
The Role of Health Marketing in Enhancing the Quality of Healthcare Services in Public Hospitals.

LAHMIL Saadeddine *

Abbès Laghrour University Khenchela
(Algeria)

saadeddine.lahmil@univ-khenchela.dz

Received: 24/09/2025

BALOULI Houssame Eddine

Abbès Laghrour University Khenchela
(Algeria)

balouli.housseme.eddine@univ-khenchela.dz

Published: 20/12/2025

Abstract:

This study explores the role of health marketing in improving the performance of public hospitals, focusing on its impact on medical staff behavior, hospital development, and service quality. Using a quantitative approach and structural equation modeling (SEM) via SmartPLS v5.0, data were collected from healthcare professionals and patients in Algerian public hospitals.

The findings confirm that health marketing has a significant positive effect on all three dimensions, with the strongest impact observed on perceived service quality. These results highlight the strategic importance of health marketing not only in external communication but also in enhancing institutional performance and patient satisfaction.

Keywords: Health Marketing, Hospital Development, Service Quality, Medical Staff Behavior, Public Hospitals, Structural Equation Modeling (SEM)

Jel Classification Codes : I11 ; I18 ; M31.

* Corresponding author.

1. Introduction:

Public health represents a cornerstone for the advancement and sustainability of any society. It plays a vital role not only in preserving the well-being of individuals but also in enhancing the productivity and cohesion of entire communities. The ability of a society to achieve its economic, educational, and developmental objectives is intrinsically linked to the robustness and effectiveness of its healthcare system. In the 21st century, and particularly in the wake of recurrent global health crises such as the COVID-19 pandemic, the importance of resilient, accessible, and high-quality health systems has become more pronounced than ever before. However, many developing countries, including Algeria, face a series of structural and operational challenges within their healthcare sectors. These include a rapid increase in demand for health services due to population growth, aging, and the rise of chronic diseases, juxtaposed with limited financial and human resources, outdated infrastructure, and inefficiencies in healthcare delivery—especially in the public sector, which remains the primary provider of medical services for most of the population (Bloom & Canning, 2000; Frenk & Moon, 2013; Mills, 2014).

In response to these systemic constraints, there is a growing academic and practical interest in adopting innovative, multidisciplinary approaches to healthcare management. Among these approaches is the integration of modern marketing principles, particularly those derived from social and service marketing, into the healthcare field—commonly referred to as “health marketing.” Unlike traditional commercial marketing, health marketing prioritizes public interest by focusing on the behavioral, psychological, and service aspects of patient care. It involves understanding the needs, preferences, and expectations of healthcare beneficiaries, and aligning institutional goals with patient satisfaction and community well-being. Health marketing encompasses the design, communication, and delivery of health services in ways that foster trust, engagement, and compliance among users, while also improving the internal dynamics of healthcare organizations. It encourages a patient-centered culture, promotes the ethical use of promotional tools, and enables strategic decision-making based on evidence, segmentation, and value creation (Berry & Bendapudi, 2007; Evans, 2006; Maibach et al., 2006; Odoom & Mensah, 2018)

Against this backdrop, the current article seeks to investigate the relevance and potential of health marketing in enhancing the quality of services offered by Algerian public hospitals. As the national health sector strives to cope with growing expectations and limited capacities, health marketing emerges as a promising instrument to drive organizational change, motivate healthcare staff, and deliver more efficient, responsive, and patient-friendly services. The article aims not only to examine the theoretical foundations of health marketing and its operational

mechanisms but also to assess its applicability and impact within the Algerian context. It explores whether public hospitals possess the strategic readiness and institutional flexibility to adopt such an approach, and how this adoption could lead to tangible improvements in service delivery, patient satisfaction, and health outcomes. Ultimately, the article underscores the need for a paradigm shift—from reactive, treatment-based models toward proactive, preventive, and communicative healthcare systems—anchored in the principles of strategic marketing and social responsibility (Aarons et al., 2011; Grier & Bryant, 2005; Iliopoulos & Priporas, 2011).

1.1 Research Problematic:

In this context, the importance of adopting the concept of health marketing becomes evident, as it contributes to reorienting the behavior of hospital staff, improving patient relationships, and enhancing the quality of services provided. Adopting this concept does not merely mean promoting services; rather, it involves understanding patients' needs and expectations, achieving a balance between institutional goals and beneficiary satisfaction, which leads to positive changes in organizational behavior and strengthens health performance efficiency.

In light of this context, the central question this article endeavors to answer is how does health marketing contribute to increasing the quality of health services in public hospitals?

1.2. Sub-questions:

From this central question, arise the following sub-questions:

- What is the concept of health marketing, and what are the theories and models that explain it?
- What are the components of the marketing mix appropriate for this type of marketing?
- How can the health sector adopt the concept of health marketing?
- Where do the opportunities for development and growth lie in hospitals through the application of health marketing?
- Can hospitals provide a suitable foundation for implementing health marketing in order to move toward future advancement?

1.3. Hypotheses:

To answer the above questions, we propose the following hypotheses:

H1: There is a statistically significant relationship at the significance level between health marketing and the improvement of negative behavior among medical staff.

H2: There is a statistically significant relationship at the significance level between health marketing and enhancing the quality of services in hospitals.

H3: There is a statistically significant relationship at the significance level between health marketing and service quality.

H4: There are statistically significant differences in the strength of the relationship between health marketing, the improvement of negative behavior among medical staff, and increased quality of hospital services, at a significance impact value.

H5: There is a statistically significant relationship at the significance level between hospital development and service quality.

1.4 The Model:

H1 → Health Marketing → Medical Staff Behavior

H2 → Health Marketing → Service Quality

H3 → Health Marketing → Service Quality

H4 → Relationship strength between Health Marketing, Staff Behavior, and Service Quality

H5 → Hospital Development → Service Quality

Model includes: Health Marketing, Hospital Development, Medical Staff Behavior, and Outcome Service Quality

1.5 Research Aims:

The importance of health marketing in improving the quality of healthcare services has received growing academic attention in both local and international contexts. Several studies have explored this theme from different perspectives, offering insights into how marketing strategies can be applied in healthcare institutions—especially public hospitals—to enhance patient satisfaction, staff behavior, and overall service delivery.

1.6. Literature review:

One relevant study is “The Role of Healthy Marketing in Enhancing Customer Satisfaction: Case Study of the Hospital of Dar Al-Hakim, Béchar”, which investigated how health marketing practices influence patient satisfaction in a private Algerian hospital. Using a field survey targeting patients, the authors found a strong positive correlation between the application of marketing tools—such as effective communication, patient-centered services, and staff engagement—and increased satisfaction levels. Although this study confirms the practical value of health marketing in the Algerian context, its findings are limited to a private institution, making it difficult to generalize the results to public hospitals where resource constraints and bureaucratic challenges are more pronounced (Sirat et al., 2022).

In contrast, the study titled “Le marketing hospitalier en Algérie : des perspectives de développement dans les établissements privés à l’encontre d’obstacles dans le secteur public” provides a broader comparative view of health marketing in Algeria. The authors critically examined the disparities between private

and public healthcare institutions in terms of marketing adoption. Their qualitative analysis revealed that while private hospitals in Algeria are gradually adopting marketing strategies to improve visibility and competitiveness, public hospitals continue to face structural challenges—including insufficient staff training, outdated administrative procedures, and a lack of strategic vision—that hinder the implementation of marketing practices. Although the study lacks empirical data, it offers a valuable conceptual framework for understanding the institutional barriers to health marketing in the Algerian public sector (Snoussi & Mohammed Belkebir, 2018).

On an international level, the study “How Marketing Mix (7Ps) Affect the Patients’ Selection of a Hospital: Experience of a Low-Income Country” conducted in Iran provides a quantitative assessment of how various elements of the marketing mix (product, price, place, promotion, people, process, and physical evidence) influence patients’ decisions when selecting healthcare providers. Based on survey data from over 400 respondents, the study found that the most influential factors were “people” (staff behavior and professionalism), “process” (efficiency and clarity of service procedures), and “physical evidence” (cleanliness and facilities). These findings are especially relevant for the Algerian context, which shares some similarities with Iran in terms of economic challenges and healthcare infrastructure. The structured approach of this study can serve as a model for developing analytical tools and survey instruments in the Algerian healthcare setting (Ravangard et al., 2020).

Lastly, the study “A Strategic Imperative for Promoting Hospital Branding: Analysis of Outcome Indicators” conducted in Taiwan focuses on the role of branding and digital presence in improving hospital performance. Through the analysis of social media engagement and patient outcome indicators, the authors demonstrated that a strong digital identity—characterized by consistent branding, patient communication, and online visibility—significantly boosts public trust, loyalty, and overall satisfaction. While this context differs from Algeria in terms of digital infrastructure and technological integration, the study highlights the growing importance of digital marketing and branding in the healthcare sector. It opens the door for future reforms in Algerian hospitals, particularly those aiming to modernize their public image and reach wider audiences through online platforms (Shieh et al., 2020).

Together, these studies provide a multidimensional understanding of health marketing. They underscore its potential to improve healthcare service quality, foster patient trust, and drive institutional transformation—especially when adapted to local constraints and capacities. For the Algerian public health sector, they suggest a clear

opportunity: the strategic adoption of health marketing, whether through traditional service approaches (7Ps) or through emerging digital branding methods, could play a crucial role in addressing structural inefficiencies and achieving sustainable development in healthcare delivery.

1.7. Research Gap and Comparative Contribution

While previous studies have explored aspects of health marketing in various healthcare contexts, several critical gaps remain unaddressed, particularly in the Algerian public hospital system. The present study builds on and significantly extends the existing literature by offering a more comprehensive, data-driven analysis.

To begin with, most of the reviewed literature—including the study on the Hospital of Dar Al-Hakim (Béchar)—focused on the private sector and patient satisfaction alone. Although it confirms a positive link between health marketing and patient experience, it does not address institutional development, medical staff behavior, or broader quality metrics. In contrast, the current study incorporates a systemic framework that connects health marketing with three core outcomes: staff behavior, hospital development, and service quality.

Furthermore, the French-language study on hospital marketing in Algeria highlights institutional obstacles to adopting marketing practices in public hospitals but lacks any empirical data or analytical modeling. This limits its applicability for policy design or intervention planning. In comparison, the present research applies advanced statistical tools—namely PLS-SEM using SmartPLS to test five hypotheses across a robust sample. It incorporates reliability testing, model fit analysis, and structural validation, setting a new methodological benchmark in this field.

Internationally, the Iranian study provides a useful framework by examining how the 7Ps of the marketing mix influence hospital selection. However, it focuses solely on patients' perceptions and does not consider internal institutional factors or behavioral changes among healthcare staff. Likewise, the Taiwanese study addresses branding and digital engagement, primarily within advanced healthcare settings, making it less transferable to the Algerian public health system.

Most notably, the current research includes a unique dimension absent from previous studies: the role of health marketing in addressing public health crises and chronic diseases (e.g., COVID-19, HIV/AIDS, and cancer). This inclusion allows for a more realistic assessment of how marketing strategies contribute to disease prevention, emergency response, and public health education—critical components in low-resource settings.

Another distinguishing feature of this study is its dual-perspective approach. By gathering data from both medical professionals and patients, it offers a 360-degree view of health service delivery and stakeholder interaction. This contrasts with the reviewed literature, which largely adopts a single-stakeholder focus.

In summary, this research addresses significant methodological and thematic gaps by integrating structural modeling, behavioral analysis, institutional development, and health crisis management into one cohesive study. It provides practical implications for healthcare administrators, policymakers, and public health professionals seeking to enhance service quality through strategic marketing in public hospitals.

2.Method

This study adopts a quantitative analytical approach, relying on statistical tools to test hypotheses and examine the relationships between the core variables: health marketing, medical staff behavior, hospital development, and the quality of healthcare services.

Data were collected through structured questionnaires directed at two key target groups: medical professionals (doctors and staff) and patients in public hospitals. The instruments were designed to measure perceptions of health marketing strategies and their impact on healthcare delivery and institutional performance.

To process and analyze the data, we used:

SPSS v25 for descriptive statistics (means, standard deviations, t-tests), and for reliability testing (Cronbach's Alpha.

SmartPLS v5.0 for structural modeling using Partial Least Squares Structural Equation Modeling (PLS-SEM) (Hair & Alamer, 2022; Magno et al., 2022). This technique is well-suited for complex models with latent variables and small to medium sample sizes.

Sampling and Population

The study population consisted of healthcare workers and patients in Algerian public hospitals. A total of:

100 healthcare professionals (doctors, nurses, department heads) participated, 300 patients were surveyed, ensuring a diverse representation in terms of age, gender, and experience with hospital services.

The sampling technique used was purposive sampling (Campbell et al., 2020), selecting participants who had direct and recent interaction with hospital services and who could provide informed responses to the research questions.

Data Collection Instruments

The questionnaire was divided into several axes, aligned with the study's variables:

Health Marketing: Items measured the extent to which marketing tools and communication strategies are used in promoting health awareness, preventive care, and service accessibility.

Medical Staff Behavior: This included items assessing professionalism, responsibility, communication, and ethical conduct of doctors and support staff.

Hospital Development: Focused on infrastructure, availability of resources, administrative efficiency, and technological readiness.

Service Quality: Assessed based on patient satisfaction, cleanliness, availability of medicine, and timeliness of services.

Each item was evaluated on a 3-point Likert scale (High – Medium – Low), allowing for a simplified interpretation of attitudes and satisfaction levels among respondents.

The reliability of the questionnaire was tested using Cronbach's Alpha, which showed high internal consistency:

For the medical staff questionnaire: $\alpha = 0.978$

For the patient questionnaire: $\alpha = 0.989$

3.Results

We will present the key findings of the descriptive analysis of the questionnaire, as well as the results of the structural analysis of the relationships between the study variables and the testing of the research hypotheses.

Descriptive Analysis of the Study Variables

Regarding the doctors, the chart illustrates the distribution of the study sample according to job position. The results show that 48% of the respondents were general practitioners, followed by 22% who were heads of departments, 17% were specialists, and 13% were presidents of the medical board.

Table 01: Descriptive Analysis of the Study Variables: job position

Job Title	Percentage
General Doctor	48%
Head of Department	22%
Specialist	17%
Chairman of the Medical Council	13%

Source: Descriptive Analysis results

As for the variable of professional experience, 53% of the sample had less than 5 years of experience, followed by 31% with 5 to 10 years of experience, and 16% with more than 10 years of experience.

Table 02: Descriptive Analysis of the Study Variables: job position

Professional experience	Percentage
less than 5 years	53%
5 to 10 years of	31%
more than 10 years	16%

Source: Descriptive Analysis results

Inferential Analysis of Study Variables and Hypothesis Testing

Reliability and Validity of the Questionnaire & Sample Adequacy

Before proceeding with the structural analysis and hypothesis testing, it was essential to assess the reliability and validity of the research instrument as well as the adequacy of the sample size used in the study.

The reliability of the questionnaire was verified using Cronbach's Alpha coefficient. According to the table results, the values for both questionnaires exceeded the accepted threshold of 0.70, indicating a high degree of reliability and internal consistency across all items.

Specifically, the Cronbach's Alpha value for the doctors' questionnaire was 0.978, while that of the patients' questionnaire reached 0.989. These values confirm that all the items across the different measurement dimensions demonstrate excellent reliability, ensuring that the data collected are consistent and dependable for further analysis.

Measurement Model Evaluation

The Structural Equation Modeling (SEM) technique was employed as a statistical tool to confirm or reject the proposed hypotheses. The analysis was conducted using SmartPLS v5.0.

A series of procedures were undertaken to assess the quality and validity of the research model. This included performing Confirmatory Factor Analysis (CFA) to examine the loading values of each item and eliminate any items that might distort the final results of the statistical analysis.

We then evaluated the overall model fit, as well as the quality of the latent variables and the structural relationships among the core study constructs. These evaluation steps are presented as follows:

Table 03: Measurement Model Evaluation

The Role of Health Marketing in Enhancing the Quality of Healthcare

Decision	(SQ)	(HD)	(SB)	(MS)	
-	-	-	-	(0.968)	N1
-	-	-	-	(0.949)	N2
-	-	-	-	(0.971)	N3
-	-	-	-	(0.875)	V1
-	-	-	-	(0.859)	V2
Deleted	-	-	-)1.000(V3
-	-	-	-	(0.942)	O1
-	-	-	-	(0.927)	O2
-	-	-	-	(0.877)	O3
-	-	-	-	(0.941)	P1
-	-	-	-	(0.958)	P2
-	-	-	-	(0.919)	P3
-	-	-	-	(0.888)	P4
-	-	-	-	(0.898)	NIG1
-	-	-	-	(0.948)	NIG2
-	-	-	-	(0.890)	NIG3
-	-	-	(0.932)	-	SB1
-	-	-	(0.926)	-	SB2
-	-	-	(0.872)	-	SB3
-	-	-	(0.512)	-	B9
-	-	(0.918)	-	-	HD1
-	-	(0.896)	-	-	HD2
-	-	(0.889)	-	-	HD3
-	-	(0.882)	-	-	HD4
-	-	(0.886)	-	-	HD5
Deleted	-	(1.000)	-	-	HD6
-	-	(0.810)	-	-	HD7
-	-	(0.756)	-	-	HD8
-	-	(0.678)	-	-	HD9
-	-	(0.932)	-	-	HD10
-	-	(0.886)	-	-	HD11
Deleted	-	(0.451)	-	-	B2

(MS) social marketing

(SB) Medical staff behavior

(HD) Hospital development

LAHMIL Saadeddine
BALOULI Houssame Eddine

Deleted	-	(0.456)	-	-	B4	(SQ) Quality of services
Deleted	-	(0.452)	-	-	B6	
-	(0.795)	-	-	-	SQ1	
-	(0.798)	-	-	-	SQ2	
-	(0.677)	-	-	-	SQ3	
-	(0.832)	-	-	-	SQ4	
-	(0.846)	-	-	-	SQ5	
-	(0.687)	-	-	-	SQ6	
-	(0.829)	-	-	-	SQ7	
-	(0.694)	-	-	-	B1	
-	(0.586)	-	-	-	B3	
-	(0.645)	-	-	-	B5	
-	(0.606)	-	-	-	B7	
-	(0.692)	-	-	-	B8	

Source: SmartPLS output

To assess the validity and reliability of the measurement model, confirmatory factor analysis (CFA) was conducted using SmartPLS v5.0. The evaluation focused on the strength of item loadings on their respective latent constructs, as well as the elimination of items with weak contributions that may distort the overall model fit.

Indicator Reliability (Factor Loadings)

The analysis showed that most of the items had standardized factor loadings above 0.70, indicating strong correlations with their underlying latent variables and confirming indicator reliability. In particular:

For the Health Marketing (MS) construct, most items exhibited very high loadings (e.g., N1 = 0.968, N2 = 0.949, P2 = 0.958), supporting strong measurement reliability.

However, item V3 (loading = 1.000) was removed from the model, as it may have distorted the variance structure.

In the Medical Staff Behavior (SB) construct, items SB1 to SB3 had strong loadings (0.872 to 0.932), while item B9 (0.512) fell below the recommended threshold and was considered for deletion.

For the Hospital Development (HD) construct, the majority of items ranged from 0.756 to 0.932, confirming their validity, but HD6, B2, B4, and B6 were deleted due to loadings below 0.70 or reaching 1.000 (over-saturation).

Regarding the Service Quality (SQ) construct, most items met the minimum threshold (e.g., SQ1 = 0.795, SQ5 = 0.846), although some items such as B3 = 0.586,

The Role of Health Marketing in Enhancing the Quality of Healthcare

B5 = 0.645, and B7 = 0.606 were retained with caution due to moderate but acceptable values.

These results confirm that the majority of the measurement items were valid and reliable, and that the overall model maintained a solid structural foundation after the removal of a few underperforming indicators.

Model Fit and Quality Indices

To evaluate the overall quality and statistical adequacy of the structural model, several fit indices and quality criteria were computed using SmartPLS v5.0. These indicators confirm the model's internal validity, explanatory power, and statistical robustness.

Table 04: Model Fit and Quality Indices

P-Value	Value	Indicators: Validity, Quality, and Fit of the Model
P<0.001	0.511	Average Path Coefficient (APC)
P<0.001	0.452	Average R-squared (ARS)
P<0.001	0.450	Adjusted Average R-squared (AARS)
AFVIF≤ 5	1.170	Average Full Collinearity VIF (AFVIF)
GoF≥ 0.36	0.565	Tenenhaus Goodness-of-Fit (GoF)
SPR≥0.7	1.000	Sympson's Paradox Ratio (SPR)
RSCR≥0.9	1.000	R-squared Contribution Ratio (RSCR)
SSR≥0.7	1.000	Statistical Suppression Ratio (SSR)
NLBCDR≥0.7	0.875	Nonlinear Bivariate Causality Direction Ratio (NLBCDR)

Source: SmartPLS output

the model demonstrates a good fit and meets all standard criteria:

The Average Path Coefficient (APC) is 0.511 with a significance level of $p < 0.001$, confirming that the average strength of the structural paths is statistically significant.

The Average R-squared (ARS) is 0.452, and the Adjusted Average R-squared (AARS) is 0.450, both significant at $p < 0.001$, indicating moderate to strong explanatory power of the endogenous constructs in the model.

The Average Full Collinearity VIF (AFVIF) is 1.170, well below the critical threshold of 5, confirming that multicollinearity is not a concern in the model.

The Tenenhaus Goodness-of-Fit (GoF) index reached 0.565, which exceeds the threshold of 0.36, indicating a large overall effect size and an excellent global model fit.

The Simpson's Paradox Ratio (SPR), R-squared Contribution Ratio (RSCR), and Statistical Suppression Ratio (SSR) all scored 1.000, which are well above their respective thresholds ($SPR \geq 0.7$, $RSCR \geq 0.9$, $SSR \geq 0.7$). This reflects optimal consistency and accuracy in the model's explanatory structure.

Finally, the Nonlinear Bivariate Causality Direction Ratio (NLBCDR) was 0.875, exceeding the recommended threshold of 0.7, indicating that the model effectively captures nonlinear causal directions among variables.

Taken together, these indicators strongly confirm the validity, reliability, and statistical adequacy of the research model, supporting its suitability for hypothesis testing and interpretation of causal relationships.

Latent Variable Coefficients (Reliability and Convergent Validity)

To further validate the measurement model, the reliability and convergent validity of the latent constructs were assessed using Composite Reliability (CR), Cronbach's Alpha, and Average Variance Extracted (AVE).

Table 05: Reliability and Convergent Validity

Service Quality	Hospital Development	Staff Behavior	Health Marketing	Latent Variable Coefficients
0.931	0.968	0.894	0.988	Composite Reliability
0.918	0.962	0.833	0.987	Cronbach's Alpha
0.532	0.752	0.688	0.849	Average Variance Extracted
0.935	0.158	0.305	-	Q ² predictive relevance

Source: SmartPLS output

These values confirm that the items within each construct adequately represent the underlying latent variable and that the model's constructs are both reliable and valid for structural path analysis.

Additionally, the Q² predictive relevance values indicate a high degree of predictive accuracy, particularly for Service Quality (Q² = 0.935), and moderate relevance for Medical Staff Behavior (Q² = 0.305) and Hospital Development (Q² = 0.158). This implies that the model has strong predictive capability, especially for the key outcome variable—perceived service quality.

Structural Model Evaluation

To assess the explanatory power of the structural model, the R-square (R^2) coefficients were calculated for each of the endogenous (dependent) variables. The R^2 value represents the proportion of variance in the dependent variable that is explained by its predictors in the model.

Table 06: the explanatory power of the structural model

/	Service Quality	Hospital Development	Staff Behavior
R^2	0.951	0.125	0.280

Source: SmartPLS output

As shown in the table above, the R-square value for Medical Staff Behavior is 0.280, indicating that the independent variable, Health Marketing, explains 28.0% of the variance in the dependent variable. This represents a moderate level of explanatory power.

In contrast, the R-square value for Hospital Development is 0.125, which reflects a low level of explanatory power, suggesting that health marketing has a limited direct impact on this variable within the current model.

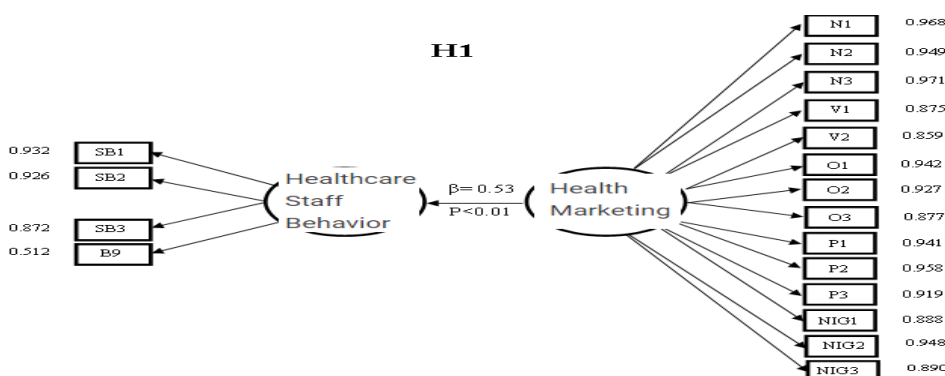
On the other hand, the R-square value for Service Quality is 0.951, which is considered very high. This implies that the predictors included in the model—primarily health marketing and hospital development—account for 95.1% of the variation in service quality, indicating a strong and reliable explanatory contribution.

Hypothesis Testing

Relationship Between Health Marketing and Medical Staff Behavior

The first hypothesis in the study aimed to examine the relationship between health marketing and medical staff behavior. Structural path analysis was conducted using SmartPLS, and the results demonstrated a positive and statistically significant relationship between the two variables.

Fig(01) : Relationship Between Health Marketing and Medical Staff Behavior



Source: SmartPLS output

The results of the structural model analysis, as illustrated in the path diagram, indicate a positive and statistically significant relationship between the two variables.

Specifically, the standardized path coefficient (β) was 0.53, with a p-value < 0.01 , which confirms the significance of the effect at the 1% level. This means that improvements in health marketing practices are associated with enhanced professional behavior among medical staff.

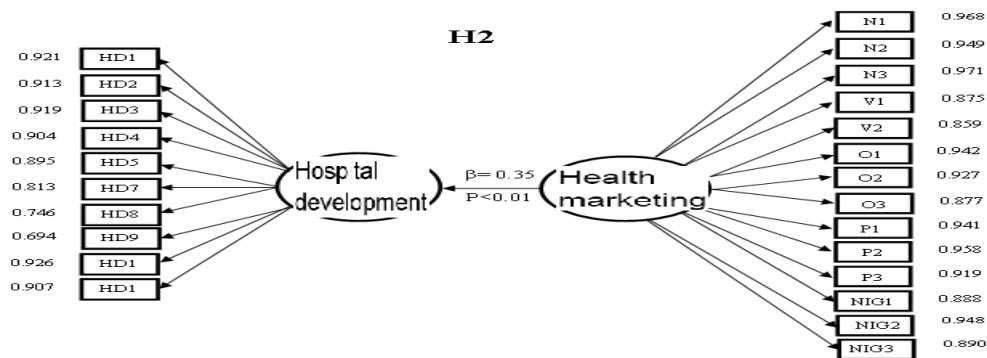
This relationship implies that health marketing strategies—such as public awareness campaigns, educational programs, internal communication, and promotional efforts—have a meaningful influence on how medical professionals conduct themselves within the healthcare setting. It supports the view that effective marketing not only targets patients but also helps shape the performance, responsibility, and communication practices of healthcare providers.

Thus, Hypothesis H1 is supported, and the findings provide empirical evidence that health marketing is a key factor in improving the quality and professionalism of healthcare staff behavior in public hospitals.

Relationship between health marketing and hospital development

The second hypothesis (H2) examined whether health marketing contributes significantly to hospital development. The analysis of the structural model revealed a positive and statistically significant relationship between the two constructs.

Fig(02) : Relationship between health marketing and hospital development



Source: SmartPLS output

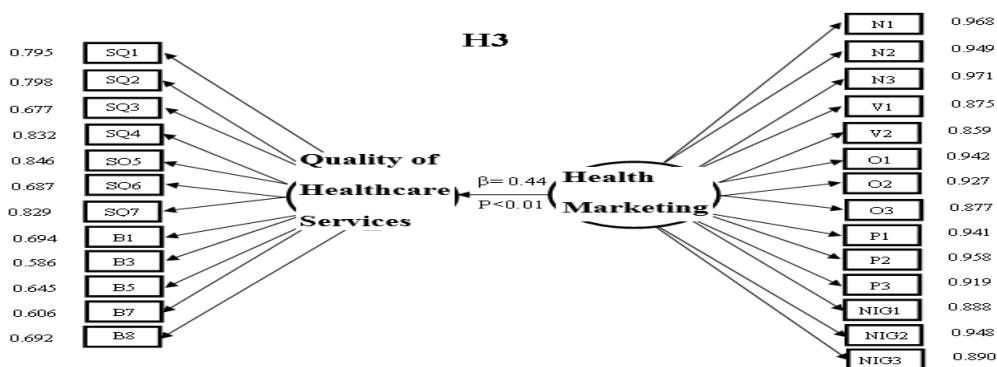
The results of the structural equation model confirm a positive and statistically significant path coefficient ($\beta = 0.35$), which exceeds the minimum threshold for practical significance. Additionally, the p-value was less than 0.01, indicating a high level of statistical significance.

These findings collectively support the hypothesis that health marketing positively influences hospital development. The magnitude of the effect ($\beta > 0.35$) confirms that this influence is not only statistically valid but also practically relevant in the healthcare context.

The Relationship Between Health Marketing and Quality of Healthcare Services

The third hypothesis (H3) tested the relationship between health marketing and the perceived quality of healthcare services from the patients' perspective. The structural model results demonstrated a positive and statistically significant relationship between the two constructs.

Fig(03) : Relationship Between Health Marketing and Quality of Healthcare Services



Source: SmartPLS output

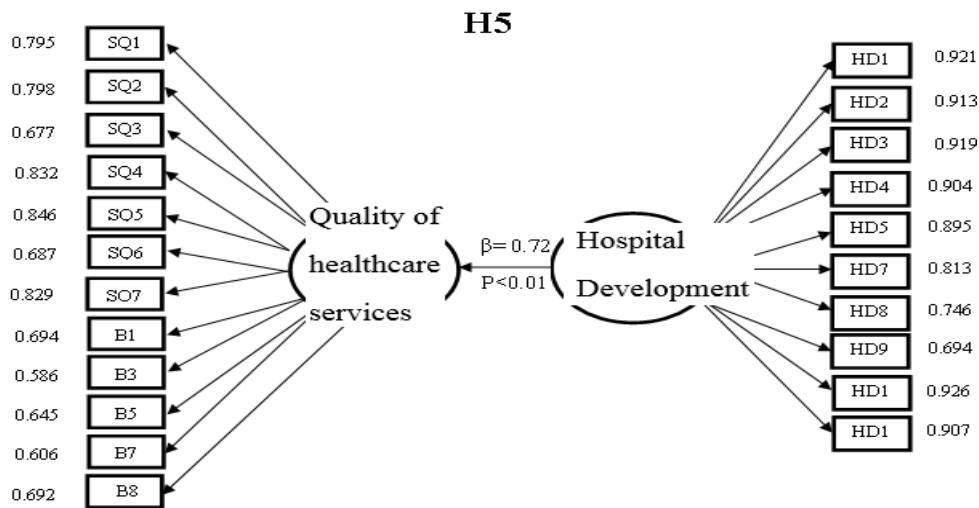
The results of the structural model confirm that the standardized path coefficient (β) was positive and exceeded 0.44, which is considered a strong effect size in social science research. Moreover, the p-value was less than 0.01, indicating a high level of statistical significance.

All of these indicators point in a consistent direction, affirming the validity of the hypothesis. They demonstrate that health marketing contributes significantly to enhancing service quality in public hospitals by improving access to information, managing expectations, and promoting patient satisfaction.

The Relationship between Hospital Development and Quality of Healthcare Services

The fifth hypothesis (H5) aimed to assess whether hospital development has a statistically significant effect on the quality of healthcare services.

Fig (04) : Relationship Between Hospital Development and Quality of Healthcare Services



Source: SmartPLS output

4. Discussion

As indicated in the structural model diagram, the path coefficient (β) was positive and reached 0.72, which exceeds the minimum threshold for a meaningful effect. In addition, the p-value was below 0.01, confirming that the relationship is highly statistically significant.

These results are consistent with the hypothesis, supporting the view that enhancing hospital infrastructure, technological readiness, and organizational efficiency directly contributes to better service quality as perceived by patients. Improvements in hospital development often lead to better hygiene conditions, more effective treatments, streamlined administrative procedures, and overall improved patient experiences.

This study aimed to examine the role of health marketing in improving public healthcare institutions by analyzing its influence on three main outcomes: medical staff behavior, hospital development, and the quality of healthcare services. Using Structural Equation Modeling (SEM), the results provide strong evidence supporting the hypothesized relationships and offer several insights into how strategic communication and marketing practices can shape the performance of public hospitals.

The findings revealed that health marketing has a significant positive impact on medical staff behavior (H1), with a path coefficient of $\beta = 0.53$. This suggests that awareness campaigns, internal communication, and public education not only influence patients but also help enhance the responsibility and professionalism of healthcare providers. This aligns with existing literature that emphasizes the role of internal marketing in motivating staff and improving service delivery.

Similarly, the study confirmed a statistically significant relationship between health marketing and hospital development (H2), with $\beta = 0.35$. Although the explanatory power ($R^2 = 0.125$) was relatively modest, the effect remains meaningful. This may imply that while marketing contributes to hospital advancement, other variables (e.g., funding, policy, leadership) may also play a central role—an avenue worth exploring in future research.

The strongest result was observed in the relationship between health marketing and service quality (H3), where $\beta = 0.44$ and $R^2 = 0.951$. This indicates that health marketing practices account for a large portion of the variance in patients' perceptions of quality. Such a high explanatory power demonstrates that effective health communication, brand positioning, and transparency significantly shape the patient experience and satisfaction.

In addition, the study found that hospital development has a powerful influence on service quality (H4), with a path coefficient of $\beta = 0.72$. This result highlights the importance of infrastructure, equipment availability, and hospital reputation in enhancing service perception. It suggests that improvements in physical and organizational environments are directly felt by service users.

Taken together, these results support the integration of health marketing as a strategic tool not only for awareness but also for internal development and quality enhancement. They also validate the conceptual model used, indicating strong internal consistency (CR, AVE), high model fit (GoF = 0.565), and meaningful predictive relevance (Q^2 for service quality = 0.935).

However, the study is not without limitations. The relatively low R^2 for hospital development suggests that other external variables—such as leadership, financial autonomy, or policy constraints—may mediate or moderate the relationship. In addition, the data were drawn from public hospitals in a specific regional context, which may limit generalizability.

Future research should consider expanding the model to include such contextual and policy-driven variables, as well as testing it in private-sector hospitals or across different countries for comparison.

5. Conclusion:

This study set out to explore the impact of health marketing on key aspects of public hospital performance, namely: the behavior of medical staff, hospital development, and the quality of healthcare services. Drawing on structural equation modeling (SEM) and supported by a robust methodological framework, the results

provide strong empirical evidence confirming the positive role of health marketing in strengthening public healthcare institutions.

The analysis revealed that health marketing significantly improves the behavior of healthcare staff, contributes to the development of hospital services, and plays a critical role in shaping patients' perceptions of service quality. Among these relationships, the strongest effect was observed on service quality, which emerged as the most responsive variable to both marketing practices and institutional development.

These findings underscore the strategic value of adopting a health marketing approach not merely as a communication tool, but as an integrated component of healthcare management. When properly implemented, health marketing fosters greater internal engagement, patient satisfaction, and institutional credibility.

Despite these valuable insights, the study is limited by its focus on public hospitals within a specific national context. Future research should broaden the scope to include private healthcare institutions and examine the influence of external factors such as policy, funding mechanisms, and digital transformation.

Ultimately, the study concludes that health marketing is not a peripheral function, but a strategic imperative for improving quality and driving sustainable development in the healthcare sector.

6. Bibliography:

Aarons, G. A., Hurlburt, M., & Horwitz, S. M. (2011). Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors.

Administration and Policy in Mental Health, 38(1), 4-23.

<https://doi.org/10.1007/s10488-010-0327-7>

Berry, L. L., & Bendapudi, N. (2007). Health Care : A Fertile Field for Service Research. *Journal of Service Research*, 10(2), 111-122.

<https://doi.org/10.1177/1094670507306682>

Bloom, D. E., & Canning, D. (2000). The Health and Wealth of Nations. *Science*, 287(5456), 1207-1209. <https://doi.org/10.1126/science.287.5456.1207>

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling : Complex or simple? Research case examples. *Journal of Research in Nursing: JRN*, 25(8), 652-661.

<https://doi.org/10.1177/1744987120927206>

Evans, W. D. (2006). How social marketing works in health care. *BMJ : British*

Medical Journal, 332(7551), 1207-1210. <https://doi.org/10.1136/bmj.332.7551.1207-a>

Frenk, J., & Moon, S. (2013). Governance Challenges in Global Health. *New England Journal of Medicine*, 368(10), 936-942.
<https://doi.org/10.1056/NEJMra1109339>

Grier, S., & Bryant, C. A. (2005). SOCIAL MARKETING IN PUBLIC HEALTH. *Annual Review of Public Health*, 26(1), 319-339.
<https://doi.org/10.1146/annurev.publhealth.26.021304.144610>

Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027.
<https://doi.org/10.1016/j.rmal.2022.100027>

Iliopoulos, E., & Priporas, C.-V. (2011). The effect of internal marketing on job satisfaction in health services: A pilot study in public hospitals in Northern Greece. *BMC Health Services Research*, 11, 261. <https://doi.org/10.1186/1472-6963-11-261>

Magno, F., Cassia, F., & Ringle, C. M. (2022). A brief review of partial least squares structural equation modeling (PLS-SEM) use in quality management studies. *The TQM Journal*, 36(5), 1242-1251. <https://doi.org/10.1108/TQM-06-2022-0197>

Maibach, E. W., Van Duyn, M. A. S., & Bloodgood, B. (2006). A marketing perspective on disseminating evidence-based approaches to disease prevention and health promotion. *Preventing Chronic Disease*, 3(3), A97.

Mills, A. (2014). Health Care Systems in Low- and Middle-Income Countries. *New England Journal of Medicine*, 370(6), 552-557.
<https://doi.org/10.1056/NEJMra1110897>

Odoom, R., & Mensah, P. (2018). Brand orientation and brand performance in SMEs: The moderating effects of social media and innovation capabilities. *Management Research Review*, 42(1), 155-171. <https://doi.org/10.1108/MRR-12-2017-0441>

Ravangard, R., Khodadad, A., & Bastani, P. (2020). How marketing mix (7Ps) affect the patients' selection of a hospital: Experience of a low-income country. *Journal of the Egyptian Public Health Association*, 95, 25. <https://doi.org/10.1186/s42506-020-00052-z>

Shieh, G.-J., Wu, S.-L., Tsai, C.-F., Chang, C.-S., Chang, T.-H., Lui, P.-W., Yao, Y., & Sheu, W. H.-H. (2020). A Strategic Imperative for Promoting Hospital Branding: Analysis of Outcome Indicators. *Interactive Journal of Medical Research*, 9(1), e14546. <https://doi.org/10.2196/14546>

Sirat, S., Bensedjad, N., & Dahmane, A. (2022). The Role of Healthy Marketing In Enhancing Customer Satisfaction Case Study: Hospital Of « dar Al-hakim » Bechar. *Al Bashaer Economic Journal*, 8(2), 961-982.

Snoussi, Z., & Mohammed Belkebir, K. (2018, octobre). Le marketing hospitalier en Algérie: Des perspectives de développement dans les établissements privés à l'encontre d'obstacles dans le secteur public. 6ème Forum International sous le thème: Les nouvelles tendances du Marketing: Déplacement de frontières ou véritable innovation Ecole Nationale de Commerce et de Gestion de Marrakech, Maroc.