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DETERMINING THE EFFECT OF HEALTH CARE MARKETING MIX ELEMENTS ON OBTAINING HEALTH INFORMATION IN THE DIGITAL ENVIRONMENT

Muhammet Salih YİĞİT[*] & Murat BAŞAL[**]

Abstract

With the advancement of time, the health system, which is one of the important dynamics of life, has become an important process of service marketing. Promotion activities, which are known as activities carried out to facilitate the sale of marketing in health and to persuade the customer, are supported by effective policies in the process. In the process of intense digitalization, patients' access to information takes place on the internet and virtual environments. This article aims to determine the effect of promotion policies in marketing in health services on the process of obtaining health information in digital environment. In this context, data were collected from 397 health service consumers in Istanbul province. The questionnaire created in Google form with the scales determined was applied online. The hypotheses in the context of the model created as a result of statistical analysis of the data obtained were tested. According to the results obtained, the promotion to be made in health has a positive effect on the users' acquisition of health information in the digital environment in service marketing. With this result, it is recommended to evaluate the results in the process of similar studies to be conducted in the future.

Keywords: *Healthcare, Marketing, Promotion, Digital Media, Health Information Retrieval.*

SAĞLIK HİZMETİ PAZARLAMA KARMASI ELEMANLARININ DİJİTAL ORTAMDA SAĞLIK BİLGİSİ EDİNMEYE ETKİSİNİN BELİRLENMESİ

Öz

Zamanın ilerlemesiyle birlikte yaşamın önemli dinamiklerinden biri olan sağlık sistemi, hizmet pazarlamasının önemli bir süreci haline gelmiştir. Sağlık hizmetlerine olan talepteki artışlar, teknolojideki gelişim, memnuniyet düzeyinin değişmesi ve artan beklentiler dolayısıyla sağlık hizmetlerinde pazarlamaya olan ihtiyaç artmıştır. Sağlıkta pazarlamanın satışını kolaylaştırmak ve müşteriyi ikna etmek amacıyla gerçekleştirilen faaliyetler olarak bilinen tanıtım faaliyetleri, süreçte etkili politikalarla desteklenmektedir. Yoğun dijitalleşme sürecinde hastaların bilgiye

[*] PhD, Istanbul Gelisim University, Institute of Graduate Studies, Business Administration, Istanbul, Turkey, msyigit@gelisim.edu.tr, https://orcid.org/0009-0009-2764-2947
[**] Assistant Professor, Istanbul Gelisim University, Vocational School, Logistics, Istanbul, Turkey, mbasal@gelisim.edu.tr, https://orcid.org/0000-0003-1440-659X

erişimi internet ve sanal ortamlarda gerçekleşmektedir. Pazarlama faaliyetlerinde ürün veya hizmetler hakkındaki bilgilere müşteri tarafından hızlı olarak ulaşılabilmesi önemli hususlardan biridir. Dijital teknoloji araçları sayesinde yer ve zaman sınırı olmadan erişim sağlanabilmesi dijital pazarlamanın önemini ve kullanımını hızlandırmıştır. Bu makale, sağlık hizmetlerinde pazarlamada uygulanan tanıtım politikalarının dijital ortamda sağlık bilgisi edinme sürecine etkisini belirlemeyi amaçlamaktadır. Bu kapsamda İstanbul ilindeki 397 sağlık hizmeti tüketicisinden veri toplanmıştır. Belirlenen ölçeklerle Google formda oluşturulan anket online olarak uygulanmıştır. Elde edilen verilerin istatistiksel analizi sonucunda oluşturulan model kapsamındaki hipotezler test edilmiştir. Elde edilen sonuçlara göre sağlıkta yapılacak tanıtım, hizmet pazarlamasında kullanıcıların dijital ortamda sağlık bilgisi edinmelerini olumlu yönde etkilemektedir. Bu sonuçla gelecekte yapılacak benzer çalışmalar sürecinde sonuçların değerlendirilmesi önerilmektedir.

Anahtar Kelimeler: *Sağlık, Pazarlama, Tanıtım, Dijital Medya, Sağlık Bilgisine Erişim.*

Introduction

The health sector, which has become increasingly important for consumers, is evolving rapidly over time (Massaro, 2021). Healthcare businesses are planning to organize their marketing strategies with a consumer-centered approach in the future (Massij, 2024; Jena, 2020). As the demand for healthcare services grows, the number of patients is also increasing (Gök, 2020). Health institutions employ consumer persuasion strategies to deliver their services to potential patients (Cosma et al., 2020).

The promotional activities used in the promotion aspect of the 4 P's of marketing—product, price, promotion, and place (distribution channels) are based on public relations, which differentiates them from other sectors (Büyükdere & Korkutan, 2024). Hospitals, as health institutions, have a complex structure in terms of the variety of services they offer (Gümüş, 2019). The promotional activities for health services begin with creating appropriate content for health marketing (Elrod & Fortenberry, 2018; Popa et al., 2022). The objective of the promotional process in health marketing is to steer patients away from unnecessary consumption (Jena, 2020; Syed et al., 2021; Tengilimoğlu, 2020) and to enhance the effectiveness of the health service received by the patient through their active participation (Agarwal et al., 2020).

Living in a digital age also provides patients with significant convenience in accessing health information (Çömlekçi & Bozkanat, 2021; Wang et al., 2022). Health services that are both available and accessible to patients are now more easily obtainable due to the increase in information provided (Deloitte, 2024). Digital media allows consumers to explore various options when accessing health-related information and making healthcare

decisions (Jia et al., 2021). Consumers gather this information from websites, social media channels, and health-related organizations (Liao, 2020; Ye et al., 2022). Access to digital health information also positively influences consumer motivation (Sreejesh et al., 2022) by fostering consumer health awareness (Altay, 2022).

This study aims to investigate the effect of promotional activities and marketing elements used in healthcare service marketing on patients' ability to access desired health information in a digital environment. Data was collected from 397 individuals in Istanbul province. Based on this online survey, it was concluded that promotional activities in healthcare marketing positively impact patients' access to health-related information in the digital environment throughout the service marketing process.

1. PROMOTION POLICIES IN HEALTH SERVICE MARKETING

The promotion process, known as a set of structured activities conducted in a planned manner along with all business operations to ensure the service offered by a business is readily accepted by consumers, encompasses many elements, from advertising to public relations (Elrod & Fortenberry, 2020). The process of converting potential customers into loyal customers through systematic efforts falls within these activities (Littlejohns, 2019). Various tools, such as advertising, sales promotion, and face-to-face sales, are employed as promotional strategies (Işık, 2012). While these are generally used in promotional activities, public relations are specifically preferred in the healthcare sector to create a positive image (Bulatnikov & Constantin, 2021). The goal here is to increase patient awareness, allowing them to engage in the diagnosis and treatment process rather than encouraging unnecessary consumption. Advertising plays a crucial role in health promotion (Elrod & Fortenberry, 2020; Işık, 2012), mainly due to the ethical and legal constraints that may arise. An example of personal selling in healthcare is hospitals conveying their messages through agreements with private health insurance organizations (Dedeoğlu, 2016). Free samples, coupons, contests, and trial opportunities offered by healthcare organizations are other examples of health-related promotions (Mehedințu, 2019; Zhang et al., 2022). These activities, aimed at increasing patient loyalty and enhancing brand recall, attract consumer attention (Cosma et al., 2020). Through health-related promotions, service providers can establish a strong bond with their target consumers (AMA, 2024). This approach helps create an effective synergy between patients and healthcare providers (Hoop et al., 2022). Healthcare organizations should adopt innovative methods in their promotional activities to communicate effectively with patients (Jacobs et al., 2017).

In this way, they can attract patients in a competitive environment, increase their market share, and retain patients. These promotional efforts should be consistently refined and maintained throughout the service lifecycle. Activities carried out with genuine goodwill capture patients' attention (Cosma et al., 2020). When marketing mix elements are used effectively, awareness of healthcare organizations increases, retention and interest are strengthened, and, eventually, a loyal consumer base is developed (Elrod & Fortenberry, 2018).

With the determination of the marketing mix, strategies for the target market should be adapted (Karaçor & Arkan, 2014). The marketing mix serves as an essential guide for businesses to progress toward their objectives (Elrod & Fortenberry, 2018). As a crucial control tool in achieving goals for the target market, the marketing mix consists of product, price, place (distribution), and promotion for physical products (Işık, 2012). In healthcare, additional elements such as people, process, and physical environment are included (Pop et al., 2021). In healthcare, the "product" is considered intangible, encompassing services like diagnosis, treatment, and rehabilitation (Büyükdere & Korkutan, 2024).

The "price" element is essential for both consumers and businesses. For one, it is a cost; for the other, it is income. Ensuring the continuity of this element's impact is critical in healthcare, though it remains limited because healthcare is often non-deferrable or covered by insurance (Dedeoğlu, 2016). The "place" element, indicating the availability, accessibility, and purchasability of healthcare, includes factors such as physical distance and processes like patient referrals, admissions, and entry-exit procedures (Gümüş, 2019). The promotional activities that create awareness, knowledge, and acceptance among the target audience define the promotion process (Oltean et al., 2020).

The "people" element encompasses patients and hospital staff, whose interactions shape patient perceptions of the institution (Gök, 2020). Patient impressions formed during their stay contribute to their opinions and attitudes toward the healthcare provider (Balta et al., 2021). The "physical environment" also influences patient impressions, as this tangible aspect of the otherwise intangible health service affects quality perception and satisfaction levels (Parvanta et al., 2018; Deloitte, 2024). Ensuring that healthcare services are delivered promptly and within a quality framework is part of process management (Kurşun, 2019). This approach mitigates patient dissatisfaction and prevents excessive workloads for healthcare providers (Aydemir & Yaşar, 2023).

2. OBTAINING HEALTH INFORMATION IN THE DIGITAL ENVIRONMENT

Digital spaces, where data are stored in electronic formats, are expanding rapidly today (Çömlekçi & Bozkanat, 2021; Şantaş & Şantaş, 2020). Accessing information from these environments, where data is processed and displayed electronically, has become essential in the health sector (Hoop et al., 2022; Wangdahl et al., 2021). Through this digital environment, healthcare organizations can accurately reach healthcare consumers via a single-channel information flow (Çömlekçi & Bozkanat, 2021). This ecosystem model allows consumers to express themselves during the decision-making process (Rodriguez et al., 2020). Today, the digital environment has evolved into a multi-channel structure (Schiavone & Ferretti, 2021), offering consumers an important role in the process of searching for health-related information (Kraus et al., 2021). This involvement fosters self-awareness in consumers (Pawassar & Tiberius, 2021). As consumers become more conscious about their health, they engage actively in the process, facilitated by the information they access (Jena, 2020). Unlike the traditional approach, where the health provider takes the lead, this new approach represents a transformation in the healthcare ecosystem (Deloitte, 2024). Shared decision-making for the well-being of the health consumer can also improve the consumer's personal health (Hai et al., 2021). By involving consumers in the development of desired health services, loyalty is strengthened (Chakraborty & Paul, 2022). This process, which allows interaction between the doctor and the patient, gives consumers access to the information flow within the health ecosystem as they seek information about treatment and similar health-related matters (Cosma et al., 2020). This transformation is driven by multi-channel communication made accessible by the internet, enabling consumers to access information more easily (Çimke & Yıldırım Gürkan, 2022).

All of this supports healthcare organizations in creating core value in the health field (Spanò et al., 2021). Throughout this process, the consumer's understanding of their own health is shaped by the information shared by the service provider, guided by the physician's advice (Niu et al., 2022). Consumers also enhance their health knowledge by interacting more with health providers (Zhang, Strauss & Liu, 2021).

3. SIMILAR STUDIES IN THE FIELD

Karaçor and Arkan (2014), in their study "Marketing in Healthcare Organizations: A Research on the Importance of Health Marketing Mix Elements for Patients/Customers," aimed to examine the extent to which patients/consumers receiving services from private hospitals value marketing

activities and how these preferences are reflected in health institution choices through marketing mix elements. The research revealed that patients or their relatives placed less emphasis on price and prioritized the service/product they would receive. This trend is attributed to the essential nature of healthcare or a general lack of information about the specific procedures involved.

Büyükdere & Korkutan (2024), in their study "An Evaluation on the Examination of Marketing Mix Elements in Health Services," compared marketing mix strategies employed by organizations producing goods with those applied in healthcare services. The findings highlighted key differences, such as the difficulty in evaluating service outcomes and measuring the level of benefit, the simultaneous nature of consumption and service delivery, the lack of substitutes for healthcare services, the determination of service dimensions by healthcare professionals, the limited advertising scope for healthcare compared to other goods and services, and the unique evaluation of perceived service quality due to the one-on-one role of human interaction in healthcare. These factors distinguish healthcare marketing mix strategies from those used in other industries.

Motwani and Shrimali (2014), in "Service Marketing Mix of Indian Hospitals: A Critical Review," discuss how hospital services and marketing have gradually become integrated into hospital planning and public relations programs. The study focuses on the contemporary service marketing mix adopted by Indian hospitals as a core aspect of their marketing activities.

Çömlekçi and Bozkanat (2021), in their study "Acquiring Health Information and Confirmation Behaviors in Digital Media during the Infodemic," aimed to identify the sources frequently used by users to obtain health information in digital media, particularly during the Covid-19 pandemic, which affected the world and became a global health issue in 2020. The study found that users often relied on scientific publications and posts by scientists and doctors to verify health information obtained online.

Aydemir and Yaşar (2023), in their study "Determination of the Relationship between Health Information Acquisition and Confirmation Behaviors of University Staff in Digital Environments and Health Literacy Knowledge Level," sought to explore the relationship between health literacy levels and health information acquisition behaviors in digital environments. The study found no significant relationship between acquiring health information through social media and the sub-dimensions of health literacy. However, a positive, moderately significant relationship was identified between health information obtained digitally and all sub-dimensions of health literacy.

Jacobs, Amuta, Jeon and Alvares (2017), in their study "Health Information Seeking in the Digital Age: An Analysis of Health Information Seeking Behavior among US Adults," examined factors associated with

seeking health information from the internet, traditional media, and health professionals among a diverse population of US adults.

4. METHOD

In this section, the ethical declaration of the research is made, the purpose and importance of the research, the population and sample of the research, and the model of the research are explained, and the hypotheses of the research are stated. In the remaining parts of the section, the contents of the data collection tool are explained, methods used in the statistical analysis of the data are specified, and analyses regarding the reliability of the survey are presented.

4.1. Purpose of the Study

The aim of this study was to create marketing activities by identifying the health service needs that a society expects and implementing appropriate awareness and distribution processes. In utilizing promotion, one of the elements of the marketing mix within the health sector, this study seeks to investigate the impact of patients accessing health information in the digital environment in today's increasingly digital world.

4.2. Sample

This study was conducted with internet users over the age of 18 who receive health services and reside in Istanbul. Istanbul's population is 15,655,924, and a representative sample was obtained from patients across various demographics (Nüfus, 2023). Data for the study were collected using a questionnaire. A 5-point Likert scale was employed in the questionnaire, which was distributed via Google Forms and through face-to-face interviews. Data were obtained from 397 participants (Yazıcıoğlu & Erdoğan, 2004). The study took place in January 2024, and necessary permissions for the scales used were obtained. Ethics committee approval was also granted by the Istanbul Gelisim University Senate Ethics Committee, completing the approval process. The study population consists of consumers utilizing health institutions in Istanbul.

4.3. Data Collection Method

A checklist of health service marketing mix elements was created. The questionnaire consists of two parts. In the first part, demographic variables are categorized as age, gender, marital status, income, and occupation. The second

part includes scale items. Comprising 38 statements, 28 items belong to the Healthcare Marketing Mix Elements scale, and 10 items belong to the Acquiring Health Information in Digital Environments scale.

The internal consistency coefficients for the subscales of product, promotion, price, distribution, participants, physical environment, and process management in the Healthcare Marketing Mix Elements questionnaire are 0.67, 0.76, 0.82, 0.75, 0.91, 0.73, and 0.88, respectively. The health service marketing elements scale items were adapted from Selen Dedeoğlu's (2016) study, "Evaluation of Marketing Mix Elements in Health Services in Terms of Private Health Insurance Patients" ($\alpha = 0.88$). The scale items for the Acquiring Health Information in Digital Environments variable were taken from the study "Health Information Acquisition and Confirmation Behaviors in Digital Environments during the Infodemic" by Çömlekçi et al. (2021) ($\alpha = 0.83$). A pilot survey was conducted with 50 participants to assess the validity and reliability of the scales, confirming their suitability for the study. Following this, all data were collected and finalized using the questionnaire.

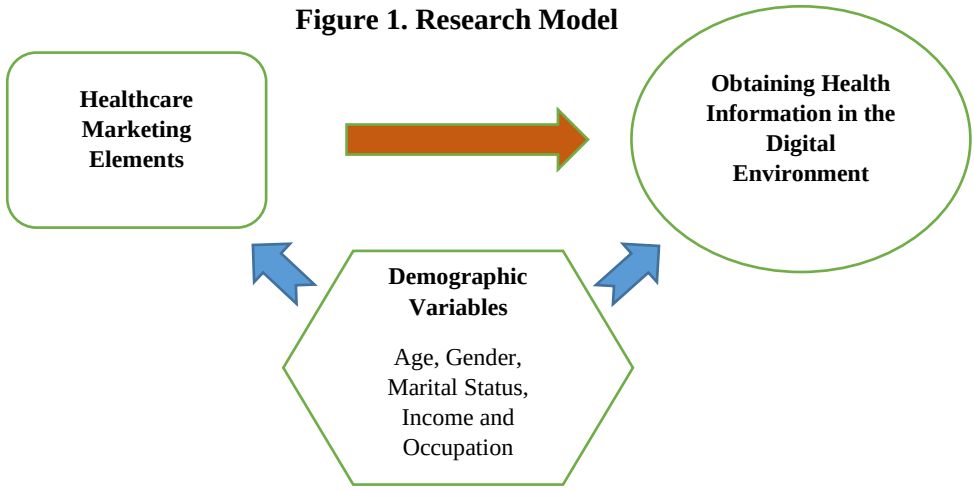
4.4. Limitations

Although this study contributes to the field, it also has certain limitations. Another area for investigation is how the study's findings may influence interactions across different channels. There is a need for conditions that allow consumers to obtain health information in digital environments. Future research should systematically address study areas that represent a wider variety of mediums. Expanding this model across different contexts is important. Health information acquisition in digital environments, which encourages consumers to make well-informed decisions, should also be examined from the perspectives of policymakers and healthcare providers.

4.5. Research Model

Based on the literature review conducted for this study, the model developed according to the research variables is as follows:

Figure 1. Research Model



4.6. Hypotheses

In constructing the hypotheses, an evaluation study will be conducted on the process of obtaining health information in the digital environment, focusing on the elements considered part of the health service marketing mix.

Hypothesis 1: There is a strong and positive correlation between healthcare marketing elements and obtaining health information in digital environment.

Hypothesis 2: There is no strong and positive correlation between healthcare marketing mix elements and obtaining health information in digital environment.

4.7. Data Analysis and Findings

As a result of the statistical analysis, the data shown in the tables below were obtained.

Table 1. Cronbach's Alpha Coefficient Findings for the Scales and Sub-Dimensions Used in the Study

	Cronbach's Alpha	CR	AVE
Distribution	0.965	0.963	0.673
Price	0.885	0.885	0.647
Physical Environment	0.963	0.961	0.664
Participants	0.981	0.982	0.728
Process Management	0.978	0.978	0.619
Promotion	0.808	0.709	0.532

Product	0.820	0.817	0.549
Health Service Marketing Elements Scale	0,981		
Health Information Acquisition Scale in Digital Environment	0.911	0.895	0.476

The findings of Cronbach's Alpha coefficients for the scales and sub-dimensions used in the study are presented in Table 1. According to the findings, the reliability of the Healthcare Marketing Mix Elements Scale, its sub-dimensions, and the Scale of Obtaining Health Information in Digital Environments used in the study was determined to be "highly reliable." CR (combined reliability) and AVE (average variance explained) values are the criteria for measuring convergent and discriminant validity. For the scale to demonstrate convergent and discriminant validity, the CR value should be greater than 0.70, and the AVE value should be greater than 0.50. According to the findings, the scale dimensions exhibit an adequate level of convergent validity (CR > 0.70; AVE > 0.50; CR > AVE) and discriminant validity.

Table 2. Confirmatory Factor Analysis Findings for the Validity of the Scales Used in the Study

		CMIN/DF	GFI	CFI	RMSEA
Health Service Marketing Elements Scale	Level 1	2.712	0.99	0.989	0.066
	Level 2	2.545	0.985	0.983	0.062
Health Information Acquisition Scale in Digital Environment	Level 1	2.842	0.982	0.976	0.068

Level 1 and Level 2 fit statistic values for the validity of the CFA model of the Healthcare Marketing Mix Elements Scale, as well as Level 1 fit statistic values for the validity of the CFA model of the Health Information Acquisition in Digital Environments Scale, are presented in Table 2. According to the findings, the fit index values for structural validity at both levels for the Healthcare Marketing Mix Elements Scale fall within the acceptable range. Similarly, for the Health Information Acquisition in Digital Environments Scale, the fit index values for construct validity are also within the acceptable range.

4.7.1. Frequency Tables

Table 3. Statistical Information on the Demographic Information of the Individuals Participating in the Survey

		Number	Percentage
Gender	Woman	138	34.8
	Male	259	65.2
Marital Status	Married	231	58.2
	Single	166	41.8
Age Group	18-22 Years	53	13.4
	23-32 Years	122	30.7
	33-42 Years	127	32.0
	43-49 Years	25	6.3
	50-57 Years	28	7.1
	58 years and over	42	10.6
Education Level	High School	11	2.8
	Associate Degree	52	13.1
	License	273	68.8
	Postgraduate	61	15.4
Monthly Income	0-17.002 TL	77	19.4
	17.003-18.003 TL	83	20.9
	18.004-28.004 TL	41	10.3
	28.005-38.005 TL	116	29.2
	38.0006 TL and above	80	20.2
Profession	Worker	10	2.5
	Officer	205	51.6
	Student	62	15.6
	Retired	32	8.1
	Other	88	22.2
	Total	397	100.0

Statistical information on the demographics of individuals participating in the survey is presented in Table 3. According to the data, the proportion of female participants was 34.8%, while male participants constituted 65.2%. It was found that 58.2% of the participants were married, and 41.8% were single. In the age group distribution, the largest cluster was the 33–42 age group at 32.0%, while the smallest cluster was the 43–49 age group at 6.3%. Regarding educational level, the largest cluster was Bachelor's degree graduates at 68.8%, and the smallest was High School graduates at 2.8%. For monthly income distribution, the highest cluster was the 28,005–38,005 TL group at 29.2%, and the lowest was the 18,004–28,004 TL group at 10.3%. Examining the occupational status of participants, the largest cluster was the Civil Servant group at 51.6%, while the smallest was the Laborer group at 2.5%.

The differences in demographic variables on the Digital Health Information Acquisition Scale used in the survey were analyzed using t-tests and ANOVA. According to the findings, no statistically significant differences were observed in demographic variables on the Digital Health Information Acquisition Scale used in the survey.

4.7.2. Scale Statistics

Table 4. Descriptive Statistics for the Healthcare Marketing Mix Elements Scale and Its Sub-Dimensions and Health Information Acquisition Scale in Digital Environment

Scale/size	Average	Standard Deviation
Health Service Marketing Elements Scale	4.23	1.003
Product	4.26	0.943
Promotion	4.10	1.000
Price	4.15	1.135
Distribution	4.30	1.178
Participants	4.26	1.212
Physical Environment	4.29	1.085
Process Management	4.24	1.203
Health Information Acquisition Scale in Digital Environment	3.34	1.060

Descriptive statistics for the Healthcare Marketing Mix Elements Scale, its sub-dimensions, and the Scale of Obtaining Health Information in Digital Environments are presented in Table 4. Examining the averages for the Healthcare Marketing Mix Elements Scale and its sub-dimensions, we find that the highest average is in the "Distribution" sub-dimension at 4.30, while

the lowest average is in the "Promotion" sub-dimension at 4.10. Additionally, the average for the Scale of Obtaining Health Information in Digital Environments is above the overall mean.

Table 5. Descriptive Statistics for the Healthcare Marketing Mix Elements Scale and Its Sub-Dimensions and the Scale for Obtaining Health Information in the Digital Environment

Scale/size	Mean	Std. Deviation	Skewness	Kurtosis
shpk_Measure.	4.23	1.003	-0.513	0.427
Product	4.26	0.943	-0.151	0.919
Promotion	4.1	1.000	-1.020	0.891
Price	4.15	1.135	-0.246	0.521
Distribution	4.3	1.178	-0.824	0.550
Participants	4.26	1.212	-0.508	1.043
Physical Environment	4.29	1.085	-0.802	0.798
Process management	4.24	1.203	-0.491	0.986
dosbe_Measure.	3.34	1.060	0.113	-0.955

Descriptive statistics for the Healthcare Marketing Mix Elements Scale, its sub-dimensions, and the Obtaining Health Information in Digital Environment Scale are presented in Table 5. Examining the averages for the Healthcare Marketing Mix Elements Scale and its sub-dimensions, we find that the highest average is 4.30 in the "Distribution" sub-dimension, while the lowest average is 4.10 in the "Promotion" sub-dimension. The average value of the Scale for Obtaining Health Information in the Digital Environment is also above the general average. Furthermore, an examination of the skewness and kurtosis values indicates that they fall within the normal distribution range for all three variables (Kim, 2013; West et al., 1995).

Table 6. Linear Regression Model Findings for the Effect of the Healthcare Marketing Mix Elements Variable Sub-Dimensions on the Obtaining Health Information in Digital Environment Variable

Variable	Regression coefficients	Standard regression coefficients	t	p	VIF
Health Service Marketing Elements Scale	3.727		15.312	0.000	
Product	-0.062	-0.055	-0.517	0.605	3.427
Promotion	-0.065	-0.062	-0.639	0.523	4.456
Price	0.184	0.197	1.724	0.086	3.216
Distribution	-0.353	-0.392	-3.245	0.001	6.991

Participants	1.571	1.796	8.959	0.000	1.205
Physical Environment	-0.553	-0.566	-3.203	0.001	4.091
Process Management	-0.807	-0.916	-4.467	0.000	2.079

R	R Squared	Adjusted R Squared	F	p
0.431	0.186	0.171	12.692	0

The findings from the linear regression model for the effect of the Healthcare Marketing Mix Elements sub-dimensions on the Obtaining Health Information in Digital Environment variable are presented in Table 6. Multicollinearity among the independent variables was assessed using the VIF statistic. According to the findings, there was no issue of multicollinearity (Alpar, 2013). The significance of the linear regression model between the Obtaining Health Information in Digital Environment and Healthcare Marketing Mix Elements dimensions was tested using ANOVA. The ANOVA results indicated that the model was statistically significant. Additionally, the adjusted R-squared coefficient for the model was calculated as 0.171, indicating that 17.1% of the variability in Obtaining Health Information in Digital Environment is explained by the Healthcare Marketing Mix Elements dimensions within the linear regression model. The coefficients of the

Product, Promotion, and Price sub-dimensions of the Healthcare Marketing Mix Elements scale were found to be statistically insignificant, while the coefficients of the Distribution, Participants, Physical Environment, and Process Management sub-dimensions were statistically significant.

4.7.3. Fundamental Analysis

Table 7. Correlation Coefficient Findings for the Healthcare Marketing Mix Elements Scale and Its Sub-Dimensions and the Scale for Obtaining Health Information in the Digital Environment

	X1	X2	X3	X4	X5	X6	X7	X8	X9
Healthcare Marketing Mix Scale. (X1)	1	.914**	.826**	.890**	.906**	.948**	.933**	.914**	0.057
Product (X2)	.914**	1	.816**	.821**	.794**	.816**	.792**	.784**	0.045
Promotion (X3)	.826**	.816**	1	.822**	.699**	.687**	.651**	.614**	0.083
Price (X4)	.890**	.821**	.822**	1	.836**	.745**	.720**	.707**	0.055
Distribution (X5)	.906**	.794**	.699**	.836**	1	.828**	.822**	.746**	0.024

Participants (X6)	.948**	.816**	.687**	.745**	.828**	1	.946**	.953**	.122*
Physical Environment (X7)	.933**	.792**	.651**	.720**	.822**	.946**	1	.946**	0.003
Process Management (X8)	.914**	.784**	.614**	.707**	.746**	.953**	.946**	1	0.027
Scale for Obtaining Health Information in Digital Environment (X9)	0.057	0.045	0.083	0.055	0.024	.122*	0.003	0.027	1

(**. Correlation is significant at the 0.01 level (2-tailed), *. Correlation is significant at the 0.05 level (2-tailed).)

The correlation coefficient findings for the Healthcare Marketing Mix Elements Scale, its sub-dimensions, and the Obtaining Health Information in Digital Environment Scale are presented in Table 7. According to the findings, all correlation coefficients between the Healthcare Marketing Mix Elements Scale and its sub-dimensions are were significant. In the Obtaining Health Information in Digital Environment Scale, only the relationship with the "Participants" dimension was found to be statistically significant.

Table 8. Examination of the Healthcare Marketing Mix Elements Scale Used in the Survey in Terms of Demographic Variables

Variable	N	Average	Standard Deviation	t/F	p
Woman	138	4.2922	0.97294	0.907	0.365
Male	259	4.1962	1.01962		
Married	231	4.2333	1.01809	0.087	0.931
Single	166	4.2244	0.98577		
18-32 Years	175	4.2682	0.95339	0.233	0.792
33-42 Years	127	4.2036	1.01975		
43 Years and above	95	4.1932	1.07724		
Associate Degree	52	4.2940	0.99097	0.056	0.946
License	273	4.2442	1.00621		
Postgraduate	61	4.2535	0.86381		
0-17.002 TL	77	4.2398	1.06048	0.563	0.690
17.003-18.003 TL	83	4.2302	0.98165		
18.004-28.004 TL	41	4.4382	0.93306		
28.005-38.005 TL	116	4.1927	0.97547		
38.0006 TL and above	80	4.1656	1.05375		
Officer	205	4.2082	1.03761	0.050	0.951
Student	62	4.1884	1.06212		

Retired	32	4.2600	1.07075		

Whether there is a difference in terms of demographic variables in the Healthcare Marketing Mix Elements Scale used in the questionnaire was analyzed by t test and ANOVA test. According to the findings obtained, no statistically significant difference was found in terms of demographic variables in the Healthcare Marketing Mix Elements Scale used in the survey.

Table 9. Examination of the Scale of Obtaining Health Information in Digital Environment Used in the Survey in Terms of Demographic Variables

Variable	N	Mean	Std. Deviation	t/F	p
Woman	138	3.4072	1.09249	0.908	0.364
Male	259	3.3058	1.04236		
Married	231	3.3753	1.04642	0.760	0.448
Single	166	3.2934	1.07946		
18-32 Years	175	3.2949	1.10268	1.046	0.352
33-42 Years	127	3.4528	0.99959		
43 Years and above	95	3.2768	1.05664		
Associate Degree	52	3.4750	1.12788	1.186	0.307
License	273	3.3425	1.05810		
Postgraduate	61	3.1705	1.03285		
0-17.002 TL	77	3.3364	1.05055	0.751	0.558
17.003-18.003 TL	83	3.2072	1.09909		
18.004-28.004 TL	41	3.2488	1.07357		
28.005-38.005 TL	116	3.4543	1.09389		
38.0006 TL and above	80	3.3675	0.97264		
Officer	205	3.3356	1.04995	0.163	0.850
Student	62	3.2935	1.07640		
Retired	32	3.4250	1.09191		
Total	299	3.3365	1.05692		

Whether there is a difference in terms of demographic variables in the Scale of Obtaining Health Information in Digital Environment used in the questionnaire was examined by t test and ANOVA test. According to the

findings obtained, no statistically significant difference was found in terms of demographic variables in the Scale of Obtaining Health Information in Digital Environment used in the questionnaire.

4.7.4. Model Analysis

Table 10. Linear Regression Model Findings for the Effect of the Sub-Dimensions of the Healthcare Marketing Mix Elements Variable on the Variable of Obtaining Health Information in Digital Environment

Variable	Regression Coefficients	Standard Regression Coefficients	t	P
Fixed	3.727		15.312	0.000
Product	-0.062	-0.055	-0.517	0.605
Promotion	-0.065	-0.062	-0.639	0.523
Price	0.184	0.197	1.724	0.086
Distribution	-0.353	-0.392	-3.245	0.001
Participants	1.571	1.796	8.959	0.000
Physical Environment	-0.553	-0.566	-3.203	0.001
Process Management	-0.807	-0.916	-4.467	0.000
R	R square	Adjusted R squared	F	p
0.431	0.186	0.171	12.692	0

The findings of the linear regression model for the effect of the sub-dimensions of the Healthcare Marketing Mix Elements variable on the Acquiring Health Information in Digital Environment variable are presented in Table 10. The significance of the linear regression model between Acquiring Health Information in Digital Environment and the Healthcare Marketing Mix Elements dimensions was analyzed using an ANOVA test, which found the model to be statistically significant. Additionally, the adjusted R-squared coefficient for the model was calculated as 0.171, indicating that 17.1% of the variability in Acquiring Health Information in Digital Environment is explained by the dimensions of Healthcare Marketing Mix Elements through the linear regression model. The coefficients for the Product, Promotion, and Price sub-dimensions of the Healthcare Marketing Mix Elements scale were found to be statistically insignificant, while the coefficients for the Distribution, Participants, Physical Environment, and Process Management sub-dimensions were statistically significant.

Conclusion

Through the marketing mix, consumers receiving services from healthcare institutions should be informed with answers to questions such as who, when, why, where, and how. Institutions aim to educate the customer who will benefit from the health service through promotional activities, to remind them of the service in advance, and to persuade them in this regard (Kim & So, 2022). The increase in competition, the rise in consumer awareness, and the growth of intermediary institutions have all contributed to the expanded use of this channel. However, rising costs in businesses also pose obstacles to promotional activities. The digital environment enables consumers to access information through channels such as email, social media, and websites in the promotional activities carried out (Liao, 2020). Additionally, healthcare businesses can communicate with existing and potential consumers through mobile applications available on the Apple Store and Play Store (Zheng & Xu, 2021). Access to digital health information has become a primary concern in healthcare marketing (Pasaribu, 2022).

Hypotheses were developed based on the model created after the field research. Data obtained from the sample were analyzed using the SPSS statistical program according to these hypotheses. Results from the t-test and ANOVA analyses showed that our hypotheses produced outcomes with a positive effect. Based on these findings, this study will contribute meaningful insights to the field.

In a competitive environment, businesses operating in the healthcare field should effectively utilize marketing mix elements while ensuring suitable conditions for consumers seeking health information in digital environments. Businesses need to apply the marketing mix effectively in healthcare and establish appropriate digital conditions for consumers who seek health information.

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