

Effect of Service Marketing Mix Strategy on Performance of Proprietary Patent Medicine Vendors (PPMVs); Moderating Role of Learning Competence

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Abstract

The success of MSMEs to the Nigerian economy is below expectation; the proprietary patent medicine vendor is not left out in terms of failure. Some scholars and professionals have attributed their failure to poor marketing mix strategy, and some attributed it to learning competence. Thus, this has prompted scholars and professionals to reexamine the determinants of MSMEs success. This study, therefore, examines the effect of service marketing-mix strategy on success of proprietary patent medicine vendors and incorporate learning competence as a moderator due to the inconsistence in the results of previous research on marketing mix strategy. A cross-sectional survey design using primary data was adopted for the study using structured questionnaire; and the unit of analysis is the owner/managers of patent medicine store in Zaria metropolis Kaduna state. The study employed simple random sampling technique to select the sample size of two hundred and forty-two (242) registered patent store. In order to test the proposed hypotheses of the study and to examine the relationships involving the moderating effects, both descriptive and inferential statistics were employed to analyze the data collected using Statistical Package for Social Science (SPSS) for window version 23 and Partial Least Squares (PLS) Structural Equation Modelling (SEM) path modelling using Smart PLS 3.2 software. The study revealed that learning competence moderates the relationship between service marketing mix strategy and performance. The study, therefore, recommends that patent medicine vendors should seek more knowledge in related fields for better performance.

Keywords: Marketing Mix, 7ps, Learning Competence, Performance.

1. Introduction

The role of Micro, small and medium enterprise (MSMEs) in the economy cannot be overemphasized in both developed and underdeveloped countries including Nigeria. MSMEs account for 90% of all businesses in Nigeria (Garba 2020; Fasanmi et al., 2024; Tukur et al 2024), about 48% to Nigeria's GDP in the last five years, and 50% of employment opportunities were established (Garba, 2020, PWC 2020, Abdulrab et al., 2022, Ghergina 2020). Unfortunately, MSME's sector has not performed as expected in the country, thus has not played the expected role in growth and development of the economy (Babatunde 2024; Okojie et al., 2024; Ubi et al., 2019).

MSMEs in Nigeria and in most emerging economies are faced with different challenges and also noted that mainly the lack of finance, low human resource capabilities, and technological competence, lack of skilled manpower, deficiencies in marketing strategies, lack of marketing knowledge which involves understanding specific marketing problems (Ezekiel & Olayinka 2024; Mustapha 2017). In this light, some studies also proved that lack of in depth knowledge of business been ventured into, lack of knowledge or little knowledge of product or services of what is been offered to customers, insufficient training and skills before venturing into business and which strategy to adopt leads to business failures across various sectors (Day 2004; Kotler 2004; Mustapha 2017; Wawira 2016; Nawzadsabir et al 2019; Supardi et al 2020; Kusnindar 2023).

MSMEs operate in different sectors such as manufacturing, agriculture, and health sector. Notable among the private health sector players in Nigeria are drug shop owners, known as patent medicine store or chemist. Patent medicine stores are retail businesses mostly managed by non-pharmacists or those without any formal medical training known as Proprietary Patent Medicine Vendors (PPMVs). The minimum educational level for PPMVs in Nigeria is the primary level of education and are permitted by law to sell medicines in their original package (Okeke et al., 2015; Briegler 2004; Prach 2015). Patent medicine stores in Nigeria support pharmacies and other health care facilities in providing primary health care services; they provide healthcare services where there is little or no health care presence. They play a vital role in the creation of employment and with their numbers of market share and presence in rural communities (Ezugo et al., 2021; Beyeler et al. 2019; Wafulan 2010).

National surveys shows that PPMVs are the first source of care for rural communities, providing access to essential medicines throughout Nigeria, across a wide range of disease areas, provision of valuable grass root services. They are also widely used for common health problems and essential medicine due to easy accessibility, affordability and quick services (Beyeler 2019; Wufulan 2010; Eguzo et al., 2021). The number of PPMVs was estimated to be 200,000 in 2005, roughly 100 times greater than the number of registered pharmacies, and nearly four times the number of physicians (Eguzo et al 2021). In 2014, the Federal Government of Nigeria issued the Task–shifting and Task–sharing (TSTS) policy for essential health services in Nigeria which aim to improve the delivery of health services across the country, The policy includes PPMVs' providing treatment, counseling and referrals for health services (TSTS 2014; Ishaku et al 2018). However, studies have found that their lack of medical training has tendency to inhibit them from properly understanding the drugs to store or common illness in their locality (Osamor 2001, Liu et al 2016, Eguzo et al 2021).

PPMVs limited knowledge has led to improper treatment practices, sales of inappropriate, ineffective, and incorrect drugs for many health problems and the quality of service they render (Beyeler 2019.Prach et al 2015, Eguzo et al 2021). There are various concerns about their knowledge and the quality of service they render (Liu et al 2019; Wufulan 2021; Eguzo et al 2021). Studies by Beyeler (2019), Ezugo et al, (2021), Liu (2019) and Oyeyemi et al (2020) proved that prominent challenge is knowledge. Their limited knowledge of proper treatment practices results in frequent sales of inappropriate and ineffective medicines and the sale of drugs in incorrect doses and some studies attributed failure of patent medicine vendors to lack of knowledge of marketing mix strategy and this strategy includes the service marketing mix strategy (Abiodun et al 2020; Mvunbandi et al 2023).

The PPMVs should be able to provide quality products and services, sensible prices, accessible and convenient location, use of good promotional tools, convenient process in provision of service and superb environment in order to gain success and have competitive edge over others. This clearly indicates the place of marketing mix strategies towards the performance of PPMVs in Nigeria. In the context of patent medicine vendors in Nigeria, learning competence can include knowledge of the products being sold, the ability to manage finances, marketing and sales skills, and the ability to provide quality healthcare services to customers (Liu et al 2016; Oshiname 1992).

Above all, it can be said that PPMVs must be knowledgeable in application of adequate marketing strategy for their businesses. A considerable number of studies have found that the knowledge, skills have positive impact on performance (Hawi et al 2015; Bhardwaj 2013; Alebiosu et al 2022; Yahaya et al 2011, Esa et al 2021). Studies conducted on marketing mix strategy and performance had different results or findings, some findings had positive relationship between the elements of marketing mix strategy and



performance (Alafeef 2020; Mustapha et al., 2017; Amin 2021; Shehu & Mahmood, 2014; Abidemi et al., 2019; Abidemi et al., 2018; Abdullahi et al., 2015; Abiodun et al., 2020; Akroush 2012; Al-Aleef, 2020; Amin, 2021; Wayan et al., 2018; Gbolade et al., 2013; Kenu, 2018). However, other studies have negative correlation with performance (Effiom & Edet, 2018; Daniel, 2018).

In the light of the above-mentioned inconsistencies identified from previous studies, the present study is focused on addressing such literature gap by introducing a contingent factor that can strengthen the relationships as suggested by previous scholars (Baron & Kenny, 1986). Since knowledge, skills and training are also known as major contributors of MSMEs success (Bhardwaj, 2013; Hellriegel et. al. 2005, Wood and Joyce 2003, Alebiosu et al 2022; Hawi et al., 2015, Yahaya et al 2021, Esa et al 2021). The study, therefore, examines the moderating role of learning competence on the relationship of service marketing strategy and performance of PPMVs from the perspective of 7ps.

2. Literature Review

Concept of Performance

There is lack of generality of view on the idea of what makes up business performance. Performance has numerous names, which include success, development, growth, survival and competitiveness (Eniola and Entebang 2015; Dobbs & Hamilton 2007). According to Sandberg et al. (2002), performance is the ability to contribute to job and wealth creation through firm start-up, growth and survival. MSMEs success can be viewed from the firm's ability to meets its goals in return on investment on one hand while achieving quality relationship with customers, employees, suppliers, community and other important stakeholders (Alamene & Sylva, 2021). Majority of the empirical studies examining the relationship between strategic management practices and organizational performance in small firms use financial and non-financial indicators as the performance measure (Akerele & Adeyemo, 2024; Mulloli 2024; Muhammad & Nnamdi 2024; Dess & Robbin 1984, Akroush 2011, Abdullahi et al 2021). Thus, the study adopts a combination of both financial and non-financial indicators.

Micro, Small and Medium Enterprises and Patent Medicine Vendors

Micro, Small and Medium-scale enterprises vary according to contexts, authors and countries, which are defined by differences in capital requirements and levels of industrial development. In countries like Nigeria, these definitions are based on the number of employees, the value of assets or the firm's turnover. Several agencies and government policies have adopted different definitions of MSMEs. The Central Bank of Nigeria (CBN), the Bank of Industry (BOI), Small and Medium Enterprise Investment Schemes (SMEIS), Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), National Economic Empowerment and Development Strategies (NEEDS) and so on have different definitions of MSMEs. The Bank of Industry's (BOI) definition adopts a three-level criterion of assets, employees and turnover. This definition also categorizes firms into micro, small and medium enterprises. It defines micro firms with total assets less than N5million, employees less than 10 and turnover less than N100 million, small firms as those with total assets less than N100million and turn over less than N100m and medium enterprises as firms with total assets less than N500million and number of employees less than 20. The study, therefore, adopts the definition by BOI on MSME (PWC 2020). This definition covers most of the Proprietary Patent Medicine Vendors in Nigeria who falls within the micro enterprise category.

A PPMV is any individual who has not gone through any formal training in pharmacy but is licensed to sell orthodox pharmaceutical products over the counter on a retail basis to make profit (Wufulan 2021; Ezugo et al 2021; Beyeler 2014). They are medicine stores popularly known as chemist who stocks and

sells over the counter (OTC) drugs usually managed by individuals who are not pharmacists. They are licensed by the Pharmaceutical Council of Nigeria (PCN) to practice (Liu et al 2019), although their licensure does not require them to have formal medical or pharmacy training, they usually undergo some form of apprenticeship under a more senior PMV before starting theirs. Most PPMVs belong to the micro groups In Nigeria, patent medicine stores are registered by Pharmacy council of Nigeria or National or local association of medicine vendors.

Service Marketing Mix Strategy Concept

Marketing strategy is a means of getting to target market by firms and other business enterprises. Marketing strategy must focus on delivering greater value to customers and the firm at a lower cost (Chiliya et al, 2009). A model was developed by Neil Borden (Borden, 1964) known as marketing mix, traditionally the marketing mix or business tactics consisted of just 4 Ps, and they are product, price, place (distribution) and promotion. Later, Bitner (1991) cited in Parmer et al. (2021) proposed to incorporate three more Ps people/participants, physical evidence and process into service marketing mix to understand the nature of marketing and also enable business owners either start-ups or existing ones to meet customers' needs profitably. The 4Ps with the addition of People, Process and Physical Evidence are known as 7Ps are also called elements of marketing and together make up the service marketing mix. All these are interrelated because a decision in one area affects decisions in other areas. The traditional marketing mix does not meet the needs of service marketing, according to marketing practitioners in the service field (Othman et al. 2020).

- i. Product strategy: Kotler et al. (2003) sees product as quality, design, features, brand name and sizes which influence purchase. To build a profitable relationship with customers, enterprise must provide products of good quality and high performance which are consistent with customers' needs and wants and also generate customer satisfaction and create competitive edge over others (Al Badi 2018). Prior researchers have clearly suggested that product influences have a significant impact on business performance (Owomoyela 2013; Ebitu 2016 Abidemi et al 2020; Amin 2020; Kemppainen, Vepsäläinen, and Tinnilä, 2008; Ogunmokun and Esther, 2004) contrary to the findings of Daniel's 2018.
- ii. Price strategy: Zeithaml (1988) is of the view that monetary cost is one of the factors that influence consumer's perception of a product's value. Owomoyela et al., 2013, Gbolagade, Adesola and Oyewale 2013; Alafeef 2020; Amin (2021) establishes significant relationship between price and business performance, contrary to Mohammed (2021) suggesting that price have no significant relationship between price and banks performance
- iii. Place strategy: McCharty, Perreault and Cannon (2011) define place as any way that the customer can obtain a product or receive a service. Studies have shown that place strategy have a significant impact on business performance (Amin 2020, Kemppainen, Vepsäläinen, and Tinnilä, 2008; Ogunmokun and Esther, 2004; Owomoyela et al, 2013, Gbolagade et al 2013, Abiodun and Kolade 2020) found place have significant relationship with business performance in contrary to the findings of Daniel, 2018; Mustapha, 2012; Kenu, 2018) found no significant relationship between place and performance.
- iv. Promotion strategy: Promotion is a marketing communication tool used in order to get a product's message to the consumer. Zeithaml, Berry, & Parasuraman (1996) describe promotion as part of



specific effort to encourage customers to tell others about their offerings. Kotler, et al (2003) discovers that promotion is a critical factor in business success, promotion consists of advertising, personal selling, sales promotion, public relations and direct marketing tools that the company uses to pursue its advertising and marketing objective. A successful product or service means nothing unless the benefit of such a service can be communicated clearly to the target market.

- v. Process strategy: Process defines the structure of services (Amin et al., 2013). The value offered to consumers is created by the process (Lovelock et al.2007). Consumers are an important part of activity in high contact services, and their experience is transformed by the process (Kushwaha & Agrawal, 2015). Customers gain from the well-designed process because it ensures service availability, constant quality and complete simplicity and convenience (Rathod, 2016), Mohammed (2015), Ekwati (2018) and Alafeef (2020) found positive relationship between process and performance.
- vi. People/personnel strategy: People strategy was introduced by Judd in 1987. Employees, according to Judd, are the ones that represent the company to its customers. In order for product or service to get to the end users, it has to pass through people, people also known as employees and must be able to attend to customers effectively and efficiently. A service company is only as good as its employees (Rajh & Deon, 2009).
- vii. Physical evidence Strategy: Consumers use the service environment as key indicator of quality (Saupi et al 2019). Service environment also known as service cape or physical evidence are the style and presentation of physical surroundings, as well as interior furnishings and equipment encountered by customers at service delivery points. (Alfakhir et al 2018). Physical evidence must be seriously considered by service companies, since it has effect on consumers' perceptions. Building décor, devices or equipment, descent dressing of service provider are all indicators of company's service (Islam & Rahman, 2015, Haung et al 2019).

Learning Competence Concept

According to Man (2001) learning competency is the ability to "learn from various means, learn proactively, keep up to date in the related field, and apply learned skills and knowledge into actual practices". It is the ability to apply the relevant skills and knowledge acquired towards achieving an enterprise goals and objectives (Deakins, O'Neill, & Mileham, 2000). Zanariah et al. (2014) stated that knowledge is the foundation to every achievement because it is a determinant to push someone to decide. It has been argued that entrepreneurs with high learning competency are more likely to be open minded and innovative in their approach towards enterprise tasks (Alamene & Sylva, 2021).

In developing competencies, PPMVs need to go through the training, on-the-job learning and most studies have identified PPMVs as primary and secondary school leavers and are mostly learnt through apprenticeship, while others had worked in the formal health sector as pharmacy technicians, clerks and aid (Liu 2019, Brieglier 2015; Osamor 2001). Learning new capabilities helps firms to develop and implement strategies which in turn enhance performance. Thus, it is necessary for PPMVs to seek for knowledge in related fields through learning, add to existing knowledge, keeping up to date in their fields so as to retain customers, get new ones and also be an edge over competitors.

Therefore, this study proposed learning competence as a moderator on relationship between the service marketing mix strategy and MSMEs performance with specific reference to Proprietary patent medicine vendors (PPMVs) in Zaria metropolis. The reason is that Patent medicine stores are businesses which involves technical know –how and there is need for PPMVs to learn and imbibe new capabilities which will help in developing and implementing strategies which in turn enhance performance.

Theoretical Review

The underpinning theories used to explain the proposed research framework is Human Capital Theory which will serve as the main theory of the research and will be supported by Resource based view (RBV).

- i. Human capital theory: This theory was initially introduced by Grant (1996) who considered knowledge as the key or strategic asset of firm. Grant (1996) suggests that knowledge is a firm's most critical competitive asset. Firm's ability to generate knowledge is the core of the theory of a firm (Spender 1996). A firm's knowledge resides in its human capital. Therefore, the selection, development and use of human capital can be used to create firm value (Chandler & Hanks 1998; Lubis 2022). The theory has been adopted by entrepreneurship researchers and has stimulated a considerable body of directly related research (e.g., Rauch, Frese & Utsch, 2005a; Davidsson & Honig, 2003; Chandler & Hanks, 1998) and led to an even larger number of studies that include human capital into their prediction models of entrepreneurial success (Kusnindar et el., 2023; Lubis 2022). In line with the above assertion, Proprietary Patent medicine vendor (PPMVs) needs to always be updated in its field, since there is always new technology, medication and health issues in their fields and there is need to learn and re learn, in other to know what service marketing mix strategy in terms (product, price, place, promotion, people, process and physical evidence) is applicable to their business so as not to become obsolete and also to have better performance.
- ii. Resource Based View: Resource based view theory has its origin from the work of Penrose (1959), the theory was formerly presented by Werner felt (1984). A resource-based view (RBV) emphasizes the firm's resources as the fundamental determinants of competitive advantage and performance. The resource-based theory explains the efficient uses of the resources of a firm and its importance towards creating a sustainable competitive advantage. The core idea of the theory is that instead of looking at the competitive business environment to get a niche in the market or an edge over competition and threats, the organization should instead look within the resources and potential it already has as available Resources of an organization (Varadarajan 2024). Firm resources include financial (cash), physical (tangible assets), legal (license or permit to operate), human (managerial/personal skills), organizational (culture, institutional knowledge and policies), information (knowledge about business or the market and strategy to use) and relational (relationship with suppliers and customers). Intangible resources like PPMVs expertise such as knowledge, education, skills, and competence in serving customers are more difficult to duplicate. The knowledge, skills and expertise of the PPMVs are valuables that differentiate him from others. Firms with resources that are valuable, rare, inimitable and non-substitutable enable firms to develop value enhancing strategies that are not easily copied by competing firms (Barney, 1991; Wernerfelt, 1984).

3. Methodology

This study adopts quantitative methods, cross-sectional survey and descriptive study. The population of interest is the PPMV within Zaria Metropolis; the population size is 650 PPMVs (PCN 2021/ National & local association). The sample size for this study was determined using the Krejcie and Morgan (1970)



table for sample size determination in a given population. The sample corresponding to the population of the study was two hundred and forty – two (242). Simple Random sampling technique was adopted in administering the questionnaire.

Primary data was obtained through a structured questionnaire. The study utilized the scale of Akroush (2011) in measuring service mix strategy while performance was Fonseca et al., (2016) and the scale of learning competence Man et al. (2008). Furthermore, Statistical Package for Social Sciences (SPSS) version 23 was employed for running descriptive analysis for demographic analysis. For the multiple linear regression analysis, to test hypothesis and also examine the relationship involving moderator (learning competence), Partial Least Structural Equation Model (SEM PLS) was employed in order to estimate path models that involve latent construct that are measured by multiple indicators.

4. Results and Discussion

Overall, two hundred and forty-two (242) questionnaires were administered to PPMV's operating in Zaria, Kaduna state. After several follow up, Phones calls and engagement of research assistants in other to achieve high response rates, two hundred and twenty-four questionnaires were received, this response rate is 93%. Out of 242 questionnaires administered 224 were returned, 19 were unusable due to incomplete questionnaires and these yielded 205 useable questionnaires with an adjusted response rate of 85%. Accordingly, this response rate of 85% is deemed acceptable (Sekaran 2003).

Descriptive Analysis

The questionnaire administered was rated on seven-point Likert scale. The seven point Likert scale range from 1= strongly disagree, 2= disagree, 3= slightly disagree, 4= neutral 5= slightly agree 6=agree 7= strongly agree. A detailed descriptive analysis is stated in Table 1.

Table 1: Descriptive Statistics

Variable	N	Mean	Std. deviation
Performance	205	2.262	1.651
Learning Competence	205	2.997	1.579
Service marketing mix strategy			
Product	205	2.915	1.665
Price	205	3.274	1.859
Place	205	1.935	0.428
Promotion	205	2.378	1.856
People	205	2.386	1.403
Process	205	2.868	1.512
Physical evidence	205	3.643	1.870

Source: The researcher 2024.

The 1.512 andcated the means and standard deviation for performance were 2.262 and 1.651 respectively, For learning competence the means and standard deviation are 2.997 and 1.579 respectively, Regarding service marketing mix strategy; Product strategy; mean and standard deviation 2.915 and 1.665, Price strategy the mean 3.274 and standard deviation 1.859; Place strategy the mean 1.935 and standard deviation 0.428; Promotion strategy; mean and standard deviation 2.378 and 1.856 while People strategy, the mean and standard deviation stands at 2.386 and 1.403, Process strategy, the mean stands at 2.868

and 1.512 and regarding physical evidence; the mean and standard deviation stands at 3.643 and 1.870 respectively.

Measurement Model

To evaluate the measurement model of the present study, the researcher analyzes the reliability of individual items by measuring each latent construct, the internal consistency reliability, discriminant validity, as well as convergent validity for constructs (Hair et al., 2021).

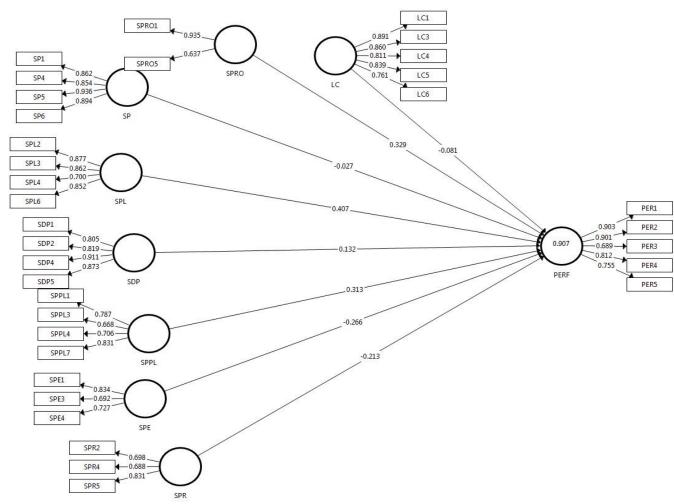


Figure 1: Measurement model Source: Smart -PLS SEM Version 3.2

Individual Indicator Reliability

Individual item reliability was determined by using outer loadings of each construct indicators (Hair et al 2013). Indicators outer loadings must be between 0.40 and 0.70, and deletion is subject to the increment of the AVE and CR. Hence, following Hair's et al. (2014), rule of thumb, only items loading of 0.5 and above were retained .As shown in fig 1.1 for each latent construct, all standardized loadings exceeds accepted cut off point except (L2, SPRO 2, SPRO 3, SPRO 4, SP2, SP3, SP4, SPR1, SPR2, SPR3, PERF6, SPPL 2, SPPL5, SPPL6, SPE 2, SPL1, SPL5, SDP3) which were deleted from the measurement. The individual indicator reliability can be said to be acceptable based on the measurement model.



Internal Consistency Reliability

In order to determine internal Consistency Reliability test Hair et al (2013) suggest that composite reliability coefficient should be at least 0.70 0r above. Table 2 shows that composite reliability coefficient utilized in this present study ranged from 0.774 to 0.919 which shows adequate internal consistency reliability in this study (Hair 2021).

Table 2: Loadings, Composite Reliability and Average Variance Extracted (AVE)

Variable/ Item	Loadings	AVE	Composite Reliability
Performance	0.872	0.666	0.908
Learning competence	0.889	0.695	0.919
Service marketing strategy			
Service product		0.937	0.787
Sp1	0.862		
Sp4	0.854		
Sp5	0.936		
Sp6	0.894		
Service price		0.785	0.751
Spr2	0.698		
Spr4	0.688		
Spr5	0.831		
SPRO		0.774	0.778
Spro1	0.935		
Spro5	0.637		
SPL		0.895	0.774
Spl 2	0.877		
Spl3	0.862		
Spl4	0.700		
Spl5	0.852		
SDP		0.914	0.728
Sdp1	0.805		
Sdp2	0.819		
Sdp4	0.911		
Sdp5	0.873		
SPPL		0.837	0.864
Sppl1	0.787		
Sppl3	0.668		
Sppl4	0.706		
Sppl7	0.831		
Service Physical evidence		0.796	0.882
Spe1	0.834		
Spe3	0.692		
Spe4	0.727		

Convergent Validity

To ascertain convergent validity using Average Variance Extracted (Kline 2011) Fornell and Larcker (1981) recommended that AVE values should be 0.50 or higher. As indicated in Table 2, AVE values ranged between 0.666 and 0.937, and all latent constructs demonstrate AVE values higher than the recommended threshold of 0.50.

Discriminant Validity

Henseler et al. (2015) propose a threshold value of 0.90 for structural models using HTMT criteria. In such a setting, an HTMT value above 0.90 would suggest that discriminant validity is not established. HTMT as a criterion involves comparing it to pre-defined thresholds, if the value of HTMT is higher than this threshold, one can conclude that there is lack of discriminant validity.

Table 3: Heterotrait-Monotrait Ratio (HTMT) - Matrix

Variable	1	2	3	4	5	6	7	8	9
LC	0.693								
PERF	0.521	0.413							
SDP	0.660	0.832	0.713						
SP	0.418	0.443	0.552	0.623					
SPE	0.083	0.070	0.130	0.541	0.514				
SPL	0.016	0.060	0.569	0.564	0.198	0.703			
SPPL	0.038	0.562	0.670	0.351	0.200	0.116	0.602		
SPR	0.049	0.033	0.111	0.474	0.120	0.749	0.848	0.623	
SPRO	0.349	0.452	0.181	0.571	0.355	0.157	0.818	0.608	0.711

Source: Researcher 2024.

Assessment of Significance of Structural Model

The structural model shows the relationships among the latent constructs (Ali et al 2022; Chin, 1998). Presentation of results of hypothesis tests relating to conceptual model proposing that learning competence moderate the relationship between service marketing mix strategy and performance of PPMVs, The Criteria for assessing the significance of the structural model in PLS- SEM, it was evaluated based on collinearity assessment and determining the strength of path coefficients, which included coefficient of determination (R²), assessing the effect size (f²) and establishing the predictive relevance (Q²) of model (Hair et al., 2014).

Assessment of variance explained in endogenous variables

Coefficient of determination is also known as R squared value which indicates how well the independent variables predict the dependent variable, the higher the R².R² range from 0 to 1, with higher values indicating a greater explanatory power. As a guideline, the R² values of 0.75, 0.50 and 0.25 can be considered substantial, moderate, and weak (Henseler et al., 2009; Hair et al., 2011). Table 4 below presents the R² value of the endogenous latent constructs utilized for the study. The result states that the R² value of patent medicine vendor's performance (0.804) is substantial. The value is an indication that the independent variables included in the analysis jointly predict 84 percent of the variation in patent medicine vendor's performance.



Table 4: Variance of endogenous latent variable

Latent Variable	Variance explained (R2)
Performance	.804 (84%)

Assessment of Effect Size (f²)

Effect size can be defined as a measure of the strength of the relationship between two variables (Hair 2019). It is a technique that examines changes in the R^2 value when the researcher omits a particular exogenous construct from the model (Hair et al., 2014). As a rule of thumb, values higher than 0.02, 0.15, and 0.35 depict small, medium, and large (f^2) effect sizes (Cohen, 1988).

Table 5: Effect Size (f²)

ENDOGENO	US EXOGENOUS	f - SQUARED	EFFECT SIZE
Performance	Service marketing strategy		
	Service product	0.05	SMALL
	Service price	0.127	SMALL
	Service Place	0.143	SMALL
Service promotion		0.127	SMALL
Service people		0.16	MEDIUM
	Service process	0.143	SMALL
	Service physical evidence	0.332	MEDIUM

Source: Researcher 2024.

Table 4.5 shows the effect size assessment of service market mix strategy on performance based on Cohen's (1988) small, medium and large effect sizes.

Note: that small effect size does not necessarily mean that the moderating effect is negligible (Chin et al 2003).

Assessment of Predictive Relevance (Q2)

Another means to assess the PLS path model's predictive accuracy is by calculating the Q² value (Stone 1974). This is one of the criteria to ascertain predictive relevance of the research model Stone-Geisser test of predictive relevance is an indicator of how well a model fits the data collected (Hair, 2014). Cross validated redundancy was employed in this present study because it was strongly recommended by Chin (1998). Cross validated redundancy when used to predict relevance of the structural model Q² value greater than zero assumes that theoretical or structural model has predictive relevance while a structural / theoretical model with Q² value less than zero suggests that the model has no predictive relevance (Chin, 1998; Henseler et al., 2009). As a rule of thumb, Q² values higher than 0, 0.25, and 0.5 depict small, medium, and large predictive relevance of the PLS-path model. Q2 values should be larger than zero for it to indicate predictive accuracy of the structural model for that construct. (Hair 2014).

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Table 6: Construct Cross Validated Redundancy

	SSO	SSE	Q ² (=1-SSE/SSO)	
LC	1,835.00	1,835.00		
PERF	1,835.00	807.033	0.804	
SDP	1,468.00	1,468.00		
SP	1,468.00	1,468.00		
SPE	1,101.00	1,101.00		
SPL	1,468.00	1,468.00		
SPPL	1,468.00	1,468.00		
SPR	1,101.00	1,101.00		
SPRO	734	734		

Regression Results

The result of structural model relating to direct relationships between predictors and criterion and the interaction effect of the moderator variable are presented in the Table 7. The results are presented or interpreted using t – value (t statistics), path coefficient (beta) of the path relationship and the standard error.

Table 7 Result of PLS Regression Main Effect

IVIMIII LII						
Нуро.	Hypothesis	Path	Standard	T-Value	P-Value	Decision
	path	Coefficient	error			
H_{01}	$SP \rightarrow PERF$	0.027	0.18	1.463	0.129	SUPPORTED
H_{02}	SPR→PERF	0.213	0.33	6.454	0.000	REJECTED
H_{03}	SPL→PERF	0.152	0.65	0.2338	0.138	SUPPORTED
H_{04}	SPRO→PERF	0.329	0.34	9.676	0.000	REJECTED
H_{05}	SPPL→PERF	0.313	0.31	10.09	0.000	SUPPORTED
H_{06}	SDP→PERF	0.132	0.8	0.471	0.109	SUPPORTED
H_{07}	SPE→PERF	0.366	0.18	2.033	0.020	REJECTED

Moderating Effect

Нуро.	Hypothesis	Path	Standard	T-	P-Value	Decision
	path	Coefficient	error	Value		
H_{08}	$LC \rightarrow SP \rightarrow PERF$	0.156	0.041	3.775	0.000	REJECTED
	LC→SPR→ PERF	0.523	0.053	9.867	0.000	REJECTED
	$LC \rightarrow SPL \rightarrow PERF$	0.563	0.21	2.64	0.046	REJECTED
	LC→SPRO→PERF	0.387	0.40	0.985	0.036	SUPPORTED
	LC→SPPL→PERF	0.411	0.051	8.035	0.000	REJECTED
	$LC \rightarrow SDP \rightarrow PERF$	0.161	0.23	0.701	0.029	SUPPORTED
	$LC \rightarrow SPE \rightarrow PERF$	0.385	0.040	9.608	0.000	REJECTED

Determining the Strength of the Moderating Effects

Effect size is the measure of the strength of relationship between two variables. In determining the strength of the moderating effects of learning competence on the influence of service marketing strategy



on performance, Cohen (1988), effect size was calculated. The main reason for reporting the effect size in this study is to enable researchers to make the best conclusion on the practical significance of the study's key findings. Effect size can be calculated manually or automatically by SMART PLS version 3.2. Below is the formula used for computing effects size manually (Cohen 1988; Hensler et al 2009)

Effect Size (f²) =
$$\frac{R^2 model \ with \ a \ moderator - R^2 \ model \ without \ a \ moderator}{1 \ ---- R^2 \ model \ with \ a \ moderator}$$

The interpretation of moderating effect was based on Cohen's (1988) small, medium and large effect sizes for 0.02, 0.015 and 0.035 respectively.

Note: A small effect size does not mean a moderating effect is not significant; a small interaction effect can be meaningful under extreme moderating conditions (Chin et al., 2003).

Table 8 indicates the moderating effect of learning competence on the relationship between service marketing mix strategy and performance. The moderating effect of learning competence on the relationship between service marketing strategy and performance is large (Cohen 1998).

Table 8: Strength of Moderating Effects

EXOGENOUS	R- SQUARED INCLUDED	R- SQUARED EXCLUDED	F- SQUARED	EFFECT SIZE
Learning compe	etence .907	.867	0.43	large

5. Conclusion and Recommendations

The main objective of the study was to investigate the moderating role of learning competence on performance of patent medicine stores with specific reference to the patent vendors in Zaria metropolis. From the investigation, we can conclude that learning competence moderates all the service marketing strategies on performance even though some elements of service mix such as promotion strategy and process strategy have no significant effect on performance but have positive relationship with performance. This shows that marketing mix strategy is important in the business of patent stores.

The present study adds to the new knowledge in relation to the effect of service marketing mix strategy on performance of PPMVs in the Nigeria setting and also add to the empirical evidence in the resource domain of Resource based view and Human capital theory by moving beyond the direct effect of service marketing strategy on performance by incorporating learning competence as a moderator on these relationship. This demonstrates the importance of investing and acquiring knowledge in business which leads to better performance and sustainability of business.

Based on the findings of the study and conclusion drawn, the following recommendations are proffered.

i. Evidence from the study has shown that Patent medicine vendors need to prioritize personal development by seeking entrepreneurial skills, especially technical skills through higher education and training, and they should stay updated in their field, for the development and growth of their business. This approach will lead to higher performance.

- ii. Since some elements of service-mix strategy have positive and significant relationship with performance, Patent medicine vendors should develop and understand the application of service-mix strategy which relates to their businesses.
- iii. Government and stakeholders should review policies relating to minimum required certificate to practice as patent medicine vendors. Apart from the minimum school leaving certificate, they should be required to have at least a diploma relating to pharmacy.
- iv. There should be free workshops for patent medicine vendors in order to stay updated in their field.

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