3.0), CFI = 0.988, GFI = 0.892 (recommended value > 0.90), and RMSEA =0.023(recommended value <0.05) as shown in Table 38.

Table 38. Model Fit in Low PPS group

Model	P	CMIN/DF	CFI	GFI	RMSEA
Default model	0.087	1.114	0.988	0.892	0.026
Recommended value	>0.05	<3.0	>0.9	>0.9	≤0.05

Structural Equation Model (SEM) of Pharmacy Engagement and Customer Devotion

The result of degree of standardized regression weight with statistical significant between factors was display in 3 set of information which were total sample (N= 420), high PPS group (N= 253) and low PPS group (N= 167). It also displayed different associations to some certain extent among them.

Path Analysis: Total Sample

SEM showed in Figure 5 that pharmacy engagement was significantly associated with pharmacy customer devotion (the standardized path coefficient β = 0.95, P< 0.05). With regards to marketing mix, it has a positive association with pharmacy engagement (the standardized path coefficient β = 0.55, P< 0.05). Perceptions about pharmacist was associated with pharmacy engagement (the standardized path coefficient β= 0.27, P< 0.05). Perceived quality of pharmacy structure showed a negative association with either pharmacy engagement (the standardized path coefficient β= -0.01, P> 0.05) or pharmacy customer devotion (the standardized path coefficient β= -0.05, P> 0.05). There was no direct effect between any factor and pharmacy customer devotion in the low PPS group.

Considering the loading factor in total sample, the highest score of observed variable in perceived quality pharmacy structure was the pharmacist at the pharmacy which the customer regularly visited dress professionally (loading factor = 0.73). The highest score of observed variable in the perception about pharmacist was the pharmacist the drugstore the customer regularly visited provided the customer PPS consultation of disease and medication with willingness (loading factor = 0.90). The two highest scores of observed variable in the marketing mix were the pharmacist at

the drug store the customer regularly visited gave a reasonable price of medicine

(loading factor = 0.67) and the pharmacist at the drug store I regularly visited

provided the customer a consultation of disease and medication with accurate

knowledge and dependable service (loading factor = 0.67).   The highest score of

observed variable in pharmacy engagement was the customer felt like he or she did

not want to visit other pharmacies when receiving the services at the pharmacy he or

she regularly visited (loading factor = 0.77).   The highest score of observed variable

in pharmacy customer devotion was the customer encouraged friends and relatives to

receive pharmaceutical care service with the pharmacy she regularly visited (loading

factor = 0.81).
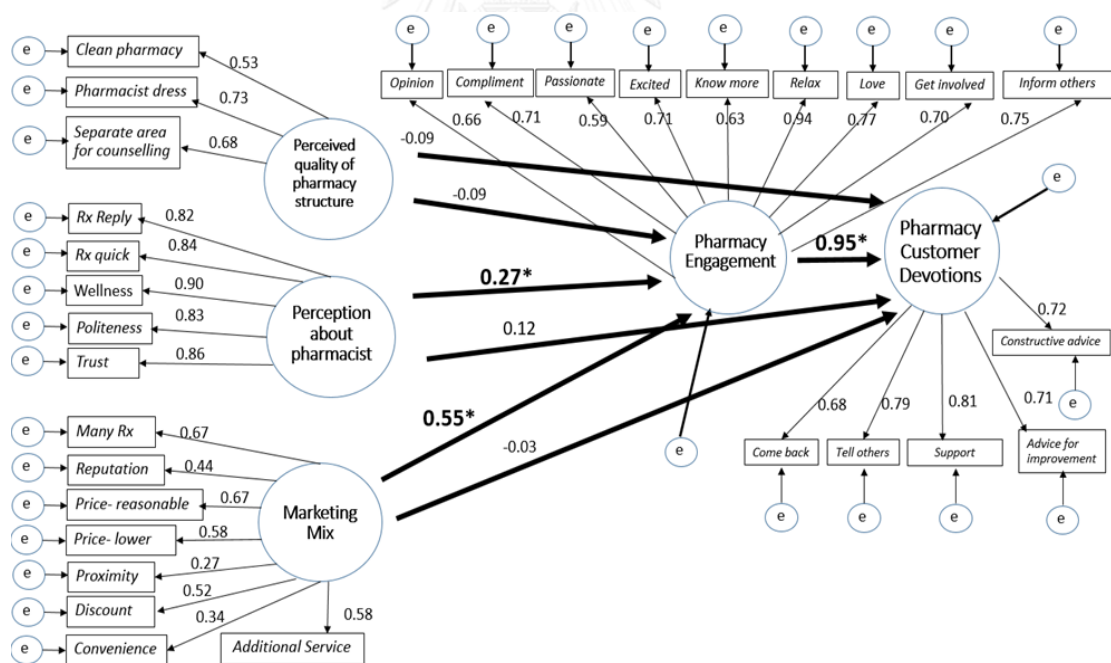
Figure 5: Structural Equation Model in Total Sample

Path Analysis: High PPS Group

SEM revealed in Figure 6 that pharmacy engagement was significantly associated with pharmacy customer devotion (the standardized path coefficient = 0.92, P< 0.05). Perceptions about pharmacist was positively associated with pharmacy engagement (the standardized path coefficient = 0.34, P< 0.05). In addition, it has a direct effect with pharmacy customer devotion (the standardized path coefficient = 0.19, P< 0.05). With regards to marketing mix, it has a positive association with pharmacy engagement the standardized path coefficient = 0.31, P< 0.05) however there was no direct effect between marketing mix and pharmacy customer devotion. Interestingly, there was also no either direct or indirect association between perceived quality pharmacy structure and pharmacy engagement and pharmacy customer devotion.

Considering the loading factor in the high PPS group, the highest score of observed variable in perceived quality pharmacy structure was the pharmacy which the customer regularly visited had a separate counseling area (loading factor = 0.66). The highest score of observed variable in the perception about pharmacist was the pharmacist the drugstore the customer regularly visited provided the customer PPS (consultation of disease and medication) with willingness (loading factor = 0.88). The highest score of observed variable in marketing mix was the pharmacist at the drug store the customer regularly visited gave a reasonable price of medicine (loading factor = 0.63). The highest score of observed variable in pharmacy engagement was the customer felt like to get involved and interacted with others about the pharmacy he or she regularly visited (loading factor = 0.82). The highest score of observed

variable in 'pharmacy customer devotion' was the customer said positive things about the pharmacy to other people (loading factor = 0.74).
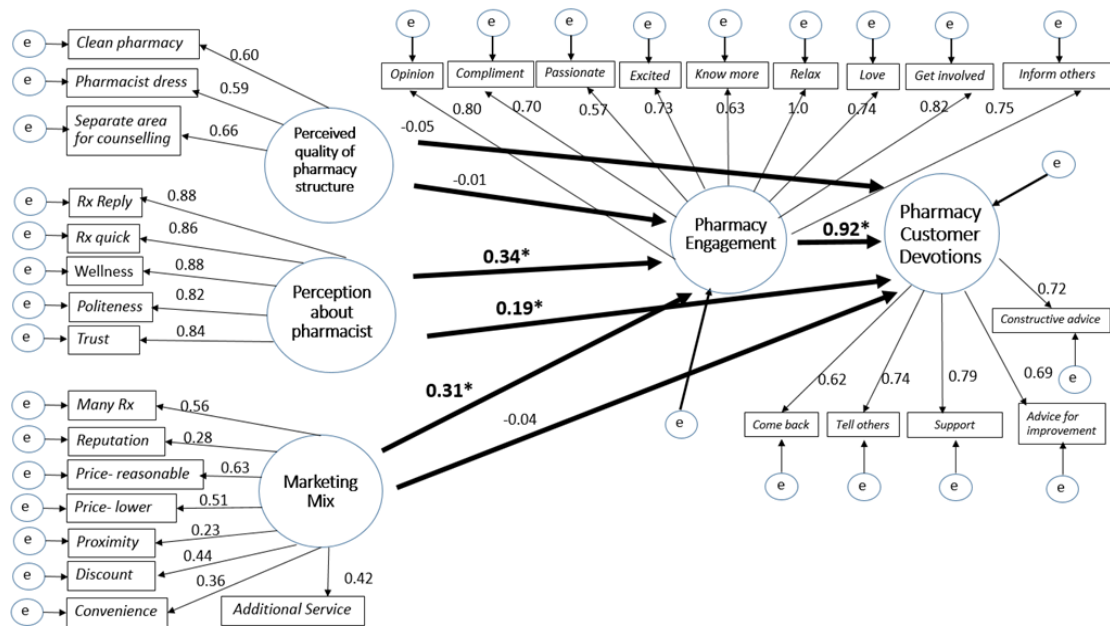
Figure 6: Structural equation model in High PPS group

Path Analysis: Low PPS Group

SEM disclosed in Figure 7 that pharmacy engagement was significantly associated with pharmacy customer devotion (the standardized path coefficient β = 0.94, P< 0.05). Perceptions about pharmacist was not associated with pharmacy engagement (the standardized path coefficient β= 0.34, P< 0.05). With regards to marketing mix, it had a positive association with pharmacy engagement the standardized path coefficient β = 0.70, P< 0.05). In addition, there was no direct effect between any factor and pharmacy customer devotion in the low PPS group.

Considering the loading factor in the low PPS group, the highest score of observed variable in perceived quality pharmacy structure was the pharmacist at the pharmacy which the customer regularly visited dress professionally (loading factor = 0.81). The highest score of observed variable in the perception about pharmacist was the pharmacist the drugstore the customer regularly visited had ability to inspire trust and confidence (loading factor = 0.91). The highest score of observed variable in marketing mix was the pharmacist at the drug store the customer regularly visited gave a reasonable price of medicine (loading factor = 0.68). The highest score of observed variable in pharmacy engagement was the customer felt being enthusiastic to inform others about the pharmacy he or she regularly visited (loading factor = 0.88). The highest score of observed variable in pharmacy customer devotion was the customer encouraged friends and relatives to receive pharmaceutical care service with the pharmacy she regularly visited (loading factor = 0.88).
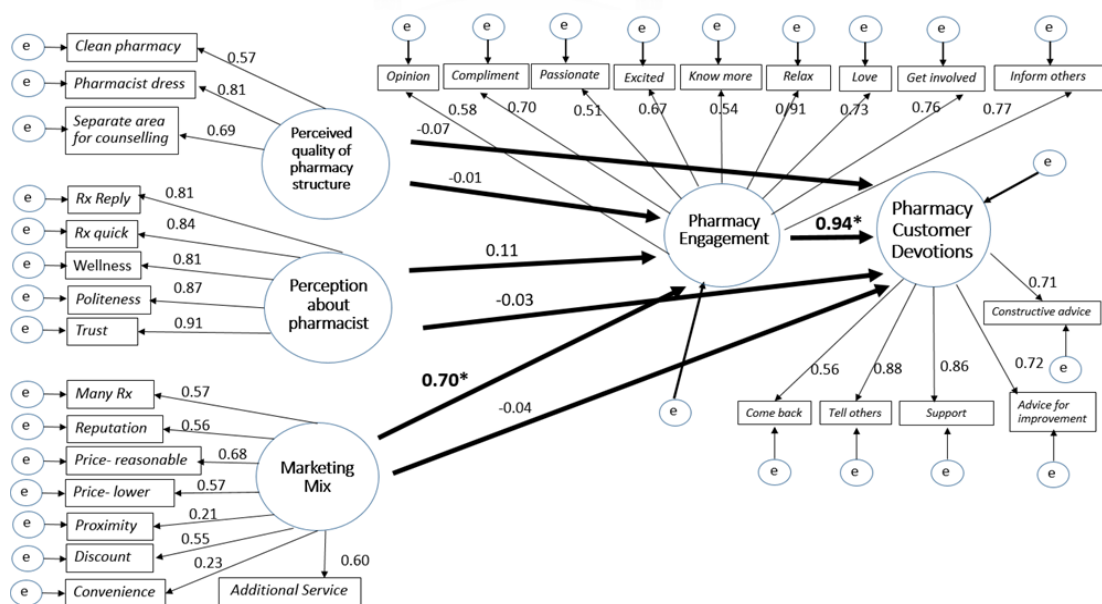
Figure 7: Structural Equation Model in Low PPS Group

Chapter 5 Conclusion and Discussion

The final chapter of the thesis covered and a research conclusion, a discussion, recommendations, study limitation and future directions. The conclusion was drawn from the results. The implications were raised and recommendations were provided. The study limitations were addressed with suggestion for future research directions of pharmaceutical care provision in community pharmacy.

Conclusion

Results from structural equation modeling (SEM) showed that perceived quality of pharmacy structure, perception about pharmacist and marketing mix had no direct effect to pharmacy customer devotion. However, perception about pharmacist and marketing mix showed indirect effect to pharmacy customer devotion via pharmacy engagement. Pharmacy engagement had a strong association with pharmacy customer devotion. In subgroup analysis of pharmacy customers receiving high professional pharmacy services, it was found that perception about pharmacist was the only factor showing direct effect to pharmacy customer devotion and demonstrating indirect effect to pharmacy customer devotion via pharmacy engagement. Marketing mix had no direct effect to pharmacy customer devotion but showed indirect effect to pharmacy customer devotion via pharmacy engagement. Perceived quality of pharmacy structure had no direct and indirect effect to pharmacy customer devotion. With regards to the subgroup analysis of pharmacy customers receiving low professional pharmacy services, only marketing mix show indirect effect through pharmacy engagement. The findings manifested perceived quality of pharmacy structure had no influence on pharmacy customer devotion. Pharmacy

engagement was a very important mediator for pharmacy customer devotion. It can be concluded that the use of high professional pharmacy services and positive perception about pharmacist can increase both pharmacy engagement and pharmacy customer devotion more effectively than the use of marketing mix strategy. It helped retain loyal customers and create a long term impact for community pharmacy business.

The study results suggest to employ professional pharmacy services in community pharmacies. A structural model explaining causal relationship between pharmacy engagement and pharmacy customer devotion was confirmed for community pharmacy providing professional pharmacy services. The professional pharmacy service was essentially affected perceptions about pharmacists and marketing mix to a certain extent. It addressed a key strategy to promote professional pharmacy services in all community pharmacies to help sustain business in a long term.

Discussion

The study was originally planned to assess the effect of professional pharmacy service (PPS) on pharmacy engagement and pharmacy customer devotion by treating PPS as one construct in the model. Due to the data type of PPS collected as a categorical (Yes, No), the PPS score was not eligible for the structural equation modeling as it needs to have the range over than three. The rationale to require 'Yes/ No' answer from the respondents was based on the belief that the PPS provided by pharmacists needed to be recalled by pharmacy customers. Based on real life situation, customers can recall when asked only on if the PPS provision at the pharmacy they regularly visited. It would, however, be difficult for the respondents to

rank the level of PPS given at the community pharmacies in the past three months. By requiring the 'Yes/ No' answers, the responses from the surveys of pharmacy customers were far more credible. The maximum score from ten questions asking about PPS provision was ten and the minimum PPS score was zero.

It was a researcher's decision to find a new approach by excluding PPS from the model but assess the influence of PPS to the whole model instead. By this approach, the samples were divided into two groups by median score of PPS equaled seven as a cut-off point which the score was seven. The group with PPS score equal or higher than seven were regarded as a high PPS group. On a contrary, the group with PPS score lower than seven was classified as low PPS group. The research was then geared towards the differences and the effect of factors affecting pharmacy engagement and pharmacy customer devotion in high PPS group and low PPS group.

With regards to sample characteristics from table 4, there was no difference among high PPS group and low PPS group which was statistically significant in gender, age, education level, location except the reason to visit the pharmacy regularly to get consultation from pharmacist (high PPS group, 26.9%, low PPS group, 16.8%; p =0.02). This can be a major reason leading to differences in terms of correlations between factors and statistical significance and factor loading of SEM results.

Total sample group (a combination of high PPS and low PPS group) represented situation where marketing mix particularly pricing element has a dominant role in retaining customers with the businesses. Concerning independent variables, it was confirmed by the result that marketing mix displayed a strongest association with pharmacy engagement (the standardized path coefficient $\beta = 0.55$, P<

0.05) while perceptions about pharmacist was associated with pharmacy engagement in a lower degree (the standardized path coefficient β= 0.27, P< 0.05). There was negative association between perceived quality of pharmacy structure and pharmacy engagement (the standardized path coefficient β= -0.01, P> 0.05) / pharmacy customer devotion (the standardized path coefficient β= -0.05, P> 0.05). The finding was aligned with the study of Lostakova and Horakova on the usefulness of tools to enhance retention and loyalty in purchasing medications from pharmacies (Lostakova & Horakova, 2014). This might be from the fact that most of community pharmacies had equally improved the physical looks and tangible parts, i.e. drug store structure, separate area and wearing pharmacist gown when being on duty. The customers, therefore, could probably not distinguish differences between different community pharmacies in this aspect. It can be assumed that these quality of pharmacy structure was equally improved among general drug stores.

Interestingly, the results suggested that in the environment of high professional pharmacy services (high PPS group), the strongest association between the perception about pharmacist (PAP) and pharmacy engagement was found (standardized path coefficient β = 0.34, p< 0.05). The second strong association was found between marketing mix (MM) and pharmacy engagement (standardized path coefficient = 0.31, p< 0.05). In addition, Perception about pharmacist showed direct effect to pharmacy customer devotion (standardized path coefficient β = 0.19, p< 0.05). It was good to learn that there was a direct effect of perception about pharmacist to pharmacy customer devotion without passing through pharmacy engagement in the high PPS group. This was largely due to a nature of pharmacy

professional activities which directly impact the decision of customer to return for more services, word of mouth and constructive feedback to the pharmacies.

In the high PPS group, the effect of perception about pharmacist influence on pharmacy engagement was much higher than the effect of marketing mix. It further substantiated that communications between pharmacists and pharmacy customers during the provision of professional pharmacy services influenced patient willingness to come back for a consultation as people will pay more attention if trust was established. The finding was aligned with the result from the Australian study. The customers believed that community pharmacists would give them with increased necessary medicines information, improve their medicines management ability, and reduce their medicine concerns. This customer believes had a significant influence over willingness to return for the use the professional pharmacy services at community pharmacies (S. Carter, Moles, White, & Chen, 2012). Apart from this, professional pharmacy services were considered to be one of tools to help increase medical adherence and patient safety by regular pharmacist interactions with pharmacy customers.

However, the result was different to the finding from Antunes et al that medication-related competencies seem to be less influential for customer retention or pharmacy customer devotion and loyalty than social-based skills. (Antunes et al., 2015). The rationale to possibly created the discrepancy was that professional pharmacy services in this study has been included social-based skill of the pharmacist when the Antunes's study separated professional from social skill. This can further be explained that professional pharmacy services not only had a direct effect to customer devotion due mainly to their health concern but it also had an indirect effect to

pharmacy customer devotion via pharmacy engagement. When getting medicine consultation or professional pharmacy services at the community pharmacy, customers automatically went through most of the key five elements of customer engagement concept particularly interaction or communication. The environment of high professional pharmacy services helped increase a high value of the perception about pharmacist. If the use of professional pharmacy services was at appropriate level, it increased capability of community pharmacists to perform the service dependably and accurately and ability of pharmacists to inspire trust and confidence by using knowledge and courtesy. The willingness to help and caring for customers were also the crucial factors substantiating the perception about pharmacist to a certain extent (Jain & Gupta, 2004).

In the low PPS group, the result was different to the total group and high PPS group. Only marketing mix (MM) had a positive association with pharmacy engagement (standardized path coefficient $\beta = 0.70$, $p < 0.05$) and there was no direct effect between marketing mix and pharmacy customer devotion. Marketing mix was found to be the only factors affecting pharmacy customer devotion via pharmacy engagement with a high path coefficient ($\beta = 0.7$) in a low professional pharmacy services environment. Within subset of marketing mix, 'reasonable price' contributed the highest for marketing mix in low PPS group (loading factor = 0.68) followed by additional services (loading factor = 0.60) as displayed in figure 7.

The study results supported the outcome from Scandinavia countries that no company exclusively using pure relationship marketing but blending relationship and transactional marketing mix together (Zineldin & Philipson, 2007). Further, it confirmed a combined effect of all elements of 4P's matters although in this research

pricing contained highest effect i.e. reasonable price, lower price and giving discount.

It was fully aligned with the finding by Lostakova and Horakova that customers

decided to buy products or services in a particular pharmacy repeatedly not only the

prices of medicines in the store was substantially based on price, but also other

aspects such as easy accessibility, and professionalism, courtesy and helpfulness of

the staff (Lostakova & Horakova, 2014).

Another observation from the study was that pharmacy engagement was a key

mediating factor in transmitting the effect to pharmacy customer devotion. In total

sample, high PPS group and low PPS group, at least one independent factor transfer

the effect through pharmacy engagement supporting the concept of customer

engagement as a key process to retain customers with business. It confirmed the

concept of customer engagement (Brodie et al., 2011; van Doorn et al., 2010; Vivek et

al., 2012) and demonstrated the importance of pharmacy engagement as a process

involving customers and making customers ready before proceeding to customer

devotion. From the study result, a set of professional pharmacy services enhanced the

effect of the key factors which were perception about pharmacist and marketing mix.

To increase pharmacy engagement, community pharmacists crucially need to provide

the customer a full range of professional pharmacy services (consultation of disease

and medication) with accurate knowledge and dependable service, a prompt pharmacy

service with willingness. Additionally, community pharmacists needed to be

knowledgeable and courteous and had ability to inspire trust and confidence. The

result supported finding in both studies in engagement in both community pharmacy

and other businesses (T. Carter, 2008; Diana Gavilan, 2014; Lostakova & Horakova,

2014; van Eikenhorst et al., 2017). A reasonable price and a variety of medicinal products were key marketing strategies to increase engagement.

The engagement process was to increase the communication and relational skill of community pharmacists (Antunes et al., 2015; Rolf van Hulten, 2011). It was quite important to ensure that the community pharmacists allowed customers to participate in sharing or exchanging ideas about the pharmacy, make customers feel excited to receive professional pharmacy service, get customer involved and interacted with others about the pharmacy and made them feel passionate and enthusiastic about the community pharmacies.

The final outcomes were to have repeat purchase, word of mouth, and constructive feedback to community pharmacies. Considering the later part of the model, it was also confirmed pharmacy engagement and pharmacy customer devotion were highly associated standardized path coefficient of total group, high PPS group and low PPS group = 0.95, 0.92 and 0.94, p< 0.05. From the concept of customer engagement, pharmacy customer devotion is actually an engagement behavior or outcome (Bowden, 2009; Brodie & Hollebeek, 2011; T. Carter, 2008; van Doorn et al., 2010) and it supported the rationale of high association between the two constructs. Having a high pharmacy engagement results in repeat purchase of medication from customers at the community pharmacy, positive word of mouth – customers say positive things about the community pharmacy, customer encourage friends and relatives to receive pharmaceutical care service, give constructive feedback to pharmacy – gave pharmacy advice to improve the pharmacy services and gave pharmacy constructive advices.

Surprisingly, perceived quality pharmacy structure did not positively associate with pharmacy engagement in total, high PPS group and low PPS group. This was probably from the fact that most of community pharmacies had equally improved the physical looks and tangible parts, i.e. drug store structure, separating area and the practice of wearing pharmacist gown when being on duty. The customers, therefore, could probably not distinguish differences between different community pharmacies in this aspect. It can be assumed that quality of pharmacy structure was equally improved among general drug stores.

When reviewing inside information from the descriptive analysis, it was found that pharmacy customers were less aware of the patient medication record though it had been promoted in the various community pharmacies. This was a major opportunity as well as a room for improvement for better pharmacy engagement with customers. The patient medication record, to a certain extent, helped patients to regularly return to pharmacies due to easily referring to their medication history.

The positive results addressed the beneficial effect of professional pharmacy services by initially positively influencing perceptions about pharmacist, marketing mix. Later, it formed a connection with pharmacy engagement then to pharmacy customer devotion. In addition, the direct effect from perceptions about pharmacist to pharmacy customer devotion helped strengthen the position of professional pharmacy services.

Limitations

Few limitations of the current study were identified. Firstly, the data was collected from only Bangkok area which professional pharmacy service was expected to be prevalent. This was built under the assumption that the professional pharmacy

services are the same in big towns as other regional towns outside Bangkok which might not be able to represent the whole country. Secondly, limitation was the degree of professional pharmacy services provided to customers might not appropriately recalled. However, it was designed in the research methodology that the recall was done at the community pharmacies after the purchase to reduce the effect. Certain community pharmacies might have different set of professional pharmacy services compared to others.

Recommendation

There were several benefits obtains from the study. Initially, results from a study confirmed that a strategy employing professional pharmacy services to fully engage customers was deemed vital to differentiate themselves as high quality pharmacy service providers from low drug cost competition apart from cooperation among drug stores, modernization of community pharmacy infrastructure and drug inventory/ logistic system to increase business capability. This is to avoid price cutting strategy in a highly competitive environment which has extensively been used in Thailand. Secondly, contribution of the study was not only to sustain competitiveness of community pharmacy business but to also increase treatment standard and medication safety of patients. It eventually helped adding more knowledge regarding the customer engagement and devotion in the area of social and administrative pharmacy, and pharmacy consumer behavior.

Future Directions

Future works should be developed to test the model in different sample setting. Qualitative research will help capture more detail which professional

pharmacy services is more relevant to customer expectation. In addition, it might also be useful to have a comparative study of pharmacy customer devotion between repeat purchase customers and walk-in customers as it would help gain more insight to increase customer engagement and devotion.

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APPENDICES

Appendix A

Questionnaire

**แบบสอบถามเรื่อง การศึกษาปัจจัยที่มีผลต่อการสร้างความผูกพัน และการอุทิศตนของลูกค้าร้านยา
ในประเทศไทย**

คำชี้แจง

        แบบสอบถามนี้เป็นส่วนหนึ่งของการศึกษาวิจัยในระดับปริญญาเอก สาขาวิชาเภสัชศาสตร์สังคม และ
การบริหาร คณะเภสัชศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย โดยมีวัตถุประสงค์ เพื่อศึกษาปัจจัยที่มีผลต่อการสร้าง
ความผูกพัน และการอุทิศตนของลูกค้าร้านยา ข้อมูลที่ได้จะเป็นประโยชน์ต่อวงการวิชาการ ใช้วางแผนปรับปรุง
บริการวิชาชีพเภสัชกรรมชุมชน ตลอดจนพัฒนารูปแบบการให้บริการที่จำเป็นสำหรับร้านยา เพื่อสร้างมาตรฐาน
การบริการทางวิชาชีพเภสัชกรรมให้มีคุณภาพดียิ่งขึ้น อันจะก่อให้เกิดประโยชน์ต่อชุมชน สังคม และประเทศชาติ
ต่อไปในอนาคต

**ตอนที่1 ข้อมูลทั่วไป: โปรดตอบหรือกาเครื่องหมาย ✓ ลงใน [ ] ที่ตรงกับตัวท่านมากที่สุด และ
กรอกข้อความให้สมบูรณ์**

1. เพศ   [ ] ชาย   [ ] หญิง

2. อายุ   [ ] ต่ำกว่า 20 ปี   [ ] 20-40 ปี
                                      [ ] 41- 60 ปี   [ ] 61 ปีขึ้นไป

3. ระดับการศึกษา   [ ] ต่ำกว่าปริญญาตรี   [ ] ปริญญาตรี
                                      [ ] สูงกว่าปริญญาตรี
                                      [ ] อื่น ๆ (โปรดระบุ ....)

4. ท่านมีร้านยาที่ใช้ประจำหรือไม่

        [ ] มี   ชื่อร้านยา...

        [ ] ไม่มีร้านยาที่ใช้เป็นประจำ ➔ ผู้วิจัยขอขอบพระคุณท่านเป็นอย่างสูงที่ได้กรุณาสละเวลาตอบ

                                              แบบสอบถาม

5. ท่านไปที่ร้านยาที่ท่านไปประจำบ่อยแค่ไหน

        .... ครั้งต่อสัปดาห์   .... ครั้งต่อเดือน

        .... ครั้งต่อ 3 เดือน   .... ครั้งต่อ 6 เดือน

        [ ] อื่น ๆ (โปรดระบุ ....)

6. เหตุผลที่ท่านเลือกมาที่ร้านยาที่ท่านใช้ประจำ (สามารถตอบได้มากกว่า 1 คำถาม)

[ ] ซื้อยาทั่วไปที่ท่านต้องการ   [ ] ต้องการปรึกษาเภสัชกร

[ ] เพื่อซื้อยาที่ใช้ในการรักษาโรคที่ใช้เป็นประจำอย่างต่อเนื่อง

[ ] อื่น ๆ (โปรดระบุ ....)

7.สถานที่ตั้งของร้านยา

[ ] อยู่ในเขตชุมชน

[ ] บริเวณรอบเมืองด้านนอก

8. ท่านเคยได้รับบริการจากเภสัชกรในร้านยาที่ท่านใช้บริการประจำหรือไม่

[ ] เคย ➔ กรุณาตอบแบบสอบถามในหน้าถัดไป

[ ] ไม่เคย ➔ ผู้วิจัยขอขอบพระคุณท่านเป็นอย่างสูงที่ได้กรุณาสละเวลาตอบแบบสอบถาม

ตอนที่ 2 ความคิดเห็นเกี่ยวกับร้านยาที่ไปใช้ประจำและการอุทิศตนของลูกค้า

กรุณาคิดถึง<u>ร้านยาที่ท่านไปใช้บริการเป็นประจำ</u> และโปรดทำเครื่องหมาย ✔ ลงในช่อง □ ที่ตรงกับท่านมาก
ที่สุด

ร้านยาที่ท่านไป**ใช้ประจำมีบริการทางเภสัชกรรม**ดังต่อไปนี้หรือไม่	**มี**	**ไม่มี**
1. การจัดเก็บบันทึกข้อมูลเกี่ยวกับการใช้ยาของฉัน		
2. การให้ความรู้ที่จำเป็นต่อการรักษาโรคของฉันทุกครั้ง		
3. การให้คำแนะนำเรื่องยาเมื่อฉันสอบถามทุกครั้ง		
4. การสอบถามเกี่ยวกับยาทั้งหมดของฉันก่อนการจ่ายยา		
5. การถามเกี่ยวกับผลการรักษาเดิมของฉันก่อนการจ่ายยา		
6. การเปลี่ยน หรือยกเลิกยาที่ซ้ำซ้อนของฉัน		
7. การอธิบายการใช้ยาของฉันอย่างชัดเจน ทั้งโดยวาจาและลาย ลักษณ์อักษร เมื่อมีการส่งมอบยา		
8. การอธิบายการปฏิบัติตัวของฉันอย่างชัดเจน ทั้งโดยวาจาและลาย ลักษณ์อักษร เมื่อมีการส่งมอบยา		
9. การถามผลการรักษาของฉันทุกครั้งที่ฉันมาร้านนี้		
10. การช่วยวางแผนการใช้ยา การปรับเปลี่ยนยา หรือขนาดเพื่อให้ ผลการรักษามีประสิทธิภาพ		

โปรดกาเครื่องหมาย ✔ ลงในช่อง □ ที่ตรงกับความคิดเห็นของท่านมากที่สุดเกี่ยวกับร้านยาที่ไปใช้ประจำ

	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
ร้านยาที่ฉันไปใช้ประจำ....					
1. สะอาด สว่าง และดูน่าเชื่อถือ					
2. มีเภสัชกรแต่งกายดูน่าเชื่อถือ					
3. มีบริเวณให้คำปรึกษาแยกเป็นสัดส่วน					
4. มียาที่หลากหลาย					

	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
5. มีชื่อเสียงดี					
6. มีราคายาสมเหตุสมผล					
7. มียาส่วนใหญ่ที่ราคาถูกกว่าร้านยาอื่นๆ					
8. ตั้งอยู่ใกล้กับที่พัก หรือที่ทำงานของฉัน					
9. ให้ส่วนลดมากกับฉัน					
10. มีความสะดวกในการมาที่ร้านยานี้					
11. มีการให้บริการอื่นๆโดยไม่คิดมูลค่า เช่นวัดความดัน ระดับน้ำตาล ในเลือด หรือมวลกระดูก					
เภสัชกรประจำร้านยาที่ฉันไปใช้ประจำนี้...					
12. ให้การบริการทางเภสัชกรรม (เช่น ให้คำปรึกษาด้านโรคและยา) แก่ ฉันด้วยความ<u>ถูกต้อง และน่าเชื่อถือ</u>					
13. ให้บริการทางเภสัชกรรม (เช่น ให้คำปรึกษาด้านโรคและยา) แก่ฉัน ได้<u>รวดเร็ว ทันใจ</u>					
14. ให้บริการทางเภสัชกรรม (เช่น ให้คำปรึกษาด้านโรคและยา) แก่ฉัน ด้วยความ<u>เต็มใจเสมอ</u>					
15. มีความรู้ สุภาพ และมีอัธยาศัยไมตรี					
16. ทำให้ฉันรู้สึกไว้วางใจ และมั่นใจ					
ฉันรู้สึก...					
17. อยากมีส่วนร่วมในการแลกเปลี่ยนความคิดเห็นในร้านยาที่ใช้ ประจำนี้					
18. ดีทุกครั้งเมื่อมีใครพูดถึงร้านยานี้ในแง่ดี					
19. มีความสนใจเกี่ยวกับสินค้าและการให้บริการทุกครั้งที่มาที่ร้านยาที่ ใช้ประจำนี้					
20. ตั้งใจอย่างมากที่จะมาที่ร้านยาที่ใช้ประจำนี้ทุกครั้งที่ฉันต้องการรับ การบริการทางวิชาชีพเภสัชกรรม (เช่น การขอรับคำปรึกษาด้านโรค และยา)					
21. อยากจะรู้เพิ่มเติมเกี่ยวกับสินค้าและบริการอื่นๆในร้านยาที่ใช้ ประจำนี้					

	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
22. สบายใจทุกครั้งเมื่อได้รับบริการจากร้านยาที่ใช้ประจำนี้					
23. จะไม่อยากไปร้านยาอื่นอีกเลย เมื่อฉันได้เข้ามารับบริการที่ร้านยาที่ใช้ประจำนี้					
24. อยากมีส่วนร่วมในการพูดคุยกับคนอื่นๆ เกี่ยวกับร้านยาที่ใช้ประจำนี้					
25. กระตือรือร้นอยากบอกคนอื่นๆ เกี่ยวกับร้านยาที่ใช้ประจำนี้					
ฉัน...					
26. กลับมาซื้อที่ร้านยาที่ใช้ประจำนี้อีก เมื่อคิดถึงการซื้อยา					
27. ได้บอกสิ่งที่ดีของร้านยาที่ใช้ประจำนี้ให้กับคนอื่นๆ					
28. ได้สนับสนุน ส่งเสริมให้เพื่อนๆ และญาติมาที่ร้านยาที่ใช้ประจำนี้					
29. ได้ให้คำแนะนำที่ใช้ในการปรับปรุงร้าน หรือบริการกับร้านยาที่ใช้ประจำนี้					
30. ได้ให้คำแนะนำที่สร้างสรรค์อื่นๆกับร้านยาที่ใช้ประจำนี้					

ผู้วิจัยขอขอบพระคุณท่านเป็นอย่างสูงที่ได้กรุณาสละเวลาตอบแบบสอบถาม

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

Appendix B

Validity of Questionnaire

Part 1: Professional pharmacy services (PPS)

Question concerning professional pharmacy services	Are questions relevant to the concept of professional pharmacy services?			IOC Score	Remarks
Weighted Score	**1**	**0**	**-1**		
	Agree	Not sure	Disagree		
The community pharmacy I regularly visit the pharmacist provided following services (10's)					
records of my medication used at the pharmacy	3			1.00	
proper knowledge which is suitable for my treatment	3			1.00	
patient/ drug counseling service when asked or before dispensing	3			1.00	
medication review before dispensing medication	3			1.00	
enquiry about the medication history before dispensing medication	2	1		0.67	
changes or cancels some duplicating medications in my prescription	2	1		0.67	
give explanations verbally and in writing on how the customer should take the medication before dispensing	2	1		0.67	

Question concerning professional pharmacy services	Are questions relevant to the concept of professional pharmacy services?			IOC Score	Remarks
Weighted Score	**1**	**0**	**-1**		
	Agree	**Not sure**	**Disagree**		
gives explanations verbally and in writing and provides me with the list of items the customer should do to achieve maximal treatment outcome before dispensing	2	1		0.67	
enquiry about previous treatment outcome	2	1		0.67	
plan drug therapy, dose adjustment for effective medication used	2		1	0.67	

Part 2: Perceived quality of pharmacy structure (PQPS)

Question concerning perceived quality of pharmacy structure (3's)	Are questions relevant to the concept of perceived quality of pharmacy structure?			IOC Score	Remarks
Weighted Score	**1**	**0**	**-1**		
	Agree	**Not sure**	**Disagree**		
The community pharmacy I regularly visit….					
Look clean, has enough light and look professional	3			1.00	
The pharmacist dresses professionally	3			1.00	

Question concerning perceived quality of pharmacy structure (3's)	Are questions relevant to the concept of perceived quality of pharmacy structure?			IOC Score	Remarks
Weighted Score	**1**	**0**	**-1**		
	Agree	Not sure	Disagree		
has a separate counseling area	1	1	1	0.00	No change as it reflects key concept of perceived quality of pharmacy structure

Part 3: Marketing Mix (MM)

Question concerning marketing mix affecting the purchasing decision making (8's)	Are questions relevant to the concept of marketing Mix?			IOC Score	Remarks
Weighted Score	**1**	**0**	**-1**		
	Agree	Not sure	Disagree		
The community pharmacy I regularly visit…					
has a variety of medicinal products	2	1		0.67	
has a good reputation	3			1.00	
gives a reasonable price of medicine	3			1.00	
gives a comparatively lower price of medicine at this pharmacy which attracts me to the pharmacy	2	1		0.67	
has a near access to my home or work place	3			1.00	
gives me a good discount	2		1	0.33	No change as it reflects key concept of marketing mix

Question concerning marketing mix affecting the purchasing decision making (8's)	Are questions relevant to the concept of marketing Mix?			IOC Score	Remarks
Weighted Score	1	0	-1		
	Agree	Not sure	Disagree		
gives me a convenience to access the pharmacy	3			1.00	
provides me additional free of charge service e.g. measuring blood pressure, blood glucose and bone density	3			1.00	

Part 4: Perception about pharmacist (PAP)

Question concerning perception about pharmacist (5's)	Are questions relevant to the concept of perception about pharmacist?			IOC Score	Remarks
Weighted Score	**1**	**0**	**-1**		
	Agree	**Not sure**	**Disagree**		
The pharmacist of the community pharmacy I regularly visit ….					
provides the customer a pharmaceutical care service (consultation of disease and medication) with accurate knowledge and dependable service	3			1.00	
provides the customer a prompt pharmaceutical care service (consultation of disease and medication)	3			1.00	
provides the customer a pharmaceutical care service (consultation of disease and medication) with willingness	3			1.00	
is knowledgeable and courteous	3			1.00	
the pharmacist has ability to inspire trust and confidence giving me a focus on my health	3			1.00	

Part 5: Pharmacy Engagement (PE)

Question concerning pharmacy customer engagement	Are questions relevant to the concept of pharmacy customer engagement?			IOC Score	Remarks
Weighted Score	**1**	**0**	**-1**		
I feel…..	**Agree**	**Not sure**	**Disagree**		
like I would like to participate in sharing or exchanging ideas about the pharmacy	3			1.00	
like a personal compliment when someone one praises the pharmacy I regularly visits	2	1		0.67	
appreciated every time when coming to the pharmacy I regularly visits	1	2		0.33	changed to 'really excited to receive professional pharmacy service (e.g. consultation of disease or medication) at the pharmacy I regularly visits'
passionate about goods and services every time when coming to the pharmacy I regularly visits	3			1.00	
like to know more about products and services at the pharmacy I regularly visits	2	1		0.67	
happy when receiving the services at the pharmacy I regularly visit	3			1.00	
like to get involved and interacted with others about the pharmacy I regularly visits	1	1	1	0.00	No change as it reflects key concept of customer engagement

Question concerning pharmacy customer engagement	Are questions relevant to the concept of pharmacy customer engagement?			IOC Score	Remarks
Weighted Score	**1**	**0**	**-1**		
I feel…..	**Agree**	**Not sure**	**Disagree**		
like I does not want to visit other pharmacies when receiving the services at the pharmacy I regularly visits	1	1	1	0.00	No change as it reflects key concept of customer engagement
like being enthusiastic to inform others about the pharmacy I regularly visits	1	1	1	0.00	No change as it reflects key concept of customer engagement

Part 6: Pharmacy Customer Devotion (PCD)

Questions concerning pharmacy customer devotion (5's)	Are questions relevant to the concept of pharmacy customer devotion?			IOC Score	Remarks
Weighted Score	**1**	**0**	**-1**		
	Agree	Not sure	Disagree		
I…..					
come back to purchase the medication at the community pharmacy I regularly visit	1	1	1	0.00	No change as it reflects key concept of customer devotion
says positive things about the pharmacy to other people	3			1.00	
encourages friends and relatives to receive pharmaceutical care service with the pharmacy I regularly visit	3			1.00	
gives the pharmacy other constructive advices	1	1	1	0.00	No change as it reflects key concept of customer devotion
gives the pharmacy advice to improve the pharmacy or services of this pharmacy	2	1		0.67	

Appendix C

Approval from Ethical Committee (EC)

บันทึกข้อความ

ส่วนงาน คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่ 1 โทร.0-2218-3202

ที่ จว **969** /58   วันที่ **25** ธันวาคม 2558

เรื่อง แจ้งผลผ่านการพิจารณาจริยธรรมการวิจัย

เรียน คณบดีคณะเภสัชศาสตร์

สิ่งที่ส่งมาด้วย เอกสารแจ้งผ่านการรับรองผลการพิจารณา

ตามที่นิสิต/บุคลากรในสังกัดของท่านได้เสนอโครงการวิจัยเพื่อขอรับการพิจารณาจริยธรรม
การวิจัย กลุ่มสหสถาบัน ชุดที่ 1 จุฬาลงกรณ์มหาวิทยาลัย นั้น ในการนี้ กรรมการผู้ทบทวนหลักได้เห็นสมควร
ให้ผ่านการพิจารณาจริยธรรมการวิจัยได้ ดังนี้

โครงการวิจัยที่ 206.1/58 เรื่อง แบบจำลองสมการโครงสร้างสำหรับปัจจัยที่มีผลต่อการสร้าง
ความผูกพันและการอุทิศตนของลูกค้าร้านขายยา (A STRUCTURAL EQUATION MODEL FOR FACTORS
AFFECTING CUSTOMER ENGAGEMENT AND CUSTOMER DEVOTION TO COMMUNITY
PHARMACY) ของ นายสุจินต์ นิทัศน์ปกรณ์

จึงเรียนมาเพื่อโปรดทราบ

(ผู้ช่วยศาสตราจารย์ ดร.นันทรี ชัยชนะวงศาโรจน์)

กรรมการและเลขานุการ

คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน

กลุ่มสหสถาบัน ชุดที่ 1 จุฬาลงกรณ์มหาวิทยาลัย

เรียน ผศ.ภญ.ร.ต.อ.หญิง ดร.ฐณัฏฐา กิตติโสภี

เพื่อโปรดพิจารณาทราบ

(รศ.ภก.ดร.พรชัย โรจน์สิทธิศักดิ์)

รองคณบดีฝ่ายวิจัย

8 ม.ค.59

AF 02-12

The Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University
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Tel/Fax: 0-2218-3202 E-mail: eccu@chula.ac.th

COA No. 231/2015

Certificate of Approval

Study Title No. 206.1/58 : A STRUCTURAL EQUATION MODEL FOR FACTORS AFFECTING CUSTOMER ENGAGEMENT AND CUSTOMER DEVOTION TO COMMUNITY PHARMACY

Principal Investigator : MR. SUJIN NITADPAKORN

Place of Proposed Study/Institution : Faculty of Pharmaceutical Sciences,

Chulalongkorn University

The Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University, Thailand, has approved constituted in accordance with the International Conference on Harmonization – Good Clinical Practice (ICH-GCP) and/or Code of Conduct in Animal Use of NRCT version 2000.

Signature: *Prida Tasanapradit*   Signature: *Nuntaree Chaichanawongsaroj*

(Associate Professor Prida Tasanapradit, M.D.)   (Assistant Professor Nuntaree Chaichanawongsaroj, Ph.D.)

Chairman   Secretary

Date of Approval   : 17 December 2015   Approval Expire date : 16 December 2016

The approval documents including

1) Research proposal

2) Patient/Participant Information Sheet

3) Researcher

4) Questionnaire

Protocol No. 206-1/58
Date of Approval 17 DEC 2015
Approval Expire Date 16 DEC 2016

The approved investigator must comply with the following conditions:

1. The research/project activities must end on the approval expired date of the Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University (RECCU). In case the research/project is unable to complete within that date, the project extension can be applied one month prior to the RECCU approval expired date.
2. Strictly conduct the research/project activities as written in the proposal.
3. Using only the documents that bearing the RECCU's seal of approval with the subjects/volunteers (including subject information sheet, consent form, invitation letter for project/research participation (if available).
4. Report to the RECCU for any serious adverse events within 5 working days
5. Report to the RECCU for any change of the research/project activities prior to conduct the activities.
6. Final report (AF 03-12) and abstract is required for a one year (or less) research/project and report within 30 days after the completion of the research/project. For thesis, abstract is required and report within 30 days after the completion of the research/project.
7. Annual progress report is needed for a two- year (or more) research/project and submit the progress report before the expire date of certificate. After the completion of the research/project processes as No. 6.

AF 04-07

<center>ข้อมูลสำหรับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย</center>

ชื่อโครงการวิจัย แบบจำลองสมการ โครงสร้างสำหรับปัจจัยที่มีผลต่อการสร้างความผูกพัน และการอุทิศ
ตน ของลูกค้าร้านยา

ชื่อผู้วิจัย นายสุจินต์ นิทัศน์ปกรณ์ ตำแหน่ง นิสิตปริญญาเอก ภาควิชา เภสัชศาสตร์สังคมและบริหาร
คณะเภสัชศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

สถานที่ติดต่อผู้วิจัย (ที่ทำงาน) ภาควิชาเภสัชศาสตร์สังคมและบริหาร คณะเภสัชศาสตร์

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ขอเรียนเชิญท่านเข้าร่วมในการวิจัย ก่อนที่ท่านจะตัดสินใจเข้าร่วมในการวิจัย มีความจำเป็นที่ท่าน
ควรทำความเข้าใจว่างานวิจัยนี้ทำเพราะเหตุใด และเกี่ยวข้องกับอะไร กรุณาใช้เวลาในการอ่านข้อมูล
ต่อไปนี้อย่างละเอียดรอบคอบ และสอบถามข้อมูลเพิ่มเติมหรือข้อมูลที่ไม่ชัดเจนได้ตลอดเวลา

โครงการนี้เป็นการวิจัย เพื่อที่จะศึกษาปัจจัยที่มีผลต่อการสร้างความผูกพัน และการอุทิศตน ของ
ลูกค้าร้านยาในประเทศไทย การวิจัยมีวัตถุประสงค์ดังนี้

1. เพื่อศึกษาปัจจัยที่มีผลต่อการอุทิศตนของลูกค้าร้านยาโดยมีผลมาจากความผูกพันของลูกค้าร้านยา
2. เพื่อสร้างแบบจำลองในการอธิบายความสัมพันธ์ระหว่าง การบริการทางเภสัชกรรม คุณภาพที่
   ลูกค้าสามารถรับรู้ได้เกี่ยวกับร้านยา ความคิดเกี่ยวกับเภสัชกร ส่วนผสมทางการตลาด การอุทิศตน
   ของลูกค้าร้านยา ผ่านทางความผูกพันของลูกค้าร้านยา ในร้านยาในประเทศไทย

*ผู้มีส่วนร่วมในการวิจัยนี้ เป็นลูกค้าร้านยา โดยมีเกณฑ์การคัดเลือกผู้ตอบแบบสอบถามจากร้านยาคือ
ลูกค้าร้านยาสัญชาติไทยที่อายุทัยในกรุงเทพฯ ทำงานมีรายได้แล้ว สามารถอ่าน เขียนภาษาไทยได้ และ เคย
ได้รับบริการทางวิชาชีพเภสัชกรรม และซื้อยาที่ร้านยานั้นๆ อย่างน้อย 1 ครั้งในรอบ 3 เดือนจำนวน 660 คน
โดยการสุ่มแบบเฉพาะเจาะจง ผู้เข้าร้านยาที่ได้รับการเลือกแล้วในช่วงเวลาต่างๆกัน*

เหตุผลที่ท่านได้รับเชิญเข้าร่วมโครงการวิจัยนั้น เนื่องจากท่านได้เป็นหนึ่งในตัวแทนของลูกค้าร้านยาที่
ได้รับการบริการวิชาชีพเภสัชกรรม

*ผู้ดำเนินการวิจัย หรือตัวแทนที่ได้รับการอบรมเรื่องการเก็บข้อมูล ติดต่อทางร้านยาล่วงหน้า ก่อน
เดินทางไปร้านยาที่ได้รับการคัดเลือก เพื่อทำการขออนุญาต เจ้าของร้านยา เภสัชกรร้านยา ว่าผู้วิจัย หรือ
ตัวแทนที่ได้รับการอบรมเรื่องการเก็บข้อมูล จะเป็นผู้เก็บข้อมูลจากลูกค้าร้านยาหลังจากที่ได้รับบริการจาก
ร้านยาเรียบร้อยแล้ว โดยขอให้ลูกค้าร้านยาทำแบบสอบถามเกี่ยวกับ "ปัจจัยที่มีผลต่อการสร้างความผูกพัน
และการอุทิศตน ของลูกค้าร้านยา" จำนวน68 ข้อ ใช้เวลาประมาณ 10-15 นาที โดยมีบริเวณที่เป็นส่วนตัว
ภายในร้านยาสำหรับการตอบแบบสอบถาม หากผู้ตอบแบบสอบถามมีข้อสงสัยเกี่ยวกับแบบสอบถาม*

1

AF 04-07

สามารถสอบถามจากผู้ทำการเก็บข้อมูลได้ โดยเภสัชกรในร้านจะเป็นผู้ช่วยขออนุญาตลูกค้าเพื่อให้เกิด
ความร่วมมือ ในการตอบแบบสอบถาม ในการวิจัยนี้ผู้เข้าร่วมงานวิจัยความเสี่ยงของงานวิจัยนี้มี ไม่
มากกว่าความเสี่ยงเล็กน้อย แต่อาจรบกวนเวลาส่วนตัวของท่าน เนื่องจากผู้เข้าร่วมวิจัยมีความอิสระที่จะ
เลือกตอบหรือสามารถที่จะปฏิเสธที่จะตอบแบบสอบถามหรือปฏิเสธที่จะถูกสัมภาษณ์ได้ และเมื่อเสร็จ
สิ้นการวิจัยแล้ว ข้อมูลทั้งหมดที่ได้จากการวิจัยจะเก็บเป็นความลับไม่มีการเปิดเผยในเชิงบุคคล โดยรับ
แบบสอบถามที่ได้รับการตอบแล้วแล้วใส่ซองน้ำตาลแล้วปิดผนึก ส่งคืน ให้ส่งคืนกับผู้ทำการเก็บข้อมูล
และ ไม่อนุญาตให้เจ้าของร้านยาหรือเภสัชกร หรือเจ้าหน้าที่ร้านยาอ่าน หรือครอบครองแบบสอบถามที่
ได้รับการตอบเรียบร้อยแล้ว ตัวแบบสอบถามจะถูกทำลายหลังจากการวิจัยเสร็จสิ้น ข้อมูลใดที่สามารถ
ระบุถึงตัวท่านได้จะไม่ปรากฏในรายงาน การเสนอผลการวิจัยจะเสนอเป็นภาพรวมไม่มีการระบุเป็น
รายบุคคล การเข้าร่วมงานวิจัยของท่านเป็นโดยสมัครใจ และถอนตัวได้ทุกขณะ โดยไม่ต้องให้เหตุผลและ
ไม่มีผลกระทบในทางใด ๆ ต่อตัวท่าน และ งานวิจัยนี้ไม่มีการจ่ายค่าชดเชยการเสียเวลาและ ไม่มีของที่
ระลึก

ข้อมูลที่ท่านได้ให้แก่ผู้วิจัย จะเป็นประโยชน์อย่างมาก สามารถนำไปใช้กับการบริการทางเภสัช
กรรม ในร้านยาประเภทที่เป็นเจ้าของคนเดียว ร้านยาแบบที่มีสาขา สมาคมเภสัชกรรมชุมชน ประเทศไทย
และเจ้าหน้าที่ผู้มีอำนาจ อีกทั้งยังเป็นประโยชน์ในวงการวิชาการ เพราะสามารถนำไปต่อยอดความรู้
เกี่ยวกับทฤษฎีเรื่องความผูกพันของลูกค้าร้านยา และนำไปประยุกต์ใช้กับการบริการทางเภสัชกรรมใน
ร้านยาในประเทศไทย และการศึกษา วิจัยเพิ่มเติมในสาขาวิชาการตลาด จิตวิทยา และเภสัชศาสตร์สังคม
และบริหาร หากท่านไม่ได้รับการปฏิบัติตามข้อมูลดังกล่าวสามารถร้องเรียนได้ที่ คณะกรรมการพิจารณา
จริยธรรมการวิจัยในคนฯ 254 อาคารจามจุรี 1 ชั้น 2 ห้อง 210-211 ถ.พญาไท แขวงวังใหม่ เขตปทุมวัน
กรุงเทพฯ 10330 โทรศัพท์/โทรสาร 0-22183202 Email: eccu@chula.ac.th

เลขที่โครงการวิจัย 206.1/58
วันที่รับรอง 17 ธ.ค. 2558
วันหมดอายุ 16 ธ.ค. 2559

2

Appendix D

Additional Results from AMOS

Significant Level
Regression Weights: (Group number 1 - Default model): Total Sample

			Estimate	S.E.	C.R.	P	Label
PE	<---	PQPS	-0.07	0.07	-0.99	0.322	par_22
PE	<---	MM	0.46	0.10	4.51	***	par_23
PE	<---	PAP	0.28	0.07	3.91	***	par_24
PCD	<---	PE	0.82	0.11	7.43	***	par_25
PCD	<---	MM	-0.02	0.05	-0.33	0.738	par_26
PCD	<---	PAP	0.10	0.05	1.89	0.059	par_27
PCD	<---	PQPS	-0.07	0.05	-1.45	0.147	par_28
Sec303_1	<---	PQPS	1.00				
Pha302	<---	PQPS	0.81	0.08	10.47	***	par_1
Cle301_1	<---	PQPS	0.49	0.06	8.69	***	par_2
Ser311	<---	MM	1.00				
Dis309_1	<---	MM	0.70	0.09	7.96	***	par_3
PriceL307	<---	MM	0.70	0.09	7.87	***	par_4
PriceR306_1	<---	MM	0.68	0.08	8.59	***	par_5
ManyRx304	<---	MM	0.59	0.07	8.19	***	par_6
Trust316	<---	PAP	1.00				
Pol315	<---	PAP	0.91	0.04	22.78	***	par_7
RxWel314	<---	PAP	1.06	0.05	21.16	***	par_8
Rxquick313	<---	PAP	0.98	0.06	17.75	***	par_9
RxRely312	<---	PAP	0.95	0.05	17.94	***	par_10
Opin317_1	<---	PE	1.00				
Happy318	<---	PE	0.97	0.07	14.47	***	par_11
AttRx319	<---	PE	0.70	0.06	11.23	***	par_12
Attemp320	<---	PE	0.93	0.08	11.34	***	par_13
KnoMore321_1	<---	PE	0.80	0.07	11.80	***	par_14
Relax322_1	<---	PE	1.04	0.10	10.67	***	par_15
LoveRx323	<---	PE	1.15	0.10	11.59	***	par_16
Pati324	<---	PE	1.01	0.08	12.23	***	par_17
Tell325	<---	PE	1.17	0.10	12.04	***	par_18
ComeBk326	<---	PCD	1.00				
TellOther327	<---	PCD	1.39				
Support328	<---	PCD	1.45	0.05	27.74	***	par_19
Improve329	<---	PCD	1.38	0.09	14.82	***	par_20
Create330_1	<---	PCD	1.37	0.09	15.87	***	par_21
Fam305_1	<---	MM	0.45	0.07	6.68	***	par_32
Near308_1	<---	MM	0.27	0.06	4.49	***	par_33
Conv310_1	<---	MM	0.32	0.06	5.57	***	par_34

Regression Weights: (Group number 1 - Default model): High PPS

			Estimate	S.E.	C.R.	P	Label	
PE	<---	PQPS	-0.016	0.119	-0.131	0.896	par_26	
PE	<---	MM	0.426	0.195	2.185	0.029	par_27	
PE	<---	PAP	0.486	0.133	3.669	***	par_28	
PCD	<---	PE	0.59	0.122	4.822	***	par_29	
PCD	<---	PQPS	-0.043	0.068	-0.625	0.532	par_30	
PCD	<---	MM	-0.039	0.122	-0.318	0.75	par_31	
PCD	<---	PAP	0.172	0.082	2.114	0.034	par_32	
Sec303_1	<---	PQPS	1					
Pha302	<---	PQPS	0.71	0.126	5.647	***	par_1	
Cle301_1	<---	PQPS	0.714	0.11	6.473	***	par_2	
Trust316	<---	PAP	1					
Pol315	<---	PAP	0.935	0.073	12.803	***	par_3	
RxWel314	<---	PAP	1.034	0.102	10.158	***	par_4	
Rxquick313	<---	PAP	1.056	0.103	10.219	***	par_5	
RxRely312	<---	PAP	0.997	0.103	9.702	***	par_6	
Opin317_1	<---	PE	1					
Happy318	<---	PE	0.768	0.06	12.843	***	par_7	
AttRx319	<---	PE	0.566	0.059	9.527	***	par_8	
Attemp320	<---	PE	0.782	0.09	8.647	***	par_9	
KnoMore321_1	<---	PE	0.666	0.071	9.391	***	par_10	
Relax322_1	<---	PE	0.893	0.114	7.849	***	par_11	
LoveRx323	<---	PE	0.918	0.089	10.354	***	par_12	
Pati324	<---	PE	0.95	0.079	12.06	***	par_13	
Tell325	<---	PE	0.933	0.085	10.922	***	par_14	
ComeBk326	<---	PCD	1					
TellOther327	<---	PCD	1.374	0.16	8.605	***	par_15	
Support328	<---	PCD	1.481	0.171	8.658	***	par_16	
Improve329	<---	PCD	1.469	0.2	7.338	***	par_17	
Create330_1	<---	PCD	1.48	0.197	7.511	***	par_18	
Ser311	<---	MM	1					
Dis309_1	<---	MM	0.836	0.204	4.106	***	par_19	
PriceL307	<---	MM	0.822	0.194	4.234	***	par_20	
PriceR306_1	<---	MM	0.831	0.177	4.699	***	par_21	
ManyRx304	<---	MM	0.655	0.138	4.729	***	par_22	
Fam305_1	<---	MM	0.377	0.114	3.313	***	par_33	
Near308_1	<---	MM	0.299	0.109	2.751	0.006	par_34	
Conv310_1	<---	MM	0.43	0.109	3.929	***	par_35	

Regression Weights: (Group number 1 - Default model): Low PPS

			Estimate	S.E.	C.R.	P	Label	
PE	<---	PQPS	-0.05	0.08	-0.62	0.535	par_29	
PE	<---	MM	0.514	0.142	3.624	***	par_30	
PE	<---	PAP	0.085	0.086	0.984	0.325	par_31	
PCD	<---	PE	0.746	0.183	4.073	***	par_32	
PCD	<---	PQPS	0.007	0.078	0.086	0.931	par_33	
PCD	<---	MM	0.021	0.089	0.233	0.816	par_34	
PCD	<---	PAP	-0.019	0.053	-0.361	0.718	par_35	
Sec303_1	<---	PQPS	1					
Pha302	<---	PQPS	0.872	0.113	7.698	***	par_1	
Cle301_1	<---	PQPS	0.421	0.066	6.369	***	par_2	
Ser311	<---	MM	1					
Conv310_1	<---	MM	0.233	0.085	2.732	0.006	par_3	
Dis309_1	<---	MM	0.689	0.12	5.755	***	par_4	
Near308_1	<---	MM	0.224	0.089	2.516	0.012	par_5	
PriceL307	<---	MM	0.694	0.131	5.312	***	par_6	
PriceR306_1	<---	MM	0.683	0.112	6.116	***	par_7	
Fam305_1	<---	MM	0.596	0.106	5.644	***	par_8	
ManyRx304	<---	MM	0.492	0.084	5.887	***	par_9	
Trust316	<---	PAP	1					
Pol315	<---	PAP	0.913	0.063	14.483	***	par_10	
RxWel314	<---	PAP	0.915	0.067	13.589	***	par_11	
Rxquick313	<---	PAP	0.898	0.07	12.848	***	par_12	
RxRely312	<---	PAP	0.913	0.067	13.615	***	par_13	
Opin317_1	<---	PE	1					
Happy318	<---	PE	1.08	0.14	7.705	***	par_14	
AttRx319	<---	PE	0.659	0.117	5.637	***	par_15	
Attemp320	<---	PE	0.922	0.133	6.922	***	par_16	
KnoMore321_1	<---	PE	0.723	0.133	5.46	***	par_17	
Relax322_1	<---	PE	1.133	0.189	6.004	***	par_18	
LoveRx323	<---	PE	1.147	0.19	6.042	***	par_19	
Pati324	<---	PE	1.22	0.187	6.524	***	par_20	
Tell325	<---	PE	1.333	0.212	6.285	***	par_21	
ComeBk326	<---	PCD	1					
TellOther327	<---	PCD	1.829	0.237	7.722	***	par_22	
Support328	<---	PCD	1.816	0.234	7.747	***	par_23	
Improve329	<---	PCD	1.678	0.258	6.494	***	par_24	
Create330_1	<---	PCD	1.631	0.231	7.06	***	par_25	

Beta Coefficients

Standardized Regression Weights: Total Sample

			Estimate
PE	<---	PQPS	-0.08
PE	<---	MM	0.552***
PE	<---	PAP	0.272***
PCD	<---	PE	0.954***
PCD	<---	MM	-0.03
PCD	<---	PAP	0.12
PCD	<---	PQPS	-0.09
Sec303_1	<---	PQPS	0.68
Pha302	<---	PQPS	0.73
Cle301_1	<---	PQPS	0.53
Ser311	<---	MM	0.58
Dis309_1	<---	MM	0.52
PriceL307	<---	MM	0.58
PriceR306_1	<---	MM	0.67
ManyRx304	<---	MM	0.67
Trust316	<---	PAP	0.86
Pol315	<---	PAP	0.83
RxWel314	<---	PAP	0.90
Rxquick313	<---	PAP	0.84
RxRely312	<---	PAP	0.82
Opin317_1	<---	PE	0.66
Happy318	<---	PE	0.71
AttRx319	<---	PE	0.59
Attemp320	<---	PE	0.71
KnoMore321_1	<---	PE	0.63
Relax322_1	<---	PE	0.94
LoveRx323	<---	PE	0.77
Pati324	<---	PE	0.70
Tell325	<---	PE	0.75
ComeBk326	<---	PCD	0.68
TellOther327	<---	PCD	0.79
Support328	<---	PCD	0.81
Improve329	<---	PCD	0.71
Create330_1	<---	PCD	0.72
Fam305_1	<---	MM	0.44
Near308_1	<---	MM	0.27
Conv310_1	<---	MM	0.34

Standardized Regression Weights: High PPS Group

			Estimate
PE	<---	PQPS	-0.011
PE	<---	MM	0.311***
PE	<---	PAP	0.339***
PCD	<---	PE	0.918***
PCD	<---	PQPS	-0.048
PCD	<---	MM	-0.044
PCD	<---	PAP	0.187***
Sec303_1	<---	PQPS	0.663
Pha302	<---	PQPS	0.586
Cle301_1	<---	PQPS	0.598
Trust316	<---	PAP	0.839
Pol315	<---	PAP	0.819
RxWel314	<---	PAP	0.877
Rxquick313	<---	PAP	0.859
RxRely312	<---	PAP	0.879
Opin317_1	<---	PE	0.8
Happy318	<---	PE	0.703
AttRx319	<---	PE	0.573
Attemp320	<---	PE	0.734
KnoMore321_1	<---	PE	0.627
Relax322_1	<---	PE	1.000
LoveRx323	<---	PE	0.741
Pati324	<---	PE	0.818
Tell325	<---	PE	0.747
ComeBk326	<---	PCD	0.617
TellOther327	<---	PCD	0.742
Support328	<---	PCD	0.786
Improve329	<---	PCD	0.692
Create330_1	<---	PCD	0.719
Ser311	<---	MM	0.421
Dis309_1	<---	MM	0.445
PriceL307	<---	MM	0.51
PriceR306_1	<---	MM	0.626
ManyRx304	<---	MM	0.564
Fam305_1	<---	MM	0.276
Near308_1	<---	MM	0.228
Conv310_1	<---	MM	0.36

Standardized Regression Weights: Low PPS Group

			Estimate
PE	<---	PQPS	-0.07
PE	**<---**	MM	0.695***
PE	<---	PAP	0.11
PCD	**<---**	PE	0.938***
PCD	<---	PQPS	0.01
PCD	<---	MM	0.04
PCD	<---	PAP	-0.03
Sec303_1	<---	PQPS	0.69
Pha302	<---	PQPS	0.81
Cle301_1	<---	PQPS	0.57
Ser311	<---	MM	0.60
Conv310_1	<---	MM	0.23
Dis309_1	<---	MM	0.55
Near308_1	<---	MM	0.21
PriceL307	<---	MM	0.57
PriceR306_1	<---	MM	0.68
Fam305_1	<---	MM	0.56
ManyRx304	<---	MM	0.57
Trust316	<---	PAP	0.91
Pol315	<---	PAP	0.87
RxWel314	<---	PAP	0.81
Rxquick313	<---	PAP	0.84
RxRely312	<---	PAP	0.81
Opin317_1	<---	PE	0.58
Happy318	<---	PE	0.70
AttRx319	<---	PE	0.51
Attemp320	<---	PE	0.67
KnoMore321_1	<---	PE	0.54
Relax322_1	<---	PE	0.91
LoveRx323	<---	PE	0.73
Pati324	<---	PE	0.76
Tell325	<---	PE	0.77
ComeBk326	<---	PCD	0.56
TellOther327	<---	PCD	0.88
Support328	<---	PCD	0.86
Improve329	<---	PCD	0.72
Create330_1	<---	PCD	0.71

Model Fit

Model Fit – Total Sample

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	191	301.96	274	0.118	1.102
Saturated model	465	0	0		
Independence model	30	8015.951	435	0	18.427

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	0.028	0.955	0.923	0.563
Saturated model	0	1		
Independence model	0.256	0.208	0.153	0.195

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	0.962	0.94	0.996	0.994	0.996
Saturated model	1		1		1
Independence model	0	0	0	0	0

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.016	0	0.025	1
Independence model	0.204	0.2	0.208	0

Model Fit – High PPS Group

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF	CFI
Default model	181	320.391	284	0.068	1.128	0.992
Saturated model	465	0	0			1
Independence model	30	4845.423	435	0	11.139	0

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	0.031	0.926	0.879	0.566
Saturated model	0	1		
Independence model	0.226	0.234	0.181	0.219

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	0.934	0.899	0.992	0.987	0.992
Saturated model	1		1		1
Independence model	0	0	0	0	0

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.023	0	0.034	1
Independence model	0.201	0.196	0.206	0

Model Fit – Low PPS Group

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	170	328.544	295	0.087	1.114
Saturated model	465	0	0		
Independence model	30	3289.074	435	0	7.561

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	0.042	0.892	0.83	0.566
Saturated model	0	1		
Independence model	0.245	0.217	0.163	0.203

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	0.9	0.853	0.989	0.983	0.988
Saturated model	1		1		1
Independence model	0	0	0	0	0

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.026	0	0.041	0.998
Independence model	0.199	0.192	0.205	0

VITA

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