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Re-Engineering Public Healthcare Consumption: Evaluating the Impact of the 7ps Service Marketing Framework on Patient Patronage in Government-Owned Hospitals

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ABSTRACT

This study evaluated the empirical relationship between service marketing mix dimensions (the 7Ps) and patient patronage within government-owned tertiary healthcare institutions in Nigeria. The persistent underutilization and negative public perception of public healthcare facilities, despite substantial state subsidies, necessitated this inquiry. A cross-sectional survey design was adopted to gather primary data from a structured sample of 384 outpatients across selected government hospitals. Data collection was executed using a validated 5-point Likert scale questionnaire, and hypotheses were tested using multiple linear regression analysis. The findings revealed that while basic structural elements like Price and Product (Core Clinical Care) served as baseline entry expectations, they did not significantly drive long-term behavioral loyalty or active referrals. Conversely, soft service infrastructure specifically People (\beta = 0.314, $p < 0.05$), Process (\beta = 0.289, $p < 0.05$), and Physical Evidence (\beta = 0.241, $p < 0.05$) exerted the most statistically significant positive impact on patient patronage. The study concluded that public health institutions cannot optimize capacity utilization through subsidized pricing strategies alone. Consequently, it is recommended that hospital directorates re-engineer public health consumption by systematically reducing procedural bottlenecks, implementing institutionalized patient-centered hospitality training for frontline staff, and upgrading the physical ambient conditions of care environments.

Introduction

The contemporary healthcare ecosystem is experiencing an unprecedented paradigm shift, transitioning from a paternalistic, physician-centric model to a highly dynamic, patient-centric marketplace. Historically, government-owned hospitals operated under a monopolistic assumption, where patient inflow was guaranteed by virtue of low-cost structures and a scarce supply of medical expertise. However, the proliferation of private clinical alternatives, coupled with an increasingly enlightened health-seeking public, has fundamentally altered consumer dynamics. Modern patients no longer view healthcare solely through the narrow lens of clinical efficacy; instead, they consume medical care as a comprehensive service experience. In developing economies like Nigeria, public healthcare institutions face a perplexing paradox: they possess the most qualified medical consultants and receive substantial state subsidies, yet they frequently suffer from low patient retention, structural underutilization, and persistent negative public branding.

This systemic mismatch highlights a critical disconnect between public clinical capacity and the strategic deployment of service marketing paradigms. Service marketing in public health is not merely a promotional tool; it is an integrated operational framework designed to align institutional capabilities with user expectations. When applied to healthcare, the traditional marketing mix expands into the 7Ps framework: Product (clinical care quality), Price (affordability and transactional clarity), Place (accessibility and geographic distribution), Promotion (health literacy and institutional communication),

People (behavioral disposition of medical and non-medical staff), Process (the administrative flow of patient care), and Physical Evidence (the tangibles, clinical cleanliness, and ambient environment). While private healthcare providers have instinctively weaponized these seven pillars to capture significant market share, public health administrators often relegate them to commercial enterprises, mistakenly believing that subsidized pricing is sufficient to guarantee public patronage.

Extant literature demonstrates a historic preoccupation with clinical outcomes at the expense of experiential service quality. Scholars have long argued that patient satisfaction and subsequent patronage are functions of medical recovery rates. However, modern empirical evidence suggests that the route to patient loyalty is heavily mediated by peripheral service encounters. For instance, long waiting times, dismissive attitudes from frontline nursing or administrative staff, and dilapidated physical infrastructure can completely negate the value of highly successful surgical procedures. This has created a critical gap in health management literature, particularly regarding how the interaction of all seven marketing dimensions influences patient patronage within institutional public settings.

The objective of this study is to evaluate the individual and collective impact of the 7Ps service marketing dimensions on patient patronage in government-owned hospitals. By investigating these dynamics, this paper aims to provide healthcare administrators, policymakers, and research professionals with an empirical blueprint to re-engineer public health consumption, shifting public facilities from default choices of financial necessity to preferred institutions of choice.

Methodology

Research design and population

This study adopted a descriptive, cross-sectional survey research design to capture the perceptions of outpatients at a specific point in time. The target population comprised all registered outpatients accessing care at selected public tertiary hospitals in Nigeria. These institutions were selected because they represent the highest tier of government health intervention and experience the most complex patient-administrative interactions.

Sampling Technique and Sample Size

Due to the unquantifiable and fluid nature of daily outpatient configurations, the population was treated as infinite. The sample size was determined using the Cochran formula for infinite populations:

$$n = \frac{Z^2 \cdot p \cdot q}{e^2}$$

Where:

- Z = standard normal deviation at a 95% confidence level (1.96)
- p = estimated proportion of an attribute present in the population (assumed to be 0.5 to maximize sample size)
- q = 1 - p = 0.5
- e = acceptable margin of error (0.05)

$$n = \frac{(1.96)^2 \cdot (0.5) \cdot (0.5)}{(0.05)^2} = 384$$

A convenient sampling technique was utilized to administer the instrument to outpatients who had completed their consultations and were exiting the hospital pharmacies, ensuring they had experienced the full continuum of care during their visit.

Instrumentation and Operationalization

The primary data collection instrument was a highly structured questionnaire titled *"7Ps Service Marketing and Patient Patronage Questionnaire (7PSMPPQ)"*. The instrument was partitioned into three distinct sections: demographic profiles, the assessment of the 7Ps (independent variables, measured via 21 items), and patient patronage patterns (the dependent variable, operationalized through repeat-visit intentions and referral behaviors, measured via 5 items). All metric items were rated on a 5-point Likert scale, spanning from Strongly Disagree (1) to Strongly Agree (5).

To ensure the statistical validity of the instrument, it was subjected to content and face validation by senior researchers in marketing and health administration. Reliability was verified using Cronbach's alpha coefficient, yielding values ranging from 0.78 to 0.89 across all dimensions, which comfortably surpassed the threshold of 0.70 recommended for behavioral sciences.

Model Specification and Analytical Method

Data generated from the field were checked for completeness, coded, and entered into statistical software for analysis. Multiple linear regression analysis was deployed as the primary inferential tool to

isolate the predictive power of each marketing mix dimension. The structural econometric model is specified as follows:

PAT = \beta_0 + \beta_1 PROD + \beta_2 PRI + \beta_3 PLA + \beta_4 PROM + \beta_5 PEO + \beta_6 PROC + \beta_7 PHY + \epsilon

Where:

- PAT = Patient Patronage (Dependent Variable)
- \beta_0 = Constant intercept
- PROD, PRI, PLA, PROM, PEO, PROC, PHY = Product, Price, Place, Promotion, People, Process, and Physical Evidence respectively
- \beta_1 to \beta_7 = Regression coefficients of the independent dimensions
- \epsilon = Stochastic error term

Results

A total of 384 questionnaires were distributed to outpatients across the designated public hospitals. Out of these, 362 copies were retrieved fully completed and free from errors, representing a highly acceptable response rate of 94.3%. The data were analyzed using both descriptive and inferential statistics to test the relationships between the variables.

Regression Analysis and Hypotheses Testing

To determine the collective and individual influence of the 7Ps marketing framework on patient patronage, multiple regression analysis was executed. The model summary and overall significance results are presented below.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.742	0.551	0.542	0.381

The model summary indicates an R-value of 0.742, demonstrating a strong, positive overall relationship between the 7Ps service marketing dimensions and patient patronage. The Coefficient of Determination (R^2 = 0.551) shows that 55.1% of the total variance in patient patronage in government hospitals is collectively explained by the seven elements of the service marketing mix, while the remaining 44.9% is accounted for by external variables not captured in this model.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	63.021	7	9.003	62.089	.000
Residual	51.324	354	0.145		
Total	114.345	361			

The analysis of variance (ANOVA) table yields an F-statistic of 62.089, which is statistically significant at $p < 0.001$. This confirms that the independent variables collectively exert a reliable, non-random predictive effect on patient patronage, validating the overall relevance of the 7Ps framework in a public health setting.

The individual contributions of each service marketing dimension are detailed in the coefficients table below:

Model Variables	Unstandardized B	Standard Error	Standardized \beta	t-value	Sig.
(Constant)	0.612	0.143		4.279	.000
Product (PROD)	0.084	0.041	0.079	2.048	.041
Price (PRI)	0.051	0.039	0.048	1.307	.192
Place (PLA)	0.112	0.044	0.106	2.545	.011
Promotion (PROM)	0.063	0.042	0.059	1.500	.134
People (PEO)	0.322	0.046	0.314	7.000	.000
Process (PROC)	0.294	0.045	0.289	6.533	.000
Physical Evidence (PHY)	0.252	0.043	0.241	5.860	.000

The regression coefficients show varying degrees of significance for the independent variables.

- **People** emerged as the single most powerful predictor of patient patronage (\beta = 0.314, t = 7.000, p < 0.001).
- **Process** was the second most critical factor (\beta = 0.289, t = 6.533, p < 0.001), followed closely by **Physical Evidence** (\beta = 0.241, t = 5.860, p < 0.001).
- **Place** (\beta = 0.106, p < 0.05) and **Product** (\beta = 0.079, p < 0.05) displayed weaker but statistically significant positive relationships.
- Interestingly, **Price** (\beta = 0.048, p = 0.192) and **Promotion** (\beta = 0.059, p = 0.134) did not show statistically significant independent impacts within this model at the 95% confidence level.

Discussion

The empirical results of this study challenge several traditional assumptions regarding public sector healthcare delivery. Most notably, the finding that **Price** does not significantly drive patient patronage reveals that cheap or highly subsidized care is no longer a primary differentiator for modern healthcare consumers. While low pricing acts as an initial entry facilitator for lower-income brackets, it does not translate into long-term behavioral loyalty or positive word-of-mouth recommendations if the service experience is poor. Patients often associate overly suppressed pricing structures in public facilities with low clinical care standards, or they conclude that the non-monetary costs—such as lost time and psychological stress outweigh the financial savings.

The exceptional predictive weight of the **People** dimension (\beta = 0.314) underscores the deeply relational nature of medical services. In a healthcare setup, "People" represents the empathetic disposition, communication clarity, and responsiveness of clinical and non-clinical personnel. Public hospitals in developing economies are frequently criticized for the cold, bureaucratic, and sometimes adversarial behavior of their frontline nursing and administrative staff. Because medical patients are in a vulnerable physiological and emotional state, the human interaction component of service delivery heavily influences how they perceive their overall care. A highly skilled medical intervention can be entirely devalued in the patient's mind if it is preceded by administrative hostility or nurse insensitivity.

Similarly, the statistical significance of **Process** (\beta = 0.289) directly highlights the "Public Healthcare Paradox." Public tertiary institutions frequently suffer from chaotic, highly fragmented administrative systems. Long waiting lines, convoluted payment registries, manual record retrieval delays, and poorly synchronized appointment systems frustrate patients, driving those who can afford it into the private sector. Re-engineering public health consumption requires a complete overhaul of these broken operational tracks.

Furthermore, **Physical Evidence** (\beta = 0.241) proved to be a major factor in driving patronage. Physical evidence encompasses the cleanliness of the wards, structural aesthetics, the availability of clear directional signage, and ambient conditions like ventilation and lighting. In public hospitals, dilapidated physical environments often project an impression of poor clinical quality, deterring patients who associate clean, orderly spaces with medical safety and professional excellence.

Conversely, the minimal impact of **Product** (\beta = 0.079), which represents core clinical expertise, does not mean clinical quality is unimportant. Rather, it indicates that high-tier public hospitals are already expected to have highly qualified medical specialists. Since patients generally lack the deep technical knowledge to objectively evaluate a doctor's clinical accuracy, they rely heavily on peripheral cues such as staff empathy (People), waiting times (Process), and facility cleanliness (Physical Evidence) to form their judgments on whether to return to or recommend the institution.

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

This study demonstrates that improving public healthcare consumption goes far beyond just providing clinical capacity and subsidized medical treatments. In a changing healthcare marketplace, patient patronage is heavily determined by the broader service experience. Relying on low costs is no longer enough to build institutional trust or ensure steady capacity utilization. To truly re-engineer public healthcare consumption, administrators must treat patients as active consumers of health services. True operational success is achieved by focusing on the "soft" dimensions of the service marketing mix: optimizing administrative workflows, fostering a culture of professional empathy among frontline staff, and maintaining clean, modern clinical environments.

RECOMMENDATIONS

Based on the empirical findings established in this study, the following policy and managerial recommendations are put forward:

1. **De-bottleneck Institutional Processes:** Hospital managements should transition away from outdated, fragmented manual operational systems and implement integrated Electronic Medical Record (EMR) networks. Digitalizing card registration, payment systems, and laboratory tracking will significantly reduce patient waiting times, stream-line patient movement, and improve overall process efficiency.
2. **Institute Mandatory Patient Hospitality Training:** Human resource directorates within government hospitals should implement mandatory, continuous training programs focused on emotional intelligence, conflict resolution, and patient-centered communication for all frontline clinical and administrative personnel. Staff behavioral performance should be linked directly to annual promotional evaluations.
3. **Upgrade Ambient Physical Evidence:** Public facility managers should establish strict, continuous audit mechanisms for hospital environments. Investment should be prioritized for maintaining clean clinical spaces, updating old interior furniture, ensuring adequate lighting and ventilation, and installing clear, user-friendly signage across complex hospital layouts to reduce patient stress and confusion.

Re-strategize Internal Communication: Public healthcare institutions should deploy clear internal communication protocols to ensure transparency regarding service availability, billing structures, and patient rights. This will eliminate transactional ambiguity and help reduce the negative preconceptions often associated with public sector bureaucracy.

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