Factors affecting pharmacy engagement and pharmacy customer devotion in community pharmacy: A structural equation modeling approach

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Abstract

Background: The concept of customer engagement and devotion has been applied in various service businesses to keep the customers with business. However, a limited number of studies were performed to examine the context of customer engagement and devotion in pharmacy business which focus on the impact of customer perceptions about pharmacists, perceived quality of pharmacy structure, medication price strategy on pharmacy engagement and pharmacy customer devotion in a pharmacy providing pharmaceutical care to the customers.

Objective: This study aimed to assess a conceptual model depicting the relationships among customer perceptions about pharmacists, pharmacy quality structure, medication price, customer engagement, and customer devotion. And also aimed to assess and measure if there is a direct or indirect relationship between these factors.

Methods: A quantitative study was conducted by using self-administered questionnaires. Two hundred and fifty three customers who regularly visited the pharmacy were randomly recruited from a purposively selected 30 community pharmacies in Bangkok. The survey was completed during February to April 2016. A structural equation model (SEM) was used to assess the direct and indirect relationships between constructs.

Results: A total of 253/300 questionnaires were returned for analysis, and the response rate was 84%. Only perceptions about pharmacist in customers receiving professional pharmacy services was statically significant regarding relation of each construct.

Conclusion: The study confirmed the indirect positive influence of customer perceptions about pharmacist on pharmacy customer devotion in providing pharmacy services via pharmacy engagement. It was customer perceptions about pharmacist that influenced customer retention, positive word of mouth and constructive advice to pharmacies, not quality of pharmacy structure and medication price. To create a long term impact on community pharmacy business, pharmacist is the key success factor.

Keywords

Consumer Behavior; Community Pharmacy Services; Pharmacies; Patient Satisfaction; Professional-Patient Relations; Pharmacists; Commerce; Surveys and Questionnaires; Models, Theoretical; Thailand

INTRODUCTION

The community pharmacy business in Thailand has a value over of USD 570 million in 2015 from over 15,000 drugstores, with a growth of 15-20% annually. Together with a strong market growth, a level of competition has substantially increased and this increase has negatively affected conventional ‘commodity type’ drug stores to difficulty operate in a price cutting environment. This is worsened when factoring in a sharp increase in number of small to medium size community pharmacies in Thailand. The opening of the Association of Southeast Asian Nations (ASEAN) Economic Cooperation in 2015 has contributed to customer retention in other business categories. The study done by Castaldo et al. revealed that trust in pharmacists was a major driver directly or indirectly influence through satisfaction on the loyalty in community pharmacies. Antunes et al. found that customer loyalty to the pharmacies was not only based on pharmacist professional competency but it also relied on pharmacists’ social based communication skill. Garnering new customers is key to business; however, keeping existing customers is an even more imperative and
challenging job. Retaining existing customers creates more value for a business because of low operating costs in comparison to bringing in new customers. Repeat customers not only correspond to a stable source of revenues, but they may create positive word-of-mouth (WoM). Positive WoM from existing customers could bring in new customers to the pharmacies. A business requires customer devotion, a combining act of repeat purchase, word of mouth and constructive feedback, to retain existing customers. It has been clearly shown that customer devotion plays a pivotal role in long term business success in several business types. Studies in marketing show a relationship between customer loyalty, engagement and sales turnover in various business arenas (e.g. hotel, telecommunication, retail stores, consultant business). Furthermore, evidence from an international study across eight countries in telecommunication services revealed positive outcome on long term profitability from customer engagement and loyalty. However, the relationship has not yet been verified and established in a community pharmacy setting.

There were numerous factors directly affecting customer devotion. Customer engagement was the most widely cited factor. Over two decades, many studies about service business, customer relationship management and retail marketing had been focused on customer engagement and marketing strategy. 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”. The term has recently been derived from the concept of customer satisfaction, which was used in relationship marketing. Another important aspect widely seen in community pharmacy to attract customers is medication price strategy. It was found to be a strong factor affecting repeat purchase, customer commitment or customer devotion in various business types, including traditional community pharmacy. However, customer decisions to buy in a particular pharmacy repeatedly did not depend on only the prices of medicines but also the service quality. In the community pharmacy context, service quality has been divided into two parts: which are perceived quality of pharmacy structure and perceptions about pharmacist. To distinguish between the physical and human aspects. It is crucial to explore whether medication price strategy, perceived quality of pharmacy structure and customer perceptions about pharmacist can affect pharmacy customer engagement and devotion. Perceived quality of pharmacy structure i.e. physical facilities, equipment, and appearance of personnel can influence engagement in pharmacies. In the context of community pharmacy, product also includes the services from pharmacists, thus ability to perform pharmacy service dependently and accurately (customer perceptions about pharmacists) should affect the customer engagement. Price, in marketing theory, is one of the important factors that engages customers and make up a decision to purchase goods or services from the firms. When customers are engaged to the pharmacies, they will be more likely to come back to purchase, say positive things and encourage people to the pharmacies. Traditionally, it was not important the community pharmacies need to have pharmacists on duty at all opening hours. Thai FDA has recently implemented Good Pharmacy Practice regulation (GPP) to regulate that every community pharmacy must have pharmacist on duty covering all pharmacy operating period to provide pharmacy services. It is also worth exploring whether perceived quality of pharmacy structure, customer perceptions about pharmacist, medication price can directly affect customer devotion in the context of community pharmacy setting.

Therefore, the objective of the study was to create a model for community pharmacies providing professional pharmacy services for explaining the relationship among customer perceptions about pharmacist, perceived quality pharmacy structure, medication price strategy and pharmacy customer devotion via pharmacy engagement. The conceptual model was proposed showing that perceived quality of pharmacy structure (PQPS), customer perceptions about pharmacist (PAP) and medication price strategy (PS) are influencing factors on pharmacy engagement (PE). Customer engagement functions as a moderator between these factors and pharmacy customer devotion. The hypothesized model as well as the hypothesis are portrayed in Figure 1.

METHODS

The survey was carried out from February to April 2016 by using self-administered questionnaires. The questionnaire was approved by Chulalongkorn University ethical committee. The study population was Thai citizens who lived in the Bangkok Metropolitan area and receive service from community pharmacies in Bangkok and vicinity in the past three months. The unit of analysis was the customer who received pharmacy professional services at community pharmacy. The criteria for including the subject into the study were Thai citizen 1) who earned a living, 2) could read or write Thai language, 3) who received pharmaceutical services multiple times at a study community pharmacy in the past three months.

With the anticipated effect size 0.25, desired statistical power level 0.8, number of latent variables 5, number of observed variables 25 and probability level 0.05, the minimum sample size to detect effect was 229. Thirty community pharmacies in seven districts of Bangkok area were purposively selected to be sites of data collection if they were interested in participating in the study. Pharmacy customers were randomly recruited to answer the questionnaire if they visited the same pharmacies multiple times in the past three months. The customers who visited the pharmacies once were not included in the study because they would not be able to rate the questionnaire and not repeat purchase customers. To ensure coverage of sample size, 10 questionnaires were distributed to each of these 30 pharmacies. Data was collected at each site during one or two days by researcher assistants. To avoid researcher assistants’ bias in sample selection, questionnaire was regulated to distribute to every other pharmacy customer.
Measurement

The Thai questionnaire used for data collection process was developed from literature review and related studies to fit the community pharmacy context and Thai culture. It was four pages and required 10-15 minutes to complete. PCD was derived from customer devotion concept.6 PE was extracted from customer engagement theories used in both academic, business and pharmacy area.15,17,33,34 Medication price strategy measurement was adapted from marketing strategy concept in community pharmacy and other business.4,19 PQPS question was adapted from ServPerf concept.28 The five point Likert scale was used to measure each construct.

Content validity of the measurement was performed using itemized objective congruence (IOC) by three experts in the area of education, marketing and pharmacy. The questionnaire comprising of 30 questions was sent to experts to evaluate if the content really measured the construct of customer perceptions about pharmacist, quality of pharmacy structure, medication price strategy. The questions with IOC score less than 0.67 were deleted from the measurement except only the case that the questions theoretically reflected key concepts of the constructs. The questions used in the questionnaire with the IOC score were displayed in Table 1. Exploratory factor analysis was performed using the pilot study in 50 customers to adjust the measurement.

Data Analysis

SPSS version 22 was used to analyze descriptive statistics, exploratory analysis and correlation analysis. An exploratory analysis was done by SPSS. A confirmatory analysis and a path analysis were performed by IBM SPSS Statistics AMOS version 22 licensed by Chulalongkorn University, Thailand to establish a structural equation model.

Independent variables in this study were perceived quality of pharmacy structure, customer perceptions about pharmacist and medication price strategy. Pharmacy engagement was the only mediator in the model. Pharmacy customer devotion was considered as a dependent variable. The data set was tested with normal probability plot to check normal distribution of all variables prior to the analysis.

RESULTS

A total of 253/300 copies of questionnaires were returned for analysis and the response rate was 84%. The majority of participants were female (n=93, 76.3%), age between 20-40 years old and with bachelor degree (n=164, 64.8%).
Table 1. Itemized objective congruence (IOC)

| Weighted Score | Agree (1) | Not sure (0) | Disagree (-1) | IOC Score |
|----------------|-----------|--------------|---------------|-----------|
| Perceived quality of pharmacy structure (PQPS): Are questions relevant to the concept of perceived quality of pharmacy structure? (3's) | | | | |
| The community pharmacy I regularly visit…... | 3 | 1 | 1 | 0.00* |
| the pharmacist looks clean, has enough light and looks professional | | | | |
| the pharmacist dresses professionally | | | | |
| has a separate counseling area | | | | |
| Medication Price Strategy (PS): Are questions relevant to the concept of marketing Mix? (5's) | | | | |
| The community pharmacy I regularly visit…... gives a comparatively lower price of medicine at this pharmacy which attracts me to the pharmacy | 2 | 1 | 1 | 0.67 |
| gives me a good discount | | | | 0.33 a |
| Customer Perceptions about pharmacist (PAP): Are questions relevant to the concept of perceptions about pharmacist? (5's) | | | | |
| 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 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 |
| Pharmacy Engagement (PE): Are questions relevant to the concept of pharmacy customer engagement? | | | | |
| I feel like I would like to participate in sharing or exchanging ideas about the pharmacy | 3 | 1 | | 0.67 |
| I feel appreciated every time when coming to the pharmacy I regularly visits | 1 | 2 | | 0.33 a |
| I feel passionate about goods and services every time when coming to the pharmacy I regularly visits | 3 | | | 1.00 |
| I feel like to know more about products and services at the pharmacy I regularly visits | 2 | 1 | | 0.67 |
| I feel happy when receiving the services at the pharmacy I regularly visit | 3 | | | 1.00 |
| I feel like to get involved and interacted with others about the pharmacy I regularly visits | 1 | 1 | 1 | 0.00 b |
| I feel like I does not want to visit other pharmacies when receiving the services at the pharmacy I regularly visits | 1 | 1 | 1 | 0.00 b |
| I feel like being enthusiastic to inform others about the pharmacy I regularly visits | 1 | 1 | 1 | 0.00 b |
| Pharmacy Customer Devotion (PCD): Are questions relevant to the concept of pharmacy customer devotion? (5's) | | | | |
| I come back to purchase the medication at the community pharmacy I regularly visit | 1 | 1 | 1 | 0.00 b |
| I say positive things about the pharmacy to other people | 3 | | | 1.00 |
| I encourage friends and relatives to receive pharmaceutical care service with the pharmacy I regularly visit | 3 | | | 1.00 |
| I give the pharmacy other constructive advices | 1 | 1 | 1 | 0.00 b |
| I give the pharmacy advice to improve the pharmacy or services of this pharmacy | 2 | 1 | | 0.67 |

* No change as it reflects key concept of perceived quality of pharmacy structure
b No change as it reflects key concept of marketing mix
changerecalled to ‘really excited to receive professional pharmacy service (e.g. consultation of disease or medication) at the pharmacy I regularly visits’

The results revealed the highest mean (out of five) among four constructs were customer perceptions about pharmacist (4.37 SD=0.54). The lowest mean was medication price strategy. Among the concepts, perceptions about pharmacist and perceived quality of pharmacy structure showed mean values greater than four. All Pearson correlations among variables were statistically significant. Customer perceptions about pharmacist had more influencing on pharmacy engagement (correlation coefficient=0.52) than medication price strategy (correlation coefficient=0.38) shown in Table 3. Interestingly, the data showed that correlation between perceived quality pharmacy structure and pharmacy customer devotion was the lowest. Reliability test was done with the Cronbach’s coefficient alpha. All of the Cronbach’s coefficient alpha value was higher than 0.7 (Table 4).

Confirmatory factor analysis was performed for all five constructs. Number of observed variables for each construct is shown in Table 4. The factor loadings from the standardized regression weight for each observed variable were in the range of 0.5 -0.95. The model had a good fit (p-value=0.06, adjusted chi-square (CMIN/DF)=1.16, Goodness of Fit Index (GFI)=0.93, Comparatively Fit Index (CFI)=0.99, and Root Mean Square Error Approximation (RMSEA)=0.03). The maximum likelihood was used in the SEM. The detail of SEM was displayed in Figure 2. SEM revealed that pharmacy engagement was significantly associated with pharmacy customer devotion (the standardized path coefficient=0.97, p<0.05). Perceptions about pharmacist was the only factor showing statistical significant association with pharmacy engagement (the standardized path coefficient=0.45 p<0.05). Data showed no direct effect of perceived quality of pharmacy structure (p=0.846), customer perceptions about pharmacist.
Pharmacy engagement means that customers felt being partners of the pharmacies, appreciated and enjoyable, satisfied, happily involved with the pharmacies. The study also showed that pharmacy engagement had a significant relationship with pharmacy customer devotion. When customers felt appreciated and satisfied with pharmacy services, they would encourage friends to use the service and give constructive advice to continuously improve services and finally repurchase medications at the pharmacies. It is similar to other industries that showed high association between pharmacy engagement process and pharmacy customer devotion.  

The current study demonstrated that customer engagement was a mediator in a relationship between customer perceptions about pharmacist and pharmacy customer devotion. It confirmed the concept of customer engagement 5,10,11 and highlighted the importance of pharmacy engagement as a process involving customers and making customers ready before proceeding to customer devotion. The engagement process was to increase the communication skill of community pharmacists. 5,33 It was quite important to ensure that the community pharmacists allowed customers to participate in sharing or exchanging ideas about the pharmacies, made customers feel excited to receive professional pharmacy services, got customer involved and interacted with others about the pharmacy and made them feel passionate and enthusiastic about the community pharmacies.

Customer perceptions about pharmacists had indirect effect on pharmacy customer devotion via pharmacy engagement even though there were no direct effects of customer perceptions about pharmacists on pharmacy customer devotion. Therefore, pharmacists were the key persons who engaged and retained customers with the pharmacy, not pharmacy structure or medication price. The finding was aligned with the result from the Australian study 8 and the study of Lostakova and Horakova on the usefulness of high quality services from pharmacists, intensive and effective pharmacist communication and sharing information with the customers in enhancing retention and loyalty to pharmacies. 23 In Australian study, customers believed that community pharmacists would give them with increased necessary medicines information, improve their medicines management ability, and reduce their medicine concerns. These customers’ beliefs had a significant association with willingness to return for the use the pharmacy services at the same community pharmacies.

Concerning the limitation of the study, the generalizability may be the first point to mention. It was from the fact that the data was collected from only Bangkok area which may be the first point to mention. It was from the fact that most community pharmacies in Bangkok area are suburban, not urban, so the result from the current study may not have generalizability. The second point was the study was done in 2016, and during that period, the pharmacy practice and service in Bangkok area may not have change due to the new law of pharmacy practice. The third point was the study was done in Bangkok area which may not represent the whole of Thailand.

Table 3. Mean, standard deviation (SD) of construct, correlation and covariance among the constructs (n=253)

| Constructs                 | Mean (SD) | PCD     | PE     | PQPS   | PS     | PAP     |
|----------------------------|-----------|---------|--------|--------|--------|---------|
| Pharmacy Customer Devotion (PCD) | 3.88 (0.75) | 1 (0.26) |        |        |        |         |
| Perceived Quality of Pharmacy Structure (PQPS) | 4.30 (0.55) | 0.18** (0.06) | 0.26** (0.11) | 1 (0.03) |        |         |
| Price Strategy (PS) | 3.86 (0.72) | 0.42** (0.03) | 0.38** (0.13) | 0.21** (0.08) | 1 (0.25) |         |
| Perceptions about Pharmacist (PAP) | 4.37 (0.54) | 0.51** (0.14) | 0.52** (0.18) | 0.31** (0.09) | 0.40** (0.11) | 1 (0.02) |

Five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), number of items used to measure for PCD = 5’s, PE = 9’s, PQPS = 3’s, PS = 3’s, and PAP = 5’s

** Correlation is significant at the 0.01 level (2-tailed)
pharmacy service was expected to be prevalent. However, the Thai Food and Drug Administration (FDA) has implemented Good Pharmacy Practice (GPP) regulation nationwide. The community pharmacies in urban area will eventually apply pharmacy service practices similar to community pharmacies in Bangkok area. It might be useful to have a comparative study of pharmacy customer devotion between regular customers and walk-in customers will help gain more insight to increase customer engagement and devotion. All data points were collected at the same time so directionality of causal relationship is harder to establish. Bias might have been found in the sampling procedure and might not reflect true representation of pharmacy customers. There also might be a social desirable bias as the data collection was done at the pharmacy. Lastly, the tools were partially adapted from the customer engagement used in other countries which might not absolutely fit with the Thai context.

CONCLUSIONS

Results from structural equation modeling showed all variables had no direct relationship with pharmacy customer devotion. ‘Customer perceptions about pharmacist’ was the only factor showing indirect effect to pharmacy customer deviation via pharmacy engagement. Pharmacy engagement had a strong association with pharmacy customer devotion. Thus, pharmacy engagement was an important mediator between the relationship of customer perceptions about pharmacist and pharmacy customer devotion. It can be concluded that positive customer perceptions about pharmacist in providing pharmacy services can increase both pharmacy engagement and pharmacy customer devotion more effectively than the use of medication price strategy and perceived quality of pharmacy structure.

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CONFLICT OF INTEREST

The authors declare that they have no competing interests to disclose.

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Figure 2. Model predicting pharmacy engagement and pharmacy customer devotion in community pharmacy.

p-value=0.06, adjusted chi-square (CMIN/DF)=1.16, Goodness of Fit Index (GFI)=0.93, Comparatively Fit Index (CFI)=0.99, and Root Mean Square Error Approximation (RMSEA)=0.03

PAP: Customer perceptions about pharmacist; PQPS: perceived quality pharmacy structure; PS: price strategy; PE: pharmacy engagement; PCD: pharmacy customer devotion.

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