

# UNIVERSITY OF MEDICINE AND PHARMACY "CAROL DAVILA", BUCHAREST DOCTORAL SCHOOL FIELD OF MEDICINE

## **OPTIMIZING MARKETING STRATEGIES IN CARDIOLOGICAL HEALTHCARE TO INCREASE PATIENT SATISFACTION** PHD THESIS ABSTRACT

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#### Introduction

In the current context of rapid technological development and increased access to information, patient satisfaction has become a crucial indicator of healthcare service quality. The choice of the research topic "Optimizing Marketing Strategies in Cardiac Healthcare to Enhance Patient Satisfaction" is motivated by the urgent need to understand and improve patient experiences in cardiology, a vital sector of the healthcare system.

This research aims to contribute to the field of medical marketing by combining traditional marketing aspects with new digital trends. The importance of this research stems from the need to adapt healthcare services to modern patient demands, promoting the use of online technologies to improve communication and interactions between patients and healthcare providers. Additionally, this study aims to identify effective marketing strategies that not only promote cardiology services but also meet patient expectations and demands.

The novelty of the research lies in the specific application of online marketing strategies in the cardiology sector, where patient satisfaction can significantly influence treatment compliance, clinical outcomes and their quality of life. The innovative aspect is highlighted by integrating online promotion methods, a relatively recent and continuously expanding field that significantly impacts consumer behavior in medical services.

The relevance of the topic is emphasized by the continuous growth in internet usage and digital platforms in health management, a trend accelerated by the recent pandemic, which has driven the digital transformation of health systems. Despite a considerable number of relevant studies in the field, most focus on specific types of medical services. This study distinguishes itself by focusing on the specific implications for cardiology services, thus contributing to a deeper understanding of the needs and challenges of this particular health domain.

The research theme aligns with current concerns about implementing online marketing strategies in healthcare services to improve patient perception and satisfaction, which can lead to a more efficient and empathetic health system.

The main hypothesis of this research is: the optimized use of online marketing strategies can significantly increase patient satisfaction in cardiology services, positively influencing their perception of the quality of services received and their interactions with medical staff. Implementing well-defined and tailored online marketing strategies for the specific needs of cardiac patients can lead to a significant increase in their satisfaction.

The scientific objectives of the research include:

- Analyzing health marketing policies and strategies to identify effective practices for increasing patient satisfaction;

- Investigating the correlation between patient demographics and their satisfaction with cardiology services;

- Evaluating the importance and impact of online marketing in cardiology healthcare services;

- Studying the behavior of consumers of cardiology health services in the online environment;

- Developing online promotion strategies to optimize the satisfaction of cardiac patients.

The doctoral thesis includes a literature review and the results of questionnaires applied to cardiology patients. The interdisciplinary approach ensures comprehensive research, combining knowledge from marketing, public health, and information technology.

The research method is quantitative, involving the collection and analysis of demographic and satisfaction data from cardiac patients, using statistical tools to identify significant correlations, gain detailed insights into patient needs and expectations, and assess the effectiveness of online marketing strategies.

The research methodology consists of two observational cross-sectional study, with the study population represented by a randomly selected sample of 300 and respectively 310 subjects, aged between 21 and 88 years, who presented for an cardiac consultation.

The paper is structured into two main parts:

The general part provides the theoretical framework necessary to understand health marketing policies and strategies, focusing on patient satisfaction, online marketing, and the behavior of cardiology service consumers.

The special part presents two relevant case studies exploring the correlation between demographic data and patient satisfaction in cardiology and evaluating the impact of online promotion strategies on the patients in the study.

The results obtained show that well-planned online marketing strategies can have a significant impact on cardiac patient satisfaction, leading to a better perception of services and increased loyalty, confirming the central hypothesis of the research.

The study concludes with general conclusions, personal contributions, and proposals for further research, followed by a list of references and appendices.

The research is interdisciplinary, integrating concepts and methods from marketing, sociology, technology, and medical sciences. This holistic approach allows for a deep and comprehensive understanding of the studied issues, ensuring well-founded and applicable solutions in practice.

#### **Contents of the Thesis**

In the first chapter of the research, the theoretical framework necessary for understanding health marketing policies and strategies, with an emphasis on patient satisfaction, is presented. The marketing strategy in the field of health services reflects the position of the health organization in relation to the patient.

A strategic approach in health marketing and the adaptation of the organization to the external environment involves market segmentation, target market selection, service positioning, and the development of an effective marketing strategy.

Marketing strategies are defined as the set of principles, procedures, and policies that guide a company's marketing activities in the market. They involve three essential elements: the corresponding budget, the marketing mix that combines the variables available to the organization, and the budget allocation procedure to maximize profitability.

Health care marketing fulfills four fundamental functions: market research, meeting customer requirements, optimizing economic performance, and flexible adaptation to the external environment. These functions are essential for the survival and success of an organization, regardless of the field.

Market segmentation and the development of products or services tailored to these segments are essential. Marketing managers focus on the most profitable segments, adjusting the marketing mix - product, price, distribution, promotion, and personnel - to meet the needs of each consumer group. This involves abandoning mass marketing strategies in favor of personalized programs.

The strategic plan aims to adapt the organization to capitalize on environmental opportunities. The marketing planning process includes analysis, strategic planning, implementation, and control or evaluation. The role of marketing in strategic planning is essential for providing guiding direction, identifying opportunities, and developing strategies to achieve the organization's goals.

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Marketing policies include strategies related to product or service development and design, pricing, distribution channel management, and promotional activities. These are essential for the success and adaptation of health organizations in a dynamic environment.

Marketing decisions in health care require an appropriate set of principles, procedures, and policies. The quality of medical services is the core of the marketing strategy and results from the correctness, promptness, professionalism of the staff, and kindness towards patients.

The marketing strategy is based on market research, market segmentation, targeting, and positioning of products or services. The marketing mix, which includes product, price, distribution, promotion and personnel, plays a tactical role in the positioning strategy. Implementing the health marketing strategy uses an expanded marketing mix (from 4P, to 5P, to 10P) to meet the needs of the target segment.

Marketing policy sets the general framework for action and includes strategies focused on patient needs, oriented towards the external environment and competition in the health system. Studies show that staff and physical evidence are essential components of the marketing mix for health service consumers.

Adaptability and innovation are necessary for adjusting strategies based on market changes and maintaining competitiveness. The use of social networks can stimulate interest and awareness of the services offered, contributing to attracting new patients. One of the main objectives of any health organization is to meet patients' needs. Marketing research is essential for understanding consumer expectations and needs. Patient orientation and identifying their desires are crucial for ensuring a high level of satisfaction.

Effective communication between the organization and patients, ensuring service accessibility, and monitoring patient perceptions are essential for increasing trust in the services provided. Service quality is defined by the ability to meet beneficiaries' needs, and providing high-quality services attracts new clients and maintains a low client loss rate.

Patients evaluate service quality by comparing the service received with the expected one. If the service meets expectations, the patient will perceive it as quality. Quality evaluation in the health system involves the relationships between the patient and the medical unit, the professional training of the staff, employee conduct, and the medical organization's interest in the patient. Evaluating the quality of health services allows interpreting the patient's response to the services offered, achieving effective quality control. Effective quality management aims to provide services that meet patients' health needs and societal requirements, respecting standards and protecting the environment. Using quality standards identifies and prevents non-quality, establishing precise objectives and procedures, making the staff responsible, and analyzing the efficiency of quality management. The activity of health units must be based on clear standards to enhance service quality.

In conclusion, health marketing strategies, focused on patient satisfaction, involve market research, segmentation, and targeting, developing the marketing mix, and adaptability to the competitive environment. Patient satisfaction is influenced by the perceived quality of services, effective communication, and personalization of the medical experience.

**In Chapter II**, the general framework regarding online promotion strategies as a means to increase patient satisfaction in cardiology services is presented.

Online marketing is a modern strategy, adapted to digital technologies and the internet, which helps in building and promoting a brand's image online.

The main objectives are to increase brand visibility, generate potential clients, boost sales, and build lasting relationships with customers. The methods used include email, social networks, display advertising, search engine optimization (SEO), and Google AdWords. The advantages of online marketing include global coverage, reduced advertising and operational costs, precise targeting, interactive communication, measurable results, and business convenience. Online marketing is essential for increasing the visibility and profitability of brands in the competitive digital environment.

Online marketing plays a crucial role in attracting patients and raising awareness about cardiac issues. The online marketing tools used include: The medical institution's website, which provides information about services, the medical team, and educational resources; SEO, which helps the website appear in top search results; content marketing, which involves creating and distributing relevant content about cardiac health; online advertising campaigns to promote services. Other tools include: social media marketing, which ensures direct communication with patients and promotes services; reviews and testimonials, which attract patients; email marketing, which keeps patients informed and attracts new potential patients.

These tools, combined in a coherent strategy, can be effective in attracting and retaining patients and promoting cardiac health in the online community.

Regarding the behavior of cardiac health service consumers in the online environment, the use of online health information is increasing, and consumers preferentially seek information about symptoms, treatments, and medical services. They use the internet to verify doctors' recommendations, participate in online communities dedicated to cardiac health, and interact with content on social networks.

The quality of online information is essential, and consumers are attentive to the source and accuracy. The quality criteria for evaluating the information include: credibility, content, design and interactivity. Generally, consumers use online information to save time and confirm doctors' recommendations, but they maintain trust in medical professionals for consultations and treatments.

The online promotion environment plays an important role in influencing the satisfaction of cardiac patients. Patient satisfaction is an important indicator of the quality of medical services and influences an organization's market share. There are two aspects of quality in health services: technical quality (accuracy of diagnoses and medical procedures) and functional quality (the manner of service delivery).

Patients cannot accurately evaluate technical quality but are influenced by functional quality and their overall experience. The online promotion environment contributes to increasing patient satisfaction by providing accessible information, interactive communication, and continuous support. Medical institutions can use patient feedback to improve services and develop marketing strategies that meet their needs and expectations.

Implementing an effective online marketing strategy can lead to increased patient satisfaction and loyalty while promoting cardiac health and improving the medical institution's reputation.

**Chapter III** of the research presents a case study on the correlation between demographic data and the satisfaction of cardiology patients. This study emphasizes the importance of measuring and managing quality in healthcare services, particularly within cardiology services.

In healthcare service research, quality measurement and management are major themes due to the numerous definitions and evaluation methods developed by stakeholders, including patients and service providers. The study was conducted at the Constanța Clinical Railway Hospital, involving patients investigated in the specialized outpatient clinic, the cardiology office, and the hospital.

The purpose of the study is to evaluate the correlation between the demographic characteristics of patients with heart conditions and their level of satisfaction with the medical services provided by the healthcare organization.

The study objectives are: to analyze the demographic profile of patients with heart conditions and evaluate the impact of demographic factors on their satisfaction; to analyze the relationship between the type of cardiology consultation and the satisfaction of cardiology patients; to determine the socio-economic impact on overall satisfaction and the perception of the social responsibility of cardiology organizations.

The hypotheses formulated to guide the empirical investigation are: demographic factors significantly influence the satisfaction of cardiology patients; the type of cardiology consultation affects the perception of service quality; socio-economic status influences the perception of social responsibility and overall satisfaction within cardiology organizations.

The study was conducted on a sample of 300 patients, randomly selected, aged between 21 and 87 years, who presented for a cardiology consultation.

To adequately present the results, tables and graphs were developed to reflect the responses to each question in the questionnaire, facilitating the analysis, interpretation, and comparison of data in a rigorous and academic manner. From the initial sample of 300 respondents, 286 valid questionnaires were processed.

The demographic distribution of participants includes variables such as age, education level, monthly income, marital status, and background.

The respondents' satisfaction level was evaluated in several areas: orientation towards the medical service consumer, employer quality, organizational profitability, service quality, and the organization's social responsibility.

The first questions addressed the perception and satisfaction of patients regarding the cardiology organization's orientation towards the consumer of medical services. The results indicated a very high satisfaction level among participants in this aspect. Regarding questions about the participants' perception of the cardiology organization as an employer, patients from urban areas reported significantly higher satisfaction levels compared to those from rural areas.

The differences were significant depending on age and education level, with younger and more educated patients showing greater satisfaction.

Questions regarding patient satisfaction with the perception that the cardiology organization is profitable and financially strong revealed a high satisfaction level, with no significant differences based on background, age, or education level. Questions about service quality showed that patients aged 40-59 had significantly lower satisfaction levels compared to younger patients. Significant satisfaction differences were also based on marital status and the reason for the cardiology consultation.

Questions about the social responsibility of the organization indicated that patients over 60 years old had significantly lower satisfaction levels compared to younger patients.

Due to favorable internal consistency results, global scores reflecting the satisfaction level of participants in each measured category were constituted.

Overall patient satisfaction with the organization's consumer orientation, employer quality, organizational profitability, service quality, and social responsibility was evaluated through these global scores, and from the analysis of the internal consistency models of the question categories (reporting Cronbach's alpha coefficients), the following results were obtained: consumer orientation ( $\alpha$ =0.872), employer quality ( $\alpha$ =0.876), organizational profitability ( $\alpha$ =0.829), service quality ( $\alpha$ =0.741), social responsibility ( $\alpha$ =0.769).

Additionally, no significant differences were observed in overall satisfaction based on place of origin, education level, monthly income, and marital status; however, significant differences were noted based on age category and the reason for the cardiology consultation. Younger patients (20-39 years old) and those who came for routine check-ups reported a higher satisfaction level.

The average value of the global satisfaction score regarding consumer orientation was  $27.22 \pm 2.66$  points, indicating a high satisfaction level. No significant differences were observed concerning background, age, education, or income.

Regarding employer quality, the average value of the global score was  $24.17 \pm 3.67$  points. Patients from urban areas reported a higher satisfaction level compared to those from rural areas. Younger patients (20-39 years old) and those with higher education levels reported higher satisfaction levels.

Concerning organizational profitability, the average score was  $26.59 \pm 3.83$  points. No significant differences were observed based on background, age, education, or income.

The average score for service quality was  $17.18 \pm 2.06$  points. Patients aged 40-59 reported lower satisfaction levels compared to those in the 20-39 age group. Patients who did not wish to provide a reason for the cardiology consultation reported lower satisfaction levels.

The average score for social responsibility was  $11.5 \pm 1.88$  points. Younger patients (20-39 years old) reported higher satisfaction levels compared to those over 60 years old.

The study highlighted that, in general, cardiology patients at Constanța Clinical Railway Hospital have a high satisfaction level with the services received. Demographic factors such as age, education level, and background significantly influenced certain aspects of satisfaction.

Therefore, identifying and managing these differences can contribute to the continuous improvement of medical service quality and increased patient satisfaction.

**In Chapter IV**, I have conducted a case study: Online Promotion Strategy as a Means to Increase the Satisfaction of Cardiology Patients.

In the contemporary digital era, the internet and digital technologies are transforming the ways patients access information and interact with medical services. This change is crucial for cardiology patients, who require constant monitoring and access to specialized medical resources.

The online environment offers an ideal platform to meet these needs, facilitating communication between patients and healthcare providers, access to educational resources, and remote health monitoring, thereby contributing to increased patient satisfaction.

The purpose of this study is to evaluate the effectiveness of online promotion strategies in increasing the satisfaction of cardiology patients by analyzing patients' preferences and behavior in the online environment.

The study's objectives are as follows: evaluating the effectiveness of online promotion channels and analyzing their impact on patients' decisions; determining the factors related to the use of online services that influence patient satisfaction levels; analyzing the relationship between the clinic's online presence and the intention to recommend it.

Based on these objectives, the following hypotheses were formulated: cardiology patients who frequently use online platforms for information about cardiology services and appointments will report a higher level of satisfaction compared to those who do not use these platforms; it is assumed that patients who have the opportunity to communicate online with medical staff will develop a stronger relationship and will use the clinic's services more frequently; positive online reviews and ratings will significantly impact patients' decisions to choose a particular cardiology clinic.

These objectives and hypotheses guided the research to provide a deep understanding of the role of online promotion in increasing the satisfaction of cardiology patients and how clinics can optimize digital strategies to improve patient experience.

The study was conducted on a sample of 310 patients, aged between 21 and 88, who completed anonymous questionnaires after cardiology consultations. The research was quantitative, conducted over a 12-month period, using a 43-question survey with predominantly closed answers. The data were numerically processed and statistically analyzed to recommend solutions for improving patient experience, aiming to optimize the clinic's medical performance and online reputation.

The results of demographic and social variables are: out of the total 310 patients, 63.9% are from urban areas, and 54.8% are under 65 years old. Most patients have high school education (43.2%) or a bachelor's degree (29.7%).

Patients evaluated the following areas of satisfaction: information accessibility, ease of online appointments, and interaction with medical staff. Most found the online experience satisfactory (58.1%) or very satisfactory (14.2%). Approximately 97.4% would recommend the institution to a friend or family member for information or online services related to cardiac health. Regarding accessibility and information: 43.1% of respondents found the online information easy to find. Related to communication and interaction with medical staff: 59.4% of patients were very satisfied, and 40% satisfied.

Regarding obtaining test results online: 51.6% used online platforms to get results, with most evaluating the service as efficient or very efficient.

Regarding the feedback and general satisfaction: 70.3% of respondents did not leave online feedback, but those who did (29.7%) believed that their feedback would be taken into account by the institution.

Following the analysis of the hypotheses, we found that:

Hypothesis 1: Frequent use of online platforms for information and appointments is positively correlated with a higher level of patient satisfaction. Data indicate that loyal clinic patients frequently use the internet to obtain health services informations, and most find online platforms useful or very useful.

Hypothesis 2: Online communication with medical staff strengthens doctor-patient relationships and encourages the use of clinic services. Active interaction on social networks and efficient online communication are appreciated by patients and contribute to increased satisfaction.

Hypothesis 3: Positive online reviews significantly influence patients' decisions to choose a cardiology clinic. Patients who frequently use the internet for information and reviews report a higher level of satisfaction and are more willing to recommend the clinic.

The study confirms that online promotion strategies and effective digital presence of cardiology clinics can improve patient satisfaction. Frequent use of online platforms for information and appointments, online communication with medical staff, and positive reviews are essential factors in increasing patient satisfaction and loyalty. By integrating these strategies, clinics can optimize patient experience and strengthen trust relationships, contributing to high-quality medical care.

**Conclusions and Personal Contributions** 

The research titled "Optimizing Marketing Strategies in Cardiological Healthcare to Increase Patient Satisfaction" primarily aimed to analyze how different marketing strategies, especially online ones, influence patient satisfaction in the field of cardiology services. The study was structured around multiple hypotheses, each with specific objectives, and the results provided clear answers to the questions formulated at the beginning of the research.

1. Correlation Between Demographic Data and Patient Satisfaction

The analysis demonstrated that demographic factors such as age, background, and education level significantly influence various dimensions of cardiological patient satisfaction. Although not all dimensions were uniformly affected, it was confirmed that personalized strategies are essential for improving patient satisfaction.

2. Type of Consultation and Perception of Service Quality

The study showed that the type of consultation, routine check-ups versus pre-surgical consultations, affects patients' perception of service quality. Patients with clear reasons for consultations reported higher satisfaction levels, indicating the importance of specificity in marketing strategies.

3. Impact of Socio-Economic Status on Satisfaction

Contrary to expectations, the research highlighted that socio-economic status, income, and marital status do not significantly influence patient satisfaction. However, service quality proved to be a notable exception, suggesting that other variables might be more relevant in this context.

4. Effectiveness of Online Promotion Strategies

The research confirmed that frequent use of online platforms for information and appointments correlates positively with a high level of patient satisfaction. Online communication with medical staff helps develop stronger relationships, thus contributing to a more satisfying overall experience.

5. Impact of Online Reviews on Clinic Selection

The study emphasized that while personal recommendations remain essential, positive online reviews significantly influence patients' decisions in choosing a cardiology clinic. A well-managed online presence is crucial for building a favorable reputation.

Personal Contributions. My contributions focused on several essential aspects, each playing a significant role in conducting this complex study. I participated in formulating

hypotheses and the methodology used to analyze the impact of marketing strategies on cardiology patient satisfaction.

I contributed to developing the research hypotheses based on specialized literature and field observations, and identified correlations between demographic factors and patient satisfaction. I also contributed to designing the research methodology, establishing a set of research tools that allowed for relevant data collection. This included developing the questionnaires used to assess patient satisfaction levels and selecting appropriate statistical analysis criteria.

I was involved in the data collection and analysis process. I coordinated the research team in conducting surveys and ensured ethical standards were upheld in interactions with patients. Additionally, I performed statistical analyses to support the validity of the formulated hypotheses and actively participated in interpreting the results, offering insights into the practical implications for marketing strategies in healthcare. This interpretation was essential for providing relevant recommendations for cardiology clinics.

I highlighted the importance of an active online presence and effective management of patient feedback, arguing that these aspects are crucial for increasing patient satisfaction and improving clinic reputations.

Original Contributions of the Research:

1. Detailed Analysis of Demographic Factors on Patient Satisfaction

The research significantly contributed by providing a detailed analysis of how different demographic factors influence cardiology patient satisfaction. The results emphasize the necessity of personalized approaches in patient care.

2. Specific Impact of Consultation Type on Service Quality Perception

I demonstrated that the type of cardiology consultation significantly affects patients' perception of service quality, highlighting the importance of clear communication and a well-structured appointment scheduling process.

3. Role of Online Promotion Strategies in Increasing Patient Satisfaction

The study showed that online promotion strategies positively influence cardiology patient satisfaction, underscoring the importance of a well-structured website and an effective presence on social media.

4. Development of a Patient Satisfaction Evaluation Model

I contributed to developing a patient satisfaction evaluation model that considers multiple dimensions, including consumer orientation, service quality, and social responsibility. This model can be used by cardiology clinics to continuously measure and improve patient satisfaction.

Measurable and Implementable Contributions

I created and validated patient satisfaction evaluation tools that can be implemented by clinics to monitor satisfaction in real-time and quickly identify areas for improvement. I proposed online marketing campaigns that include the effective use of social networks and websites to attract and retain patients. The study demonstrated that the use of online platforms positively influences patient satisfaction. I proposed the development and optimization of these digital tools, including well-structured websites and an active presence on social media, to facilitate patient access to information and services.

Based on identified correlations, I developed a series of practical recommendations for the continuous improvement of offered services. These include constant monitoring of patient feedback and proactive measures to promptly address identified issues.

I suggested a differentiated approach to patients based on socio-economic status, proposing the implementation of health education programs and specific interventions to improve access to services for individuals with low incomes and medium or low education.

The research was a valuable experience that allowed me to contribute to a deeper understanding of the relationship between online marketing and cardiology patient satisfaction.

My contributions were aimed at ensuring the study's relevance and utility, considering current healthcare challenges and the continuous need to adapt to patient needs. This experience reinforced my commitment to promoting patient-centered care and the effective use of marketing strategies in support of this mission.

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