Factors Influencing Community Pharmacies' Intention to Become Government Pharmaceutical Supply Chain Subcontractors

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Abstract

Currently, Thailand' hospitals are the primary contractors of the National Health Security Office (NHSO), while the Thai government has proposed community pharmacies to become government subcontractors. This article aimed to (1) study factors influencing community pharmacies' intention to serve as subcontractors within the government's agency model under the NHSO pharmaceutical supply chain policy. (2) provide information to help inform government strategies in terms of planning and decision–making processes related to investment and programs that will best serve the public in the long run. The study data was gathered through a survey of 192 modern community pharmacies that received accreditation from the Pharmaceutical Council in Thailand. They were selected by the random sampling method, and the instrument for collecting data was an online questionnaire for the survey. Partial least squares structural equation modeling (PLS–SEM) has been used in the analysis. The findings were as follows: 1. The keys to adopting new business policies are the internal service factors, including manpower, external support and assistance, and system readiness for community pharmacies. 2. The external factors affecting the business of community pharmacies from the outside are communication, patient expectations, and observability. These change facilitators may be able to recommend the components for the Thai government's strategy of engaging subcontracting community pharmacies to ensure service continuity and sustainability in the community pharmacy contractual model in the future.

Keywords: Pharmaceutical Supply Chain; Prescription Drug Supply Chain; Community Pharmacy; Community Pharmacies' Intention

Introduction

Management of the pharmaceutical supply chain in government sectors, particularly in developing countries, is a crucial factor in expanding public access to drugs (Mahbubul & Islam, 2013). The prescription drug supply chain involves several different parties for very legitimate reasons, each of which is involved in delivering a product or service aimed ultimately at servicing the end customer – the patient (Eickelberg, 2015).

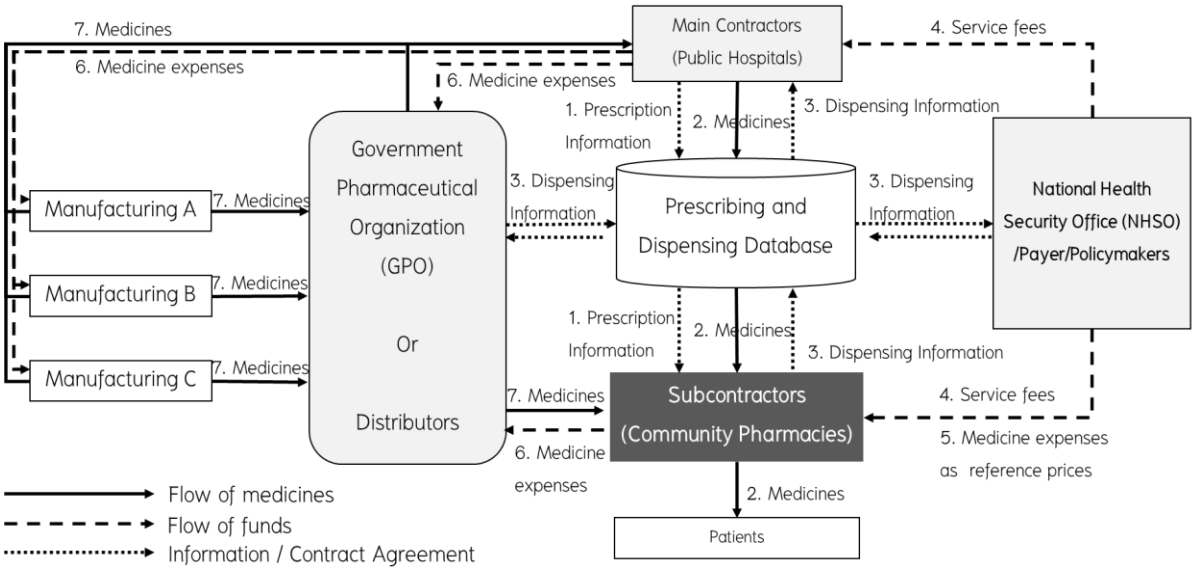

Figure 1 Current National Health Security Office (NHSO) pharmaceutical supply chain/prescription drug supply chain model for Thai patients under Universal Coverage Scheme (UCS) (Eickelberg, 2015; National Health Security Office, 2020)

The re-ordering of prescription drug-dispensing services in community pharmacies was launched in 2019 by the NHSO, as shown in Figure 1. This is an option for Universal Coverage Scheme (UCS) patients with non-communicable diseases (NCD), such as diabetes, hypertension, asthma, and mental health problems, which will allow them to obtain prescription medicines from community pharmacies close to their home (National Health Security Office, 2020). Although community pharmacies act as private service organizations in Thailand and many other countries such as England, they still obtain government support for providing public health services. Incorporating accessible community pharmacies would benefit health care systems. Community pharmacies operate on a subcontractor/contractor model like other primary care providers. This means community pharmacies are usually independent businesses contracted by the government

to provide certain services for local populations (National Health Security Office, 2020; National Health Service (NHS), 2019).

The NHSO pharmaceutical supply chain model is the new initiative project that encourages community pharmacies to be key partners in the supply chain. Most of the studies have attempted to evaluate the NHSO's program of pharmaceutical supply chain services by conducting research through Thailand's Ministry of Public Health (Health Intervention and Technology Assessment Program (HITAP), 2020). However, the researchers have been focused on hospital and patient outcomes without gaining an understanding of the role of community pharmacies, which act as key partners in the prescription drug supply chain. Finally, the results of many studies did not provide enough evidence to justify using community pharmacies as subcontractors. There is limited information regarding the perspective of community pharmacies intention to become subcontractors in the NHSO pharmaceutical supply chain model (Pummangura et al., 2012). To successfully implement the effective policy, NHSO and other government agencies should have sufficient information about the community pharmacies' intention to become subcontractors as the key pharmaceutical supply chain partner.

Research Objectives

1. To examine the crucial factors from the literature reviews that influence the intention to become a subcontractor of the community pharmacies in the NHSO pharmaceutical supply chain model.

2. To analyze the study results to help inform government strategies in terms of planning and decision–making processes related to investment and programs.

Literature review

1. Demographic factors in community pharmacies

Most pharmacists, approximately 75%, worked in independently owned pharmacies; pharmacists' ages ranged from 23 to 73. Pharmacists with varying levels of experience possessed comparable knowledge, but differences in their attitudes and practices were observed. Pharmacists in chain pharmacies had more knowledge than pharmacists in independent pharmacies, but they practiced similarly (prescription service) (Siltrakool et al., 2021). Community pharmacy practice in Thailand has provided a variety of innovative services, including advanced professional practice

(medication use review, public health practices – risk assessment, and health promotion) (Fathelrahman et al., 2016). The number of customers per day is dependent on the services. Chain and franchise pharmacies had many resources and were more likely to take the initiative in responding to changes in professional practice, rules, and the law (Kangwol & Anantachoti, 2016). Service delivery within community pharmacies can be influenced by ownership because of the autonomy of community pharmacies and their need to be profitable. Gender, age, and level of education of pharmacists should be excluded from this study because pharmacists can provide prescription services in pharmaceutical practice. Therefore, **the length of experience (LEX), the average number of customers per day (ANC), and the type of business (TOB)** in the community pharmacy should be considered in this study.

2. Organization theory: practice change factors in community pharmacy

Nine factors that influence practice change in community pharmacies have been identified. **2.1. Relationship with physicians (RWP):** Most frequently discussed was the relationship between pharmacists and medical providers, with most comments describing perceived open communication and trust between the two groups (Elrod et al., 2012). **2.2. Manpower (MAN):** each time a new program is initiated, the workload will increase if new initiatives are introduced to community pharmacies ad hoc and without integration. Many concerns were raised, including a lack of manpower in community pharmacies (Kangwol & Anantachoti, 2016). **2.3. Communication (COM):** this factor included statements about the importance of communicating the reasons for change internally, working as a team to make it happen, and having someone to lead the change (Makowsky et al., 2013). **2.4. External support and assistance (ESA):** this factor highlights the importance of being able to call on experts and/or consultants, often from outside a pharmacy, when planning and implementing change. This finding is of relevance to professional pharmacy organizations in that they play a key role in providing support to pharmacists (Makowsky et al., 2013). **2.5. Remuneration (REM):** the importance of incentive payments to aid in the implementation process and payment for the delivery of a service itself have both been demonstrated. Adequate reimbursement and payment for pharmacy services can accelerate organizational change (Elrod et al., 2012). **2.6. Pharmacy layout (PHL):** the items comprising this category addressed the significance of the pharmacy's physical layout in relation to program implementation. Patient care requires many pharmacies to change their layout and workflow. (Doucette et al., 2012). **2.7. Patient expectation (PAE):** In the items that comprised this factor,

the concept of consumer demand for services was explored. It implied not only that there is a perception that the public expects pharmacies to offer certain services but also that this acts as a factor in the implementation of those services. Some researchers identified this facilitator of practice change in community pharmacies (Elrod et al., 2012). **2.8. System readiness for prescribing (SRP):** the right atmosphere for an innovative system is required because it allows for patient care, access to medical records, and face–to–face interactions with other health care experts (Makowsky et al., 2013). **2.9 Pharmacist as adopter (PHO):** pharmacists shared the belief that a pharmacist prescriber takes additional responsibility for the medication and shared emotions about prescribing from happiness at the new opportunity to fear and apprehension about the new responsibility (Makowsky et al., 2013).

3. Diffusion of innovations theory in the community pharmacies.

Using the diffusion of innovations theory, it identifies seven elements as either facilitators or obstacles to the countrywide implementation of community pharmacy innovations. **3.1. Relative Advantage (REA):** If community pharmacies see the relative benefit of offering new extended services, they are more likely to offer them in their pharmacies (Kangwol & Anantachoti, 2016). **3.2. Compatibility (CPA):** a high compatibility value will result in a high rate of adoption. If an innovation is compatible, it is more likely to be adopted by the general public since it will be seen as fitting in with the preferences of its target audience (Shoemaker et al., 2013). **3.3. Observability (OBV):** In this case, observability refers to how community pharmacists see the visible results of offering new services for longer periods of time. If community pharmacies thought that new services could be seen, it would be more likely that they would be used (Kangwol & Anantachoti, 2016). **3.4. Complexity (CPX):** is defined as the extent to which an innovation is seen as being somewhat difficult to comprehend and employ (Shoemaker et al., 2013). Providing new and expanded services is seen as a challenge since these are deemed more sophisticated and are therefore less likely to be adopted (Kangwol & Anantachoti, 2016). **3.5. Trialability (TRI):** the extent to which an innovation or new extended services can be provided on a limited basis for testing purposes. Trials of extended services will boost the chances of deployment (Kangwol & Anantachoti, 2016). **3.6. Significant others' opinions (SOO):** What people think about community pharmacists offering new and extended services as seen by key stakeholders. Negative feedback will make it less likely that the plan will be put into action (Kangwol & Anantachoti, 2016). **3.7. Pharmacy readiness (PHR):** New expanded services are more likely to be deployed if they are compatible with the

pharmacy's structure, supporting technologies, personnel, and financial resources (Kangwol & Anantachoti, 2016).

In summary, there were three major schools of thought that were covered in the literature review and we discussed each of them. First, the three demographic factors. Second, the nine factors from organization theory. Third, the seven factors from the diffusion of innovation theory.

Conceptual Framework

All nineteen identified factors that can be quantified will be included in the developed conceptual framework and research hypotheses with constructs as shown in Figure 2 and 3.

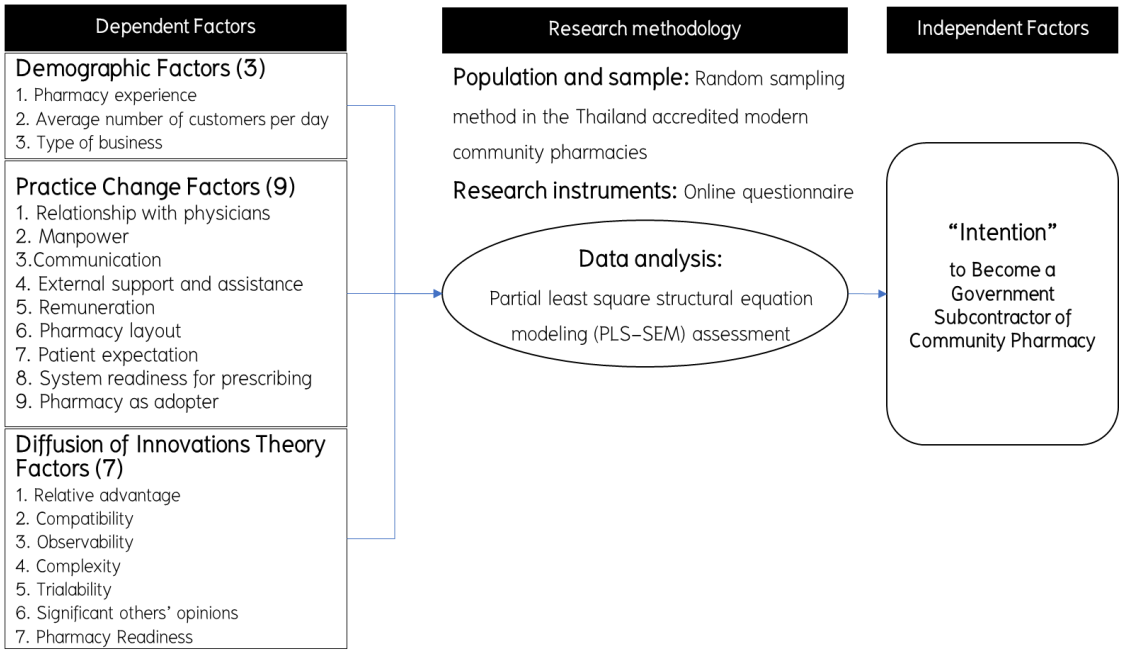

Figure 2 A conceptual framework: the dependent factors influence the intention of community pharmacies to become government subcontractors.

Research methodology

Population and sample: The target population was the 1,528 modern community pharmacies that received accreditation from the Pharmaceutical Council or were certified as quality in Thailand. The sample size was no less than 156 drugstores based on the power analysis, which was developed to overcome the controversial on the usage of rule of thumb since it considered the effect size and power (Cohen, 2013).

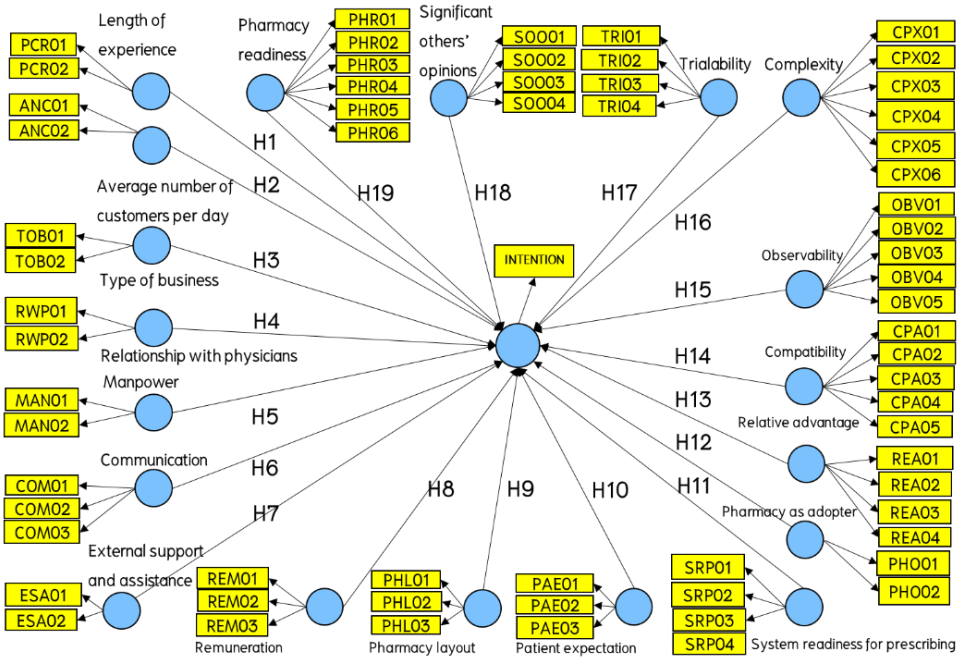

Figure 3 Research hypotheses and the constructs

Research instruments: The final questionnaire consisted of four parts. The first part included general information on the NHSO drug–dispensing program and general questions relating to items such as gender, age, level of education, length of experience, status, type, average number of customers per day, number of services in a pharmacy, and type of business. The third section included 65 intention factor questions, all of which were derived from the literature review. The questionnaire's final part gave respondents the opportunity to propose other models or offer suggestions. The last question inquired whether the respondent intended to be a subcontractor with the option to register with the NHSO pharmaceutical supply chain. The five–point Likert scale was also widely applied in healthcare–related survey questionnaires (Nitadpakorn et al., 2017). The range of the five–point Likert scale was: 1: strongly disagree; 2: disagree; 3: neutral; 4: agree; 5: strongly agree.

Data collection procedure: Once the questionnaires were developed from the literature review, they were tested by 5 experts, including supply chain experts and pharmaceutical experts. Then, the amended questionnaires were filled out in the Google Form and distributed to the group of accredited community pharmacies by QR code via the online social media LINE application. The authors clearly stated in the form that only the owner or pharmacy manager was a representative of the drugstore. After four months, 192 community pharmacies had answered the questionnaires. These sets of data were enough for analysis using structural equation modeling.

Data analysis: Partial least square structural equation modeling (PLS–SEM) assessment

This study employed structural equation modeling (SEM). PLS–SEM is especially useful when sample sizes are small, such as less than 250, or not normally distributed (Nitzl, 2016). As exploratory theory was the focus of this study, PLS–SEM was a better fit. PLS–SEM has two assessment criteria: reflective measurement model assessment and structural model assessment. Each assessment consisted of many steps, which were detailed. The indicator reliability, internal consistency reliability, convergent validity, and discriminant validity of the reflective measurement model were all evaluated. Collinearity assessment, explanatory power (R^2), path coefficients' relevance, and structural model relationship significance were all part of the structural model assessment. Table 1 explains the criteria step by step.

Table 1. PLS–SEM: A two–step process (Hair Jr. et al., 2020).

Steps	Rules of Thumb
Measurement Model Evaluation (Confirmatory Composite Analysis CCA) – Reflective	
1.1 Evaluate indicator reliability	Loadings >0.07
1.2 Assess composite reliability of the constructs	Cronbach's alpha or composite reliability > 0.70
1.3 Examine average variance extracted (AVE)	AVE ≥ 0.50
1.4 Confirm discriminant validity	AVE > Correlation^2, High Cross Loading
Structural Model Assessment	
1.1 Evaluate multicollinearity between the independent variable constructs of the structural model	VIF (variance inflation factor) values < 3.0 The maximum acceptable level of VIF is 10
1.2 Assess in–sample prediction of the dependent constructs based on the R^2 of the endogenous variable(s)	Higher R^2 values are more desirable (Adjust R^2 is useful – multiple regression)
1.3 Examine the size and statistical significance of the path coefficients	Higher path coefficients are more powerful predictors, statistical significance ≤ 0.05

Research results

Demographic characteristics

Most respondents were female (81.1%). The respondents mostly held a Bachelor of Science in Pharmacy (B.Sc. in Pharm.) (87.1%), a Doctor of Pharmacy (Pharm. D.) (1.6%), a Master's degree (8.9%), and a Doctor of Philosophy (Ph.D.) (1.6%). Community pharmacies comprised 72.9% of single pharmacies. Most community pharmacists who participated in this study were pharmacy owners or managers (36.5% and 38.0%, respectively). The average number of customers per day

was 0–50 customers (10.4%), 51–100 customers (62.5%), 100–300 customers (19.8%) and 100–300 customers (7.3%).

Measurement Model Evaluation (Confirmatory Composite Analysis–CCA) – teps and rules of thumb for reflective models.

First, the indicator's reliability was examined using indicator loadings that met the minimum criterion of 0.70, indicating that the construct explained more than 50% of the variance in the indicator (Hair Jr. et al., 2020). After all indicators were measured, the loadings of 56 indicators exceeded the minimum requirement, while ten indicators (including CPA01, PAE02, PAE03, PHL01, REA02, REA03, RWP02, SRP03, SRP04, and TOB02) were dropped since their inclusion would have had adverse effects on the measures' convergent validity and internal consistency reliability (Sarstedt et al., 2021). After the ten indicators were removed and the indicator loadings were checked, all indicators met the minimum criteria. Second, the constructs' composite reliability was evaluated. Most of the composite reliabilities for all reflectively measured constructs were greater than 0.70, as shown in Table 2. For TOB, RWP, and PAE, they only left one question, thus reporting the number as 1.000 without an indication of redundancy. Third, the convergent validity was measured through the average variance extracted (AVE) values. The criterion of 0.50 or higher indicated that the construct explained at least 50% of the variance of its items (Hair Jr. et al., 2020). All AVE values for this model exceeded 0.5 for the reflective constructs, as shown in Table 2; therefore, all constructs indicated convergent validity. The discriminant's validity was confirmed. All AVE values of each latent construct were higher than the construct's highest squared correlation with any other latent construct (Fornell–Larcker criterion) (Hair Jr. et al., 2020). In addition, all indicator loadings for each construct were higher than its cross–loading. Therefore, each construct was empirically distinct from the others.

Structural model assessment and rules of thumb

First, to ensure that multicollinearity was not influencing the outcomes, the variance inflation factor (VIF) for all empirical tests was checked. VIF values of 3 or less would be ideal to confirm that there was no collinearity issue (Hair Jr. et al., 2020). Various recommendations for acceptable levels of VIF have been published in the literature. Perhaps most commonly, a value of 10 has been recommended as the maximum level of VIF (Gareth et al., 2013). The variance inflation factors (VIFs) are all less than 10, indicating that multicollinearity is not a serious concern (Gareth et al., 2013). All indicators were examined for the variance inflation factor (VIF) and CPX03, CPX04 and SOO01 were found to have VIF>10. At this point, the solution to reduce the multicollinearity should

be as simple as removing highly correlated indicators from the model. After removing the three indicators, the reflective measurement model assessment was rechecked. All indicators passed the measurement model evaluation steps.

Second, the explanatory power (R^2) value of the model is measured from 0 to 1, with a higher value representing greater explanatory power. The values of 0.75, 0.50, and 0.25 are considered as substantial, moderate, and weak, respectively.

Table 2 Composite reliability, Cronbach's alpha and AVE

	Indicators	Cronbach's alpha	Composite reliability	AVE
LEX	Length of experience	0.926	0.964	0.931
ANC	Average number of customers per day	0.897	0.942	0.891
TOB	Type of business	1.000	1.000	1.000
RWP	Relationship with physicians	1.000	1.000	1.000
REM	Remuneration	0.805	0.872	0.632
PHL	Pharmacy layout	0.893	0.948	0.901
PAE	Patient expectation	1.000	1.000	1.000
MAN	Manpower	0.879	0.942	0.890
COM	Communication	0.740	0.852	0.660
ESA	External support and assistance	0.834	0.891	0.806
PHO	Pharmacist as adopter	0.890	0.924	0.859
SRP	System readiness for prescribing	0.841	0.926	0.863
REA	Relative advantage	0.730	0.873	0.776
CPA	Compatibility	0.832	0.871	0.630
CPX	Complexity	0.968	0.974	0.860
TRI	Trialability	0.932	0.948	0.786
OBV	Observability	0.872	0.913	0.725
SOO	Significant others' opinions	0.957	0.889	0.670
PHR	Pharmacy readiness	0.960	0.967	0.832

The explanatory power for construct was considered as substantial since the values were above 0.75. As with multiple regression, the adjusted R^2 is useful when researchers include too many nonsignificant predictor constructs in the structural model. The adjusted R^2=0.899. Finally, if multicollinearity is not an issue, the next step is to investigate the size and significance of the path coefficients. This procedure allows the researcher to put the hypothesized relationships between the constructs to the test. The path coefficients are standardized values ranging from +1 to 1, but rarely approaching +1 or 1. This is especially true for complex models with multiple independent constructs in the structural model l (Sarstedt et al., 2021). PLS–SEM is a nonparametric statistical approach:

hence, bootstrapping is used to evaluate statistical significance. In general, a statistical significance level of 0.05 is necessary (Hair Jr. et al., 2020). A t–value higher than 1.96 showed statistical significance (Kock, 2016). The eight factors that significantly impacted the intention to become a subcontractor drug–dispensing service were summarized as follows; manpower–MAN (β: 0.552; t–stat: 3.918; p–value ≤ 0.01), communication–COM) (β: 0.160; t–stat: 2.461; p–value ≤ 0.05), external support and assistance–ESA (β:0.298; t–stat: 2.111; p–value ≤ 0.05), patient expectation –PAE (β: 0.205; t–stat: 3.549; p–value ≤0.001), system readiness for prescribing–SRP (β: 0.212; t–stat: 2.334; p–value ≤ 0.05) and observability–OBV (β: 0.308; t–stat: 2.368; p–value ≤ 0.05). Therefore, H5, H6, H7, H10, H11 and H15 were accepted. The rest of the hypothesis, including H1, H2, H3, H4, H8, H9, H12, H13, H14, H16, H17, H18 and H19 were rejected as shown in Table 3.

Discussion of research results

Factors affecting community pharmacies' intention to become a subcontractor.

There are **six significant factors** that have a positive influence on the intention to become a subcontracting community pharmacy drug–dispensing service, as shown in Table 3. Manpower (MAN) and patient expectation (PAE) were indicated as the two highest significant values ($p \leq 0.001$). Communication (COM), external support and assistance (ESA), system readiness for prescribing (SRP), and observability (OBV) are indicated as the second groups of significant values ($p \leq 0.05$).

There was an investigation when increased workloads on community pharmacy practice under the universal healthcare coverage program. The increased involvement of pharmacists at a primary health care level relieves the workload and pressure on their staff, and subsequently benefits other public sector establishments as well (Naidoo et al., 2020). MAN contributed considerably towards public program intention.

When the policy for reducing hospital overcrowding was instituted, a recent study found that patients were very satisfied with service, location, and time spent picking up medicines (Poonphol et al., 2022). When community pharmacies want to increase revenue, they encounter various difficulties. Community pharmacies can bring in more revenue from recurrent medication fills and profit throughout the year when patients are registered in a medication adherence program (Clifton et al., 2018). The patient's ability to receive prescriptions at community pharmacies may also affect a pharmacy's intention.

Table 3 Path coefficients' relevance and significance

Abbreviation	Factors	T statistics	Path Coefficient		Hypothesis
Demographic Factors (3)					
LEX	Length of experience	1.493	–0.189		H1
ANC	Average number of customers per day	1.838	0.272		H2
TOB	Type of business	0.164	0.019		H3
Practice Change Factors (9)					
RWP	Relationship with physicians	0.426	–0.016		H4
MAN	**Manpower**	**3.918**	**0.552**	***	**H5**
COM	**Communication**	**2.461**	**0.160**	*	**H6**
ESA	**External support and assistance**	**2.111**	**0.298**	*	**H7**
REM	Remuneration	1.898	0.184		H8
PHL	Pharmacy layout	1.619	–0.374		H9
PAE	**Patient expectation**	**3.549**	**0.205**	***	**H10**
SRP	**System readiness for prescribing**	**2.334**	**0.212**	*	**H11**
PHO	Pharmacist as adopter	1.480	–0.284		H12
Diffusion of Innovations Factors (7)					
REA	Relative advantage	0.130	0.014		H13
CPA	Compatibility	1.736	0.275		H14
OBV	**Observability**	**2.368**	**0.308**	*	**H15**
CPX	Complexity	1.038	–0.180		H16
TRI	Trialability	0.308	0.044		H17
SOO	Significant others' opinions	0.318	0.032		H18
PHR	Pharmacy readiness	1.456	–0.324		H19

Noted: ***p ≤ 0.05, **p ≤ 0.01, ***p≤ 0.001, factors that had influence on pharmacy intention.**

COM, ESA, and SRP were critical in regard to community pharmacies' intentions. Our findings match those of previous studies in that the preparedness of service and administration systems (e.g., by having an effective database, support for staff training, reimbursement, etc.) makes it easier for decision–makers of community pharmacies to engage with government policies that incorporate co–service (Siltrakool et al., 2021). Developing an all–inclusive bilateral means of communication between pharmacies and related services would make it easier to engage more thoroughly in a patient's clinical care (Goundrey–Smith, 2018). The last significant factor, which was OBV, came from the theory of diffusion of innovation. OBV is the degree to which the results of an innovation are visible to others. Our study had similar findings to earlier studies in which OBV of the strategy was recognized as critical for patient–oriented activities in Dutch community pharmacies. However,

these results contrasted with earlier studies that suggested benefit, compatibility, and complexity were the most important predictors of intention to use extended services (Latif et al., 2016).

New Knowledge

It was interesting to note that factors derived from two schools of thought – MAN, COM, ESA, PAE, SRP, and OBV – were capable of predicting new patterns. These factors were further divided into internal and external groups depending on how they motivated the intention to be a government program subcontractor and how they might help establish new policies in support of the program's subsequent phases. Figure 4 shows how these factors have been regrouped.

Figure 4 A new two-group pattern was proposed by the significant factors in the study.

1. Internal Factors: the factors within the pharmacy business environment.

Keys to allaying community pharmacies' internal preparation concerns prior to adopting new business policies are the internal service factors, including manpower, external support and assistance, and system readiness for prescribing community pharmacies. It would be more likely to become subcontractors if the NHSO could provide the tools/services to fully sustain these factors.

Manpower: Policymakers should evaluate workforce requirements in terms of numbers, knowledge, skills, and competencies. If new initiatives are brought in ad hoc and not properly integrated into community pharmacies, the workload will be exacerbated each time new programs are begun. **External support and assistance:** Policymakers and other associated professionals should support mentoring programs that help pharmacists get assistance from other pharmacists and enable their operations to be recognized by others in their profession. Regular training sessions for all members should be provided as part of the process. **System readiness for prescribing:** State governments currently run the primary health center management information system, which represents progress towards building the IT supply chain. This system can contribute real-time

information on patient prescriptions, diagnoses, and drug availabilities to the prescription drug supply chain. System preparedness refers to an organization's ability to implement an innovation.

2. External Factors: the factors affecting the pharmacy business from the outside.

The key external motivations of communication, patient expectation, and observability can be treated by policymakers as inducements for more subcontracting community pharmacies to join the NHSO pharmaceutical supply chain. Modification of these external factors could be a strategic policy to enhance the sustainability of the government's pharmaceutical supply chain model.

Patient expectation: When patients expect a certain service, the community pharmacy will be compelled and willing to provide it. Patient expectation is the social influence factor that animates innovation in community pharmacies. **Communication:** A supporting system for effective communication and feedback among patients, hospitals, and payers should be created. Better communication would increase collaboration and improve outcomes for all, whereas ineffective communication leads to unproductive relationships. Social media can certainly be used to promote this purpose. **Observability:** New practices that are more indicative of better results will encourage more positive reactions from the multiple participants in the network. Community pharmacists perceive visibly improved service outcomes when providing modernized extended services. Our study finds that if community pharmacies believe that new extended services are perceptible, it enhances the likelihood of their application.

Conclusions

Data concerning possible factors that may influence Thai community pharmacies to join the NHSO pharmaceutical supply chain were still unclear, and there were no earlier clarificatory studies concerning the requirements of these pharmacies. Since they are an essential component of the national pharmaceutical supply chain, they require concrete motivational stimuli to become government policy subcontractors. This is because without these pharmacies' cooperation, NHSO projects may not be able to endure. This study incorporates two academic theories (organization theory and diffusion of innovation theory) in order to assess factors that affected community pharmacies' intention to become NHSO pharmaceutical supply chain model subcontractors. Although demographic qualities had no influence on intentions, this may be attributed to the fact that prescription practices were already an existing operation in community pharmacies. Five significant quantified practice change factors (MAN, COM, ESA, PAE, and SRP) derived from organization theory

influenced community pharmacies' intentions. Only one innovation diffusion theory factor, OBV, was found to contribute significant results for the test.

Suggestion

Suggestion from research

These results can possibly be applied in a reparative academic field because of the following efforts: this study broadened organizational theory in the practice change, and diffusion of innovation theory in community pharmacies to discern the factors influencing co–service decisions of community pharmacies to become government pharmaceutical supply chain subcontractors. To be successful in the integration into the NHSO initiative, our findings may be able to recommend significant components for the beginning stage of Thai government's strategy engaging subcontracting community pharmacies.

Suggestion for future research

To successfully implement effective policy in the subsequent phase, the national health care system's adaptable model that will best serve the public is further required by the NHSO. This model would need to be founded on consensus among key stakeholders to overcome barriers regarding quality, governance, and economic challenges so that they may ensure service continuity and long–term sustainability.

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