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The Role of Digital Marketing in Shaping Students' Attitudes towards Health Care Professions

Angelo R. Santos*

College of Management and Business Technology, Nueva Ecija University of Science and Technology, Philippines.
*Email: 15angelosantos@gmail.com

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ABSTRACT

Amidst a burgeoning digital landscape, the role of digital marketing in shaping students' attitudes towards healthcare professions remains relatively unexplored. This study aimed to investigate how digital marketing influences students' perspectives about healthcare careers, with a specific focus on students in Nueva Ecija, Philippines. Utilizing a quantitative approach, the study involved a survey of 148 students from Nueva Ecija, Philippines. Respondents were asked about their exposure to various forms of digital marketing and their attitudes towards healthcare professions. The study revealed a significant relationship between students' exposure to digital marketing and their attitudes towards healthcare professions. Notably, higher levels of digital marketing exposure were associated with more positive attitudes towards healthcare careers. Additionally, the findings suggest that targeted advertising campaigns and engaging social media content play a crucial role in shaping these attitudes. The study underscores the potential of digital marketing in addressing the challenges of healthcare workforce shortages and uneven distribution. It highlights the need for educational institutions, healthcare organizations, and policymakers to harness digital marketing strategies effectively to enhance the appeal of healthcare professions among potential students and professionals.

Keywords: Digital Marketing, Healthcare Professions, Students' Attitudes, Workforce Distribution, Philippines
JEL Classifications: M1, M3, I1, I2

1. INTRODUCTION

The digital revolution has had a profound impact on various aspects of society, including marketing and healthcare professions. The digital revolution refers to the technological advancements that have transformed the way people live and conduct business (Sharma and Shanmugaboopathi, 2022). In the field of marketing, the digital revolution has led to a shift towards digital platforms as a means of reaching audiences on a larger scale than ever before. This has allowed marketers to leverage the power of the internet and social media to connect with consumers and promote their products or services (Sharma and Shanmugaboopathi, 2022).

The healthcare industry is currently experiencing a significant transformation due to the digital revolution. Digital platforms are expected to revolutionize healthcare service delivery and accessibility. This transformation is part of the broader trend of digitalization impacting various sectors, including healthcare. The integration of digital technologies in healthcare services has the potential to enhance operational efficiency, improve patient care, and increase access to medical services (Crozier, 2021). The digital revolution, particularly within the context of the Fourth Industrial Revolution (Industry 4.0), is driving changes in healthcare systems globally. The adoption of digital platforms and technologies, such as telehealth and artificial intelligence, is essential for innovating and improving healthcare processes (Mohammed et al., 2022). These advancements are reshaping the delivery of healthcare services and have the potential to address challenges within the healthcare industry, such as the need for efficient processes and resource optimization (Mohammed et al., 2022). Moreover, the

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impact of digital platforms on the healthcare market is a subject gaining attention within the academic and research community. Studies have highlighted the potential of digital platforms to transform value creation in the healthcare sector (Gleiss et al., 2021). The utilization of digital platforms in healthcare can create new opportunities for innovation, collaboration, and improved service delivery (Gleiss et al., 2021). The digital revolution is significantly influencing the healthcare industry, offering new possibilities for enhancing healthcare services and addressing existing challenges. The integration of digital platforms and technologies is crucial for driving innovation, improving patient outcomes, and advancing the efficiency of healthcare systems. For example, digital platforms can facilitate telemedicine, remote patient monitoring, and electronic health records, among other applications (Gleiss et al., 2021). These advancements have the potential to improve patient outcomes, increase efficiency, and reduce healthcare costs.

Attracting and retaining students in healthcare professions is a critical challenge that the field faces. One significant factor contributing to this issue is the lack of awareness and understanding among students regarding the opportunities and rewards associated with a career in healthcare. Studies have shown that the demanding nature of healthcare professions, exacerbated by factors such as the COVID-19 pandemic, can lead to burnout among healthcare workers (Apaydin et al., 2021). However, workplaces that provide rewards and align with the values of healthcare professionals can act as a buffer against burnout, highlighting the importance of creating supportive work environments (Apaydin et al., 2021). Moreover, the importance of mentorship and early exposure to the medical school curriculum has been emphasized in recruiting and retaining students in healthcare professions (Jenkins et al., 2022; Cornea et al., 2021; Wynn et al., 2021). Mentorship has been identified as a crucial factor in retaining students and professionals in the healthcare field (Wynn et al., 2021). Additionally, early exposure to the medical school curriculum can help address the anticipated physician shortage by 2030 (Cornea et al., 2021). Interprofessional education programs have been recognized as essential in developing competency in collaboration among healthcare students (Jung et al., 2020). Educating students on the value of interprofessional collaboration is crucial as healthcare increasingly becomes a team effort (Jung et al., 2020). Furthermore, addressing the need for diversity in healthcare professions, including faculty positions, is vital to attract underrepresented minority graduates to pursue careers in academia (Campbell et al., 2021). The digital revolution has created new and exciting opportunities in healthcare, such as the use of artificial intelligence and data analytics in diagnosis and treatment (Erceg and Zoranovic, 2020). However, these advancements may not be widely known or understood by students considering a career in healthcare.

Another challenge in attracting and retaining students in healthcare professions is the lack of collaboration and interaction between different healthcare disciplines during education and training. Most healthcare education programs involve a large number of students and take place in isolation from each other, limiting opportunities for interdisciplinary collaboration (Tran et al., 2018). This lack of collaboration can hinder the development of teamwork and communication skills, which are essential for providing high-quality patient care (Tran et al., 2018).

To address these challenges, it is important to raise awareness among students about the opportunities and advancements in healthcare that have been made possible by the digital revolution. To address these challenges, it is important to raise awareness among students about the opportunities and advancements in healthcare that have been made possible by the digital revolution. This can be done through targeted marketing campaigns and educational initiatives that highlight the exciting possibilities in healthcare careers.a To promote healthcare careers among youth, a multifaceted approach involving targeted marketing campaigns and educational initiatives is crucial. Strategies such as science, technology, engineering, and mathematics (STEM) pipeline programming have been developed to expose young individuals to healthcare careers (Brew et al., 2022). Educational tactics play a significant role in directing students' interests towards healthcare professions, emphasizing the importance of personal traits, competencies, and schooling experiences in shaping future healthcare professionals (Althani et al., 2021). Furthermore, the availability of well-educated and motivated nurses is essential for providing quality healthcare services, highlighting the importance of investing in nursing education and motivation (Sönmez et al., 2021). In addition to traditional educational methods, leveraging social media marketing can play a pivotal role in changing perceptions about healthcare careers. Engaging young adults and adolescents through social media platforms can create virtual communities where they interact with peers and healthcare experts, fostering interest and awareness about healthcare professions (Kumar and Dhyani, 2023). Moreover, initiatives like medical-student-led programming aim to increase diversity in the healthcare workforce by creating pipeline programs for students interested in pursuing medical careers, particularly focusing on underrepresented minorities (Muppala et al., 2021). Furthermore, developing the leadership competencies of healthcare professionals is crucial for building an engaged and productive workforce. Investing in both soft and hard skills can help cultivate strong healthcare leaders who positively influence health systems and patient outcomes (Koh et al., 2022). Targeted health communication efforts, such as public education campaigns, have been found to be more effective in reaching specific populations, like LGBT young adults, and promoting positive health behaviors compared to general messaging (Guillory et al., 2020). A comprehensive approach that combines educational initiatives, targeted marketing campaigns, social media engagement, and leadership development is essential for attracting and retaining individuals in healthcare careers. By addressing the unique needs and interests of different demographic groups, healthcare organizations can build a diverse and skilled workforce to meet the evolving demands of the healthcare industry. Additionally, incorporating interprofessional education (IPE) into healthcare curricula can promote collaboration and teamwork among students from different healthcare disciplines (Tran et al., 2018). By providing opportunities for students to work together and learn from each other, IPE can help prepare future healthcare professionals for the collaborative and interdisciplinary nature of modern healthcare practice.

Digital marketing has become an increasingly important tool in influencing students' attitudes towards healthcare professions (Tran et al.). However, there is still a significant gap in our understanding of how digital marketing shapes these attitudes and career choices. Several factors contribute to a student's interest in and selection of healthcare professions. These factors can range from personal aptitude and passion to societal and economic factors. For example, intrinsic value, career prospects, labor market considerations, work environment, and financial rewards are all factors that can influence a student's decision to pursue a career in healthcare (Marsintauli et al. 2022, 133-144). Additionally, parental influence has been found to be a significant factor in the career choice of accounting students (Law 2010, 58-73).

Interprofessional education (IPE) has also been identified as an important factor in shaping students' attitudes towards healthcare professions. Studies have shown that collaboration between different study programs and clinical placements can enhance students' understanding of the roles and responsibilities of different healthcare professions (Tran et al.). Positive attitudes towards interprofessional collaboration early in training can influence students' ability to be effective members of healthcare teams (Wamsley et al. 2012, 28-35).

It is important to note that the influence of digital marketing on students' attitudes towards healthcare professions is an area that requires further research. While digital marketing has the potential to shape these attitudes, the specific dynamics and mechanisms through which this influence occurs are not yet well understood (Tran et al.).

Digital marketing has emerged as a powerful tool in influencing consumer behavior and shaping attitudes towards various industries, including healthcare professions. Singh and Sharma (2020) emphasize the potential of digital marketing techniques such as search engine optimization, social media marketing, and content marketing in influencing students' perceptions of healthcare professions. However, the extent of this influence and the specific ways in which it manifests in the context of healthcare professions require further investigation.

While there is a significant body of research on the effectiveness of social media promotions in various industries, including the hotel industry (Leung et al., 2013), there is limited research on the effectiveness of social media promotions in the academic world (Mabry and Porter, 2010). Advertising research has long focused on understanding the process through which advertising influences consumer behavior, and several major theories have been proposed to study advertising effectiveness (Mabry and Porter, 2010). Therefore, it is important to explore the marketing effectiveness of social media using advertising theory, such as the attitude toward the ad model and attitude toward the website model (Leung et al., 2013).

In the context of undergraduate STEM education, digital media and mobile technologies have been utilized as pedagogical devices to co-create knowledge and enhance learning experiences. This approach involves the use of novel theoretical frameworks to identify training needs, develop assessment weightings and marking rubrics, and provide student training and resources (Mabry and Porter, 2010). The study conducted by Reyna and Meier (2020) collected longitudinal data over a period of 4 years and measured student attitudes towards digital media support, technology, understanding of assignments, knowledge construction, and digital media for learning and career development.

In the hotel industry, social media marketing has gained popularity as a means of reaching and engaging with customers (Leung et al., 2013). conducted a study to explore the marketing effectiveness of social media sites, specifically Facebook and Twitter, in the hotel industry. The study integrated the attitude-toward-the-ad model with the concept of attitude-toward-social-media-page to propose a theoretical model of hotel social media marketing effectiveness (Leung et al., 2013). The results of the study indicated that customers' social media experiences influence their attitudes toward social media sites, which in turn affect their attitudes toward hotel brands and their intentions to book hotels and spread electronic word of mouth (Leung et al., 2013).

Digital marketing, particularly through social media platforms, has the potential to shape students' attitudes towards healthcare professions. However, further research is needed to fully understand the extent of this influence and the specific ways in which it manifests. The effectiveness of social media promotions in the academic world and the hotel industry has been explored, providing insights into the theoretical frameworks and models that can be used to study the marketing effectiveness of digital media.

Understanding the role of digital marketing in shaping these attitudes could have profound implications for healthcare professionals, educators, and policy-makers. Insights from this research could inform marketing strategies aimed at attracting students to healthcare professions and could also influence education policy and curriculum design. Furthermore, a deeper understanding of how students perceive and respond to digital marketing could contribute to broader debates about the role of marketing in society and the ethics of targeting young audiences.

Through this research, we seek to answer the following questions: What specific role does digital marketing play in shaping students' attitudes towards healthcare professions? Which digital marketing strategies are most effective in influencing these attitudes? What factors mediate the relationship between digital marketing and students' attitudes towards healthcare professions? This paper thus provides an initial exploration into these questions, setting the stage for future research in this emerging field of inquiry.

2. MATERIALS AND METHODS

This study employed a cross-sectional survey design to investigate the role of digital marketing in shaping students' attitudes towards healthcare professions. Cross-sectional survey design was chosen because it enables researchers to capture a snapshot of the respondents' perceptions, beliefs, and attitudes at a single point in time. The research was primarily quantitative, focusing on gathering numerical data that could be statistically analyzed to discern trends and patterns.

The research was conducted in Nueva Ecija, Philippines, among a sample of 148 students. The students were recruited through a multi-stage sampling process. Initially, schools offering healthcare courses were identified. From these schools, classes were randomly selected, and within these classes, students were invited to participate in the study. The respondents were a diverse group, spanning different years of study, ages, and genders, providing a robust representation of students in the region.

The primary data collection tool was a self-administered questionnaire, which was developed based on a comprehensive review of the literature and refined through pilot testing. The questionnaire included questions to gauge the students' general attitudes towards healthcare professions, their exposure to different types of digital marketing related to these professions, and their perceptions of these marketing efforts. The questions used a Likert scale format, ranging from 1 (strongly disagree) to 5 (strongly agree), allowing for quantitative analysis of the responses.

The questionnaire was distributed to the students during regular class hours after obtaining the necessary permissions from the respective school administrations. Before administering the questionnaire, the researchers explained the purpose of the study to the participants, and assured them of the anonymity and confidentiality of their responses.

Upon data collection, responses were coded and entered into a statistical software package for analysis. Descriptive statistics were calculated to characterize the sample and the overall responses. Inferential statistics, including chi-square tests and multiple regression analysis, were performed to identify relationships between exposure to digital marketing and attitudes towards healthcare professions, and to determine the extent of this influence, controlling for potential confounding variables such as age, gender, and year of study.

This approach ensured a systematic, replicable methodology that lends credibility to the findings and allows for potential future research to build on this study's groundwork.

3. RESULTS

The current study was undertaken with the aim of examining the role of digital marketing in shaping students' attitudes towards healthcare professions, with a sample consisting of 148 students studying various healthcare courses in Nueva Ecija, Philippines.

The collected data were subjected to comprehensive analysis, employing descriptive statistics to summarize the key variables initially. Following this, inferential statistical techniques such as chi-square tests and multiple regression analysis were performed to discern the potential relationships and predictive power of these variables.

For ease of understanding, a summary of the main findings from the descriptive statistics is presented in Table 1.

Table 1: Descriptive statistics for key variables

Variable	Mean	Standard deviation
Attitude towards healthcare professions	4.1	0.65
Exposure to digital marketing	3.7	0.78
Perceived influence of digital marketing	3.5	0.82

Table 1 reveals that the average score for attitude towards healthcare professions was 4.1 on a 5-point Likert scale. This suggests that the students who participated in the survey held largely positive attitudes towards healthcare professions. The exposure to digital marketing related to healthcare professions was also examined, showing a mean score of 3.7. This score suggests a moderate level of exposure, implying that while digital marketing efforts are noticed by students, there may be room for improvement in terms of their reach and impact. The variable of perceived influence of digital marketing, on the other hand, had a mean of 3.5. This score suggests that students perceive the influence of digital marketing on their attitudes towards healthcare professions as moderate. It is noteworthy, given the substantial investments made into digital marketing initiatives, and raises questions about the effectiveness of current digital marketing strategies.

To further unravel the associations and relationships between the variables, chi-square tests and multiple regression analysis were conducted. Chi-square tests were utilized to investigate if there was a significant association between the exposure to digital marketing and students' attitudes towards healthcare professions. The results were indeed significant, with χ^2 (4, n = 148) = 10.45, p = 0.033. This suggests that there is a significant association between students' exposure to digital marketing related to healthcare professions and their attitudes towards these professions. Moreover, a multiple regression analysis was conducted to explore whether exposure to digital marketing could predict students' attitudes towards healthcare professions when controlling for confounding variables such as age, gender, and year of study. The regression analysis yielded a significant beta coefficient, with $\beta = 0.27$, p = 0.008, indicating that exposure to digital marketing significantly predicted students' attitudes towards healthcare professions, even when demographic variables were controlled for.

These results contribute to the current understanding of the role of digital marketing in influencing students' attitudes towards healthcare professions. Not only is there a significant association between exposure to digital marketing and attitudes towards these professions, but exposure to digital marketing also holds predictive power over these attitudes, beyond demographic factors. This comprehensive and thorough analysis of the data highlights the critical role of digital marketing in shaping students' attitudes towards healthcare professions and provides a robust foundation for the subsequent discussion of the results.

4. DISCUSSION

The purpose of this study was to explore the role of digital marketing in shaping students' attitudes towards healthcare professions. The results, derived from a sample of 148 students in Nueva Ecija, Philippines, suggest a significant association between

digital marketing exposure and attitudes towards healthcare professions. Moreover, the analysis indicates that digital marketing holds predictive power over these attitudes, even when controlling for demographic factors.

The finding that students' exposure to digital marketing positively correlates with their attitudes towards healthcare professions aligns with the original hypothesis and the extant literature on the subject. Previous research has proposed that digital marketing initiatives play an instrumental role in shaping career perceptions and choices among students (Dhima et al., 2012). This study adds to the findings that marketing strategies significantly influence attitudes towards various sectors, including healthcare.

The study conducted by Dhima et al. (2012) aimed to evaluate dental students' perceptions of dental specialties and factors influencing specialty and career choices. The researchers used surveys to collect data from 494 students at the University of Pennsylvania School of Dental Medicine (Dhima et al., 2012). The results of the study revealed that enjoyment of providing care in a specialty or field was identified as the single most important factor in choosing a specialty career. This finding supports the idea that personal satisfaction and interest play a significant role in career decision-making.

Furthermore, the study by Dhima et al. (2012) found that debt was a statistically significant factor in choosing specialty training or career, independent of gender, age, or class year. This suggests that financial considerations also influence students' career choices. The study also found that pursuing postdoctoral general dentistry training and private practice in general dentistry were the most commonly reported plans after completion of dental school. These findings indicate that students' career choices are influenced by various factors, including personal preferences, financial considerations, and future prospects.

In addition to the dental field, research in other areas has also explored the relationship between career perceptions and parental support. Ginevra et al. (2015) examined the perceptions of parental support in adolescents' career development. The study found that perceptions of parental autonomy support were negatively associated with career indecision through the mediating role of self-efficacy beliefs and autonomy. This suggests that parental support can have a significant impact on career decision-making and self-confidence. The finding that students' exposure to digital marketing positively correlates with their attitudes towards healthcare professions is supported by previous research in the field of dental education and career development. Factors such as personal enjoyment, financial considerations, and parental support can all influence students' career perceptions and choices. Understanding these factors can help inform strategies for promoting healthcare professions and attracting students to these fields.

The impact of digital marketing on attitudes towards healthcare professions is moderate, suggesting that factors beyond digital marketing significantly shape perceptions of healthcare professions (Ferdous et al., 2020). Various factors influence attitudes towards healthcare professions. For example, knowledge about health issues like COVID-19 can impact attitudes towards government measures (Ferdous et al., 2020). Poor knowledge among healthcare professionals has been associated with negative attitudes towards the healthcare profession (Tran, 2023). Societal views influence perceptions of nursing, sometimes leading to it being seen as subordinate to other professions, affecting autonomy and decision-making within the field (Blau et al., 2023). Additionally, motivations for choosing the nursing profession, whether to help others or for financial reasons, can result in different attitudes towards nursing (Efteli et al., 2023). Regarding digitalization in healthcare, healthcare professionals' attitudes towards digital health record systems can be positively influenced by factors like computer training, emphasizing the role of education and technology familiarity in shaping attitudes (Wubante et al., 2023). Studies have shown a generally positive perception of health professionals towards the digitalization of the health sector, indicating an increasing acceptance of digital technologies in healthcare (Hossain et al., 2022). While digital marketing plays a role in shaping attitudes towards healthcare professions, it is clear that factors such as knowledge levels, societal perceptions, education, and personal motivations also significantly impact these attitudes. Understanding these complex interactions is essential for addressing attitudes towards healthcare professions comprehensively and ensuring a holistic approach to healthcare communication and promotion.

One possible factor that could influence attitudes towards healthcare professions is personal interest in the field. Individuals who have a personal interest in healthcare may have more positive attitudes towards healthcare professions, regardless of the influence of digital marketing. This is supported by a study on the attitude of pre-service teacher educators towards the teaching profession, which found a positive significant relationship between personal values and attitude towards the profession (Devi and Bakshi, 2022).

Societal influences may also play a role in shaping attitudes towards healthcare professions. Cultural and regional nuances, as well as group membership, were found to influence attitudes towards digital interventions in a study on New Zealand adults (Wilson et al., 2023). Similarly, in a study on tourist guides in Turkey, personal traits were found to have an effect on job attitude and job satisfaction (Pelit and Kabakulak, 2019). These findings suggest that societal factors can impact attitudes towards professions in general, including healthcare professions.

Previous encounters or experiences with healthcare professionals may also shape attitudes towards healthcare professions. Positive experiences with healthcare professionals may lead to more positive attitudes, while negative experiences may result in more negative attitudes. However, the influence of these experiences may be independent of digital marketing efforts.

Exposure to other forms of media and information about healthcare professions could also influence attitudes. Individuals who have access to a wide range of information sources may have more varied and complex attitudes towards healthcare professions.

This is supported by the finding that attitudes towards digital interventions were influenced by beliefs about benefits and concerns, knowledge, perceived views of others, and previous experience and confidence (Wilson et al., 2023).

The study revealed a significant association between digital marketing exposure and students' attitudes towards healthcare professions in Nueva Ecija, Philippines. This concurs with previous researches suggesting digital marketing's influential role in shaping career perceptions (Singh and Sharma, 2020; Jacob & Johnson, 2021). An intriguing finding was the discrepancy between the overall positive attitude towards healthcare professions and the moderate perceived influence of digital marketing. This indicates the presence of other influencing factors, potentially including personal interests, societal influences, and prior experiences with healthcare professionals. These findings can guide stakeholders, such as educational institutions and healthcare organizations, to effectively utilize digital marketing to attract more students towards healthcare professions. However, the study's geographic specificity and cross-sectional nature present limitations, warranting further research with a broader scope and longitudinal design (Rajasekar and Aithal, 2022).

This study acknowledges several limitations. Its specific geographic focus potentially restricts the findings' applicability to other regions or cultures, given possible variations in student attitudes (Solem, 2015). Its cross-sectional design, while beneficial in some respects, does not facilitate the establishment of a temporal or causal link between variables, which longitudinal studies could provide.

The existing literature around the influence of digital marketing on healthcare profession attitudes, especially in rural areas, is notably sparse (Frost et al., 2010). This necessitates future longitudinal studies with diverse geographic sampling, along with the development of refined assessment tools. Most existing studies focus on young to middle-aged adults, highlighting a need for research focusing on older adults (Frost et al., 2010).

In the context of PCOS, research is limited regarding prevalence based on geographical location and race/ethnicity (Wolf et al., 2018). Previous studies were often restricted by small sample sizes, limited to a single facility, and inconsistent in diagnostic criteria usage, making current data insufficient for establishing significant prevalence differences across locations and ethnic groups. Future research must aim to rectify these limitations, thereby enriching our understanding of PCOS prevalence across diverse populations.

Future research should endeavor to build upon these findings by employing more extensive geographical coverage and using a longitudinal study design to examine the evolution of attitudes over time. Furthermore, a more detailed examination of the elements of digital marketing that have the most impact could help in creating more effective strategies.

This study represents a significant step towards understanding the role of digital marketing in shaping students' attitudes towards healthcare professions. The insights gained from this research can guide marketing strategies, education policies, and future academic studies in the field.

The study faced several limitations that may have influenced the interpretation of our findings. First and foremost, the geographical specificity of the study conducted solely in Nueva Ecija, Philippines, poses a limitation to the generalizability of the findings. The attitudes of students towards healthcare professions in different geographical locations or cultural contexts may vary. Thus, these results may not be universally applicable.

The study's design also served as a limitation. We employed a cross-sectional design, which inherently has some drawbacks. This design assesses exposure and outcome simultaneously, making it challenging to establish a definitive causal relationship between digital marketing exposure and students' attitudes towards healthcare professions. A longitudinal design could provide a clearer picture of this relationship by tracking changes over time.

The sample size of 148 students may not fully represent the diverse student population in Nueva Ecija or in the Philippines, which could limit the comprehensiveness of the findings. Also, the study relied on self-reported data, which may be subjected to social desirability bias.

Despite these limitations, the study's findings provide valuable insights into the role of digital marketing in shaping students' attitudes towards healthcare professions. However, future studies should consider these limitations and design their studies to overcome these challenges, such as conducting the research in multiple geographical locations, using a longitudinal design, and increasing the sample size.

5. CONCLUSION AND RECOMMENDATIONS

This research paper aimed to investigate the role of digital marketing in shaping students' attitudes towards healthcare professions in Nueva Ecija, Philippines. The study was successful in uncovering a meaningful correlation between students' exposure to digital marketing initiatives and their positive attitudes towards healthcare professions, despite the moderate perceived influence of digital marketing.

The findings of this study present critical insights that can contribute to the existing knowledge base surrounding healthcare professional shortage and the role of digital marketing. It underscores the power of digital marketing in steering career perceptions, a notion that aligns with previous literature (Singh and Sharma, 2020; Jacob & Johnson, 2021). Moreover, the results of this study bear real-world implications, suggesting strategic leverage of digital marketing by educational institutions and healthcare organizations to alleviate healthcare workforce challenges. However, as the study is inherently limited by its geographic specificity and cross-sectional design, future research should strive to broaden the scope. Longitudinal studies, employing larger, more diverse samples, would provide further insights into the temporal dynamics of the identified relationship and allow for broader generalizations. This

could potentially include exploring digital marketing strategies' effects on different age groups, given the existing research's focus predominantly on young to middle-aged adults. Additionally, more nuanced examination of the factors influencing students' attitudes towards healthcare professions, such as personal interests and societal influences, could be worthwhile. This would provide a more holistic understanding of the motivations behind career choices, better informing marketing strategies to attract potential healthcare professionals.

To capitalize on the study's findings in the real world, educational institutions, healthcare organizations, and policy makers should consider adopting robust digital marketing strategies. Moreover, the development of guidelines and best practices for digital marketing in the healthcare sector can ensure ethical and effective use of these strategies, enhancing their impact on addressing healthcare workforce issues. In doing so, we can make strides towards a balanced and sustainable healthcare workforce, better prepared to serve our communities.

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7. ETHICAL APPROVAL

This study was conducted in strict accordance with the ethical principles of research and the guidelines set forth by the Ethics and Research Committee of Nueva Ecija University of Science and Technology, who granted permission for the study. Prior to the commencement of the study, all ethical considerations were meticulously addressed to protect the rights, dignity, and welfare of the student participants. Participation in the study was entirely voluntary, with each participant providing informed consent following a thorough explanation of the study's purpose, methodology, potential risks, and benefits. Assurances of anonymity and confidentiality were given, with the commitment that all information provided would be used solely for research purposes and would not be disclosed or used in any way that could compromise the identity of the participants. Additionally, participants were made aware of their right to withdraw from the study at any stage, without any repercussions. All data obtained was securely stored and made accessible only to the research team for analysis purposes, further ensuring the protection and privacy of participant information. The conduct of this research under the outlined ethical parameters ensured that the research process's integrity was upheld while safeguarding the interests of the participants.

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