



Research Article

Development of Digital Marketing Utilization Based on Analysis of Digital Marketing Implementation in the Marketing Strategy of X Hospital, Mojokerto

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ABSTRACT

This study focuses on assessing the effectiveness of digital marketing applications at X Hospital Mojokerto by reviewing patient demographics, online behavior, and perceptions of digital media. A quantitative approach using a survey method was used, with a questionnaire consisting of several questions, to collect data from new patients who access health information through the hospital's digital media. The results indicate that patients aged 26–35 years dominate, and TikTok and Instagram are shown as the primary platforms used for accessing health information. Nonetheless, only Facebook indicated a statistically meaningful result on patients' choices in seeking hospital care. The remaining variables, such as demographic factors and digital media perception, demonstrated no significant impact. The study implies that digital platforms' usage behavior and content strategy bring a greater impact than demographic characteristics. Recommendations cover maximizing Facebook performance, improving content interaction on Instagram and TikTok, and implementing communication strategies tailored to user behavior to strengthen communication outcomes and conversion.



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INTRODUCTION

There has been a significant increase in healthcare service demands in Indonesia, which can be seen from the increase in the total number of hospitals from 1,951 in 2015 to 2,269 in 2018 (Kemenkes RI, 2020). This increasingly competitive market in healthcare is driven by both the public and private sectors. As a result, hospitals need to think differently about how they engage the marketplace to compete, especially in the world of digital. One such novelty is the utilization of social media in the dissemination of health messages, promotion of services, and closer contact with patients (Petersen & Lehmann, 2018). Digital marketing in health services not only focuses on the promotion of the services but also needs to consider the quality of services, the relationship with patients, and trust that is built with sustainable communication (Kotler et al., 2021).

According to Nayal & Pandey (2020), social media can be classified into several types of digital platforms such as YouTube, Instagram, Facebook, TikTok, and an official hospital website. Each of the platforms has its unique characteristics and excellence in supporting a hospital's digital marketing strategy. Such platforms not only enhance the visibility of health care institutions but they also affect the perception and choice of patients by providing content that is accessible, shareable, and can possibly go viral (Shahbaznezhad et al., 2021). Additionally, the custom content on social media improves the reputation of the hospital and motivates long-term relationships with the patient (Ajina, 2019). However, the success in digital marketing isn't just reaching more followers, but it is determined by social engagement, trust, and how it influences clients' decisions. According to Jeyaraman et al. (2023), social media has

changed the way patients evaluate health services. Patients are more active in looking for information, comparing services, and making decisions based on online reviews. Therefore, hospitals should be able to build digital trust and provide a positive online experience as part of their digital marketing strategy.

Mojokerto X Hospital is a regional reference hospital that carries out digital marketing through social media. But the 2023 performance data of Mojokerto X Hospital's social media showed a gap, for example, the engagement rate of Instagram only reached 0.85% out of the target 7.58%, and TikTok 4.4% out of the target 35.45%. This gap showed that there remains a problem between target and actual results of digital marketing, not least when it comes to engagement rate and audience reach on Instagram, Facebook, and TikTok. This underscores the critical importance of rethinking content strategies and engagement models to enhance patient conversion on digital platforms.

To fill this gap, this research aims to examine the effect of patient-related factors, including demographic factors, online behavior (e.g., the frequency of the online search for health information), and perceptions of hospital social media content, on the intention to use the services of a hospital. Internal and environmental factors (e.g., human resources, competition), while important, are beyond the scope of the current analysis to give priority to patients' experiences. Through data analysis, hospitals can identify areas in need of improvement and respond more efficiently to patients' needs (Ahmed, 2023). Research by Chandra et al. (2022) showed that personalization in digital marketing can increase consumers' response and push their loyalty. Chaffey dan Ellis-Chadwick (2019) defined digital marketing as an application of digital technology used to achieve marketing purposes. In the health service context, digital



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marketing holds an important role in increasing communication between the hospital and the patient. Relevant and engaging content could affect patients' perception and decision in choosing healthcare services. Viral effect also supported the improvement of brand awareness of the hospital (Kim, 2022). In the context of Hospital X Mojokerto, this study attempts to determine which patient-related factors have a significant impact on service utilization following exposure to digital marketing content. As well as to offer strategic recommendations that will support more successful, data-driven digital marketing initiatives, catered to patient behavior.

METHODS

This study used a quantitative, cross-sectional method through a case-based study at X Hospital Mojokerto. The goal was to explore the relationship between demographic characteristics, online behavior and patients' perception of hospital's digital media content on decisions to access medical care.

The research took place in a one-month timeframe between October and November 2024. The population of the research sample is all new patients of X Hospital Mojokerto, with an average of 3,012 visits each month based on 2023 hospital data. The minimum sample size needed in this study was determined using a proportion-based sample size formula with finite population correction (FPC), reflecting a 95% confidence level ($Z=1.96$), a margin of error of 10% ($d=0.10$), and an estimated population ratio of 0.5. Based on this calculation, the result came to 93 respondents.

A consecutive sampling technique was used to select the participants referring to patients

who fulfilled the inclusion criteria within the research period were selected in order of arrival. The inclusion criteria for the respondents are new patients aged over 18 years who actively use social media platforms (Instagram, TikTok, Facebook, or the hospital's website) and are willing to participate. The exclusion criteria are patients who had previously received services at Hospital X, those who were unable to complete the questionnaire, and those not actively using any digital platform.

Data collection was conducted through an organized online survey tool, broken down into three variables: (1) independent variables which consisted of demographic characteristics (age, gender, education, economy, information access culture) and online behavior (frequency of platform usage and type of platform most frequently used); (2) mediator variables which referred to perceptions of hospital's digital media (quality of content and interaction, influence of the digital media (how helpful it was to determine the choices of using hospital services); (3) dependent variable which was utilization of hospital services after viewing hospital's digital media.

SPSS software was used to analyze the data. Characteristics of the sample were determined using descriptive statistical method, while binary logistic regression was conducted to assess the correlation between independent variables (demographic characteristic and online behavior) and mediator variable (perception of hospital's digital media) on dependent variable (yes/no use of hospital services after viewing hospital's digital media content).



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RESULTS

Most respondents (57%) were male, with mainly consisted of individuals aged 26-35. The majority of patients (25.49%) held a bachelor's degree, and monthly income ranged from IDR 2-4 million (32.26%). Many indicated receiving occasional health information from relatives (44.09%), and the influence of such information has a significant impact (64.52%).

Regarding social media behavior, Instagram came as the most-used social media platform (53.76%), followed by TikTok (36.56%) and Facebook (6.45%). In contrast, Facebook had the lowest usage rate (6.45%) yet demonstrated the most significant behavioral effects in logistic regression analysis. Given the duration of use, daily duration for Instagram use was 1-2 hours per day (31.18%), over 4 hours were spent on TikTok (32.26%), and Facebook usage for less than an hour daily (34.41%).

Likert scales were used to measure perception variables. Instagram obtained the highest mean score for content quality (4.15), while Facebook showed the greatest score for interaction (3.99). Regarding the role in influencing healthcare usage decisions, TikTok

showed the highest score (4.20), followed by the website (4.05). However, results showed no meaningful relationship between perception variables and the use of hospital services. Most of the respondents (64.52%) had accessed hospital care after receiving information via the hospital's digital media. This reflects a strong conversion from digital exposure to actual hospital service usage.

To analyze the correlation of 13 variables (independent variables and mediator variables) on dependent variables, this study used a binary logistic regression. Frequency of using Facebook was the only variable that demonstrated a notable statistical impact on service utilization ($p=0.026$; $OR=1.786$). This result shows that patients who were frequent Facebook users were 1.786 times more likely to use hospital services after getting exposure from the hospital's digital content. Furthermore, two other variables (frequency of receiving health information from family/friends ($p = 0.061$) and influence of family/friends on belief in health information ($p = 0.099$) were nearing the threshold of statistical significance. This suggested a conditional or interaction effect, which might be explored in future studies. The remaining variables showed a significant outcome ($p > 0.05$).



Table 1. Results of Binary Logistic Regression Test on Demographic Characteristics, Patients' Online Behavior, and Digital Marketing Assessment with the Utilization of Digital Media at Hospital X Mojokerto.

No	Independent & Mediator Variables	Dependent Variables	OR	p-value	Interpretation
1	Gender	Impact of	1.266	.660	Not Significant
2	Age	Hospital X	1.049	.803	Not Significant
3	Education	Digital Media on	1.214	.376	Not Significant
4	Income	Patients' Service	.972	.895	Not Significant
5	Frequency of receiving health information from family/friends	Utilization Decisions	.546	.061	Not Significant
6	Influence of family/friends to health information belief		.704	.099	Not Significant
7	Facebook usage frequency		1.786	.026	Significant
8	Instagram usage frequency		.965	.885	Not Significant
9	TikTok usage frequency		.910	.670	Not Significant
10	Most-used social media platform		1.085	.740	Not Significant
11	Perceived content quality on hospital digital media		.949	.694	Not Significant
12	Perceived interaction quality on hospital digital media		1.081	.597	Not Significant
13	Influence of hospital digital media in helping to decide hospital service usage		1.204	.526	Not Significant



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DISCUSSION

The novelty of this study lies in its behavior-based analysis of digital marketing effectiveness in a hospital setting, particularly the discovery that Facebook—despite lower usage rates—has a statistically significant influence on patient decisions, contrasting the commonly prioritized Instagram and TikTok platforms.

The study outcomes deliver a useful perspective into healthcare consumer behavior and decision tendencies among patients regarding digital marketing approaches in healthcare. The analysis is framed based on variables addressed in the research. Firstly, demographic characteristics (age, gender, education, income, information access culture) showed no statistically relevant relation in choosing to use hospital services post seeing information from hospital digital media. This outcome supports current perspectives in digital healthcare marketing, which suggest that patterns of social media engagement are more relevant indicators than fixed personal characteristics. The majority of respondents were 26-35 years old, indicating that although the younger group was more active in using social media, these characteristics alone are not directly linked to hospital visits unless combined with personalized communication strategies (Kotler et al., 2022; Kotler & Keller, 2016; Ajina, 2019).

Secondly, the analysis of patterns of internet activity indicated that Instagram and TikTok were the top used social media. Yet, only Facebook usage showed a notable influence on patients' decisions to access hospital services. This inconsistency suggests that frequent interaction does not always result in hospital visit conversion. Even though Facebook was the least-used social media platform, it had a greater influence on hospital service usage.

This could be attributed to variations in the style of content delivery, the platform user profile, and the way content is presented. These results emphasize that platform selection and content style are the key to the success of digital marketing. Supporting studies indicate that Facebook's format fosters deeper interaction, credibility, and familiarity, making it more persuasive in decision-making (Singla et al., 2023; Aguerrebere et al., 2022).

In the context of digital marketing of health services, online behavior holds an important role that shows that this aspect can reflect the intensity of digital information exposure that influences patients' decision-making (Pratiwi et al., 2021). Thirdly, even though patient views of hospital digital media, such as content quality, interaction quality, and influence of social media, were largely favorable—especially on Instagram and TikTok—none of these variables contributed meaningfully to hospital service usage. This may point to a gap between impressions and actual decisions. It suggests that while users may appreciate content, it does not necessarily lead them to act unless it provokes interest, reliability, or urgency. Hence, upcoming strategies should enhance sentimental value and practical context, especially call-to-action clarity (Ajina, 2019; Radu et al., 2018).

Fourthly, the research indicates that 64.52% of respondents accessed hospital services post-viewing content on the hospital's social media. Although this conversion is favorable, it varies among social media platforms, which suggests the importance of customized strategies for each platform. This aligns with the literature that emphasizes tailored content as a key factor in increasing digital effectiveness in healthcare (Chandra & Najib, 2023).

Lastly, most of the variables show insignificant results; two variables (the frequency of receiving health information from family or friends



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and the influence of family/friends on health information belief) showed near the significance cutoff ($p=0.061$ and $p=0.099$, respectively). This indicates that social reliability and information from relatives may provide a supporting role in digital health decisions. Hospitals could explore community-based strategies such as referral programs, user feedback campaigns, and collaborations with patient families to strengthen content credibility and user trust. Research supports this through evidence that peer-shared health content increases perceived trust and drives behavioral response (Birru et al., 2022; Adwan et al., 2023).

As a final point, this research emphasizes that dividing patients based on online behavior is more effective for health marketing than relying solely on demographic characteristics. The hospital should focus on behavior-based insights (the duration of platform usage, content interaction habits, and platform preferences instead of general audience profiling. This approach allows hospitals to deliver more targeted, relevant, and impactful digital content that resonates with actual patient habits. This study has several limitations. First, it was conducted in a single hospital, which may limit the generalizability of the findings. Second, the self-reported nature of survey responses could introduce bias. Lastly, the short data collection period might not capture changes in digital media trends over time.

CONCLUSION

The findings suggest that digital marketing strategies in hospitals should focus on behavior targeting approaches over demographic segmentation. Even though Instagram and TikTok are the top-used platforms, only Facebook usage showed a notable statistical correlation with patients' decisions to access hospital services. Demographic variables (age, gender, education, and income) showed no

notable impact on hospital service utilization, nor did Views on content effectiveness or engagement. However, 64.52% indicated hospital services usage after viewing information on social media, indicating a promising conversion rate through social media when executed effectively. This study emphasizes the importance of customizing content for each platform and focusing on measurable user behavior (platform preferences, duration of use, and interaction patterns) to improve patient interaction and boost the overall success of hospital marketing strategies.

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